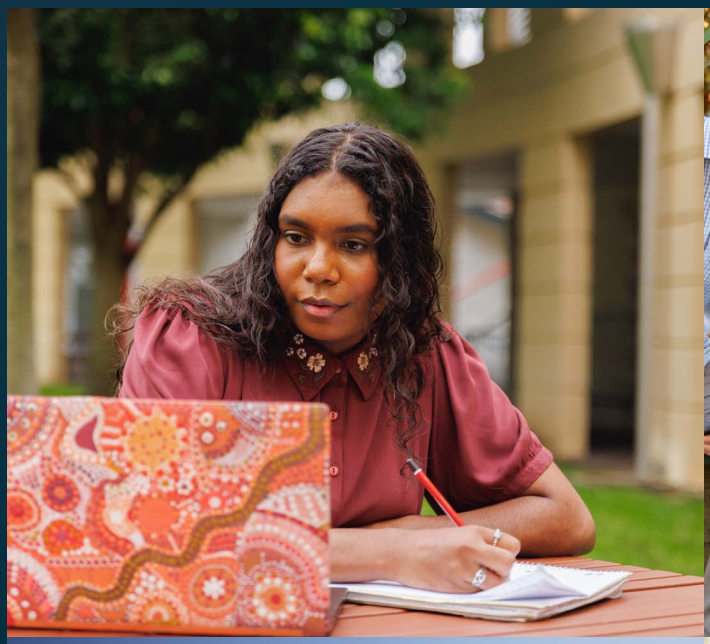
Australian Government

Australian Universities Accord

Final Report



The Review acknowledges the Traditional Owners of the lands and waters on which Australians live, work and study, and pays respects to their Elders, past and present. Australia's First Nations peoples are the custodians of the world's oldest continuous cultures of learning and the passing down of knowledge. The Review also acknowledges the determination of First Nations leaders over generations to ensure that higher education is accessible to First Nations people, reflects knowledges and law, and supports research led by First Nations people about their community, land and culture.

Front cover image attribution: bottom left, Murchison Widefield Array antennas on Wajarri Country at Inyarrimanha Ilgari Bundara, the CSIRO Murchison Radio-astronomy Observatory - credit MWA Collaboration & Curtin University.

Australian Universities Accord

The Hon. Jason Clare MP
Minister for Education
Parliament House
Canberra ACT 2600

Dear Minister

Final Report – Australian Universities Accord

In November 2022, you commissioned the Australian Universities Accord Panel to conduct a review (the Review) to "drive lasting reform in Australia's higher education system".

I am pleased to present the Final Report of that Review.

It includes 47 recommendations for change, designed to help deliver higher education and university research – and a broader tertiary education system – that meet the current and future needs of the nation.

The Review appreciates the considerable assistance it was given. We thank all those who took the time to provide input and feedback to the Review, including individuals; universities; other higher education institutions; VET providers; professional associations; students; unions; colleagues from universities and other tertiary education institutions; colleagues from government departments; and colleagues in business and industry.

We would also like to thank the Department of Education which provided secretariat support; and advisors to the Review who worked hard to help us understand the capabilities of Australia's tertiary education system, explore the challenges and opportunities it faces, and set a pathway for the future.

Yours sincerely

Mary O'Kane
Chair
Australian Universities Accord Review Panel
28 December 2023

On behalf of Larissa Behrendt, Barney Glover, Jenny Macklin, Fiona Nash, Ben Rimmer and Shemara Wikramanayake

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Executive summary

Higher education – meeting Australia's future needs

Higher education is vital to Australia's future: the knowledge, skills and research it produces enable us to be an economically prosperous, socially equitable and environmentally sustainable nation. By encouraging intellectual endeavour, creativity and personal accomplishment, it adds to the quality of our lives. Pursuing truth through free discussion, it promotes democracy and civic values. Those communities fortunate enough to host a university benefit directly from the employment, higher incomes, sporting facilities, cultural and intellectual richness and other benefits they bring.

This Review was asked to examine Australia's higher education system and create a long-term plan for reform. To be successful, these reforms will require a large investment from the Australian Government and a major contribution from higher education providers. But a central tenet of the Review is that all parts of Australia's education system need to work together to meet Australia's future skills challenge. Education in the early years and through the school system delivers the student body required to grow the higher education system. And growth in higher education needs to be paired with similar growth in vocational education and training (VET), which will be an essential part of Australia's skills mix into the future. Where possible, the Review – and this Report – focuses on tertiary education, seeing higher education and VET as 2 important parts of the same system, each bringing different strengths.

Australia is fortunate to have a high-quality tertiary education system. It performs above the OECD average in delivering high levels of participation and attainment and strong labour market outcomes. Its teachers, trainers, researchers and students are highly motivated, work hard and are making a major contribution to Australia and the world.

And yet there is pressure across the tertiary education system, with low demand from students to study, the casualisation of the university workforce, and some universities under real financial strain. At the same time, the system needs to constantly grow and improve. It has no choice. Rapid technological, social, political and environmental change means the pressure is always on to produce more knowledge, skills, opportunities and research. Fall behind in this race and Australia will see its productivity, innovation and standard of living decline.

Signs of the pressure from rapid change are already starting to emerge in ways that affect our everyday lives. Schools, childcare centres, medical clinics and hospitals regularly report shortages of teachers, early childhood educators, local doctors and nurses. Shortages of engineers and skilled tradespeople are delaying crucial infrastructure developments and housing construction, pushing up costs and inflation. Where are the highly educated and trained experts needed to modernise our energy grid, improve our agricultural capacity and protect our water supplies going to come from? The major problems we face – including threats to our social cohesion – are ultimately problems for which a big part of the answer is tertiary education.

Skills through equity

Equity also provides an answer to meeting Australia's skills needs. Increasing the number of people undertaking tertiary education through a more inclusive approach will have positive benefits. Australia needs not only to increase the number of skilled workers but also ensure that they have access to lifelong learning. This will require much higher participation among groups historically under-represented in higher education, and students from these groups will need adequate support to succeed throughout their learning journeys.

Increasing the number of skilled workers. Australia must significantly increase participation in tertiary education. This is a matter of urgency. Australia is not meeting its current skills needs and will not meet them in the future unless we produce more higher education and VET graduates.

Failure to increase student numbers to meet these needs will do lasting damage to Australia's prospects of national economic success. It will also do lasting damage to social cohesion by preventing generations of Australians from enjoying the career opportunities and higher incomes that tertiary education makes possible.

The Review proposes ambitious targets to increase the number of places in the tertiary education system to meet Australia's skills needs. This includes:

- lifting the tertiary attainment rate of the working age population (people with at least one Certificate III qualification or higher) from 60% currently to at least 80% by 2050
- increasing the proportion of university educated Australians aged 25 to 34 from 45% currently to 55% by 2050 – to achieve this increase, the system will more than double the number of Commonwealth supported students in universities from 860,000 currently to 1.8 million by 2050
- a strong and growing contribution to tertiary attainment driven by TAFE and the vocational system, with a planning assumption that 40% of 25 to 34-year-olds will have a tertiary level vocational or technical qualification in 2050, noting that some people have both a VET and higher education qualification
- opportunities for lifelong learning for all Australians to reskill and upskill, driven by national targets for tertiary participation and attainment across the working age population developed with the states and territories through a stewardship approach similar to that agreed in the 2023 National Skills Agreement.

The Review recognises that achieving these targets will require both the higher education and VET sectors to grow substantially as well as work more closely together. Increasing participation and attainment is not just about what people do during the career-building momentum of the post-school years, but throughout their working lives as they return to education to reskill and upskill.

Achieving equity of participation in higher education. Raising tertiary education attainment to these levels will not be easy. It can only be achieved by making the higher education system far more equitable. The current under-representation of people from disadvantaged groups must end. To take just one example, Australians from low socio-economic status (SES) backgrounds make up 25% of the population, but only 17% of enrolments in higher education.[1] All Australians must be encouraged and assisted to obtain the life-changing benefits of higher education. The Review recommends that, by 2050, those

1 First Address Low SES SA1. Domestic undergraduate Table A student population; Department of Education, *Higher Education Statistics – Student Data – 2022 Section 11 Equity groups* [data set], (Canberra: 2023), accessed 18 December 2023, www.education.gov.au/higher-education-statistics/resources/2022-section-11-equity-groups.

most under-represented in higher education (First Nations people, people with low SES backgrounds, people with disability, and people from regional, rural and remote communities) be represented in higher education according to their proportion of the Australian population. Urgent action to establish the right trajectory must start today. This urgent action requires 'whole of student' focus – on learning and teaching, affordable student housing, assistance with finding employment, and income support where relevant – as opposed to simply enrolling disadvantaged students into a course and hoping they succeed.

Needs-based funding. Australia needs to recognise that people from groups under-represented in higher education on average require greater support to succeed, often due to experiencing educational disadvantage. The Review recommends the introduction of a needs-based funding model that acknowledges the cost of this additional support and the locality of the institution they attend, and includes bonuses to providers for student completions.

Improving regional higher education. Delivering education in regional and remote Australia is central to ensuring access and participation for all Australians and the success of regional communities. Regional universities shoulder more than their fair share of the task of educating groups under-represented in higher education.

The needs-based funding model will be a game-changer for regional higher education providers, better reflecting the increased costs of educating students in the regions. The Review recommends several measures which will deliver for the regions, including:

- significantly increasing the number of Commonwealth supported medical places allocated to regionally based end to end medical schools
- expanding the successful Regional Study Hubs program to increase participation, retention and completion rates for university and VET students
- exploring the potential for establishing a National Regional University and a more integrated tertiary education system in regional Australia.

A more seamless tertiary education system. To make qualification attainment faster and easier, Australia must ensure students can more seamlessly navigate between VET and higher education. Misalignment between and within these sectors currently makes this more difficult than it should be. The Review recommends the continued development of a National Skills Passport to help individuals demonstrate the skills they have obtained to employers, supported by improvements to credit transfer and recognition of prior learning (RPL).

Modular, stackable skills. Australia needs to develop new and more flexible and efficient ways for individuals to attain the skills they need across their working life. This will be driven through more modular, stackable and transferable qualifications that address Australia's emerging skill needs, including microcredentials that are funded, accredited and recognised by the Australian Government.

Fee-free preparatory courses. One of the most important ways of increasing enrolments, particularly from under-represented groups, is through enabling courses (generally referred to as 'preparatory courses' in this Report to emphasise how vital they are to the higher education journey for many students). Currently 25,000 students undertake preparatory courses each year.[2] These courses prepare those

2 Department of Education, *Higher Education Statistics – Student Data – 2022 Section 5 Liability Status* [data set], (Canberra: 2023), accessed 18 December 2023, www.education.gov.au/higher-education-statistics/resources/2022-section-5-liability-status-categories.

with interrupted educational journeys to qualify for higher education entry without having to return to school. The Review calls for an increase in quality preparatory courses that are fee-free and funded at a level that reflects the full cost of delivery.

Encouraging aspiration. Decisions about attending tertiary education are often formed early in life, affected by numerous factors, including students' background and where they live. Surveys show that students from the highest SES quartile are around twice as likely as those from the lowest quartile to plan to attend university immediately after leaving school.[3] Increasing equity in tertiary education requires raising aspiration levels among currently under-represented groups through outreach programs to develop familiarity with higher education. The Review is also recommending a nationally consistent framework for careers advice throughout life, better career pathways advice in secondary schools and high-quality, high-impact communications campaigns about the benefits of tertiary education.

Putting students at the centre

Students are Australia's hope. We want them to study hard, gain skills and do the research that will set our nation up for the future. Tertiary education is also a valuable investment for individuals to make on a personal level. However, there is a growing sense that it is becoming more expensive and increasingly difficult for students to participate in and complete tertiary education without financial hardship, even poverty.

The Review believes it is time to listen to what students are saying and to respond genuinely to their pleas for change. This is extremely important, as the views of students influence general public sentiment towards tertiary education, particularly universities, and there is evidence that positive sentiment towards universities has declined. The proportion of Australians who thought universities were 'doing a good job' fell from 78.9% in 2008 to 70.6% in 2023.[4] This must be turned around if Australia is to meet its skills needs for the future.

After hearing from students, the Review is recommending a number of changes that address their major concerns. These changes will improve student experience, but also unlock the growth necessary to meet future skills requirements and improve the impact of investment in higher education.

Replacing the Job-ready Graduates (JRG) package. The JRG package needs to be replaced. Its purpose of providing price signals to influence student subject choices has failed. Only 1.5% of students applied to enrol in courses they would not have applied for under the pre JRG student contribution arrangements.[5] It has left some students facing extremely high student contributions and large HELP debts that do not reflect their future earning potential, and tilted the overall cost burden of higher education further on to students and away from the Australian Government.

3 Department of Education, *Quality Indicators for Learning and Teaching (QILT) LSAY Y15 cohort data* [unpublished data], (Canberra: 2016).

4 Nicholas Biddle, *Attitudes towards education in Australia*, (Canberra: ANU Centre for Social Research and Methods, 2023), 13, csrm.cass.anu.edu.au/sites/default/files/docs/2023/8/Attitudes_towards_education_in_Australia_-_For_web.pdf.

5 Maxwell Yong, Michael Coelli and Jan Kabatek, *University fees, subsidies and field of study*, Working Paper No. 11, 23, (Melbourne: Melbourne Institute of Applied Economic and Social Research, September 2023), 4, melbourneinstitute.unimelb.edu.au/__data/assets/pdf_file/0011/4751741/wp2023n11.pdf.

Particularly significant was the 113% rise in student contributions for students studying communications, humanities, other society and culture, and human movement. By cutting student and Commonwealth contributions in other disciplines, the JRG package also reduced the amount of funding available to higher education providers to deliver subjects that are critical to future jobs and innovation like science, engineering and mathematics. The Review recommends that the Australian Government reduce student contributions for those affected by JRG and moves towards a student contribution system based on potential lifetime earnings.

Modernising HELP. If the nation's goal is to expand tertiary education, the Higher Education Loan Program (HELP) system must continue to operate well and respond to changing circumstances. The core principles of HELP remain sound – asking students to contribute to the costs of their education later in life through an income contingent loan. HELP has served Australia well by sustainably expanding university access to many more students.

However, some features of HELP are now outdated. Higher student contribution amounts, particularly those imposed through the JRG package, have significantly and unfairly increased what students pay. While the HELP system protects students by ensuring that the day-to-day financial impacts scale with their income, cost of living pressures and higher than usual inflation rates have increased concerns about the HELP system. Higher levels of HELP indebtedness, and the public debate about these developments, risk deterring some people from seeking higher education at exactly the time we need growth in participation. The Review therefore believes the HELP system needs to be modernised to make it fairer and simpler. Detailed changes have been recommended to reduce the financial burden of repayment on low-income earners, particularly women and those just starting out in their careers, limit disincentives to do additional work, change the timing of indexation to deduct compulsory repayments first, and ensure that HELP liabilities do not grow faster than wages.

Improved income support. Income support payments for students have not kept pace with wages or the needs of students – resulting in a smaller proportion of students now receiving income support – and need to be adjusted to prevent cost-of-living pressures deterring people from studying. Evidence suggests that First Nations students, students from low SES backgrounds and regional, rural and remote students are more likely to report financial barriers to studying.[6] This is exactly the sort of thing Australia must avoid.

Recognising that many students need to work to support themselves while studying, and that finding appropriate work can be tough, the Review recommends establishing a Jobs Broker to help students find part-time employment in areas close to their field of study. For those in need of additional support while studying, the Review is also recommending that the Government increase the Parental Income Free Area for Youth Allowance and index it more appropriately, extend pro rata support to students who study part-time, and adjust the criteria for the Tertiary Access Payment, an important youth payment for regional students, to reflect and better cover relocation costs. Recognising that Australia's social security system is complex, the Review recommends the Government commission further technical analysis to address the problems it has identified.

6 Quality Indicators for Learning and Teaching (QILT), *2022 Student Experience Survey* [data set], (Canberra: 2022), accessed 5 December 2023, www.qilt.edu.au/surveys/student-experience-survey-(ses).

Tackling 'placement poverty'. The Review received strong feedback from students about the burdens imposed by unpaid work placements. To ensure 'placement poverty' does not deter tertiary participation and successful completion, the Review recommends that the Australian Government work with higher education providers and employers to introduce payment for unpaid placements, including government financial support for placements in the areas of nursing, care and teaching.

Quality learning and teaching. Institutions and course sizes are increasing and technologies like the virtual classroom and artificial intelligence are becoming even more widespread. As students look to more accessible means of studying, it is vitally important to ensure learning and teaching are not compromised. Students pay considerable fees for their courses and deserve the best we can provide. The Review calls upon the Australian Government and universities to improve the quality of learning and teaching by embracing the full potential of new teaching technologies. They should invest in the teaching workforce, train university lecturers in how to teach most effectively, employ best practice teaching methodologies and curriculum, and improve the quality, transparency and measurement of learning and teaching.

Student safety. The Review heard from students about the serious wellbeing problems they face at present, ranging from sexual harm and sexual violence to lack of mental health support and housing shortages. It is important that students and staff alike feel safe and healthy when on campus or online. The Review supports the establishment of a national student charter covering student welfare, safety and wellbeing, along with a National Student Ombudsman to address student complaints.

A stronger research system building on quality research in universities

University research is uniquely important to Australia. In few other countries does university research comprise such a large proportion of overall national research. It is highly regarded and globally connected. Two-thirds of Australian university research output is assessed by the Australian Research Council (ARC) as being above or well above world standard. Its notable achievements – from solar cells to fully automated mines to COVID-19 virus sequencing – are popularly known, and rightly so.

Despite the high quality of Australia's university research and development (R&D), the nation does not currently utilise its full potential as a source of innovation. The Review devoted considerable time to the question of how to increase the amount and quality of university R&D and its uptake by government, business and industry.

A new fund. A new Solving Australia's Challenges Fund should be established to reward universities that demonstrate effective use of their research expertise and capability and application of their research findings to big national challenges by governments, business and industry.

Targets for more research. As part of a strategic examination of national research funding, there should be a multi-agency government strategy containing targets to significantly increase national R&D spending as a proportion of Gross Domestic Product. The ARC should also be given increased funding to invest in fundamental research.

A pathway to fully funding university research. Fully funded university research is a crucial objective for Australia's universities. This is not just to allow more and better research, but to free up funding so that universities can invest in other priorities like learning and teaching and infrastructure, to support growth. Fully funding research will also reduce the currently excessive pressure on universities to secure international student revenue. To achieve this, the Review proposes that, over time, universities

charge and government and industry pay at least the full economic cost for the university research they commission and consulting they purchase. In addition, the Australian Government should establish a higher and fixed base funding level through the Research Support Program for the indirect costs associated with Australian competitive grants.

Government leading by example. All Australian governments should lead by example by increasing their use of university research and by calling on the capacity of Australia's universities to address the nation's pressing economic, social, health and environmental problems.

More opportunities and increased reward for early career researchers. Governments, industry bodies and employers should establish targets to increase the number of doctoral candidates employed in industry undertaking a PhD relevant to their company. The Research Training Program should raise the minimum stipend for Higher Degree by Research (HDR) candidates and make its part-time scholarships tax free.

System-wide changes

The changes proposed by the Review are broad and ambitious. Australian tertiary education needs a step change in participation, performance and investment to generate the knowledge, skills and research needed to prosper in the contemporary world. Increasing the numbers of tertiary education students to the required level while improving the equity and quality of the entire system will be difficult to achieve, and will require new institutions, more diverse operating models and more cross-provision between VET and higher education providers, including opportunities to expand the role of TAFEs.

Success demands stronger leadership, planning and coordination than is possible under current system arrangements. The system needs far greater understanding of policy and reform priorities, and information on the state of the system. Big changes are needed, and Australia should meet them head on.

Leadership and stewardship. To implement change, the Australian Government should establish an Australian Tertiary Education Commission (the Commission). Its task would be to provide the leadership and stewardship necessary to transform the tertiary education system to achieve an agreed objective for Australian tertiary education. Its initial remit will extend to policy development for higher education and research, future planning, making mission-based compacts, pricing, funding allocation, accountability, data collection and transparency, quality and performance. The Commission will aim for a stronger, more diverse, innovative, mission-driven system, likely with more public providers and greater differentiation between those providers. It will draw advice widely from across the system. The ARC and the Tertiary Education and Quality and Standards Agency (TEQSA) will continue as independent statutory bodies within the Commission, with the Chairs of those agencies having ex-officio membership of the Commission board.

First Nations self-determination. To ensure self-determination for First Nations peoples within a reformed and improved tertiary education system, there should be a First Nations Council to advise ministers and the Commission, stronger obligations on universities to demonstrate self-determination within their operations and a First Nations review of tertiary education to improve First Nations participation and workforce and to strengthen First Nations knowledge and research.

Quality international education. International education makes an enormous contribution to Australian tertiary education by enabling Australian learning and teaching to have wider impact, helping universities to invest in important research, adding to diversity, and being an important avenue for soft diplomacy and international linkages.

In 2022, Australian higher education providers enrolled almost 450,000 international fee-paying students (more than a quarter of total enrolments), with around 120,000 of these studying Australian higher education courses from outside Australia.[7] International student fees contributed more than a fifth of overall university funding.[8] Now Australia's fourth largest export, international education is a permanent fixture of the economy.[9]

Therefore, a strong and sustainable footing is important. On the demand side, fluctuations in enrolments risk the stability and viability of institutions. On the supply side, there have been failures in quality and integrity in some parts of the market, and these must be addressed.

The Review recommends that the Australian Government and the Commission work together to manage volatility in demand where possible, including by diversifying markets to avoid overreliance on a small number of countries. Some international students seek a migration pathway. In line with the Australian Government's Migration Strategy goal for a better targeted system,[10] the tertiary education sector should encourage these students to study courses linked to Australian skill shortages and to study in regional locations. Finally, the sector should protect its reputation and ranking as a study destination by lifting course quality and improving the overall student experience.

A better funding model. The current funding model does not provide for sufficient growth in enrolments to meet the nation's skills needs, with growth occurring in unplanned, unmanaged and under-funded ways that can have unintended consequences for the breadth and quality of courses. The Review recommends the introduction of a new funding model, planned and managed by the Commission. It would deliver managed growth by making a fully funded Commonwealth supported place available for all students who meet course entry requirements, with growth in places managed through mission-based compacts agreed with the Commission and effectively introduce 'demand driven places for equity students'. The model would include a needs-based system that covers the costs of providing courses, taking into account the higher costs of educating equity groups and providing regional education. The new funding model would appropriately price the cost of teaching in different disciplines including increasing government contributions for disciplines in science, technology, engineering and mathematics, and, when student contributions are included, fully fund the cost of teaching. It would end the process of universities enrolling students over their funding cap and only receiving partial funding for additional students.

A future fund. Since the closure of the Education Infrastructure Fund, there has been no dedicated government funding for higher education infrastructure funding. To provide such a source of funding, and funding for other significant sector needs such as student housing, the Review recommends the creation of a Higher Education Future Fund (HEFF). It would be managed by the Future Fund Board of Guardians and funded by co-contributions from universities and the Australian Government, with the aim of reaching $10 billion in assets. Distribution of returns would be invested in projects informed by advice of an independent board.

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7 Department of Education, *Higher Education Statistics – Student data – 2022 Section 2 All students* [data set], (Canberra: 2023), accessed 18 December 2023, www.education.gov.au/higher-education-statistics/resources/2022-section-2-all-students.

8 Department of Education, *Higher Education Providers Finance Tables 2004–2021* [data set], (Canberra, March 2023) accessed 8 June 2023, www.education.gov.au/higher-education-publications/resources/2021-higher-education-providers-finance-tables.

9 Australian Bureau of Statistics, *Balance of Payments and International Investment Position* [data set], (Canberra: September 2023), accessed 12 December 2023, www.abs.gov.au/statistics/economy/international-trade/balance-payments-and-international-investment-position-australia/latest-release.

10 Martin Parkinson, Joanna Howe and John Azarias, *Review of the Migration System,* (Canberra: Department of Home Affairs, March 2023), www.homeaffairs.gov.au/reports-and-pubs/files/review-migration-system-final-report.pdf.

Starting now

The changes proposed by the Review are not only large, they are urgent. They must get underway as soon as possible. The Review recommends staging the recommendations in this Report, with particular emphasis on building skills through equity, as well as developing the stewardship role and managing the transition to the proposed new funding model.

Supporting this, the Review recommends that the Minister for Education and the Minister for Skills and Training bring together all stakeholders in our tertiary education system to build the shared understanding and cooperation that is necessary to make enduring change happen.

Findings

Vision: Our vision is to grow and strengthen tertiary education in Australia over the next two decades so that all Australians have the opportunity to obtain the knowledge, skills and understanding to create and thrive in the jobs of the future. Australia needs this expanded tertiary education system to help achieve skills through equity and excellent, fit-for-purpose research, enabling more people to help meet the challenges facing our nation, region and world. Education, research, innovation and society-wide partnerships are vital for Australia's economic prosperity, democratic cohesion and environmental sustainability.

Leadership – Australian Tertiary Education Commission: Our tertiary education system lacks the coordinated, future-focused and evidence-based, decision-making capacity necessary for Australia's future success. This must change. Over the past 20 years, there have been significant failures – both of action and inaction – where the absence of a strong sector stewardship function has been telling. The tertiary education system is too important to Australia's social, economic and environmental wellbeing to leave its future to the uncoordinated action of individual institutions.

Leadership – stakeholders: Stakeholders across the tertiary education system need a seat at the table alongside government to discuss the system's future needs and share responsibility for solutions. There is currently insufficient shared understanding of the policy and reform priorities needed to build solutions and plan for the years ahead.

Leadership – First Nations: To ensure that First Nations are central to the higher education sector, it is essential that there is First Nations leadership and a self-determination framework. This includes ensuring First Nations leadership in policies, programs, funding and decision-making that affects First Nations staff and students within individual institutions and nationally through representation by a First Nations Council responsible for advising Ministers and the Australian Tertiary Education Commission on a self-determined approach to matters relating to First Nations people in the tertiary education sector.

Community engagement: Tertiary education providers have deep connections to their communities that go well beyond education and research. They create jobs, partner with local businesses and schools, undertake locally relevant research, attract investment and provide resources, facilities and leadership that improve lives in the communities that host them. This community engagement represents a major and largely unsung contribution to the nation.

First Nations participation: Participation in tertiary education learning, teaching and research is an essential pathway to success for First Nations families and their communities, and is necessary for Closing the Gap. Weaving First Nations cultures and knowledge more strongly into the fabric of our tertiary education system will enrich Australian society. A strong First Nations workforce in tertiary education will help achieve this goal.

Equity: Every Australian should have the opportunity to experience the life transforming benefits of tertiary education. This is vital for Australia's future. Only by expanding access to tertiary education to currently under-represented groups – including people from low SES backgrounds, First Nations, people with disability and regional, rural and remote students – can the nation meet its projected skills needs. Access to tertiary education must include high quality teaching and learning targeted to students with lower educational attainment, alongside access to income support where necessary, affordable student housing and the ability to find reasonable work and placement opportunities.

Funding for equity: Current funding arrangements limit enrolment growth in student cohorts from under-represented backgrounds because they do not reflect the additional costs of teaching these students who, on average, need additional support to succeed.

Growth: The current funding model does not provide for sufficient fully funded growth in enrolments to meet the nation's skills needs, with growth occurring in unplanned and unmanaged ways. The relatively low current demand for places highlights the need for a system that plans for, and delivers, growth in skills with equity.

Skills: Australia is not meeting its current skills needs and will not meet them in the future without large scale increases in the number of tertiary education graduates it produces, and without a significant uplift in the number of people engaging in learning throughout their working life. Australia must set ambitious targets to increase rates of completion and attainment and increase the equity of the system. Without growth and reform, skills shortages will do lasting damage to Australia's national success and future prospects.

Generic skills: Australia's economy not only needs greater numbers of tertiary educated graduates, these graduates must have the right mix of skills. In addition to discipline-specific knowledge and technical skills, graduates need the transferable generic skills sought by employers. Australian workers now need to be digitally literate, creative, collaborative, good communicators, and able to solve complex problems. Our tertiary education providers must teach these skills more effectively, together with our school system, employers and the wider community.

Job-ready Graduates: The Job-ready Graduates package needs urgent remediation. Its intended purpose of influencing students' choice of courses through price signals has failed. While some students are paying less, the overall funding balance has shifted in the direction of lower government contributions and higher student contributions. Many students have extremely high student contributions resulting in large HELP loans that do not reflect their future earning potential.

Tertiary education: Many students move between higher education and vocational education throughout their lives to enhance, broaden and update their knowledge and skills. Pathways between vocational education and training and higher education are currently fragmented and misaligned, making navigation across sectors very difficult. Admission, credit transfer and recognition of prior learning practices are inconsistent and can act as a barrier to further study. These transitions should be made as seamless as possible.

Accreditation bodies: Placements and other requirements for professional accreditation are not always working effectively. Professional accreditation is crucial for training the future workforce, but accreditation requirements can be unduly burdensome for both students and tertiary education providers. Mandatory placements can involve onerous hours and can financially disadvantage students who are unable to participate in paid work while on placement or need to relocate to undertake their placement.

Students: The HELP system needs to be modernised to make it fairer and simpler. HELP has served Australia well by expanding access to many more students. Its core components – no upfront tuition fees and income contingent repayment – are fundamental to its fairness and effectiveness. HELP is an indispensable part of the higher education funding system, but it requires reform to retain its social licence. Australians should not be deterred from higher education because of the increased burden of student loans.

Students: The proportion of Australian students studying part-time is increasing. Students are, on average, taking on lower study loads, most likely to accommodate extra paid work, and taking longer to complete their degrees. Supporting combinations of earning and learning that enable more students to study successfully and complete relevant qualifications in timely ways is an urgent priority for tertiary education. Australia needs more people working and more people learning, in the decades ahead.

Students: Globally, learning and teaching methods are undergoing a profound shift. A marked trend towards more online learning (the 'virtual classroom') and enrolment in more affordable courses that are more tailored to individual student need is creating new expectations and opportunities to innovate for tertiary education providers. Australia needs to be at the forefront of these developments to be prepared for the changes that are coming.

Research: Australian university research is of high quality and is highly connected globally. Its size reflects the larger role universities play in our research ecosystem compared to most countries, where the relative percentage of private sector research investment tends to be higher. Australia's governments and industries are not making enough use of university research capability and capacity, nor are they using it across as broad a range of disciplines as they should be.

Research: While Australian universities invest significantly in research, national R&D expenditure overall is low for an advanced economy and our rankings on innovation indices are poor. Securing Australia's high-quality research bedrock will require significant growth of Australia's R&D system. This growth cannot be achieved without a significant increase in Australia's expenditure on R&D as a proportion of GDP.

Research: The current stipend for Higher Degree by Research students is too low and is discouraging many of the best students from becoming the next generation of researchers. This includes students from under-represented backgrounds. Potential candidates are currently faced with an economic disincentive to pursue research training. The Research Training Program needs to be adjusted in order to address this.

Regulation: The creation of TEQSA following the Bradley Review has helped strengthen the reputation of Australia's higher education sector. It has been successful in establishing a set of minimum standards and enforcing a baseline for provider behaviour. However, new regulatory challenges will continue to emerge, and a process for responding to these is needed.

Governance: In recent times, our regulatory and university governance arrangements have been too slow to recognise and respond to several important issues, especially in the areas of student wellbeing and staff employment. The Review's consultations heard repeatedly about failures to ensure students are safe, particularly from sexual assault and sexual harassment, and about staff employment concerns, especially relating to casualisation and underpayment.

Size and shape of the tertiary education sector: Institutions need to innovate and evolve in type, diversity, size and number over the coming decades to respond to the changing needs of our students and economy. Achieving this greater level of institutional innovation and diversity will require long-term planning, system-wide collaboration and proactive intervention by governments to reduce barriers to evolution and change, and to unlock the innovation potential within the sector.

International: International education is well-recognised as a crucial export industry, but less so as an important element of Australia's soft diplomacy, reputation and ability to generate relationships across the world. International alumni can be strong champions for institutions, regions and the nation and their potential needs to be harnessed. Maintaining the quality and integrity of the international education system is essential to continuing to deliver this value.

Regional: Regional tertiary education providers play a crucial role in Australian society. They deliver local jobs, make significant social and economic contributions to their local communities, provide relevant research and many other tangible benefits.

Funding: Changes made to funding through the Job-ready Graduates package unfairly affected some students (particularly those studying humanities, human movement, society and culture, and communications) and reduced the amount of funding available to universities to deliver subjects that are critical to future jobs and innovation like science, engineering and mathematics.

Funding: The current funding system is overly complex, fragmented and difficult to comprehend. It needs to be simplified.

Funding: The current approach to setting core funding through 'cluster rates' means that some disciplines are likely substantially under-funded, and some potentially over-funded. The lack of fidelity and accuracy in pricing means that small, expensive courses such as veterinary science and the performing arts require significant and unsatisfactory cross-subsidy within universities and reduces the ability of the system overall and individual providers to increase efficiency and effectiveness of course delivery arrangements.

Funding: The practice of universities enrolling students over their funding cap and receiving only marginal funding for additional students has had adverse flow-on effects for the whole system. Marginal funding has distorted the distribution of students between universities, creating potential long-term viability issues for some universities.

Recommendations

National Tertiary Education Objective

1. That to set a clear vision for the tertiary education system – both higher education and vocational education and training – the Australian Government specify that the objective of the national tertiary education system is to:
   a. **underpin** a strong, equitable and resilient democracy
   b. **drive** national economic and social development and environmental sustainability.

   The National Tertiary Education Objective will be achieved through ensuring:

   - a strong, dynamic and efficient tertiary education system that has the capacity, capability and infrastructure it needs
   - affordable and equitable opportunity for all Australians to access and participate in high-quality, engaging and transformative tertiary education programs
   - delivery of graduates with the creativity and technical skills to meet future workforce and societal need
   - collaborative and purposeful work between all governments, tertiary education providers, industry, employers and unions to flexibly align local skills supply with demand
   - the creation and diffusion of new knowledge and its innovative application for the betterment of society.

   Recommendations for the tertiary education system are made within this framework.

Attainment targets

2. That to meet Australia's future skills needs and drive improvements to national workforce participation and productivity, the Australian Government adopt attainment targets to set the ambition for the tertiary education system to deliver:
   a. a skilled workforce to meet the changing needs of the economy through a tertiary education attainment target of at least 80% of the working age population with at least one tertiary qualification (Certificate III and above) by 2050 compared with 60% in 2023
   b. growth in Commonwealth supported places in higher education to achieve this target, more than doubling the number of students in Commonwealth supported places from around 860,000 in 2022 to 1.8 million in 2050 across all age groups
   c. growing numbers of younger Australians with a university education, through an attainment target of 55% of 25 to 34-year-olds with a bachelor degree qualification or above by 2050 compared with 45% in 2023, noting that many will also have a VET qualification
   d. a strong and growing contribution to tertiary attainment driven by TAFE and the vocational system, with a planning assumption that 40% of 25 to 34-year-olds will have a tertiary level vocational or technical qualification in 2050, noting that some people have both a VET and higher education qualification
   e. opportunities for lifelong learning for all Australians to reskill and upskill, driven by national targets for tertiary participation and attainment across the working age population developed with the states and territories through a stewardship approach similar to that agreed in the 2023 National Skills Agreement
   f. these targets should be monitored through yearly reports published by the Australian Tertiary Education Commission in consultation with Jobs and Skills Australia with an assessment of skills and graduate workforce participation by discipline
   g. these targets should be reviewed as necessary, considering advice from Jobs and Skills Australia, as qualification design, student preferences and employer demand change over this period.

Commonwealth supported medical places

3. That to accelerate the supply of medical graduates in communities experiencing medical practitioner shortages and to increase the number of medical graduates from under-represented backgrounds, the Australian Government:
   a. increase the number of new medical Commonwealth supported places to address critical shortages and allocate them on transparent, evidence-based criteria of acute need
   b. provide places for all First Nations students who apply and meet the entry requirements for a medical degree.

A more flexible and responsive skills system

4. That to help students accelerate the acquisition and recognition of their skills, help graduates track skills, qualifications and experience, and make it simpler for employers to verify job candidate capabilities, the Australian Government implement a National Skills Passport, along with other core infrastructure needed for an integrated skills system by:
    a. immediately progressing the recommendations of the Review of the Australian Qualifications Framework through engagement with industry, unions and governments, as a matter of priority
    b. continuing development and use of the National Skills Taxonomy across the tertiary education system, using rich skills descriptors to make professional and vocational skill formation more explicit and transparent
    c. extending the unique student identifier to provide coverage of the whole tertiary education system, including microcredentials, and continuing to embed the unique student identifier in the schooling system
    d. aligning data standards and practices across the higher education and vocational education and training sectors to allow for better measurement of student pathways and system outcomes
    e. integrating Government digital platforms across the vocational education and training and higher education sectors (including for careers advice and course and study options), making it easier for students to access and navigate the tertiary education system
    f. creating a pathway for short courses provided by industry and business to be accredited and recognised on the National Skills Passport
    g. working with tertiary education providers, industry and business to adopt a consistent, published, national approach to recognition of prior learning (RPL) and credit recognition which should:
        i. address historical, cultural and institutional barriers to RPL and credit recognition
        ii. make it easier for students to gain maximum credit for previous study and minimise the time taken and cost to get a new qualification
        iii. include recognising appropriate work experience
        iv. improve student mobility to enter, exit and return to tertiary education
    h. requiring that higher education providers – through a regular cycle of curriculum review – establish early exit and articulation pathways from bachelor degree courses, at diploma and associate degree levels, for students who decide to withdraw before completing the whole degree.

5. That to help Australians quickly get the skills they need to fill jobs that are in shortage, the Australian Government establish a comprehensive system of modular, stackable and transferable qualifications, including microcredentials, consistent with a reformed Australian Qualifications Framework.

6. That to deliver new options for lifelong learning and to encourage higher education participation from new cohorts, the Australian Government move toward funding a set of microcredentials as a new element in the system of Commonwealth supported places, initially in areas of employer demand and national priority. This will require:
   a. new accreditation arrangements for microcredentials in the higher education sector, prioritising those that meet employer demand requirements, provide credit, involve minimum volumes of learning and can be stacked to a full qualification
   b. establishing new rules for 'micro-HELP' student contribution amounts and micro-Commonwealth support for each course, based on the course length
   c. setting conditions so that microcredentials in higher education that are funded as Commonwealth supported places cannot subsequently be provided at full-fee cost to domestic students.

7. That to ensure students develop work relevant skills for employment after their study, the Australian Government increase opportunities for students to both earn and learn while studying by:
   a. establishing a national brokerage system ('Jobs Broker') to support tertiary education students find part-time work and placements relevant to their fields of study. Delivery should be through a provider that charges paid subscriptions by employers. The service should be free for students, and allow them to earn income while studying and reduce cost of living pressures
   b. promoting work-integrated learning (WIL) by working with peak bodies for employers, industry, business and tertiary education providers to deliver more WIL opportunities in curricula across all disciplines, and provide training to industry supervisors
   c. improving measures of graduate generic skills as part of the Graduate Outcomes Survey and Employer Satisfaction Survey. The Australian Tertiary Education Commission should showcase best practice as part of its 'State of the Tertiary Education System' annual report
   d. using models like degree apprenticeships that encourage an employment relationship as part of course design.

8. That to improve the speed and focus on meeting high impact skills needs, the Australian Government partner with select tertiary education providers, states and territories, industry, business and unions to rapidly provide students with innovative skills through:
   a. supporting methods of quickly ramping up delivery, including through use of newly developed collaborative infrastructure such as the TAFE Centres of Excellence and the NSW Institutes of Applied Technology
   b. including higher education sector engagement with the Jobs and Skills Australia Ministerial Advisory Board and the Jobs and Skills Councils.

Professional accreditation bodies

9. That to ensure professional accreditation including placement requirements are appropriate for industry and business skill needs, tertiary education providers and the Australian Government, through the Australian Tertiary Education Commission, work with professional accreditation bodies, to agree a code of conduct for these bodies. The code should ensure that any accreditation requirements are evidence-based and proportionate to the gain they provide and that placement requirements ensure that students gain industry relevant skills and experience without imposing onerous placement length and conditions.

Participation targets

10. That to ensure that all Australians regardless of background have the opportunity to go to university and no one is left behind, the Australian Government aspire to equal participation at university for under-represented groups, supported by needs-based funding for universities, more effective learning and teaching, and improved student income support. To achieve this, attainment and participation targets should be set for 2035 and the following years with the aim of reaching equal participation by 2050. This requires:
    a. participation targets to grow the proportion of undergraduate university students from under-represented backgrounds in 2035 to:
        i. 3.3% from 2.1% for First Nations students
        ii. 20.2% from 17.0% for students from lowest quartile SES backgrounds
        iii. 24.0% from 19.8% for regional, rural, and remote students, and
        iv. maintaining participation rates for students with disability.
        v. This is based on the trajectory required to achieve parity in 2050
    b. all universities to make an equal effort in contributing to achieve these targets, recognising that each university will have an individual target for completions that considers the different starting points and contexts of states, territories and universities
    c. universities continue to report annually on their actions and progress toward increasing the participation and attainment by students from under-represented backgrounds
    d. the Australian Tertiary Education Commission, in collaboration with research bodies such as the National Centre for Student Equity in Higher Education, identify and disseminate successful approaches to attracting, preparing and ensuring success for students from under-represented backgrounds who need the most additional support to succeed
    e. continuing effort, in partnership with the National Indigenous Affairs Agency and the Coalition of Peaks, to link the new attainment targets with Closing the Gap targets, and to deliver the current Closing the Gap Target 6, which aims for 70% of First Nations people aged between 25 and 34 years to have completed a tertiary qualification (Certificate III and above) by 2031.

Building aspiration including through increasing readiness for tertiary education and providing career advice

11. That to encourage greater aspiration, participation and success in tertiary education among under-represented groups, the Australian Government support effective outreach programs designed to develop familiarity with tertiary education. These outreach programs should be resourced separately from the Review's recommended needs-based funding model and include:
    a. work with state and territory governments to drive a consistent national framework for careers advice across all life stages
    b. work with state and territory governments to ensure post-school pathways are visible and integrated into secondary schooling, including current reforms to senior secondary pathways and assessment, and that the schooling system increasingly produces Year 12 completers who are ready and informed about tertiary education opportunities
    c. a national communications campaign that shares positive examples that build aspiration and that speak to prospective students about their pathway into tertiary education, particularly young people, through media and channels they engage with, trust and respect.

Fee-free preparatory courses

12. That to help more students who aspire to university to qualify for entry, the Australian Government significantly increase the availability of fee-free places, meeting the need for high-quality preparatory courses by ensuring:
    a. the number of Commonwealth supported places is expanded to meet demand from students
    b. preparatory courses are free for any student in a Commonwealth supported place and this is enshrined in legislation
    c. funding for preparatory places reflects the cost of delivery
    d. recognition of and investment in high-quality models that deliver successful student outcomes
    e. preparatory programs in fields such as mathematics, which are needed for specialist tertiary education entry, are delivered online to improve access
    f. a systematic approach to recognising preparatory and other preparatory-type programs across tertiary education providers through the National Skills Passport.

Support to participate and succeed in learning

13. That to ensure the new focus on increasing the number of higher education students from an under-represented background is matched by a focus on the success of these students, the Australian Government adopt a needs-based funding model including:
    a. a per-student funding amount for under-represented students that recognises the cost of the additional support they need to succeed, specifically First Nations students, students from lower quartile SES backgrounds, and students with disability
    b. a specific element based on the location of delivery in regional and remote Australia recognising the important equity issues involved in delivering courses to students in regional Australia, and the additional costs of that delivery
    c. a completion bonus for higher education providers who meet agreed completion targets negotiated through their mission-based compact with a focus on students who face the largest barriers to success.

Financial support for placements

14. That to reduce the financial hardship and placement poverty caused by mandatory unpaid placements, the Australian Government work with tertiary education providers, state and territory governments, industry, business and unions to introduce financial support for unpaid work placements. This should include funding by governments for the nursing, care and teaching professions, and funding by employers generally (public and private) for other fields.

Student income support

15. That to reduce the cost-of-living pressures on current students and remove the financial barriers to commencing study, the Australian Government improve access to income support for those who need it most and consider how to ensure the level of support is adequate to meet basic living standards while studying by:
    a. increasing the Parental Income Free Area for Youth Allowance from $58,108 to $68,857 per family and index it to the higher of the Consumer Price Index and Male Total Average Weekly Earnings, recognising that the current income free area has not kept pace with growth in wages
    b. expanding income support eligibility and providing pro rata student payments to students who study part-time (between 50% and 74% of a full study load)

    and that, due to the complexity of social security payments, the Minister for Social Services works with the Minister for Education to address the problems the Review has identified by commissioning further technical analysis, with a report back to the Ministers by early 2025. Such work should follow the principles below:
        i. student income support payments should continue to be focused on those most in need of support, and eligibility criteria should be regularly monitored to ensure the level of support is adequate to meet basic living standards while studying
        ii. student income support payments should continue to allow students to undertake reasonable amounts of work while studying, including through arrangements such as the income bank
        iii. student income support payments should follow an education-first principle where the policy intent is to reduce roadblocks to tertiary education participation and enable retention, success and completion
        iv. student income support payments should reduce the barriers facing students deciding whether to commence their study, focusing on the largest barriers of financial security and other responsibilities (such as working, caring and family)
        v. eligibility criteria for youth payments should take into account the specific needs of regional students, including the extra costs of relocation and that, once they leave home to study, many are effectively independent.

Reducing student contributions and reforming HELP repayment arrangements

16. That to reduce the long-term financial costs of studying for students, the Australian Government make student contributions fairer and better reflective of the lifetime benefits that students will gain from studying, and reduce the burden of HELP loans, by introducing fairer and simpler indexation and repayment arrangements. This should involve:
    a. reducing student contributions to address the most significant impacts of the Job-ready Graduates (JRG) package starting with students in humanities, other society and culture, communications and human movement, and moving toward a student contribution system based on projected potential lifetime earnings
    b. reducing the financial burden of repayment on low-income earners and limiting disincentives to work additional hours by moving to a system of HELP repayment based on marginal rates
    c. reducing repayment times by changing the timing of indexation for HELP loans so that amounts withheld for compulsory repayment can be accounted for before indexation is applied
    d. ensuring that growth in HELP loans does not outpace growth in wages by setting the HELP indexation rate to the lower of the Consumer Price Index (CPI) and the Wage Price Index (WPI)
    e. reviewing bank lending practices to ensure banks recognise that HELP loans are not like other types of loans and are not treated in a way that unduly limits peoples' borrowing capacity for home loans.

17. That to improve access to postgraduate coursework studies:
    a. the Australian Government increase the number of Commonwealth supported places available for postgraduate study in areas of national priority and skills shortages
    b. the Australian Tertiary Education Commission negotiate as part of mission-based compacts with universities that they prioritise Commonwealth supported postgraduate places over full-fee paying postgraduate places
    c. higher education providers charging high fees (above $40,000 per Equivalent Full Time Student Load) for domestic full-fee postgraduate courses be required to re-invest a proportion of income earned back into scholarships and bursaries to support students from under-represented backgrounds to access these courses.

Ensuring student safety and experience

18. That to improve the overall student experience and reflect domestic and international student expectations of their higher education outcomes, the Australian Government work with national student bodies and the higher education sector to:
    a. develop a national student charter that sets out a shared, national commitment to the welfare, safety and wellbeing of all students on campus and online
    b. establish a National Student Ombudsman to respond to student complaints.

19. That to ensure the sustainability of student-led organisations, such as associations, unions and guilds, the Australian Government ensure that a proportion of the Student Services and Amenities Fee received by each higher education provider be directed to these organisations to deliver agreed services and amenities.

Early at-school offers

20. That to recognise the critical importance of school to higher education pathways, to ensure that students get the most out of their final year of school, and to maintain the integrity of senior secondary certificates, governments (through the Education Ministers Meeting) agree that early at-school offers for 2025 and 2026 should not be issued before September in the relevant year. Relevant stakeholders (including schools, higher education providers and tertiary admission centres) should also develop a national, cross-jurisdictional approach to at-school offers in time for 2027 offers that includes:
    a. the timing of when at-school offers are made
    b. a consistent and transparent framework for admissions requirements and assessment processes for at-school offers
    c. approaches to improving post-school transitions through at-school offers, particularly for those most at risk of falling out of post-school education
    d. improvements to data and analysis across at-school offers.

Quality learning and teaching

21. That to improve student learning outcomes and prepare the higher education sector for growth in student numbers (particularly of students from under-represented backgrounds who need additional support) the higher education sector, in partnership with the Australian Government, improve the quality of learning and teaching through:
    e. using proven innovative learning approaches which embrace online and hybrid teaching modalities
    f. sharing and encouraging the uptake of best practice teaching methodologies and curriculum
    g. improving the evidence-base for the quality of higher education learning and teaching by:
        i. developing a comprehensive Australian Higher Education Teaching Quality Framework, with regular reporting against the Framework, to improve transparency of provider performance across multiple dimensions of student outcomes and teaching practice
        ii. developing new metrics and improving existing metrics for measuring learning and teaching quality in higher education
        iii. encouraging the more systematic use of peer review of teaching to assist educators to improve their practice.

International education

22. That to plan for a strong future for the international education system and recognise the contribution international students make to Australia, the Australian Government and the Australian Tertiary Education Commission:
    a. work with tertiary education providers to ensure greater alignment and coordination between the courses and programs that are marketed to international students and the national skills agenda and relevant migration initiatives
    b. work across government and tertiary education providers to support the growth of international education in regional and remote areas, encouraging providers to communicate the benefits of studying and living in regional and remote Australia
    c. work with tertiary education providers to explore opportunities and review visa requirements to support diversification of international student markets within a national strategic framework, including through using innovative transnational education delivery modes. This engagement should particularly focus on medium term opportunities in South Asia, consistent with *Australia's Education Strategy for India*, and Southeast Asia, consistent with the *Southeast Asia Economic Strategy to 2040*
    d. support tertiary education providers, in partnership with relevant government agencies, to enhance Australian alumni engagement in students' countries/regions of origin. These alumni networks should aim to foster enduring connections to Australia which strengthen Australia's international research networks and partnerships.

23. That to address issues with the integrity and quality of teaching and facilities in international tertiary education and ensure that international education providers maintain their social licence to operate, the Australian Government and the Australian Tertiary Education Commission:
    a. work across government and with tertiary education providers to ensure trust and integrity within the Australian visa system is maintained, in line with agreed recommendations from the Nixon Review and the Migration Strategy to protect international students from recruitment agents and providers that do not meet the high national standards expected by the industry
    b. through TEQSA's existing or expanded regulatory functions and negotiation of mission-based-compacts, ensure that providers have appropriate risk management strategies for international education consistent with the *Education Services for Overseas Students Act (ESOS Act)*, other legislative obligations and the higher education standards, taking an evidence-based approach to issues including:
        i. managing demand volatility
        ii. course concentrations and the quality of the student experience
        iii. access and availability of affordable student housing.

Producing new knowledge and using research capability

24. That the Australian Government commission a formal strategic, cross-portfolio examination of national research funding with a view to increasing Australia's capacity to maximise Australia's R&D competitiveness for economic gain, and environmental, cultural and social good. As part of this, the Australian Government develop a multi-agency government strategy that sets medium and long-term targets for Australia's overall national spending on R&D as a percentage of GDP, requiring a significant increase to ensure Australia fully utilises the potential of its research sector and, consequently, competes more effectively in the global knowledge economy. As a starting point, this work needs to note that while university investment in research has been strong over the last 25 years, additional business and government investment in research is essential. The strategy should also undertake a root and branch consideration of the suitability and sustainability of the national research funding and governance architecture.

25. That to ensure Australia's research capacity and capability has a high impact and is made use of as effectively as possible:
    a. Australian governments lead by example in the use and uptake of Australian research and innovation, and develop processes to draw heavily on the research and consulting capacity and capability of Australia's universities and publicly funded research agencies in addressing acute and stubborn economic, social, health, climate and environmental challenges
    b. Australian governments working closely with business and industry peak bodies (e.g. Business Council of Australia, Australian Industry Group, Australian Chamber of Commerce and Industry) establish a Research Investor Forum to explore mechanisms that keep universities, industry and government informed of significant research problems that need to be addressed, and of significant research capabilities in the higher education system
    c. the Australian Government establish a new Solving Australian Challenges Strategic Fund to reward universities which can demonstrate effective use and development of their research and innovation capacity in working with and for governments, industry and communities to address major challenges. The allocation of this fund should use a light-touch portfolio assessment and have regard to each university's mission. Universities with exceptional performance should be rewarded at a higher level than others
    d. firms invest in upskilling staff to PhD level at scale, collaborating with peak bodies and governments to establish a target for the number of PhD candidates employed in industry undertaking a PhD relevant to their firm.

26. That to improve Australia's research quality, the Australian Government strengthen the fundamentals of the Australian research system by:
    a. enhancing the ARC's capacity to support fundamental research by additional investment in its programs with the allocation of the new funding to be advised on by the board of the Australian Research Council
    b. setting a minimum percentage of national competitive grants that run for 5 years or longer
    c. substantially increasing investment in the Research Training Program and improving the attractiveness of the program by raising minimum stipends and making part-time scholarships tax free
    d. providing dedicated PhD scholarships and postdoctoral fellowships for First Nations researchers to support, broaden and grow the pipeline of First Nations researchers at Australian universities
    e. ensuring that training in entrepreneurial, business, teaching and leadership skills is offered through additional qualifications in parallel with research training in preparation for careers beyond academia
    f. requiring the Australian Tertiary Education Commission, with advice from the ARC and industry peak bodies, to develop a National Research Workforce Development Strategy by the end of 2026. This strategy should capture research career pathways, including higher degree by research (HDR) graduate employment pathways. It also should support national research workforce planning and facilitate pathways for HDR students into and out of universities
    g. providing stable and predictable ongoing funding for the National Collaborative Research Infrastructure Strategy (NCRIS).

27. That to advance the Australian Government's focus on the importance of research into First Nations knowledges and the need to make sustained progress on closing the gap in outcomes for First Nations people, the Australian Government elevate First Nations knowledge, knowledge systems and Closing the Gap through First Nations Leadership to the National Science and Research Priorities, implementing a framework that ensures First Nations-led research, First Nations leadership and capacity building, self-determination, and impactful, transformative outcomes.

28. That to develop a pathway to fund the full economic cost of university research:
    a. universities charge, and governments and industry pay, full market rates for commissioned and contract research and consulting
    b. the Australian Government provide transparency and significant material support for national competitive schemes, amending the Research Support Program to provide explicit indirect cost support tied to national competitive grant schemes by:
        i. setting a base for indirect costs, increasing over time to a target of 50%. This target should be reviewed by the Australian Tertiary Education Commission on a 5-yearly basis for suitability
        ii. changing Australian Research Council (and other national competitive grant) funding rules to ensure grants deemed fundable are funded with the fixed indirect cost support rate amount.

29. That to demonstrate the quality of and return on investment in Australian university research, the Australian Government commission the ARC to work with the Australian Tertiary Education Commission, TEQSA and universities to develop a fit for purpose research quality and impact evaluation system through the creation of a National Research Evaluation and Impact Framework that is data driven and uses intelligent technologies and that:
    c. is less burdensome for universities to measure and report research quality and impact without affecting robustness
    d. delivers a clear evaluation to Government and the community of the quality and impact of Australian university research
    e. strengthens the capacity of Australian universities and researchers to describe in detail the powerful impact of Australian university research – and deepen community and industry buy-in
    f. improves the external scrutiny of research integrity through providing additional funding to the Australian Research Council to strengthen its independent research integrity processes.

Establish an Australian Tertiary Education Commission

30. That to deliver on the National Tertiary Education Objective and establish a public sector steward for the tertiary education system, the Australian Government establish an Australian Tertiary Education Commission as a statutory, national body reporting to the Minister for Education and the Minister for Skills and Training.
    a. The Australian Tertiary Education Commission would:
        i. convene ongoing collaborative engagement about the future of the tertiary education system
        ii. foster a high quality and cohesive tertiary education system, that encourages diversity and student choice
        iii. advise on meeting skills and equity targets
        iv. ensure that regulatory burden is monitored and minimised in the sector
        v. provide expert advice to the Government and tertiary education system
    b. The Australian Tertiary Education Commission would have the following functions:
        i. policy coordination and development for higher education and university research, and joint development of policy initiatives on tertiary education with the Skills and Workforce Ministerial Council
        ii. system planning
        iii. negotiating mission-based compacts for universities
        iv. pricing authority for the higher education sector
        v. funding allocation for the higher education sector
        vi. facilitating wide engagement with the tertiary education system
        vii. strengthening First Nations representation and self-determination
        viii. advising the Minister on regulatory frameworks within the higher education sector
        ix. overseeing and monitoring of the Australian Qualifications Framework
        x. accountability, quality and performance
        xi. improving data and metrics
    c. The majority of the Australian Tertiary Education Commission's functions will start in higher education with additional priorities aimed at achieving higher levels of tertiary education system alignment, focused on student pathways, credit recognition and the Australian Qualifications Framework. The Australian Government should also negotiate with states and territories to expand the Australian Tertiary Education Commission's role to focus on the whole tertiary education system, with governance arrangements reflecting the ongoing role of all jurisdictions in its future, and with expansion to take effect in the context of the next National Skills Agreement
    d. The Australian Tertiary Education Commission should be reviewed every 5 years of operation

e. To ensure the Australian Tertiary Education Commission has a comprehensive view of the whole tertiary education system, the Tertiary Education Quality and Standards Agency (TEQSA) and the Australian Research Council should form part of the Commission, as independent statutory bodies under its umbrella, with each Chair becoming a dedicated Commissioner and retaining their legislated roles

f. Governments should also consider the desirability and timing of bringing the Australian Skills Quality Authority into the Australian Tertiary Education Commission in order to reduce regulatory duplication

g. The Australian Tertiary Education Commission should be governed by a Board comprising the Chief Commissioner as Chair, 2 Deputy Commissioners, the TEQSA Chief Commissioner, the ARC Board Chair, a First Nations Commissioner, an Equity Commissioner and the Regional Education Commissioner. Most commissioners would be fractional or part-time. The day-to-day administration of the Australian Tertiary Education Commission would be handled by a full-time CEO

h. The Australian Tertiary Education Commission should seek the views of a wide range of stakeholders in the tertiary education system, through:

   i. an ongoing Advisory Board, with representatives from tertiary education providers, all Australian governments, students, staff, employers (including business and industry representatives), unions, alumni and civil society organisations

   ii. a First Nations Council

   iii. a Learning and Teaching Council

   iv. regular engagement with representatives from key stakeholders covering learning and teaching, research, equity, regional issues, and private tertiary education providers

i. Through the pricing authority function, the Australian Tertiary Education Commission should develop a deep understanding of the true costs of delivery of the range of activities across the tertiary education system, with a priority on pricing issues in higher education related to learning and teaching, additional support for under-represented students, regional delivery, and the full economic cost of research.

Improving workforce capability and capacity

31. That to improve capability and capacity of the workforce, higher education providers with Australian Government support:

   a. develop professional learning and teaching standards for academics

   b. encourage minimum teaching qualifications for higher education teaching roles

   c. improve professional development for all staff

   d. provide opportunities for higher education staff to access training in research and research training, management, and learning and teaching.

Centre of Excellence in Higher Education and Research

32. That to build the evidence and expertise base necessary to support the Australian Tertiary Education Commission's core functions, the Australian Government establish a Centre of Excellence in Higher Education and Research.

Tertiary Education Racism Study

33. That to contribute to making the tertiary education system as safe as possible for students and staff, the Australian Government conduct a study into the prevalence and impact of racism across the tertiary education system, on campus and online, guided by an expert committee with representation from a wide range of stakeholder groups, with the Australian Tertiary Education Commission tasked with leading the response and acting on the outcomes.

A First Nations-led review

34. To deliver on the commitment to self-determination for First Nations people, the Australian Government commission a First Nations-led review of higher education in consultation with relevant First Nations stakeholder groups with terms of reference that include:
    a. national system level changes including:
        i. moving toward a self-determined approach to funding and policy settings
        ii. removing barriers around access, participation and outcomes
        iii. the role of institutions such as the Batchelor Institute of Indigenous Tertiary Education and the Australian Institute for Aboriginal and Torres Strait Islander Studies
        iv. the need for a national centre for First Nations student research
    b. strengthening First Nations knowledges and research including around:
        i. First Nations workforce and the pipeline of early career First Nations researchers
        ii. allocation of competitive research grants to First Nations research
        iii. enhancing research capability for First Nations knowledges
        iv. introduction of a First Nations graduate attribute.

First Nations governance

35. That as part of the work on strengthening university governance that resulted from the Interim Report, the Australian Government examine the representation of First Nations people in university governance and leadership positions and work with state and territory governments and universities to increase the representation of suitably qualified First Nations people.

Data, measurement, and reporting

36. That to improve our understanding of the state of Australia's tertiary education system, and its broad economic, social and environmental importance:
    a. the Australian Government build on existing data assets to develop a fit-for-purpose, integrated and timely tertiary education data capability which can be used to understand problems, answer difficult policy questions, identify emerging issues, and monitor long term student outcomes through the education system and into post-study destinations
    b. the Australian Tertiary Education Commission produce an annual State of the Tertiary Education System Report and a rolling triennial planning report which will evaluate the system's progress towards the shared goals of the Review, report on the broader performance of the system, share good practice, and identify emerging issues.

Planning the tertiary education system of the future

37. That in its role as the steward, the Australian Tertiary Education Commission address the appropriate diversity of tertiary education providers of varying size, shape, purpose and location to meet national and place-based needs, including by:
    a. exploring the case for the establishment of new public universities in under-serviced areas, including research intensive institutions. All governments should work together closely to ensure alignment of planning priorities and resourcing
    b. facilitating the emergence of tertiary education providers which specialise to a greater or lesser extent in teaching or research
    c. facilitating the evolution of tertiary education providers to become nimble in responding to skills needs, diverse in nature and offerings, and aiming for excellence in specialised areas
    d. encouraging and incentivising new models of delivery and collaboration to increase tertiary education and research provision, particularly in regional and under-serviced areas, and internationally
    e. encouraging more cross-provision of VET by higher education providers, and vice versa, such that dual sector provision becomes commonplace
    f. considering revisions to the Provider Category Standards to:
        i. reinforce the importance of scholarship and engagement in all universities
        ii. consider relaxing the current requirement to meet benchmark levels of research in at least 3 broad Fields of Education
        iii. facilitate entry for high quality applicants for university status, for example from overseas institutions
    g. building alignment such that policy changes in relation to VET, and in relation to higher education, produce outcomes which enable both the higher education and vocational education and training sectors to thrive in the pursuit of growth in skills and avoid any unintended consequences that put those outcomes at risk.

38. That to achieve better alignment between higher education and vocational education and training and to allow TAFEs to be more responsive to student and industry needs, the Australian Government:
    a. encourage and assist TAFEs to become self-accrediting organisations in higher education
    b. explore pathways for selected TAFEs to become self-accrediting in VET at the Australian Qualification Framework (AQF) Level 5 and above in areas of national priority, starting with areas such as net zero emissions, care and digitisation.

Regional tertiary education and communities

39. That to recognise the benefits of access to tertiary education and the challenges to delivery in regional, rural and remote areas, the Australian Government:
    a. include in its new needs-based funding model a specific element based on the location of higher education delivery in regional and remote Australia – to better recognise the important equity issues involved in course delivery in regional Australia, and the additional costs of that delivery
    b. significantly increase the number of Commonwealth supported places dedicated and allocated to universities delivering regionally based end-to-end medical schools, to attract and retain medical graduates in regional areas. These places should be additional to currently allocated Commonwealth supported medical places
    c. consider further expanding the successful Regional University Study Hubs program – following evaluation of its effectiveness in improving regional and remote student participation, retention and completion rates. This expansion could consider:
        i. increased use of existing tertiary education infrastructure like TAFEs
        ii. allowing eligibility for existing universities to host a Regional University Study Hub
        iii. changing the name of the program from *Regional University Study Hubs* to *Regional Study Hubs* to recognise their role across both VET and higher education
    d. adjust the policy settings for the Tertiary Access Payment to remove the requirement to commence an eligible course within the 12 months following completion of Year 12 (or equivalent) and amend the timing of payments to provide timely assistance with the costs of relocation for tertiary study before moving
    e. task the Regional Education Commissioner with examining further opportunities to strengthen regional tertiary education, including the potential creation of a National Regional University, and a more integrated tertiary education system in regional communities, reporting to the Minister for Education by June 2025.

New funding model

40. That to provide a framework for funding higher education that supports achievement of the National Tertiary Education Objective, the Australian Government adopt a new funding model for higher education that is planned and managed by the Australian Tertiary Education Commission through mission-based compacts with publicly funded universities to:
    a. deliver Australia's future skills needs
    b. deliver places to ensure equitable access, participation, and success for equity students in higher education – effectively 'demand driven for equity' but with planned allocation of places to universities
    c. deliver 'demand driven' fee-free preparatory courses
    d. provide sufficient funding to cover the cost of teaching and scholarship from combined government and student contributions based on advice from the Australian Tertiary Education Commission through its pricing authority function
    e. ensure Australia's academic workforce can support the nation's teaching and research ambitions
    f. invest in creating and using new knowledge through research and research training
    g. provide freedom for universities to make choices about their enrolments and finances, within a framework set out by the funding principles and monitored by the Commission
    h. stop the practice of providing only partial funding for additional students when a university is overenrolled.

41. That the Australian Government ensure the new funding model supports publicly funded universities to deliver quality learning, teaching and scholarship by:
    a. ensuring places for undergraduate students in publicly funded higher education courses continue to be partially funded by a student contribution (and HELP) and partially funded by the government contribution (the Commonwealth Grants Scheme)
    b. delivering growth for the higher education system through providing a fully funded place for students who want to access higher education and can meet the entry requirements, managed at the system level to ensure that genuine demand is met with supply, and managed at the university level to ensure sustainability of universities
    c. ensuring all students from under-represented backgrounds are eligible for a funded place at a public university as soon as possible by redirecting the unused funding from the Australian Government's commitment to deliver 20,000 commencing Commonwealth supported places in 2023 and 2024
    d. increasing government funding to support science, technology, engineering and mathematics courses to reduce the negative impacts of the JRG package
    e. providing sufficient funding to cover the costs of learning, teaching and scholarship in each discipline, with increasing fidelity in the pricing system over time
    f. ensuring that student contributions reflect future earnings
    g. providing needs-based funding to address the cost of teaching students from backgrounds that need additional support and different locations of delivery by:
        i. recognising the additional costs involved in teaching students who need additional support to complete their studies, specifically First Nations students, students from lower quartile SES backgrounds, and students with disability
        ii. increasing the funding for regional delivery to better recognise the important equity issues involved in delivering courses to students in regional Australia, and additional costs of delivering higher education in regional areas
    h. significantly increasing the availability of fee-free preparatory places, meeting the need from interested students in high-quality preparatory courses ensuring:
        i. preparatory courses are free for any student in a Commonwealth supported place and this continues to be enshrined in legislation
        ii. funding for preparatory places will reflect the cost of delivery
    i. expanding the number of publicly funded higher education places, including at TAFEs, ensuring students are funded to undertake the qualification of their choice, whether that be a funded microcredential, diploma, bachelor degree, postgraduate degree, or other type of accredited qualification. Tertiary education providers should continue to retain the flexibility to allocate places across different types of qualification
    j. ensuring funding for efforts to build aspiration and boost the pipeline of students is kept outside the new funding model
    k. continuing to provide the Indigenous Student Support Program, with potential future reforms to be guided by the First Nations-led review, but with accountability for the program to shift to the Minister for Education to ensure effective integration with these overall funding arrangements.

42. That to support and strengthen universities' capacity to conduct research and research training, the Australian Government make changes to the university research funding model through:
    a. establishing a Solving Australian Challenges Strategic Fund to drive effective use of universities' research and research capability
    b. increasing funding to the Australian Research Council
    c. creating a pathway towards funding more of the full economic cost of research
    d. substantially increasing investment in the Research Training Program and raising the minimum stipend rate.

Higher Education Future Fund

43. That to provide support for the built and digital infrastructure, including student housing, that will be needed to cope with projected future enrolment growth, the Australian Government establish a Higher Education Future Fund (HEFF) managed by the Future Fund, with co-contributions from public universities and Government with the aim of reaching $10 billion in assets.
    a. Co-contributions should be made according to the following principles:
        i. come from universities' untied own source revenue
        ii. be matched by funding from the Commonwealth
        iii. control the adverse impact on universities with limited capacity to contribute
        iv. be time limited based on reaching a stable equity base in the Fund
        v. begin only when the new funding model is in place to ensure stability for universities through transition arrangements
    b. Returns from the Fund be used by Government and contributing universities working together to make investments in the higher education sector:
        i. on advice from an independent board
        ii. that contribute to solving key issues such as built and digital infrastructure and provision of affordable student housing
        iii. that leverage other funding sources
        iv. that recognise universities' capacity to pay.

Transition

44. That as a priority, the work to build a stewardship role in the tertiary education sector begin immediately with the Minister for Education establishing an Implementation Advisory Committee to provide advice to him on the implementation of the recommendations from this Review.

45. That implementation and transition planning should include a staged and managed approach to updating legislation that governs the sector:
    a. starting with those measures with most urgent impact that arise from the Review's recommendations and most immediate implementation timelines
    b. continuing to identify other features in legislation which require update and modernisation. In doing so, priorities should be:
        i. ensuring that the higher education sector is supporting students, carrying out research, and delivering the best outcomes for Australia, with legislative and regulatory settings that are modern and fit for purpose
        ii. identifying areas that are not adequately currently covered by legislation and developing strategies to work with the higher education sector to address these regulatory gaps
        iii. addressing issues of fragmentation, duplication or unnecessary regulatory burden
        iv. recognising the interlinkages between the higher education and vocational education and training sectors
        v. encouraging continuous quality improvement in the higher education sector.

46. That during the transition phase to a new funding model, universities be supported through a 'glidepath' to full policy implementation as they transition from the current funding system based on a fixed dollar amount (i.e. Maximum Basic Grant Amount – MBGA) to the new funding model built on EFTSL, discipline-based and needs-based funding.

    Where current funding programs change, care should be taken to avoid affecting quality activities that are being delivered under current arrangements.

47. That to provide transparency and predictability for the tertiary education sector in recognition of the Review's ambition for lasting reform, the Australian Government outline a staged approach to implementation of the Review's recommendations.

Chapter 1. Introduction and Context

1.1 Delivering an Australian Universities Accord Review

The Australian Government committed to establishing an Australian Universities Accord to reform Australia's higher education system so that it can drive nationwide skills and equity growth in particular, and economic, social and environmental prosperity more generally.

The Minister for Education, the Hon Jason Clare MP, appointed the Australian University Accord Panel in November 2022 to undertake this Review of the higher education system (the Review) and to make recommendations for Government, the higher education sector, and other relevant stakeholders to deliver a higher education system that meets the current and future needs of the nation, with targets to achieve this.

1.1.1 Process of this Review

Following establishment, the Review has met often and consulted widely. This includes consultation with universities and other higher education providers, 3 meetings of the Ministerial Reference Group, and various other meetings, forums and roundtables with government agencies, First Nations people, students, business, unions and other organisations.

The Review has asked many questions – and received many great answers. It received over 1,900 survey responses to the consultation request on the Terms of Reference, and over 785 submissions across 3 submission rounds.

A schedule of Panel meetings, consultations, survey and submissions analysis is included in Appendices D and E.

The Accord Discussion Paper, released in February 2023, posed 49 questions, and sought input on the kind of tertiary education system Australia wants and needs, and the actions required to achieve this – both immediate and longer-term.

The Review sought to understand the options available to drive lasting reform and meet current and future national need. The Accord Interim Report, delivered on 30 June 2023, canvassed 12 packages of ideas on how Australia's higher education sector could contribute significantly to important national needs.

The Interim Report also made 5 recommendations for priority action, able to be implemented quickly to address immediate issues and start to grow student numbers and the tertiary education system more generally through increased participation and engagement from equity cohorts.

These actions included to:

1. Extend visible, local access to tertiary education by creating further Regional University Centres (RUCs) and establish a similar concept for suburban/metropolitan locations
2. Cease the 50% pass rule, given its poor equity impacts, and require increased reporting on student progress
3. Ensure that all First Nations students are eligible for a funded place at university, by extending demand driven funding to metropolitan First Nations students
4. Provide funding certainty, through the extension of the Higher Education Continuity Guarantee into 2024 and 2025, to minimise the risk of unnecessary structural adjustment to the sector. Interim funding arrangements must prioritise the delivery of supports for equity students to accelerate reform towards a high equity, high participation system
5. Through National Cabinet, immediately engage with state and territory governments and universities to improve university governance, particularly focusing on:
   - universities being good employers
   - student and staff safety
   - membership of governing bodies, including ensuring additional involvement of people with expertise in the business of universities.

Each of these priority actions has been accepted by the Australian Government, and the Review notes that *The Higher Education Support Amendment (Response to the Australian Universities Accord Interim Report) Act 2023* (Cth) came into force on 6 November 2023. These are positive steps in building momentum for change.

Over the course of the year, the Review commissioned work from tertiary education sector experts to provide additional research, test ideas and help formulate options to drive reform. The Review thanks these partners, whose research this Report considerably draws on. For practical reasons the Report does not footnote each use of a commissioned piece. A full list of commissioned works is included at Appendix F.

Under terms of confidentiality, various experts reviewed and commented on chapters of this Report. The Review thanks them and all those who generously donated their ideas, time, expertise and wise counsel and, in doing so, made this Report stronger.

1.1.2 Approach of this Review

The Review has been guided by its broad Terms of Reference. The full Terms of Reference of the Review are included at Appendix A. They list 7 key areas for review:

- meeting Australia's knowledge and skills needs, now and in the future
- access and opportunity
- investment and affordability
- governance, accountability and community
- the connection between the vocational education and training (VET) and the higher education systems
- quality and sustainability
- delivering new knowledge, innovation and capability.

Of these 7 areas, the Review considers 3 major national needs that the tertiary education system delivers for:

- *meeting Australia's future knowledge and skills needs*
- *expanding access and opportunity* to people currently under-represented at university
- continuing to *deliver new knowledge, innovation and capability* to benefit Australia's society and economy.

Although the Terms of Reference ask the Review to consider connections between VET and higher education, they do not extend to an in-depth review of the VET system itself.

It is difficult to consider the higher education system in isolation – particularly in the context of national need. For example, it is impossible to achieve expanded access and opportunity, or to meet current skills shortages (in both the professions and critical trades), without the full contribution of both the VET and higher education systems. It is critical that VET and higher education work closely together.

In exploring areas of current and future national need, and assessing system performance against these, a priority of the Review has been to reinforce the fundamental role of tertiary education in Australia and how, through learning, teaching, research, and community engagement, it underpins and contributes to the nation's intellectual, cultural, social and economic development and environmental sustainability at individual, community and societal levels.

1.1.2.1 An overarching objective

The objects of *higher education* are well articulated in the *Higher Education Support Act 2003* (Cth) (HESA), as follows:

a. *to support a higher education system that:*
   i. *is characterised by quality, diversity and equity of access; and*
   ii. *contributes to the development of cultural and intellectual life in Australia; and*
   iii. *is appropriate to meet Australia's social and economic needs for a highly educated and skilled population; and*
   iv. *promotes and protects free intellectual inquiry in learning, teaching and research; and*

b. *to support the distinctive purposes of universities, which are:*
   i. *the education of persons, enabling them to take a leadership role in the intellectual, cultural, economic and social development of their communities; and*
   ii. *the creation and advancement of knowledge; and*
   iii. *the application of knowledge and discoveries to the betterment of communities in Australia and internationally;*

   recognising that universities are established under laws of the Commonwealth, the States and the Territories that empower them to achieve their objectives as autonomous institutions through governing bodies that are responsible for both the university's overall performance and its ongoing independence; and

c. *to strengthen Australia's knowledge base, and enhance the contribution of Australia's research capabilities to national economic development, international competitiveness and the attainment of social goals; and*
d. *to support students undertaking higher education and certain vocational education and training.*

The Review endorses these objects. They cover Australia's intellectual, cultural, economic, social and environmental development and outline the value of higher education contributing to these.[11] Yet there is no clear statement describing the objectives of the whole tertiary education system – encompassing both higher education and VET.

To date, the tertiary education system has not worked towards a shared vision of its future. Without a clear whole-of-system objective, it has missed opportunities for integrated reform.

Accordingly, the Review proposes that an expanded system objective apply in parallel to the objects of HESA with potential to apply across the policy spectrum of the whole tertiary education system.

It is recommended that the Objective of the tertiary education system is to:

1. **underpin** a strong, equitable and resilient democracy
2. **drive** national economic, social development and environmental sustainability.

The National Tertiary Education Objective will be achieved through ensuring:

- a strong, efficient and dynamic tertiary education system that has the capacity, capability and infrastructure it needs
- affordable and equitable opportunity for all Australians to access and participate in high-quality, engaging and transformative tertiary education programs
- delivery of graduates with the creativity and technical skills to meet future workforce and societal need
- collaborative and purposeful work between governments, tertiary education providers, industry, employers and unions to flexibly align local skills supply with demand
- the creation and diffusion of new knowledge and its innovative application for the betterment of society.

Finding: Vision

Our vision is to grow and strengthen tertiary education in Australia over the next two decades so that all Australians have the opportunity to obtain the knowledge, skills and understanding to create and thrive in the jobs of the future. Australia needs this expanded tertiary education system to help achieve skills through equity and excellent, fit-for-purpose research, enabling more people to help meet the challenges facing our nation, region and world. Education, research, innovation and society-wide partnerships are vital for Australia's economic prosperity, democratic cohesion and environmental sustainability.

11 *Higher Education Support Act 2003* (Cth), Division 2, www.legislation.gov.au/Details/C2022C00005.

1.1.3 The national education agenda

Australia requires a better and fairer education system. At the moment, a child experiencing disadvantage is less likely to attend early childhood education and care and 3 times more likely to fall behind at school.[12] They are also less likely to finish high school and less likely to go on to tertiary education. The national education system needs a coordinated approach that builds on the skills and capabilities of all people throughout their education journey.

The early childhood education and care (ECEC) and school systems are crucial to preparing students to access and succeed in tertiary education. The impacts of successful or unsuccessful learning even in the early years of primary school and pre-school education can be lifelong and affect tertiary education attainment and employment. Policies in these sectors are far reaching and their effects are felt for decades.

These systems, including tertiary education, can do more to meet Australia's educational needs. They must work together to expand access to high-quality learning experiences and ensure better educational outcomes for all.

The Accord Review is a key element of the wider set of reviews of the Australian education system commissioned by the Australian Government in 2022. In addition to this Review, there is the Productivity Commission Inquiry into Australia's Early Childhood Education and Care System led by Emeritus Professor Deborah Brennan AM, and the Review to Inform a Better and Fairer Education System led by Dr Lisa O'Brien AM (NSRA Review).

Productivity Commission inquiry into early childhood education and care

The early years are a critical period in the cognitive, social and emotional development of children.[13] Building aspiration to attend tertiary education can occur in the early years, as children see and model behaviour of people in the workplace, including in early childhood education settings.[14] ECEC programs have positive effects on children's early academic, cognitive and noncognitive skills. These benefits can last well into adulthood and an expansion of ECEC can have a positive effect on adult outcomes such as completing school and tertiary education, getting a job and a decent income, and avoiding contact with the justice system.[15] Children who participate in high-quality ECEC are better prepared for school and tend to perform better academically.[16] Investing in the early years has a dual benefit for both children and parents by supporting children's development in addition to helping parents and carers to work, train or study, with these benefits flowing into the community and Australian economy.[17]

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12 Productivity Commission, *A path to universal early childhood education and care: Draft report (ECEC Draft Report)*, (Canberra: November 2023), www.pc.gov.au/inquiries/current/childhood/draft, 2; Productivity Commission, *Review of the National School Reform Agreement: Study report*, (Canberra: December 2022), www.pc.gov.au/inquiries/completed/school-agreement/report, 21.

13 Productivity Commission, *ECEC Draft Report*, 11.

14 Mildred Cahill, and Edith Furey, *The Early Years: Career Development for Young Children*, (Toronto: CERIC and Memorial University, 2017) accessed 10 December 2023, cica.org.au/wp-content/uploads/The-Early-Years-Career-Development-for-Young-Children-Educators-Guide-October-2017.pdf.

15 Productivity Commission, *ECEC Draft Report*, 11.

16 Diana Warren and John P. Haisken-DeNew, *Early Bird Catches the Worm: The Causal Impact of Pre-school Participation and Teacher Qualifications on Year 3 National NAPLAN Cognitive Tests*, Working Paper No. 34/13 (Melbourne: Melbourne Institute of Applied Economic and Social Research, October 2013), 35, melbourneinstitute.unimelb.edu.au/downloads/working_paper_series/wp2013n34.pdf.

17 Productivity Commission, *ECEC Draft Report*, 12.

The Productivity Commission's inquiry into Australia's ECEC system will help chart a course towards universal, affordable ECEC and make recommendations to support affordable, accessible, equitable, inclusive and high-quality ECEC that supports children's learning and development and reduces barriers to workforce participation. The Productivity Commission released a draft report on 23 November 2023 which includes 32 draft recommendations.

The Productivity Commission will consider submissions and undertake further consultations as it prepares its final report, which will be provided to the Australian Government by 30 June 2024.

The draft report acknowledges and addresses that quality of the children's education and care workforce is critical to the successful delivery of high-quality ECEC.[18] Appropriately qualified educators and teachers are better able to involve children, stimulate positive interactions, and use a range of strategies to extend and support learning and development.[19]

Review to Inform a Better and Fairer Education System

Academic preparedness is essential to improving access to and success in tertiary education. While there are increasingly flexible alternative pathways into tertiary education, student outcomes in school are a strong basis for aspiration and attainment of a tertiary education qualification. Improving the school system and student outcomes will ensure more students can access a tertiary education, particularly for cohorts historically under-represented in tertiary education, as discussed further in *Chapter 3 – Expanding opportunity to all*.

The Final Report of the NSRA Review, published in December 2023, provides input to the development and negotiation of the next National School Reform Agreement and associated bilateral agreements with individual states and territories. The NSRA Review builds on the work of the Productivity Commission's Review of the National School Reform Agreement with a focus on driving improvements in learning and wellbeing outcomes for students. It proposes reforms that are evidence-based, leverage existing systems and high-impact initiatives, and considers the impacts on teacher and school leader workload. It also considers how funding and reforms can be more transparent and better demonstrate links to student outcomes.

18 Productivity Commission, *ECEC Draft Report*, 15-16.

19 Productivity Commission, *ECEC Draft Report*, 11.

The NSRA Review considers how:

- the next agreement can contribute to improving student mental health and wellbeing, by addressing in-school factors while acknowledging the impact of non-school factors
- the next agreement can support schools to attract and retain teachers
- data collection can best inform decision-making and boost student outcomes
- to ensure public funding is delivering on national agreements and that all school authorities are transparent and accountable to the community for how funding is invested, and measuring the impacts of this investment.

One recommendation of the NSRA Review is that governments consider reforms to the tertiary education sector to ensure that initial teacher education students do not face financial hardship when undertaking mandatory teaching practicums.[20] This issue is considered in *Chapter 2 – Meeting our current and future skills needs*.

Productivity Commission 5-year inquiry into productivity growth

Productivity growth is vital for Australia's future. Australia needs policy settings that foster a flexible and dynamic economy that can adapt to growing technologies and changes in workforce and skills needs.[21] This extends to ensuring education and training opportunities are available to all Australians.

The Productivity Commission released its *5-year Productivity Inquiry: Advancing Prosperity* on 17 March 2023. The Inquiry reviews Australia's productivity performance and presents a roadmap to conduct productivity-enhancing reforms.[22]

The Inquiry shares themes and makes recommendations that have informed and shaped this Review. It:

- advocates for a demand driven funding model for higher education that separates research and teaching costs, underpinned by principles reflecting the private benefits of higher education
- advocates for more exit qualifications in higher education
- places importance on knowledge dissemination and lifelong learning
- recommends increased public accessibility to higher education course material and academic research in public universities
- recommends reducing administrative barriers to academic consulting
- recommends changes to skilled migration, which would complement necessary increases in higher education attainment and, more broadly, the level of skilled labour in Australia's skilled workforce.[23]

20 Lisa O'Brien, Lisa Paul, Dyonne Anderson, Jordana Hunter, Stephen Lamb and Pasi Sahlberg, *Improving Outcomes for All, The Report of the Independent Expert Panel's Review to Inform a Better and Fairer Education System*, (2023), 27, www.education.gov.au/review-inform-better-and-fairer-education-system/resources/expert-panels-report.

21 Productivity Commission, *5-year Productivity Inquiry: Advancing Prosperity*, (Canberra: March 2023), iv www.pc.gov.au/inquiries/completed/productivity/report/productivity-advancing-prosperity-all-volumes.pdf.

22 Productivity Commission, *5-year Productivity Inquiry: Advancing Prosperity*, 45.

23 Productivity Commission, *5-year Productivity Inquiry: Advancing Prosperity*, 55, 75, 13.

The National Skills Agreement

The National Skills Agreement is a 5-year agreement between the Australian, state and territory governments, working in partnership to ensure that the national vocational education and training (VET) system provides high-quality, responsive and accessible education and training to boost productivity, deliver national priorities and support Australians to obtain the skills and capabilities they need to obtain well-paid, secure jobs. The Agreement gives effect to National Cabinet's vision statement and guiding principles on longer-term VET reform. The National Cabinet endorsed the Agreement on 16 October 2023, and it will commence on 1 January 2024.

The Agreement will deliver a skilled Australian workforce with TAFE at the heart of the VET sector. It will support access for all, especially priority groups, to the education, training and assistance they need to obtain the skills to participate and prosper in the modern economy. The Agreement reflects a commitment by the Australian Government to ensure that no Australian is left behind or held back as the economy transitions and adapts to structural change, including by providing opportunities for life-long learning and foundation skills development.

The $12.6 billion investment by the Australian Government includes an extra $2.4 billion in flexible funding to support state and territory skills sectors with capacity to deliver skills for critical and emerging industries. There is up to an additional $1.3 billion of Commonwealth funding to implement agreed reforms. The Agreement also represents a fundamental shift in the way that governments work together to address shared challenges and capitalise on shared opportunities in the VET system. A new stewardship model will support governments working collaboratively and purposefully towards national priorities, while preserving flexibility for states and territories to align local skills supply with demand.

Through the Agreement, governments have committed to establishing TAFE Centres of Excellence to partner with industry, universities, unions and governments to meet workforce challenges. TAFE Centres of Excellence are explored in greater detail in *Chapter 2 – Meeting our current and future skills needs*.

Recommendation: National Tertiary Education Objective

1. That to set a clear vision for the tertiary education system – both higher education and vocational education and training – the Australian Government specify that the objective of the national tertiary education system is to:
   a. **underpin** a strong, equitable and resilient democracy
   b. **drive** national economic and social development and environmental sustainability.

   The National Tertiary Education Objective will be achieved through ensuring:
   - a strong, dynamic and efficient tertiary education system that has the capacity, capability and infrastructure it needs
   - affordable and equitable opportunity for all Australians to access and participate in high-quality, engaging and transformative tertiary education programs
   - delivery of graduates with the creativity and technical skills to meet future workforce and societal need
   - collaborative and purposeful work between all governments, tertiary education providers, industry, employers and unions to flexibly align local skills supply with demand
   - the creation and diffusion of new knowledge and its innovative application for the betterment of society.

   Recommendations for the tertiary education system are made within this framework.

1.2 Context

1.2.1 Building on past reviews and reform

The ambition of the Accord – long-term reform for the higher education system to meet national need – is not new.

Higher education has long been recognised as a core driver of national prosperity. As a result, successive governments have adjusted policy settings so that the higher education system can evolve and respond to the changing needs of the nation.

During the Second World War, the national agenda focused on producing skilled tradespeople and professionals to support the war effort. In 1944, the Commonwealth Reconstruction Training Scheme (CRTS) was introduced under the guidance of the Universities Commission[24] to equip returning service personnel with the necessary skills to contribute to the nation's rapidly growing industrial economy.[25] University enrolments grew significantly between 1945 and 1946, from 15,286 to 25,585.[26]

Following recommendations of the Martin Committee on the Future of Tertiary Education in Australia in the 1960s,[27] the introduction of the binary system saw enrolments grow further (see Figure 1).[28] Under this system, Colleges of Advanced Education (CAEs) were established to provide professional education and skills in emerging fields, like computing and librarianship. Though often held in lesser regard than universities, these colleges and institutions afforded flexibility of study (for example, night classes) not always as easily available to university students, and consequently they enrolled a growing proportion of all higher education students.

The system demonstrated considerable resilience and flexibility in responding to these and other major changes, including major reforms like:

- the transition of financial and policy responsibilities for higher education from states to the Australian Government in 1974
- the abolition of tuition fees also in 1974
- the growing importance of research and innovation to university activity, reinforced by recommendations of the Mills,[29] Murray[30] and Martin Committees[31] and the availability of competitive grants through the Australian Research Grants Committee from 1965.[32]

24 The Universities Commission, established under Professor R.C. Mills in 1943.

25 Darryl Dymock and Stephen Billett, "Skilling Australians: Lessons from World War II National Workforce Development Programs," *Australian Journal of Adult Learning* 50, no. 3 (November 2010), 477, research-repository.griffith.edu.au/bitstream/handle/10072/38922/65824_1.pdf?sequence=1.

26 Commonwealth Bureau of Census and Statistics, *Official Year Book of the Commonwealth of Australia: No. 37 – 1946 and 1947* (Canberra), 1046, www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/1301.01946-47?OpenDocument.

27 Committee on the Future of Tertiary Education in Australia, *Tertiary education in Australia (Martin report)* (Canberra: Government Printer, 1964), hdl.voced.edu.au/10707/228215.

28 Vincent L. Meek, "The Transformation of Australian Higher Education from Binary to Unitary System," *Higher Education* 21, no. 4 (1991): 461–94. www.jstor.org/stable/3447236; Bruce Williams, "The rise and fall of binary systems in two countries and the consequence for universities," *Studies in Higher Education* 17, 3 (1992): 281–293, DOI: 10.1080/03075079212331382547. Meek dates the creation of the binary system to 1965, whereas Williams dates the start of financing of "an advanced sector" to 1965 but its formal creation in 1973.

29 Peter Groenewegen, "Richard Charles Mills (1886–1952)," in the *Australian Dictionary of Biography, Volume 10*, ed. Bede Nairn and Geoffrey Serle, (Melbourne: Melbourne University Press, published first in hardcopy 1986, accessed online 20 December 2023), adb.anu.edu.au/biography/mills-richard-charles-7593.

30 Committee on Australian Universities, *Report of the Committee on Australian Universities* (Canberra: Government Printer, 1957), hdl.voced.edu.au/10707/228224.

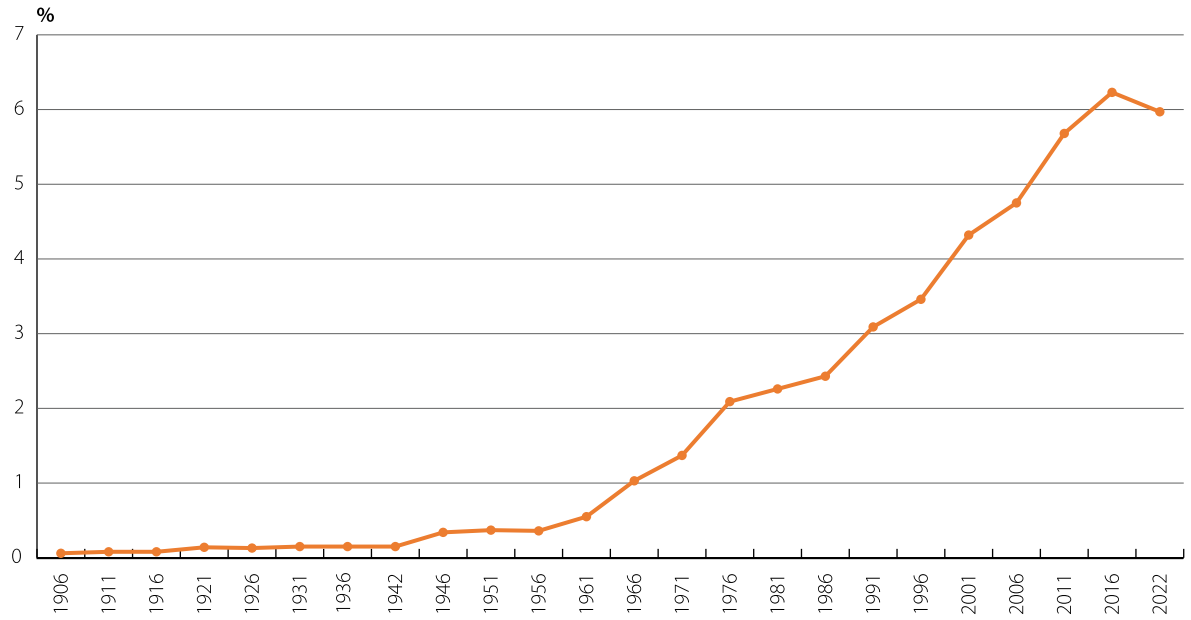
31 Committee on the Future of Tertiary Education in Australia, *Tertiary Education in Australia (*Canberra: Government Printer, 1964), www.voced.edu.au/content/ngv%3A53781.

32 Frederick White, "Robert Gordon Menzies. 20 December 1894–15 May 1978," *Biographical Memoirs of Fellows of the Royal Society* 25 (November 1979), 445–76.

Arguably, the most significant period of change in Australian higher education took place during the late 1980s. The extensive Dawkins reforms package of 1988[33] ended the binary system and restructured the higher education sector. It has been identified as the "point when Australian higher education tipped from elite to mass".[34]

These reforms resulted in amalgamations and mergers of Australia's 75 various higher education institutions to 36 universities,[35] introduction of a financial contribution by students to the cost of their education supported by an income-contingent loan system to defer this cost, the Higher Education Contribution Scheme (HECS), and a one-off funding equalisation adjustment, the relative funding model (RFM), which rebased the funding to universities so they received the same amount per student but with weighting for different disciplines. The Dawkins reforms also resulted in a large expansion in the number of domestic and international students (see Figure 1); major growth in the quantity and quality of higher education research; and, over time, a move towards greater reliance on non-Commonwealth government sources of revenue and an emphasis on research collaboration between universities and industry.

Figure 1: Higher education enrolments, share of population (%), 1906 to 2022.



Source: Australian Bureau of Statistics, *Year Book Australia*, (Canberra: Australian Bureau of Statistics, 2023), accessed 1 November 2023, www.abs.gov.au/AUSSTATS/abs@.nsf/second+level+view?ReadForm&prodno=1301.0&viewtitle=Year%20Book%20Australia~2012~Latest~24/05/2012&&tabname=Past%20Future%20Issues&prodno=1301.0&issue=2012&num=&view=&; Department of Education, *Higher Education Statistics – Student Data – Time Series Data 1949–2000*, (Canberra: 2023) accessed 13 December 2023, www.education.gov.au/higher-education-statistics/resources/time-series-data-1949-2000; Department of Education, *Higher Education Statistics – Student Data* [unpublished data], (Canberra: 2023); Australian Bureau of Statistics, *National, state and territory population*, accessed 13 December 2023, www.abs.gov.au/statistics/people/population/national-state-and-territory-population/jun-2022.

Note: Figure 1 shows higher education enrolments as a share of population every 5 years with the exception of 1942 and 2022. The 1942 share of population was used due to unavailability of 1941 enrolment data and the 2022 share of population was used to encompass the decline in 2022 enrolments.

33 Introduced by the then Minister for Employment, Education and Training, the Hon John Dawkins MP.

34 Glyn Davis, *The Australian Idea of a University* (Melbourne: Melbourne University Press, 2017), 73–74.

35 Mats Benner, Jonathan Grant and Mary O'Kane, *Crisis Response in Higher Education: How the Pandemic Challenged University Operations and Organisation* (2022), 57, doi.org/10.1007/978-3-030-97837-2.

The Dawkins reforms have proved enduring. The structure and direction of the system has not changed significantly since, though subsequent reforms have made some important adjustments.

In addition to improvements in efficiency and productivity in higher education delivery, noteworthy system changes throughout the 1990s and early 2000s included increased government support for, and diversification of, private higher education provision, and greater diversity of university income sources, including from international students.

Informing another substantial set of reforms, the 2008 Review of Australian Higher Education led by the late Professor Denise Bradley AC (the Bradley Review) was commissioned to "examine and report on… the future direction of the higher education sector, its fitness for purpose in meeting the needs of the Australian community and economy and the options for ongoing reform".[36]

The Bradley Review identified Australia's sustained failure to capitalise on the abilities of all Australians – given projected shortfall in the number of suitably qualified people to meet Australia's workforce needs – as a substantial economic issue for the nation, in addition to being a significant issue of social inequity.[37] It recommended that Australia set higher education targets for the total student population and groups historically under-represented in higher education to drive increased participation and attainment. Though growth in equitable access to higher education was substantial, by the target date of 2020 the targets for historically under-represented groups had not been met.

Significant changes to Australian higher education policy since the Bradley Review include:

- the introduction of the demand driven system in 2012 that provided an entitlement to a Commonwealth supported place for any eligible domestic student offered a place in a non-medical bachelor course at a Table A higher education provider. The demand driven system operated from 2012 to 2017
- the freezing of the demand driven system from 2018, capping the amount of Commonwealth Grant Scheme (CGS) funding each university received, but allowing them to enrol as many students as they wished and keep the full value of student contributions
- new regulatory structures, frameworks and bodies, including the Provider Category Standards and the establishment of Tertiary Education Quality Standards Agency (TEQSA), a key recommendation of the Bradley Review
- the introduction of major reforms to what students and the Australian Government pay for different subjects through the Job-ready Graduates (JRG) package from 2021.

On the research side, from 1989 to the present there has been a sustained government push for higher education research to be more applied and end-user focused. Several industry and higher education research funding schemes were introduced to encourage this, including the ARC Collaborative Grants Scheme (now known as the Linkage Grants), the Cooperative Research Centre Program and a range of similar schemes across several portfolios. All these schemes have been heavily oversubscribed. Notably, many do not typically provide full funding for the cost of research though block grants from government provide some assistance. Most notably in research, university expenditure on research has risen considerably from $2.3 billion in 1996 to $12.7 billion in 2020.[38]

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36 Department of Education, Employment and Workplace Relations, *Review of Australian Higher Education: Final Report (Bradley Review)* (Canberra: December 2008), 205, hdl.voced.edu.au/10707/44384.

37 Department of Education, Employment and Workplace Relations, *Bradley Review*, 4–5.

38 Australian Bureau of Statistics, *Research and Experimental Development, Businesses, Australia 2021–22* [data set], (Canberra) published 25 August 2023, www.abs.gov.au/statistics/industry/technology-and-innovation/research-and-experimental-development-businesses-australia/latest-release. Refers to unadjusted figures (nominal dollars).

There has also been a strong push for higher education providers to commercialise research better. This was supported with an announcement of the $2.2 billion University Research Commercialisation Action Plan in February 2022, and the establishment of the Trailblazer Universities Program in November 2021.[39] Research commercialisation has also been supported by many universities creating technology transfer offices, initially within the portfolio of Deputy Vice-Chancellor (Research) and, more recently, in the portfolio of a new senior manager position with a title such as Deputy Vice-Chancellor (Enterprise) reflecting the rising interest in entrepreneurship and innovation more broadly.

Most of these reforms have been successful in enhancing higher education performance in Australia. There are some notable exceptions where a policy did not deliver the intended consequences, specifically the JRG package and the re-introduction of marginal funding at the end of the demand driven system.

1.2.2 An overview of the current higher education system

Australia has a complex higher education system, with a wide range of students, and a diverse combination of public and private providers.

A brief overview of the current system is provided, with recent trends and changes detailed throughout the following chapters.

1.2.2.1 Students and provision

In 2022, the higher education system supported around 1.6 million students. Of these, 71.1% are domestic students, of whom around 800,000 are undergraduates, about 280,000 are postgraduates, and about 30,000 are in enabling or non-award courses. The remaining 28.9% (around 450,000 people) are international students. In 2022, of the over 467,000 domestic and international postgraduate students, around 67,000 are Higher Degree by Research (HDR) students.[40]

There are 202 higher education providers currently registered in Australia. This includes 42 Australian universities, 38 of which are public universities teaching over 90% of students.[41] Just over 5% and 2% of students attend private for-profit and private not-for-profit institutions respectively, with 0.5% of higher education students attending public TAFEs.

Public universities deliver a mix of publicly and privately funded courses, ranging from domestic undergraduate Commonwealth supported places,[42] to full fee postgraduate coursework provision and deregulated international fee-paying student provision. Around 55% of students are domestic students studying in Commonwealth supported places, for which the Australian Government provides a subsidy

39 Department of Education, "Research Translation and Commercialisation Agenda," Australian Government Department of Education, published 23 November 2023, www.education.gov.au/research-translation-and-commercialisation-agenda.

40 Department of Education, *Higher Education Statistics – 2022 Student Data – Section 2 All students* [data set], Section 2.1.

41 Tertiary Education Quality and Standards Agency, "National Register," Tertiary Education Quality and Standards Agency, accessed 7 November 2023, www.teqsa.gov.au/national-register.

42 Commonwealth Supported Places (CSP) are described as such because the Government makes a significant contribution to the cost of teaching and scholarship for these programs. Each student in a CSP place also contributes to the cost of their course, with eligible students able to access HECS-HELP Income Contingent Loans (ICLs) to ensure there is no upfront cost. Public universities are prohibited from offering domestic full fee-paying undergraduate places, except in limited circumstances.

and the student pays a student contribution (with the maximum they can pay regulated by the Australian Government), payment of which can be deferred through a HELP loan. In contrast, domestic students in full fee-paying places (around 13% of students) do not receive a government subsidy through the CGS and are required to pay the full fee, although eligible students are also able to defer this through a HELP loan.[43] The remainder of the student body is made up of international students (around 29% of students) and non-award and research students (around 3% of students).

The Australian Government's major funding of research training is through the Research Training Program (RTP), which can be provided to students in the form of stipends, fees offsets and allowances. In 2022, 88% of HDR students were doctorate by research students. Around 90% of domestic HDR students received some form of support from the RTP in 2022. The distribution of funding from the RTP to support HDR students is a matter for institutions. Beyond the RTP, scholarships for research training are available from other sources, including universities, governments and industry.

Public universities operate over 300 physical campuses across every state and territory, as well as some overseas campuses. The majority of these campuses are in a metropolitan area. However, only a minority of universities exclusively deliver in a metropolitan area, with over 70% having a least one campus in a regional area and delivering alongside a group of regional universities that primarily deliver in the regions – in most cases, across multiple campuses.

A small number of universities are very large with more than 70,000 students and more than $2 billion in revenue, but the majority operate with equivalent student loads of less than 30,000 and revenues closer to $500 million.[44] As noted by Professor Glyn Davis AC, some Australian public universities are extraordinarily large by global standards.[45]

There are around 160 non-university, mainly non-self-accrediting, higher education providers.[46] These include some TAFEs, a number of university colleges such as the Australian College of Theology and the National Institute of Dramatic Art, and other specialist providers in fields such as business, health and technology.

Recently, new models of provision have emerged. Regional University Centres, as well as industry focused collaborations such as the Institutes of Applied Technology led by TAFE NSW, have contributed to institutional diversity and outreach. Microcredentials, MOOCs and Open Educational Resources are further examples of the increasingly granular tertiary education offerings.

43 Department of Education, *Higher Education Statistics – Student Data – 2022 Section 5 Liability Status* [data set].

44 Department of Education, *University Revenue and Expenses* [unpublished data], (Canberra: 2023).

45 Glyn Davis, "Why are Australian Universities so large?" in *Australian Universities: A Conversation About Public Good*, edited by Julia Horne and Matthew A.M. Thomas, (Sydney: Sydney University Press, 2022), 45.

46 Tertiary Education Quality and Standards Agency, "National Register."

There are also moves by long-established universities to reinvent themselves through mergers. The passage of legislation in November 2023 to establish a new Adelaide University is a rare and significant change, not just for the universities concerned but for the whole sector. These moves are being driven by state governments in search of improved performance and national competitiveness. The *Western Australian University Sector Review* is currently exploring the possibility of structural change to the combination of Curtin University, Edith Cowan University, Murdoch University and The University of Western Australia.

1.2.2.2 Research and innovation

The combination of teaching *and* research is a distinctive aspect of universities as higher education institutions, protected by regulation.[47] Australia's universities are significant research and development (R&D) contributors, with revenue from international students contributing to substantial research investment. In inflation-adjusted terms, university expenditure on research nearly tripled to $12.7 billion between 2000 and 2020.[48]

The Australian R&D system is unlike the R&D systems in most leading OECD nations. While universities account for 33% of the nation's R&D expenditure (high by OECD norms), industry accounts for 53% of R&D expenditure. This is low by OECD standards, and has been stagnant in recent years, with business contributing just 0.89% of gross domestic product in 2021–22.[49] Government investment in research has been marginally declining relative to economic growth.[50]

The university sector also does the underpinning work (basic research and research training) for all of Australia's innovation and R&D systems. It trains PhD students and carries out the bulk of Australia's basic research. Australia has a high concentration of investment in pure basic and strategic basic research (22%), compared to countries like Israel (10%), Japan (13%) and the US (15%). These comparator countries generally have higher concentrations of investment in applied research and experimental development compared to Australia. Most investment in basic research is by the higher education sector, while businesses focus more on applied research and experimental development.[51]

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47 A 'University' is a defined term. Its use is restricted to institutions with research in at least 3 disciplines.

48 Organisation for Economic Co-operation and Development (OECD), *OECD Main Science and Technology Indicators* [data set], accessed 10 November 2023, www.oecd.org/sti/msti.htm; Australian Bureau of Statistics, *Consumer Price Index, Australia* [data set], September Quarter 2023 (Canberra: October 2023), accessed 11 December 2023 www.abs.gov.au/statistics/economy/price-indexes-and-inflation/consumer-price-index-australia/latest-release.

49 Australian Bureau of Statistics, *Research and Experimental Development, Businesses, Australia 2021–22* [data set], (Canberra), published 25 August 2023, www.abs.gov.au/statistics/industry/technology-and-innovation/research-and-experimental-development-businesses-australia/latest-release; Australian Bureau of Statistics, *Australian National Accounts: National Income, Expenditure and Product* [data set], Table 36 (Canberra), published 6 December 2023, www.abs.gov.au/statistics/economy/national-accounts/australian-national-accounts-national-income-expenditure-and-product/latest-release.

50 Department of Industry, Science and Resources, *Science, Research and Innovation Budget Tables 2022–23* [data set], published 28 April 2023, www.industry.gov.au/publications/science-research-and-innovation-sri-budget-tables-2022-23.

51 Australian Bureau of Statistics, *Research and Experimental Development, Businesses, Australia 2021–22* [data set]; Australian Bureau of Statistics, *Research and Experimental Development, Higher Education Organisations, Australia 2020* [data set], (Canberra: 2022), accessed 10 November 2023 www.abs.gov.au/statistics/industry/technology-and-innovation/research-and-experimental-development-higher-education-organisations-australia/latest-release; Australian Bureau of Statistics, *Research and Experimental Development, Government and Private Non-Profit Organisations, Australia 2020–2021* [data set], (Canberra: 2022), accessed 8 December 2023, www.abs.gov.au/statistics/industry/technology-and-innovation/research-and-experimental-development-government-and-private-non-profit-organisations-australia/2020-21; OECD, *OECD Main Science and Technology Indicators* [data set], 2023.

Universities also produce most of Australia's scientific publications – a substantial task given Australia produces 3.4% of the world's published research with only 0.33% of the world's population.[52] In 2022, 59.8% of all research publications with an Australian author included an international co-author, higher than the EU (43.5%) and the US (37.3%).[53]

Two-thirds of Australian university research output is assessed by the Australian Research Council (ARC) as being above or well above world standard.[54]

Despite strong university research outputs, in 2022, R&D expenditure from all sources – business, government, higher education and the private non-profit sector – represented only 1.68% of gross domestic product, falling from 1.8% in 2020 and 2.25% in 2009.[55] It is the lowest level recorded in 17 years, since the Australian Bureau of Statistics (ABS) adopted its current methodology for measuring gross R&D expenditure.

Further, in terms of international innovation rankings such as the Global Innovation Index, Australia has consistently scored poorly compared to other OECD nations.[56] In 2023, Australia ranked 16th in innovation inputs (stable business and legal systems, quality education and research systems) but 30th in knowledge and technology outputs. In effect, it fails to translate its innovation inputs into high-impact innovation outputs (new processes, products and services).[57]

1.2.2.3 Community and regional engagement

Australia's tertiary education providers are embedded in, and contribute to, the social fabric and development of their diverse communities. They create local jobs and stimulate economic activity. Also they encourage civic engagement, intellectual enrichment, cultural events, reconciliation and other social benefits. Increasingly, place-based and infrastructure development strategies that focus on social and economic inclusion and progress are occurring right across the tertiary education system.

Universities and university colleges are required to engage with their communities, employers and industry.[58] Community engagement objectives are generally included in founding legislation which encourages universities to focus on practical problems or commercial opportunities relevant to their community.[59] After teaching and research, community engagement is considered the 'third stream' of university activity. Regional universities and other higher education providers are particularly important in their local communities. They are often the largest employer in their area. They provide facilities and

52 Clarivate, *Web of Science Documents* [data set], (2022), accessed 24 November 2023, incites.clarivate.com/#/analysis/0/organization; The World Bank, *Population, total* [data set], accessed 24 November 2023, data.worldbank.org/indicator/SP.POP.TOTL.

53 SciVal, *Collaboration by Australia* [data set], (2023) accessed 19 December 2023, www.scival.com/collaboration/collabMetrics?uri=Country/36.

54 Australian Research Council (ARC), *State of University Research 2018–19* [data set], (Canberra, 2019), accessed 10 November 2023, dataportal.arc.gov.au/ERA/NationalReport/2018/.

55 John Ross, "Australian R&D Investment hits 17-year low," *Times Higher Education*, 26 August 2023, www.timeshighereducation.com/news/australian-rd-investment-hits-17-year-low.

56 In metrics including Gross Domestic Spending on R&D. OECD, *Gross Domestic Spending on R&D 2023* [data set], accessed 29 November 2023, data.oecd.org/rd/gross-domestic-spending-on-r-d.htm.

57 World Intellectual Property Organisation, "Global Innovation Index," *WIPO*, September 2023, accessed 10 November 2023, www.wipo.int/global_innovation_index/en/.

58 *Higher Education Standards Framework (Threshold Standards) 2021* (Cth), B1.2–B1.3, www.legislation.gov.au/Details/F2022C00105.

59 Andrew Norton, *Mapping Australian Higher Education 2023* (Canberra: ANU Centre for Social Research and Methods, 2023), 23, csrm.cass.anu.edu.au/research/publications/mapping-australian-higher-education-2023.

essential infrastructure, foster community participation and connection through local sports and other sponsorships and can play an important role in times of crisis, as evidenced by examples of universities providing support to their communities during natural disasters such as cyclones, bushfires and floods.[60]

Finding: Community engagement

Tertiary education providers have deep connections to their communities that go well beyond education and research. They create jobs, partner with local businesses and schools, undertake locally relevant research, attract investment and provide resources, facilities and leadership that improve lives in the communities that host them. This community engagement represents a major and largely unsung contribution to the nation.

1.2.2.4 Connections to VET

In 2022 there were around 3,600 registered training organisations (RTOs) with an active registration that delivered nationally recognised VET. They include public TAFE institutes, universities, schools, private training providers and others.[61] During 2022, 4.5 million students were enrolled in nationally recognised training of which 2.1 million enrolments were in a nationally recognised program (associated with one or more clusters of subjects).[62]

Historically, VET providers have focused on trades and applied skills, whereas higher education providers generally focused on advanced-level knowledge, the professions and research. However, in recent decades, growth and innovation across both systems have led to increasing interactions and overlaps. The Australian Government and the states and territories are working to strengthen public TAFEs, boost participation and demand, drive new partnerships with higher education and improve the overall status and perceptions of VET.

Despite these efforts, VET and higher education remain largely separate and siloed systems. Various cross-sectoral barriers continue, and there is a lack of shared purpose and direction. Arrangements in relation to student places, credit for prior learning, articulation, funding and regulation are fragmented across different institutions, levels of government, industries and places.

1.2.3 Future challenges and opportunities

Australia – and the world – has experienced rapid and complex social, economic and environmental change over the past few decades. This has reshaped the way all sectors, including higher and vocational education and training, organise themselves and contribute to national structures and outcomes.

Australian tertiary education is at another critical moment.

60 John Ross, "Back to black: Australian universities brace for bushfire season," *Times Higher Education*, (28 November 2023), accessed 6 December 2023, www.timeshighereducation.com/news/back-black-australian-universities-brace-bushfire-season; The Lismore App, "Lismore's SCU Temporary Home site now open for flood-impacted residents," *The Lismore App*, (Lismore: 30 November 2022), accessed 6 December 2023, lismoreapp.com.au/news-sport/news/lismores-scu-temporary-home-site-now-open-for-flood-impacted-residents?id=63866b690ea5fe0150859a85.

61 National Centre for Vocational Education Research (NCVER), *Total VET students and courses 2022*, (Adelaide: NCVER, 2023), 10, hdl.voced.edu.au/10707/659556.

62 NCVER, *Total VET students and courses 2022*, 1.

Essential skills needs are not being met. Australia continues to perform poorly compared to other OECD nations in international innovation rankings[63] because it fails to translate innovation inputs (quality higher education system; rule of law; quality research system) into high-impact innovation outputs (products, services, intellectual property).[64]

Advances in digital technology, the democratisation of information, and other emerging technologies have the potential to disrupt traditional higher education teaching and research roles.[65] They may also affect the physical footprint of universities. Large built facilities may become redundant as remote study becomes more prevalent, or be rendered unsuitable due to the effects of climate change, making way for technology-enabled collaboration and group spaces.[66]

The very business model of tertiary education providers will be challenged. Currently, many providers operate as conglomerates that bundle together a range of teaching, research and community activities, each activity informing and supporting the other. As technology reduces barriers to entry into various fields, including tertiary education, there is potential for new players to offer better quality and cheaper education, and even research, services.[67]

1.2.3.1 Demographic changes

Australia's population has grown from 18.9 million at the turn of the century to 26.5 million in 2022–23. It is projected to reach 30.4 million by 2032–33[68] and 40.5 million by 2062–63.[69] This growth will arise from both natural increases[70] and overseas migration. As of 2022, 29.5% of Australians were born overseas.[71]

With increasing life expectancies and low fertility rates,[72] Australia's population is also ageing. By 2062–63, the proportion of the population aged 65 and over is expected to increase by 6.1% to 23.4%.[73] An ageing population presents long-term economic challenges, as demand for quality care and support services increases but the proportion of people of working age to older Australians decreases.

Australia's regional, rural, remote, urban and suburban population mix is also changing. The largest absolute growth in 9 to 16-year-olds between 2016 and 2021 was in major city outer suburbs, with some inner regional areas also showing substantial growth.

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63 In metrics including gross domestic spending on R&D. OECD, *Gross Domestic Spending on R&D 2023* [data set].

64 World Intellectual Property Organisation, "Global Innovation Index."

65 Young, *Future Disruptions for Australian Universities*, 8.

66 Young, *Future Disruptions for Australian Universities*, 5–6.

67 Young, *Future Disruptions for Australian Universities*, 5.

68 Centre for Population, *Budget 2023–24: population projections, Australia, 2022–23 to 2033–34* [data set], (Canberra), published 17 May 2023, population.gov.au/data-and-forecasts/projections/budget-2023-24-population-projections-australia-2022-23-2033-34.

69 Department of the Treasury, *Intergenerational Report 2023: Australia's future to 2063*, (Canberra: Department of the Treasury, 2023), 39, treasury.gov.au/sites/default/files/2023-08/p2023-435150.pdf.

70 Natural increase accounts for births minus deaths in a given year (Commonwealth of Australia 2023).

71 From a wide range of countries including England, India, China, New Zealand and the Philippines; Australian Bureau of Statistics, *Australia's Population by Country of Birth 2022* [data set], (Canberra: 2023), accessed 3 December 2023, www.abs.gov.au/statistics/people/population/australias-population-country-birth/latest-release.

72 Department of the Treasury, *Intergenerational Report 2023*, 6.

73 Department of the Treasury, *Intergenerational Report 2023*, 46.

It is anticipated that rapid population growth will continue in outer suburban communities, major cities will become denser and more diverse, and regional communities will continue to grow.[74] People in outer suburban and regional areas find it difficult to access tertiary education, meaning that thousands miss out on the life changing opportunities that tertiary education provides.

1.2.3.2 Reducing inequality

Australia is home to the world's oldest living cultures and Aboriginal and Torres Strait Islander cultures continue to evolve, revive and thrive. As a multi-cultural country, Australia is increasingly accepting and celebrating diversity in all its forms. A wider range of groups are increasingly conscious of their distinct identity and expect that to be accepted and accommodated.[75]

Despite this increasing acceptance, Australia, like many other nations around the world, faces challenges of structural inequality and participation in civil society and democracy. The Review identified 4 groups – First Nations people, people with disability, people from regional, rural and remote areas, and people from low socio-economic status (low SES) backgrounds – who are substantially under-represented in higher education.

In the case of First Nations Australians, Closing the Gap – by addressing marginalisation and inequalities that reduce wellbeing and opportunity – is fundamental to the national agenda. Strengthening and embedding the place of First Nations people, knowledges and culture in Australia's national life is a key commitment of the Australian Government.

1.2.3.3 Acute skills shortages

Skills shortages hold Australia back. They affect individual and community wellbeing, ambition and achievement, shackle future economic prosperity, and lead to low productivity growth. Failure to address skills shortages will lead to a failure to capitalise on the nation's human potential and Australia will fall behind its international peers.

In 2023, 42% of all occupations that generally require a bachelor degree or higher qualification were in national shortage, an increase from 35% in 2022 and 19% in 2021.[76]

Over the last 5 years, growth in the care and support workforce – which includes nursing, aged and disability care workers, medicine and allied health – has been 3 times faster than total employment.[77] Other critical professions including engineering, dentistry and veterinary science are experiencing significant skills shortages nationally, many of which are particularly acute in regional and remote communities.[78] These persistent shortages expose a historical lack of forward planning relating to jobs and skills.

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74 Department of the Treasury, *Intergenerational Report 2023*, 55.

75 Ryan Young, *Future Disruptions for Australian Universities* [unpublished report], (Canberra: The Australian National University National Security College, November 2023), 12.

76 Jobs and Skills Australia (JSA), *2023 Skills Priority List: Key Findings Report*, (September 2023), 8, www.jobsandskills.gov.au/data/skills-shortages-analysis.

77 JSA, *Towards a National Jobs and Skills Roadmap: Annual Jobs and Skills Report 2023* (October 2023), 43, www.jobsandskills.gov.au/publications/towards-national-jobs-and-skills-roadmap.

78 JSA, "Skills Priority List," Jobs and Skills Australia, accessed 5 December 2023, www.jobsandskills.gov.au/data/skills-priority-list.

In the future, even more of these jobs will be required. An expanding and ageing population requires more health professionals including nurses and aged and disability carers. Overall, Health Care and Social Assistance industry employment is projected to grow by 533,400 persons or around 25% to 2033.[79] It is expected that Australia will require more than 40,000 additional registered nurses alone over the period

to 2026, a growth rate of 13.9%.[80] In the same period, Australia is expected to need an additional 98,600 ICT professionals (including cybersecurity professionals), a growth rate of 26.3%.[81]

The infrastructure, energy, housing and advanced manufacturing sectors required to support a larger population will also lead to increased demand for engineers and planning professionals. Likewise, areas of national priority like clean energy, critical technology, minerals and defence will need more skilled professionals.[82]

1.2.3.4 Emerging technologies and the digital environment

Globally, the invention and widespread adoption of digital technologies has revolutionised how knowledge and information are created, stored and accessed.

New knowledge and technologies create new demands and possibilities for all higher education functions. They enable Australian higher education providers to solve complex and wicked problems, make ground-breaking discoveries, extend engagement and connections with community, adopt innovative learning and teaching practices, and allow the research workforce to stay at the forefront of global breakthroughs.

However, as mentioned above, emerging technologies also call into question the traditional role of universities. Knowledge is no longer just accessed via specific buildings, books and journals or through consulting a limited number of experts. It has been so thoroughly democratised that anyone, anywhere, can rapidly access most of the knowledge and information on any subject in minutes or seconds.

Artificial intelligence

Artificial intelligence (AI) and automated complex systems are developing rapidly and increasingly being integrated into activities across all sectors and parts of the economy. There are many types of AI, both generative and non-generative.[83]

Some of the most discussed impacts of generative AI in universities are for education and students.[84] The ability of generative AI programs to produce reasonable quality academic work on any topic challenges traditional approaches to teaching and assessment.[85] It is anticipated that these technologies

79 JSA, *Annual Jobs and Skills Report 2023*, 42.

80 JSA, "Skills Priority List."

81 JSA, *Employment outlook: industry and occupation trends over the five years to November* 2026 (Canberra, 2022), accessed 26 November 2023, labourmarketinsights.gov.au/media/b2ppdmvp/employment-outlook-industry-and-occupation-trends.pdf.

82 JSA, "Skills Priority List."

83 Generative AI can create a wide variety of content by learning patterns from existing data to generate unique outputs whereas non-generative AI can be used to detect patterns, make decisions, perform analytics, and classify data based on predetermined rules and logic.

84 Young, *Future Disruptions for Australian Universities*, 10.

85 Erica Southgate, "Submission to The House Standing Committee on Employment, Education and Training Inquiry into the use of generative artificial intelligence in the Australian education system," (2023), 2–3.

will enhance teaching practices, as well as increase accessibility for people with disability or for those from historically under-represented cohorts.[86] Some commentators believe AI has the potential to replace existing teaching practice – perhaps with teaching that is personalised to an individual's needs, abilities and interests, completely undermining the need for or relevance of school and university in-person education.[87] Others note the emergence of generative AI will increase the need to focus on critical thinking, socio-emotional intelligence and interpersonal skills, alongside offering the opportunity to provide educators with more time for student engagement and personalised learning.[88]

Generative AI will also affect research activities. Emerging research shows that AI can lead to large productivity improvements in knowledge and information work, with one study identifying productivity improvements of up to 25% combined with quality improvements of 40%.[89] This potential applies to research productivity and building new forms of research infrastructure, especially if different fields build their own generative AI models. Australian universities have the experience, infrastructure and expertise to lead in these areas.[90]

1.2.3.5 Economic and industry transformation

Australia's broader tertiary education system must continue to meet the changing needs of industry and contribute to a more innovative, productive and knowledge-infused economy. As well as addressing existing skills shortages in critical industries such as health and aged care, it must cater for emerging challenges and industries which demand advanced research skills and flexible capabilities in new disciplines.

Over the past 40 years, Australia's economy has transformed and advanced. Australia has become more open to international investment and global trade. It has seen rising participation from women and a shift towards services, away from its traditional reliance on manufacturing and primary production. These changes have led to increased prosperity, higher-paid jobs and a more accessible, global economy.[91] They have also helped Australia become more resilient to major economic crises, including the recent COVID-19 pandemic.[92]

As Australia's industry and economic structures have shifted, so too has its tertiary education system. The mix of skills, knowledge and technologies used to develop and deliver products and services required by existing and emerging industries has seen advances in teaching and research – for example, the use of AI, knowledge repositories and clean energy innovations.

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86 Leslie Loble and Auroura Hawcroft, *Shaping AI and edtech to tackle Australia's learning divide*, (Sydney: University of Technology Sydney, 2022), 23–32, doi.org/10.57956/kxye-qd93.

87 Young, *Future Disruptions for Australian Universities,* 10.

88 Loble and Hawcroft, *Shaping AI and edtech*, 21–23.

89 Fabrizio Dell'Acqua, Edward McFowland, Ethan R. Mollick, Hila Lifshitz-Assaf, Katherine Kellogg, Saran Rajendran, Lisa Krayer, Francois Candelon and Karim R. Lakhani, *Navigating the Jagged Technological Frontier: Field Experimental Evidence of the Effects of AI on Knowledge Worker Productivity and Quality*, Harvard Business School Technology & Operations Mgt. Unit Working Paper No. 24-013 (September 15, 2023), 12–17, dx.doi.org/10.2139/ssrn.4573321.

90 Young, *Future Disruptions for Australian Universities*, 10.

91 Department of the Treasury, *Intergenerational Report 2023*, 4.

92 Department of the Treasury, *Intergenerational Report 2023*, 10.

The recent *Intergenerational Report 2023* considers major global and domestic forces that will further influence and shape the Australian economy over the next 40 years, including population ageing, information and technological transformation, climate change and the net zero emissions transformation, rising demand for care and support services, and geopolitical risk and fragmentation.[93]

1.2.3.6 National resilience and sustainability

Tertiary education has a critical role in underpinning national capacity and capability to adapt and respond effectively, through the production of research, new knowledge and innovation to develop sustainable and resilient solutions (which could also be exported) and the provision of sufficient and relevant skills across the workforce.

Australia has a varied climate and so experiences a variety of more extreme weather phenomena and hazards, such as bushfire, flood, severe storms, drought and heatwaves. Australia is also vulnerable to geological-driven hazards including earthquakes and tsunami, and biosecurity threats such as COVID-19 and Hendra virus.

Recent, successive natural and health disasters have had a compounding effect on almost every aspect of Australian society and the economy, including tertiary education operations themselves. Extreme fire and flood can affect campuses, necessitating rebuilding or relocation.[94] The COVID-19 pandemic shut down universities' physical spaces leading to an expansion of online learning.

Responding and adapting to climate change and other threats is a multifaceted challenge which will shape Australia's ability to maintain economic and social progress.

1.2.3.7 Global and regional security, engagement and competitiveness

Higher education is a fundamental contributor to sovereign capability through the development of advanced expertise and critical technologies, and the encouragement of strong cultures of scholarship and critical enquiry.

Global economic, geopolitical and social structures are also continuously and rapidly evolving. After a period of relative geopolitical and strategic stability, it is expected that geopolitical tensions and rivalries will continue and magnify over the next decades. Australia is constantly responding to a complex array of national security threats, including foreign interference, unauthorised surveillance and cyberattacks.

93 Department of the Treasury, *Intergenerational Report 2023*, 85.

94 Young, *Future Disruptions for Australian Universities*, 10–11.

International education was Australia's fourth largest export in 2022,[95] bringing hundreds of thousands of international students to study with Australian providers.[96] Many of these students, studying both onshore and offshore, came from China, India, Nepal, Vietnam and Indonesia,[97] and Asia continues to dominate Australia's two-way trade flows with nearly two-thirds – or 65.2% – of the market.[98]

While China remains Australia's major two-way trading partner and single largest source of international students, India is now the world's most populous nation with the largest youth population in the world. This presents considerable opportunities for Australia. There is also significant competition for international students.[99] Expansion of tertiary education in the Asia-Pacific has been rapid, keeping pace with growth in the region's economies. For example, 7 Chinese universities are now in the global top 100, compared with 2 in 2018.[100]

International education also presents opportunities for greater collaboration and productive, new partnerships. The Review notes the Australian Government is deepening engagement with Southeast Asia and the Pacific (through multilateral forums including the Group of Twenty (G20), Asia-Pacific Economic Cooperation (APEC), Association of Southeast Asian Nations (ASEAN), East Asia Summit (EAS) and the United Nations Educational, Scientific and Cultural Organization (UNESCO)), and has commissioned a Southeast Asia Economic Strategy to 2040 with education as a key focus.

As Australia is a key partner in the Asia Pacific, engagement through tertiary education can help build Australia's reputation as a world-class destination for high-quality education and research, as an attractive place for business and investment, and as a significant contributor to global peace and sustainable prosperity.

Australia is well positioned to drive innovation and collaboration with its Asia-Pacific neighbours without compromising national security or Australia's technological advantages in critical defence technologies. Similarly, national research strengths provide a means to contribute to strategic partnerships and address regional priorities, such as readiness for climate extremes, food security in a changing climate, being prepared for new disease outbreaks, and developing institutional resilience.

95 Alan Olsen, *Education as an Export for Australia: Education as an Export 2022*, (Bowral: Strategy Policy and Research in Education, 2023), 1, www.spre.com.au/download/ExportsAustraliaStates2022.pdf.

96 Department of Education, *International Student Monthly Summary and Data Tables December 2022* [data set], (Canberra: 2022), accessed 29 November 2023, www.education.gov.au/international-education-data-and-research/international-student-monthly-summary-and-data-tables.

97 Department of Education, *International Student Data for the year-to-date (YTD) September 2023* [data set], (Canberra: 2023), accessed 8 December 2023, www.education.gov.au/international-education-data-and-research/international-student-monthly-summary-and-data-tables#:~:text=In%20the%20year%2Dto%2Ddate,the%20COVID%2D19%20pandemic.

98 Department of Foreign Affairs and Trade (DFAT), *Trade and Investment at a Glance 2021* (Canberra: DFAT, 2021), 13, www.dfat.gov.au/sites/default/files/trade-and-investment-glance-2021.pdf.

99 Mats Benner, *Asia's Rising Research Dominance: Universities and State Building* (Cheltenham: Edward Elgar Publishing, 2017).

100 Times Higher Education, *World University Rankings 2023* [data set], accessed 29 November 2023, www.timeshighereducation.com/world-university-rankings/2023/world-ranking#!/length/25/locations/CHN/sort_by/rank/sort_order/asc/cols/stats.

Chapter 2. Meeting our current and future skills needs

2.1 Australia's skills challenge

Labour market demand for tertiary educated workers is growing and will continue to grow substantially. This means more students will require tertiary qualifications from the higher education and/or vocational education and training (VET) system. Demographer Bernard Salt has described the "great skills shift"[101] evident in the acceleration in demand for more highly skilled workers in the current labour market. It is clear that Australia must educate many more people to VET qualification and degree level.

Jobs and Skills Australia (JSA) anticipates that over the next decade more than 90% of new jobs will require post-school qualifications. This includes around 50% requiring bachelor degree or higher qualifications and 44% requiring VET qualifications.[102] Further, evidence prepared for the Review by Oxford Economics Australia suggests that 90% of 25 to 34-year-olds will require a tertiary education by 2050.[103] This will necessitate a significant expansion of post-secondary education in Australia. Most young people will need to obtain a further qualification after school and more people will need to undertake additional learning throughout their working lives.

The scale of change has implications for the entire tertiary education sector. Achieving this level of growth will be challenging, not least because current evidence suggests that student demand for tertiary education has fallen recently, especially among groups historically under-represented in higher education.[104] Australia needs to foster ambitions across all sections of the population to undertake tertiary education, and support those who want to study by offering sufficient places, funding and other supports. This is discussed in detail in *Chapter 3 – Expanding opportunity to all* and *Chapter 8 – A new funding model to underpin growth and quality*.

In addition to achieving the required growth, we also need to build a tertiary education system capable of solving Australia's skills challenges and delivering the skills employers want. Australia is experiencing serious and sustained skills shortages in critical industries, both regionally and nationwide. Professions in acute shortage include health and care services, teaching and childcare, ICT, engineering and construction.[105] These professions are predicted to be among Australia's fastest growing occupations in the future. Action is required now to ensure that these skills shortages do not persist.[106]

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101 Bernard Salt, "The great skills shift: everyone's an expert now," *The Australian*, 24 December 2022, www.theaustralian.com.au/inquirer/the-great-skills-shift-everyones-an-expert-now/news-story/8ffef73878c4f308dde2457837e6c5de.

102 JSA, *Annual Jobs and Skills Report 2023*, 18.

103 Oxford Economics Australia, *Tertiary Education Qualification Demand* [unpublished report], (Sydney: Department of Education, November 2023).

104 Department of Education, *Higher Education Statistics – Student Data* [unpublished data], (Canberra: 2023).

105 JSA, *Annual Jobs and Skills Report 2023*, 48.

106 JSA, *Annual Jobs and Skills Report 2023*, 67.

We need to build a more adaptive and responsive tertiary education system that is capable of lifting participation and attainment over time, while responding to increasingly complex, fast-changing economic, social and environmental challenges. The system needs to operate on 2 horizons simultaneously: it must quickly leverage resources and meet urgent, targeted skill needs, while also making steady investment in longer-term skills and innovation capability to build and develop durable skills and knowledge.

Presently, various roadblocks in and around the tertiary education system are preventing agile and responsive skills delivery. These include rigid professional accreditation requirements; complicated pathways between courses, levels, institutions and sectors; and difficulty getting credit for prior study and experience. These need to be addressed. Responsiveness of both the tertiary education system and individual tertiary education providers is key to having the ability to 'ramp up' delivery of required courses and leading-edge skills quickly to accommodate emerging industries, including clean energy.

This chapter explores skills provision across the whole of the tertiary education system. It recommends new and ambitious tertiary education attainment and participation targets to grow the number of people with higher education and VET qualifications. To achieve an increase in skills quality and quantity, the proposed Australian Tertiary Education Commission (the Commission) will rely heavily on Jobs and Skills Australia (JSA) inputs regarding national skills needs so that it can plan future provision, and with higher education and VET providers to track their progress against attainment targets. The Commission will also have a role in ensuring that, while the tertiary education system responds to growth to meet the future skills need, there are no unintended consequences of changes in either sector.

The Review also outlines priorities for developing a system that supports upskilling, reskilling and lifelong learning, so that people can continually develop their skills. This can be through people building on existing skills, or by adding new skills through flexible and stackable credentials such as microcredentials, so they are prepared to meet the needs of a dynamic economy and changing labour market.

To achieve this, we need to modernise the tertiary education system's infrastructure; expand pathways through the system for students to improve mobility; enhance skills provision through work-integrated learning (WIL) and placements; and build skills delivery coalitions that bring together the best aspects of VET, higher education, and industry and business knowledge. More systematic approaches to Recognition of Prior Learning (RPL) and credit transfer will need to underpin many of these reforms.

Collaboration across the tertiary education system led from the Commission will be essential to break down cultural and regulatory barriers to effective skills provision. The VET and higher education sectors must work closely with business and industry to ensure that learning in both specific technical skills and general capabilities is of the highest quality. This is also key to delivering better learning experiences through work-integrated learning (WIL), integrated skills recognition, a coherent and contemporary Australian Qualifications Framework (AQF) and easier, more affordable pathways to obtain skills.

This task is challenging but necessary, and requires shared ambition from governments, the tertiary education system and industry. Australia has a strong skills agenda, underpinned by the new National Skills Agreement commencing 1 January 2024. The Australian Government has committed to ensuring that all Australians have access to high-quality education, training and support to secure well-paid jobs. Without ambitious and integrated action across every major sector and every part of Australia, we will struggle to realise our potential in a more skills-and knowledge-intensive global economy. Productivity and participation will not grow, jobs and enterprise will be held back, and too many students will be left behind.

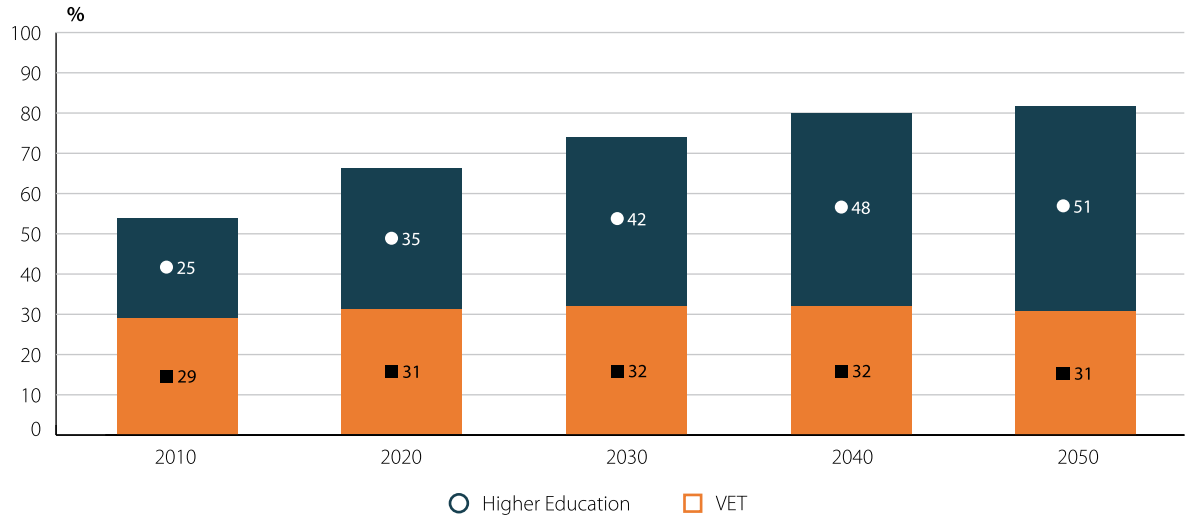
2.1.1 There will be substantial growth in demand for tertiary education

To meet Australia's current and future skills needs, a much higher share of the population will require tertiary education qualifications. This means that the entire tertiary education system will need to grow substantially and be better aligned with the rapidly changing needs of the economy and the demographic distribution of the Australian community.

The Review has considered evidence from a range of sources on the demand for tertiary education, including the work of JSA and analysis commissioned from Oxford Economics Australia, to project the growth in demand for tertiary qualifications over the next 30 years.

Oxford Economics Australia projections show that the share of employment that requires a tertiary education is expected to grow, highlighting the increasing importance of post-school qualifications in the job market (see Figure 2). To meet this level of demand from industry, and to ensure that the population is sufficiently educated to participate effectively in the future labour market, many more people in the employed working age population (aged 15 to 64) will need a tertiary qualification (Certificate III and above) in 2050 (82%) relative to 2020 levels (66%). This equates to the number of people in the workforce requiring a tertiary education qualification growing from 9.6 million in 2023 to an estimated 15.9 million by 2050.

Figure 2: VET and higher education graduates share of total employment (%), current figures and projected future demand, 2010 to 2050.



Source: Oxford Economics Australia, *Tertiary Education Qualification Demand: Preliminary Report*, produced for the Department of Education [unpublished report], OE, Sydney, November 2023.

Summary of Oxford Economics findings

Australia's employment growth is expected to grow in line with gross domestic product (GDP).

By 2050, it is estimated that 82% of jobs across the entire workforce will require a tertiary education. To meet this level of labour market need, 90% of 25 to 34-year-olds in the workforce will require a tertiary qualification.

This suggests an additional 6.3 million jobs requiring tertiary education will be added to the labour force over the next 30 years.

An estimated 960,000 additional tertiary qualifications will be required each year on average over the next 30 years to meet labour market needs for tertiary jobs. Oxford Economics Australia has assumed that skilled migration will continue to contribute to meeting this demand for qualifications.

The outlook for strong demand in higher educated roles implies that within the tertiary attainment rate of 82%, a higher education attainment rate of 51% of the working age population and 57% of 25 to 34-year-olds by 2050 is required to meet labour market demands.

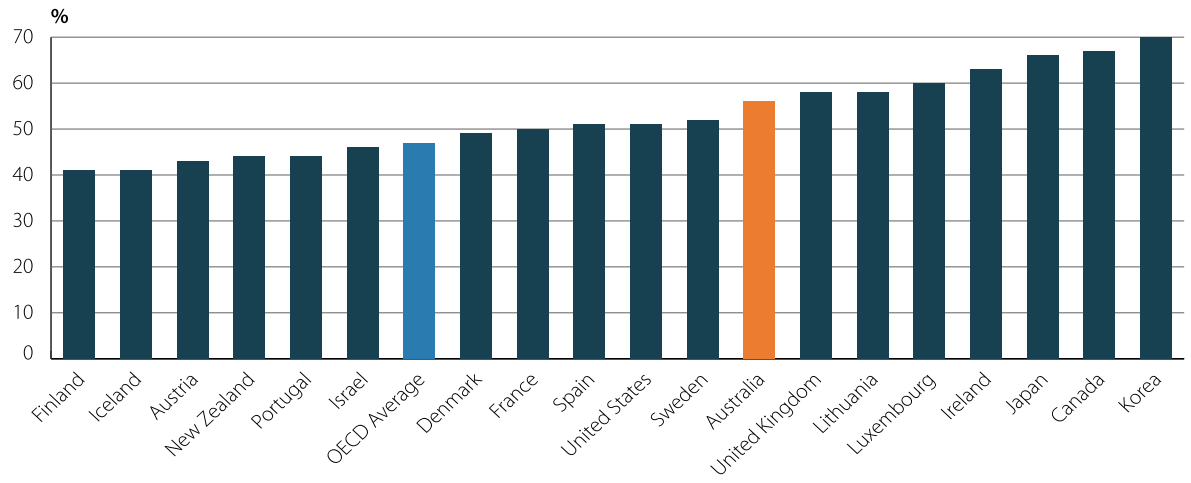
Source: Oxford Economics Australia, *Tertiary Education Qualification Demand: Preliminary Report,* produced for the Department of Education [unpublished report], OE, Sydney, November 2023.

The Oxford Economics Australia projections build on already substantial growth in demand for tertiary educated graduates: in the decade prior to the COVID-19 pandemic, tertiary educated employment grew for both higher educated (by 5.2%) and VET qualified (by 2.5%) people, both by more than double the rate of total employment growth (1.8%). The share of employment for higher educated workers roughly doubled over the 20 years from 2001 (17%) to 2021 (36%) and, for the first time, exceeded VET employment which was relatively stable as a share of the workforce over the 15 years from 2006 (28%) to 2021 (31%). Oxford Economics Australia's analysis is based on these historical trends as well as a consistent policy landscape, and consistent with recent growth, shows that the higher education share of employment is expected to continue to grow.[107]

Australia's comparatively high attainment rate compared with other countries has contributed to the nation's productivity and success (see Figure 3). However, we still lag behind the top performing countries, and our attainment rates will need to be substantially higher if we are to develop the skills required for our rapidly changing economy and to mitigate the risk that current skills shortages become entrenched.

107 Oxford Economics Australia, *Tertiary Education Qualification Demand: Preliminary Report* [unpublished report].

Figure 3: Tertiary attainment by OECD country, proportion of 25 to 34-year-olds (%), 2022.



Source: OECD, *Education at glance: Educational attainment and outcomes*, OECD Publishing: Pairs, 2023, 71, doi.org/10.1787/e13bef63-en.

Note: Tertiary education as defined by the OECD includes diploma or above degrees (diploma, advanced diploma, bachelor, graduate certificate, graduate diploma and postgraduate degree).

2.1.2 Growing the system: new targets to drive tertiary attainment

The Review was asked to consider and propose new targets to help meet Australia's skills needs now and into the future.

As the Review noted in its Interim Report, a higher education target is required to guide policy development and funding decisions. However, a higher education target alone is insufficient. A whole-of-tertiary target is required, as both higher education and VET participation will need to grow if Australia is to meet its skills needs. This represents an evolution in the Review's thinking since delivery of the Interim Report. There, the Review outlined the potential to set a target of 55% of 25 to 34-year-olds holding a bachelor degree or above by 2050. But a whole-of-tertiary target acknowledges the role that a more integrated tertiary education system will play in meeting skills demand and the need to foster greater parity of esteem between the 2 sectors.

A new and ambitious tertiary attainment and participation target would drive the responses of tertiary education providers, governments and regulators, all working towards a better-connected tertiary education system centred on meeting skills needs including through upskilling, reskilling and other forms of lifelong learning. Targets also provide an important metric for tracking and measuring progress.

Australia has done remarkably well over several decades to increase the share of young people with a tertiary qualification, driven particularly by a significant expansion in the number of women obtaining higher education and by the contribution of skilled migration. However, the nation cannot rely on these continuing shifts alone to meet future demands. To further increase attainment, it will be necessary to open up educational opportunities for new cohorts, particularly those from backgrounds which remain under-represented in education.

The Review is recommending that, to meet the skills needs of the future and to facilitate participation in the labour market, the Australian Government set a target of at least 80% of the working age population achieving a tertiary education by 2050 and, within this, a target of 55% of 25 to 34-year-olds achieving a bachelor level or above qualification by 2050 (see Recommendation 2). While the latter proposed target (55%) is below the figure indicated by the Oxford Economics Australia analysis (57%), the Review notes that the OE analysis is based on current policy settings in VET and higher education, and considers that a 55% target is appropriate to recognise that VET will make a growing contribution to tertiary attainment in the future. To this end, the Review is also recommending a planning assumption that 40% of 25 to 34-year-olds will have a tertiary level vocational or technical qualification in 2050, noting that some people have both a VET and higher education qualification (also see Recommendation 2).

The Review is not recommending a specific growth target for VET but acknowledges that a planning assumption around potential growth in VET is necessary and that specific targets for VET participation will be built into the National Skills Agreement.

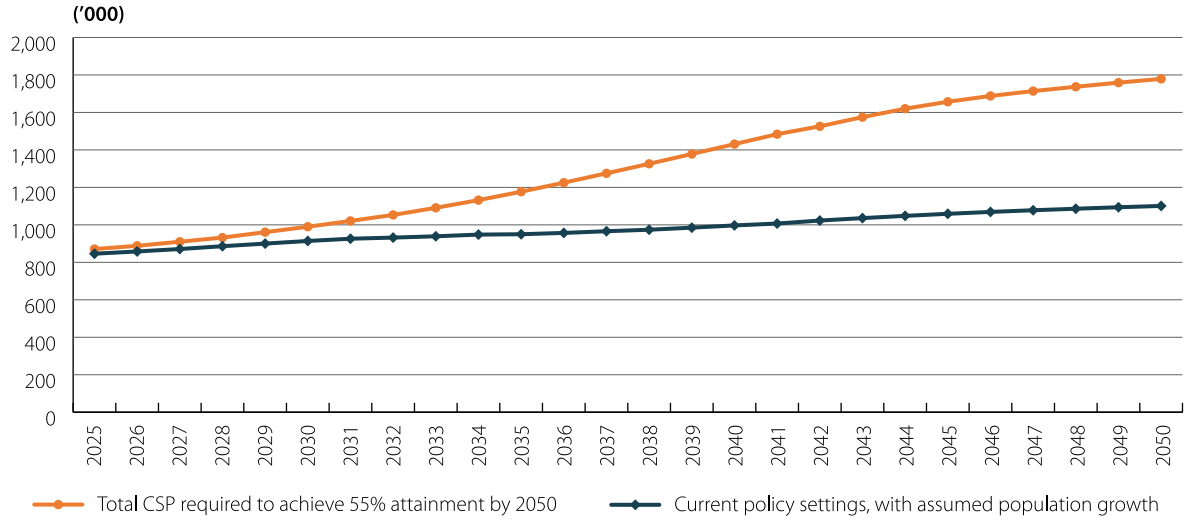
Achieving these targets will require substantial growth in the proportion of the population that has a tertiary qualification relative to current attainment rates (highest level obtained) for both the working age population in higher education (33%), VET (27%) and tertiary education (60%), as well as for 25 to 34-year-olds in higher education (45%), VET (28%) and tertiary education (73%).[108]

To reach these tertiary and higher education targets, relatively higher attainment is needed amongst younger cohorts relative to the working age population overall, particularly over the next decade. This reflects that, as current younger age cohorts 'age through' the workforce over the next 30 years, their attainment rates will make a greater contribution to the proposed 2050 working age population attainment targets compared with, for example, those currently in the 45 to 54-year-old age bracket. Of course, as these cohorts age through the workforce they will also reskill and upskill, further contributing to the supply of people with the skills from tertiary education needed in the workforce.

Achieving new higher education and broader tertiary attainment targets will require concerted effort to bring those who are not currently participating in tertiary education into the system, rather than simply shifting existing students between the higher education and VET sectors. In the case of higher education, achieving 55% attainment for 25 to 34-year-olds in 2050 is likely to require more than doubling of the number of Commonwealth supported students from current, 2022 levels (860,000) through to 2035 (at least 1.2 million) and 2050 (at least 1.8 million). As shown in Figure 4, this is significantly above current Department of Education projections of growth in Commonwealth supported places based on existing policy settings and population growth.

108 Australian Bureau of Statistics, *Education and Work, Australia May 2023* [data set], (Canberra) accessed 8 December 2023, www.abs.gov.au/statistics/people/education/education-and-work-australia/may-2023.

Figure 4: Total Commonwealth supported student projection (headcount, thousands of students) under current policy settings and to achieve 55% attainment by 2050.

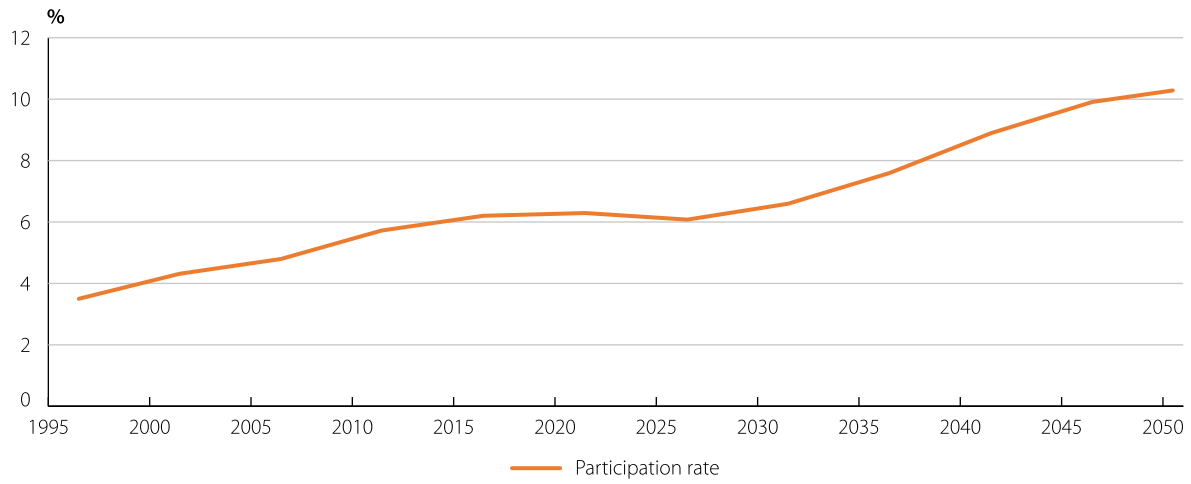


Source: Department of Education internal analysis based on ABS, *Population: Census 2021*, (Canberra: ABS, 2022), accessed 6 June 2023, www.abs.gov.au/statistics/people/population/population-census/latest-release; ABS, *Population Projections, Australia* [data sets], (Canberra: ABS, 2021), accessed 6 June 2023, www.abs.gov.au/statistics/people/population/population-projections-australia/latest-release; Centre for Population, *Budget 2023–24, population projections, Australia, 2022–23 to 2033–34* [data set], (Canberra: Centre for Population, 2023), accessed 6 June 2023 population.gov.au/data-and-forecasts/projections/budget-2023-24-population-projections-australia-2022-23-2033-34; and *Department of Education, Higher Education Statistics – Student Data* [unpublished data] , (Canberra, n.d.).

Note: Assumptions based on current completion profiles.

Such an increase in enrolments will have significant implications for the higher education funding system, discussed in *Chapter 8 – A new funding model to underpin growth and quality*. As shown in Figure 5, this increase in enrolments will mean a greater proportion of the nation's population will be participating in higher education. After a stagnation in participation since 2015, the growth envisaged by this review would see the participation rate return to the earlier trend of strong upward growth.

Figure 5: Projected higher education participation rate as a share of Australia's population (%), 1995 to 2050.



Source: Department of Education internal projections based on Department of Education, *Higher Education Statistics – Student Data* [unpublished data], (Canberra: Department of Education, 2023); Australian Bureau of Statistics, *Population Projections, Australia 2022 (base)*, (Canberra: ABS, 2023), www.abs.gov.au/statistics/people/population/population-projections-australia/2022-base-2071.

This Review's recommendations identify many changes needed to build a tertiary education system capable of supporting growth and innovation to meet the proposed attainment targets. While the primary focus is the higher education sector, the Review recognises that developments and improvements across the whole tertiary education system are essential.

The benefits from higher education and VET attainment accrue to both the individual and the national economy. Additional educational attainment develops higher skills, leading to higher rates of employment, higher productivity, and higher lifetime earnings for individuals. Analysis from the Department of Education using internal income-linked education data shows that people who attain post-school qualification have higher lifetime earnings, relative to people who have their highest level of education as year 11 or below. This lifetime income premium is an increase of:

- 20% for a certificate III or IV
- 35% for a diploma or advanced diploma
- 60% for a bachelor degree
- 70% for a graduate diploma or graduate certificate; and
- 90% for a masters or doctoral degree.

For employed people with a highest level of education as year 11 or below, the median income from salary and wages was around $50,000 in 2021. Taking the increases above, this income would grow to around $60,000 if that median individual achieved a certificate III or IV, and to around $80,000 if they achieved a bachelor degree. The additional income for higher education qualified people is mostly due to increases in productivity. For VET, one third of the higher incomes are from increased productivity and two thirds are from increased workforce participation.

The Department of Education estimates that, in 2050 alone, reaching the proposed bachelor and tertiary attainment targets would result in around an additional $20 billion (2021 dollars) earned across the workforce, compared to the additionally educated population having Year 12 or below as their highest education.[109]

Finding: Skills

Australia is not meeting its current skills needs and will not meet them in the future without large scale increases in the number of tertiary education graduates it produces, and without a significant uplift in the number of people engaging in learning throughout their working life. Australia must set ambitious targets to increase rates of completion and attainment and increase the equity of the system. Without growth and reform, skills shortages will do lasting damage to Australia's national success and future prospects.

2.1.3 There are barriers to increasing attainment

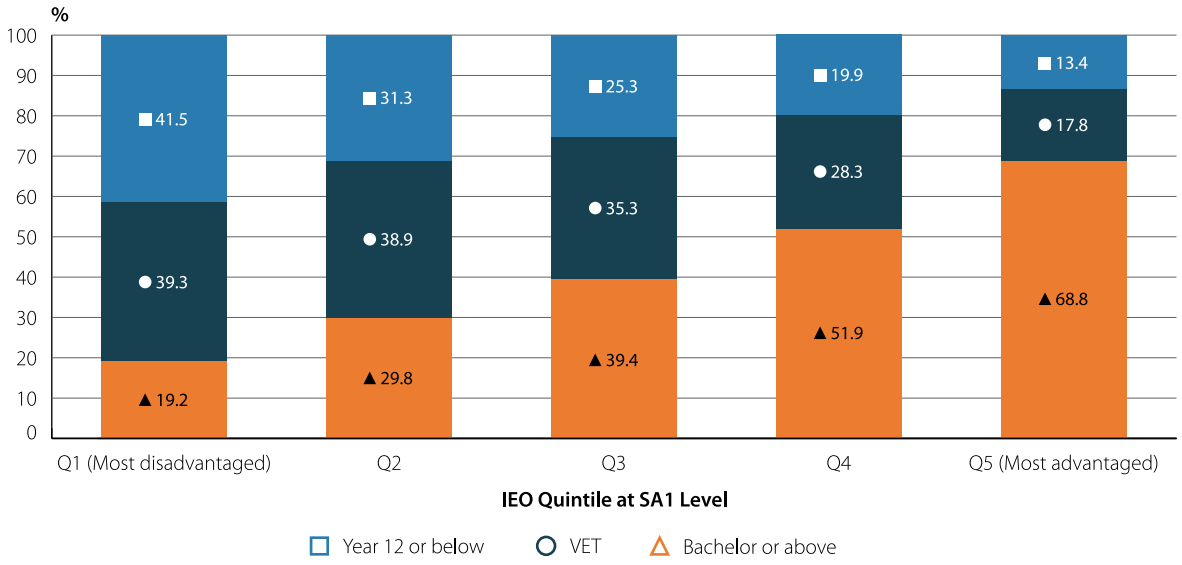
2.1.3.1 Participation among historically under-represented cohorts must increase

Achieving growth in tertiary education attainment will be challenging without a substantial increase in participation from cohorts historically under-represented in higher education.

Young people from low SES cohorts are less likely to have any form of tertiary qualification and substantially less likely to have a higher education (see Figure 6). In 2021, higher education attainment rates among 25 to 34-year-olds were significantly lower among those from the lowest SES quintile (24%) compared to the highest SES quintile (66%). At the tertiary level, there was a smaller but still significant tertiary attainment gap between the lowest SES cohort (59%) and the highest SES cohort (87%). As Figure 6 illustrates, uplift in tertiary attainment rates must come from the lower SES quintiles.

109 This estimate assumes that additional higher education and tertiary completions come from those who would otherwise have Year 12 or below as their highest level of education.

Figure 6: Highest educational attainment for 25 to 34-year-olds by SES derived from SEIFA Index of Education and Occupation (IEO), quintiles 1 (most disadvantaged) to 5 (most advantaged), 2021.

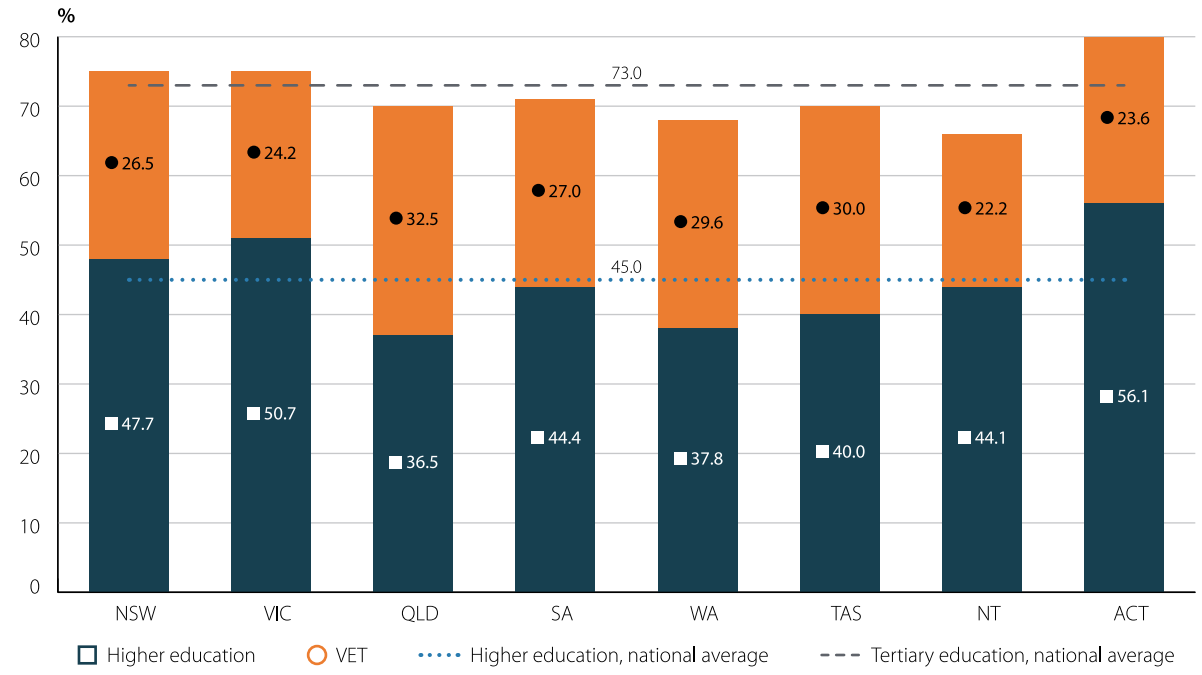


Source: Australian Bureau of Statistics, *Census of Population and Housing, 2021* [data set], Tablebuilder, IEO Deciles at SA1 Level (Area) by Level of Highest Educational Attainment (HEAP), (Canberra: 2022) www.abs.gov.au/statistics/microdata-tablebuilder/tablebuilder.

Note: The Index of Education and Occupation (IEO) summarises information about the economic and social conditions of people and households within an area, ranging from Quintile 1 (most disadvantaged) to Quintile 5 (most advantaged). Figures may not sum due to rounding.

As seen in Figure 7, across the population of 25 to 34-year-olds, higher education attainment varies significantly between states: in 2023, it was lowest in Queensland (37%) and highest in the ACT (56%). However, the disparity in tertiary education attainment is less variable, as states with lower higher education attainment, such as Queensland and Western Australia, have higher VET attainment, reflecting those states' different industry mix, demographics and population dispersion.

Figure 7: Higher education and VET attainment share among 25 to 34-year-old population (%), by state and territory and nationally, 2023.



Source: Australian Bureau of Statistics, *Education and Work, May 2023* [data set], Table 33 and 34, (Canberra, 2023) www.abs.gov.au/statistics/people/education/education-and-work-australia/may-2023.

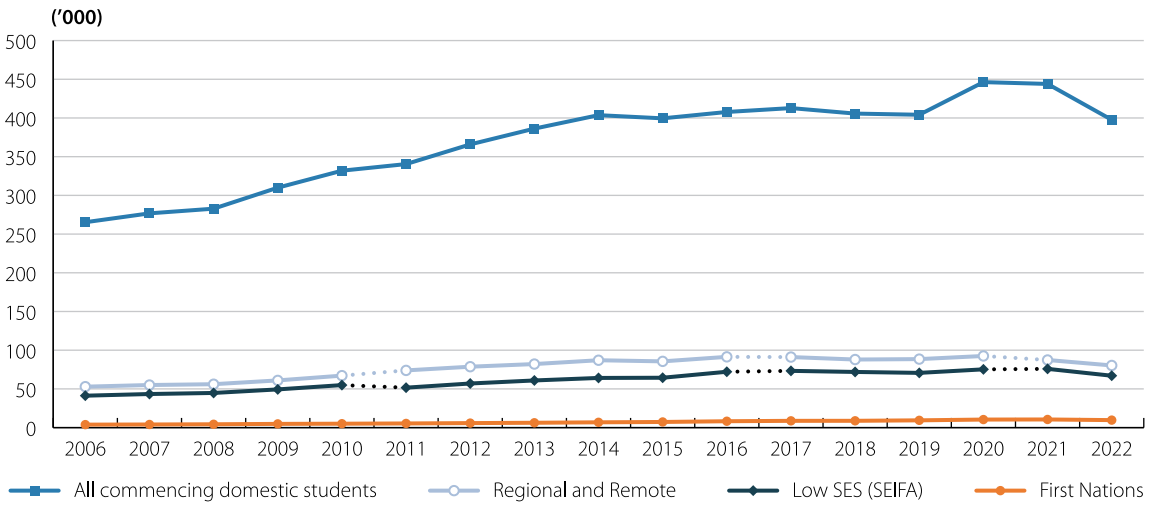
Proposed targets to support increased equity of access to higher and tertiary education are outlined in *Chapter 3 – Expanding opportunity to all*.

2.1.3.2 A range of factors affect the decision to enrol in higher education

Growth in enrolments in higher education is currently subdued, including among those from low SES and regional backgrounds as well as among First Nations people. Figure 8 shows that between 2021 and 2022, commencing domestic higher education enrolments declined overall (10.4%), and in specific cohorts: low SES students (11.7%), regional, rural and remote students (8.1%) and First Nations students (8.0%).[110]

110 Department of Education, *Higher Education Statistics – Student Data – 2022 Section 11 Equity groups* [data set].

Figure 8: Number of commencing domestic students (thousands of students, headcount), target cohorts relative to all domestic, 2006 to 2022.



Source: Department of Education, *Higher Education Statistics – Student Data – 2022 Section 11 Equity groups* [data set], (Canberra: 2023), accessed 18 December 2023, www.education.gov.au/higher-education-statistics/resources/2022-section-11-equity-groups.

Note: Total domestic students refers to domestic students with a permanent home address in Australia only.

Falling enrolments in higher education are partly being driven by strong employment growth, as those who might otherwise have studied can now more readily find paid employment. This manifests in 2 ways: more people transitioning directly from school into the workforce (affecting attainment rates), and fewer non-school leavers studying as an alternative to paid employment (affecting the overall rate of upskilling).

During these times of high employment, emphasis should be on offering upskilling – for example through microcredentials – to encourage people to take advantage of employment opportunities while also preparing themselves for future changes in the labour market. This is dealt with further at 2.3.2.

Barriers to entry

The recent decline in enrolments also reflects barriers to obtaining an education, such as lack of access to funds and other financial and community supports to sustain an education. They also include limitations in the support available to build aspiration and help provide young people with the life skills and learning capabilities to undertake further education.

Often, the study decisions that students make in years 9 and 10 of secondary education define how well prepared they are for future tertiary study. This highlights the need to improve careers advice, particularly at younger ages. Access to subjects at school, such as higher-level mathematics and some sciences, can also affect preparedness for higher education, with evidence suggesting students from low SES backgrounds and non-metropolitan locations are less likely to access some higher level subjects.[111]

111 Jenny Dean, Natalie Downes and Philip Roberts, "Access to and equity in the curriculum in the Australian government secondary school system," *SN Social Sciences*, 3, 64 (2023), 5–6, doi.org/10.1007/s43545-023-00641-7.

These issues are addressed in more detail in *Chapter 3 – Expanding opportunity to all*.

2.1.4 A better managed migration system will remain important to meeting skills needs

Increasing participation and attainment of Australian students in tertiary education is not the only way to meet future skills needs.

The Review recognises that migration plays an invaluable role in meeting areas of skills needs and contributes to the development of Australia's soft diplomacy and influence in the region and more widely. The Australian Government's 2023 Employment White Paper and the 2023 Review of the Migration System both highlight the vital role that Australia's targeted skilled migration program plays and will continue to play in addressing skills shortages and providing access to the specialist skills and critical expertise needed in Australia's emerging industries.[112] Of particular relevance to the tertiary education sector, the Australian Government's Migration Strategy, released in December 2023, outlines reforms to ensure better targeting of Australia's skilled migration program and to build the job-readiness of international students.[113] This is further explored in *Chapter 6 – A dynamic, collaborative and responsive system that serves the national interest*.

The Employment White Paper

Delivered in September 2023, the Employment White Paper (White Paper) is designed as a roadmap to position the Australian labour market for the future, providing an outline of practical actions being taken and areas for further reform to achieve Australia's employment potential.

One of 10 principal policy areas of the White Paper is reforming the migration system through better targeting skilled migration, improving the employment outcomes of international students and realising the employment potential of migrants.

The White Paper recommends better targeted skilled migration as a key direction for future reform. This includes delivering a new temporary skilled migration system that is effective at targeting Australia's evolving skills needs, developing an improved occupation list in partnership with JSA, and introducing new permanent skilled visa settings.

In relation to VET providers, the White Paper notes that removing information barriers for domestic and international students to enable them to choose high-quality VET providers will improve the integrity of the system and opportunities for students.

112 Department of the Treasury, *Working Future: The Australian Government's White Paper on Jobs and Opportunities,* (Canberra: 2023), 97, treasury.gov.au/employment-whitepaper/final-report; Department of Home Affairs, *Review of the Migration System,* (Canberra: 2023), 51, www.homeaffairs.gov.au/reports-and-publications/reviews-and-inquiries/departmental-reviews/migration-system-for-australias-future.

113 Department of Home Affairs, *The Migration Strategy,* (Canberra: 2023), accessed 11 November 2023, immi.homeaffairs.gov.au/programs-subsite/migration-strategy/Documents/migration-strategy.pdf.

Recommendation: Attainment targets

2. That to meet Australia's future skills needs and drive improvements to national workforce participation and productivity, the Australian Government adopt attainment targets to set the ambition for the tertiary education system to deliver:
    a. a skilled workforce to meet the changing needs of the economy through a tertiary education attainment target of at least 80% of the working age population with at least one tertiary qualification (Certificate III and above) by 2050 compared with 60% in 2023
    b. growth in Commonwealth supported places in higher education to achieve this target, more than doubling the number of students in Commonwealth supported places from around 860,000 in 2022 to 1.8 million in 2050 across all age groups
    c. growing numbers of younger Australians with a university education, through an attainment target of 55% of 25 to 34-year-olds with a bachelor degree qualification or above by 2050 compared with 45% in 2023, noting that many will also have a VET qualification
    d. a strong and growing contribution to tertiary attainment driven by TAFE and the vocational system, with a planning assumption that 40% of 25 to 34-year-olds will have a tertiary level vocational or technical qualification in 2050, noting that some people have both a VET and higher education qualification
    e. opportunities for lifelong learning for all Australians to reskill and upskill, driven by national targets for tertiary participation and attainment across the working age population developed with the states and territories through a stewardship approach similar to that agreed in the 2023 National Skills Agreement
    f. these targets should be monitored through yearly reports published by the Australian Tertiary Education Commission in consultation with Jobs and Skills Australia with an assessment of skills and graduate workforce participation by discipline
    g. these targets should be reviewed as necessary, considering advice from Jobs and Skills Australia, as qualification design, student preferences and employer demand change over this period.

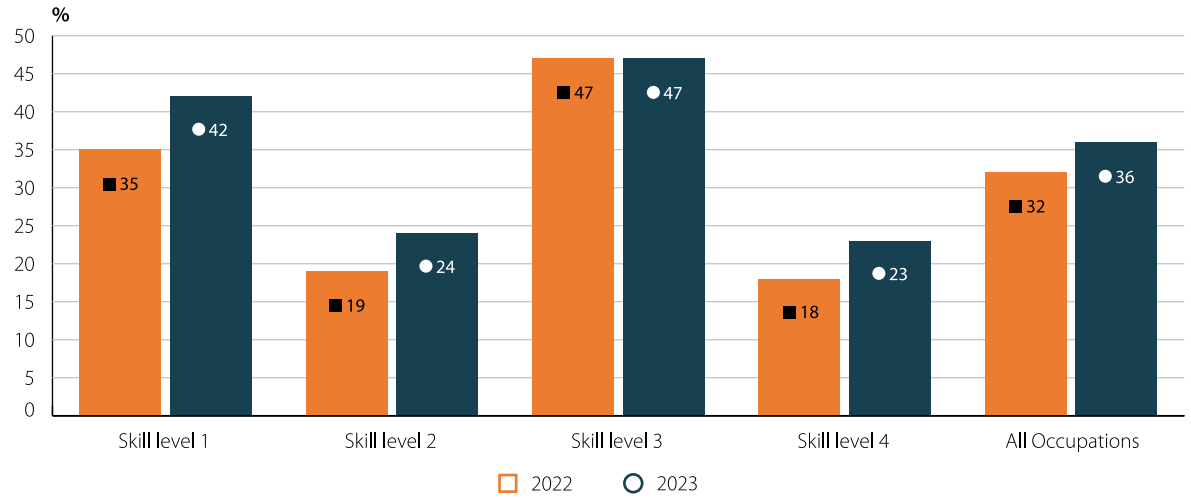
2.2 Skills shortages

2.2.1 The education and training system must address areas of acute skills shortage

Australia has serious skills shortages in critical industries. As stated in the 2023 White Paper on Jobs and Opportunities, there are critical shortages in care and wellbeing, technological and digital transformation, and clean energy.[114]

JSA analysis shows that 36% of all occupations were in shortage in 2023, with these shortages particularly acute in jobs requiring either higher or vocational education (see Figure 9). In 2023, 42% of all occupations requiring a bachelor degree or higher qualification were in shortage, an increase from 35% in 2022 and 19% in 2021.[115] Similarly, jobs requiring a VET qualification, including 47% of jobs typically requiring a Certificate III or IV qualification, were in shortage. This includes half of all technician and trade jobs.[116]

Figure 9: Proportion of occupations in shortage by skill level, 2022 and 2023.



Source: Jobs and Skills Australia, *2023 Skills Priority List Key Findings Report*, (Canberra: 2023), 9, www.jobsandskills.gov.au/sites/default/files/2023-10/2023%20SPL%20Key%20Findings%20Report.pdf.

Note: Skill level is defined as a function of the range and complexity of the set of tasks performed in a particular occupation. The greater the range and complexity of the set of tasks, the greater the skill level of an occupation. Occupations at Skill Level 1 have a level of skill commensurate with a bachelor degree or higher qualification. Occupations at Skill Level 2 have a level of skill commensurate with AQF Associate Degree, Advanced Diploma or Diploma. Occupations at Skill Level 3 have a level of skill commensurate with AQF Certificate IV or AQF Certificate III including at least two years of on-the-job training. Occupations at Skill Level 4 have a level of skill commensurate with AQF Certificate II or III.

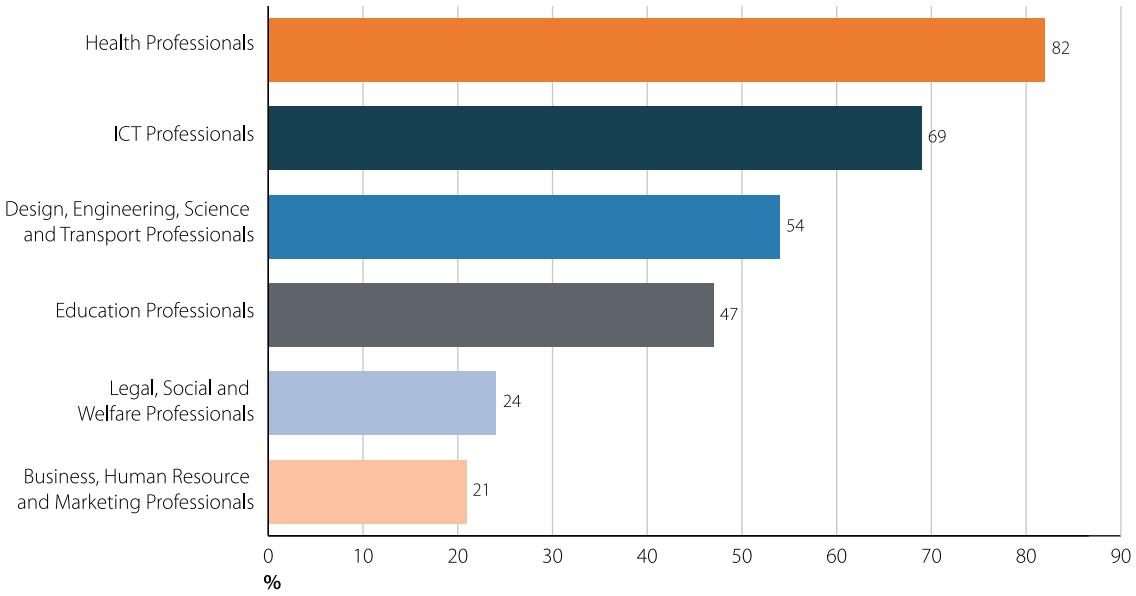
114 Department of the Treasury, *White Paper on Jobs and Opportunities*, 91.

115 JSA, *Skills Priority List: Key Findings Report*, 8.

116 JSA, *Annual Jobs and Skills Report*, 13.

At the occupation level, there are shortages across many professional roles which require higher education, including in the health professions (82%), which includes nurses, doctors and allied health professionals, Information and Communication Technology professions (69%), design, engineering and transport professions (54%), and education professions (47%), which includes both teachers and childcare workers (see Figure 10).

Figure 10: Occupations in shortage, proportion of selected professional occupation sub-groups (%), 2023.



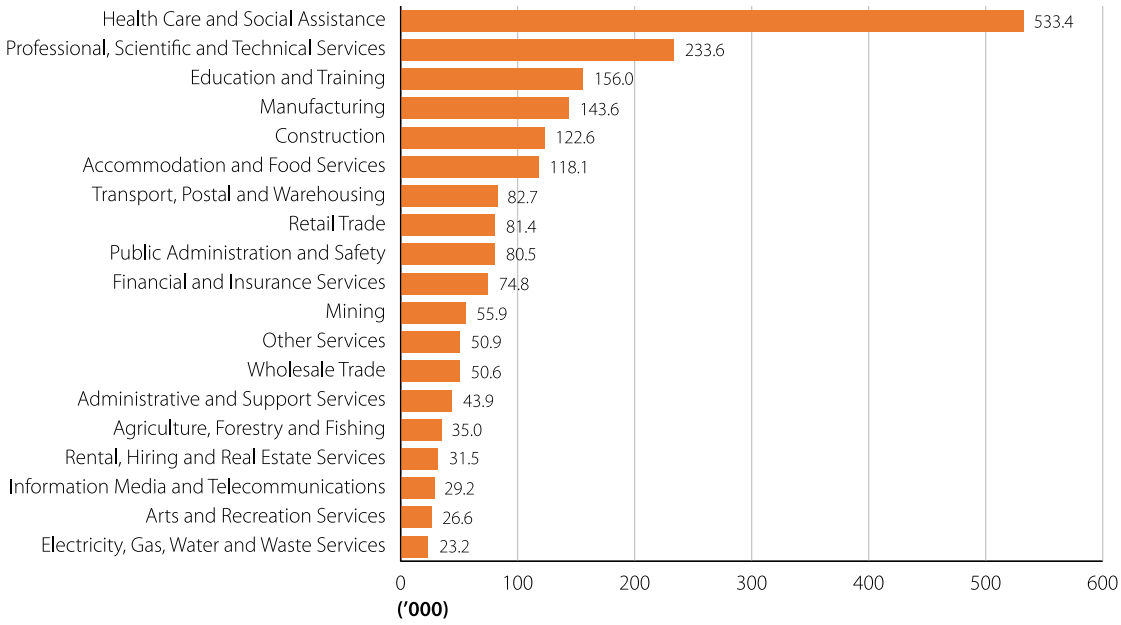
Source: Jobs and Skills Australia, *2023 Skills Priority List Key Findings Report*, (Canberra: 2023), 10, www.jobsandskills.gov.au/sites/default/files/2023-10/2023%20SPL%20Key%20Findings%20Report.pdf.

Many of the sectors in shortage now are also forecast to require the most future growth.

For example, the social care and wellbeing sectors face overwhelming and accelerating community demand for services, driven by a growing and ageing population. Technology-intensive sectors such as engineering, computing and manufacturing risk being outpaced by demand for faster, deeper specialisation in emerging technologies and processes. The pathway to net zero emissions presents opportunities for industrial transformation, new jobs and enterprises, and productivity growth which require new or significantly enhanced skills from the workforce. A growing population will require new housing and infrastructure construction, continuing to drive strong demand for the trade professions.

Total employment in the Australian economy is projected to grow over the next 10 years, resulting in around 2 million more people being employed in the Australian economy in 2033 than now. While all industries are expected to grow in absolute terms (see Figure 11), the greatest growth by far is expected in Health Care and Social Assistance. Other sectors expecting high employment growth are Professional, Scientific and Technical Services, Education and Training, and Construction. After a long period of slow growth, Manufacturing is also expected to grow and slightly increase its share of total employment over the next decade.

Figure 11: Projected growth in employment by industry (thousands of positions), May 2023 to May 2033.



Source: Jobs and Skills Australia, *Employment Projections*, Canberra, 2023 www.jobsandskills.gov.au/data/employment-projections, accessed 20 November 2023.

Case study: Shortage of veterinary professionals in regional areas

Australia's veterinary professionals play a crucial role in Australia, particularly in regional, rural and remote communities. They contribute significantly to the agriculture sector, which is vital to the Australian economy. According to employment projections published by JSA, there are currently 12,400 veterinarians working in Australia and this number is projected to increase nationally to 14,500 by 2033, representing a growth rate of 16.9%.[117] The current workforce of veterinarians is not adequate, leading to a severe shortage especially in rural and regional areas.[118] This shortage has led to the closure of veterinary clinics in these areas. The lack of veterinarians has negative effects on biosecurity and animal health and welfare. The sustainability of veterinary services is threatened due to insufficient investment and the high costs of providing modern veterinary care.

To ensure that Australian communities can enjoy the benefits of proper animal health and welfare, it is essential to increase the skilled rural workforce in the veterinary profession. This skills development will help sustainably provide these crucial services.[119]

117 JSA, *Employment Projections – May 2023 to May 2033* [data set], (Canberra: 2023), accessed 20 November 2023, www.jobsandskills.gov.au/data/employment-projections.

118 JSA, "Skills Priority List."

119 Australian Veterinary Association, *AVA Federal Government Pre-Budget Submission (May 2023 Budget)*, (Canberra: February 2023), www.ava.com.au/news/ava-federal-government-pre-budget--submission-may-2023-budget/.

2.2.1.1 Medical places

To address the undersupply of doctors in certain areas,[120] Commonwealth supported medical places should be increased through a transparent and competitive process. Unlike other fields of study, the Minister for Education allocates a set number of Commonwealth supported medical places to each accredited university for each calendar year. These allocations, and any associated conditions, are set out in funding agreements. Courses that have CSPs allocated in this way are referred to as 'designated higher education courses' in the *Higher Education Support Act 2003* (Cth).

The Review recommends prioritising these additional places for training in areas of critical shortages in regional and outer metropolitan areas (see Recommendation 3). Additional places should be consistent with the National Medical Workforce Strategy and will require buy-in from states and territories, which are responsible for ensuring training places for these students – both during their studies through placements and once they commence their hospital internships.

Evidence shows that medical students from regional areas and those that train in the regions are more likely to stay in the regions post-graduation.[121] Given the medical practitioner shortages in much of regional Australia, prioritising the allocation of medical places in these areas should help alleviate these shortages. Increasing the number of medical places provided in regional and outer metropolitan areas should also help contribute to increasing the representation of students from traditionally under-represented backgrounds.

2.2.2 The tertiary education system must deliver the right mix of skills

To meet Australia's growing need for tertiary educated people, the tertiary education system must be attuned to Australia's skills needs and produce graduates that employers want. Overwhelmingly, employers told the Review that they need more graduates with the right mix of skills – not just technical, discipline-specific, specialist skills, but also generic skills and 'leading-edge' knowledge informed by new research and innovations.

While Australia's current critical skills shortages partly reflect insufficient numbers of people with the right qualifications for jobs, they also reflect the fact that qualified people do not have all the necessary skills required to make them suitable for jobs, or they have skills that misalign with the needs of these roles. People may also have requisite technical skills but lack the other qualities and in particular, generic skills that employers find important and are calling for at a high level of attainment.

120 Department of Health and Aged Care, *National Medical Workforce Strategy 2021–2031*, (Canberra: 2023) revised 12 December 2023, www.health.gov.au/our-work/national-medical-workforce-strategy-2021-2031.

121 Alexa N. Seal, Denese Playford, Matthew R. McGrail, Lara Fuller, Penny L. Allen, Julie M. Burrows, Julian R. Wright, Suzanne Bain-Donohue, David Garne, Laura G. Major and Georgina M. Luscombe, "Influence of rural clinical school experience and rural origin on practising in rural communities five and eight years after graduation," *Medical Journal of Australia* 206, 11, (11 April 2022), doi: 10.5694/mja2.51476.

The need for a higher education strategy integrated with jobs and skills needs

JSA's recent 'Towards a National Jobs and Skills Roadmap: Annual Jobs and Skills Report 2023' provides a detailed analysis of the current job market and the skills required for future employment. It highlights the necessity of a national strategy to adapt to changes in work dynamics, including advancements in technology and evolving skill demands.

The report underscores the significance of investing in education and training programs to develop a competent workforce capable of adjusting to the demands of the digital era. It also calls for collaboration among the government, industry and education sectors to ensure the successful implementation of the roadmap and to provide individuals with opportunities to improve their skills.

The report pinpoints sectors that will drive job growth in the future, such as renewable energy, healthcare and digital technology. It stresses the need for targeted interventions in these sectors to bridge skill gaps and create employment opportunities. Additionally, the report emphasises the importance of fostering inclusivity and diversity in the workforce to ensure equal access to job prospects for all individuals, regardless of their background or social standing. Overall, the report serves as a guide for policymakers and stakeholders in developing a national roadmap that aligns with supporting the job market and equips individuals with the skills needed to excel in the future workplace.

More must be done to ensure the higher education sector, and the tertiary education sector as a whole, have the capacity and capability to meet the extensive knowledge and workforce skills required.

2.2.2.1 Advanced generic skills and learning capabilities

Throughout the Review, employers and industry raised the need for graduates with advanced, generic skills and general capabilities.[122] Submissions to the Review emphasised this issue and it was a strong, common theme in the Review's roundtables and consultations with business and industry leaders. Research by the National Careers Institute (NCI) and Jobs and Skills Australia (JSA) highlights the importance of these skills, showing that 75% of employers consider people skills – communication skills, ability to work in a team and demonstrating initiative – to be at least as important as technical skills.[123]

Occupations intensive in generic skills are projected to grow at 2.5 times the rate of jobs in other occupations and are expected to account for two-thirds of all jobs by 2030.[124] Strong generic skills provide employees with a foundation for learning and adapting to new responsibilities – something which will be increasingly important in the coming years.

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122 Australian Chamber of Commerce and Industry, *Submission to the Accord Interim Report*, 2023, www.education.gov.au/system/files/2023-09/AUA_inter_tranche9a_192%20Australian%20Chamber%20of%20Commerce%20and%20Industry.pdf; Business Council of Australia, *Submission to the Accord Interim Report*, 2023, www.education.gov.au/system/files/2023-09/AUA_inter_tranche8_168%20Business%20Council%20of%20Australia.pdf; Australian Industry Group, *Submission to the Accord Interim Report*, 2023, www.education.gov.au/system/files/2023-09/AUA_inter_tranche7_157%20Australian%20Industry%20Group.pdf.

123 National Careers Institute (NCI) and JSA, *Australian Jobs 2023*, (Canberra: 2023), 10, www.yourcareer.gov.au/resources/australian-jobs-report#download-the-full-publication-2.

124 DeakinCo and Deloitte Access Economics, *Soft skills for business success*, (May 2017), accessed 5 October 2023, 8, www.deloitte.com/au/en/services/economics/perspectives/soft-skills-business-success.html.

JSA notes that in many professions qualified graduates are proving unsuitable for specific roles, in part because they lack these generic skills. For example, JSA states that, though more engineering graduates are needed, increasing the number of engineering graduates alone is unlikely to be effective at addressing skills shortages if the graduates are not better equipped with all the generic skills they need. JSA highlights client relations, project management, data and digital skills, critical thinking, communication and teamwork as skills graduates lack, contributing to a suitability gap and resulting skills shortages.[125]

Universities are already addressing these generic skills as part of their curricula, and they typically highlight these as key attributes in their graduate outcomes. However, it is clear that universities, industry and business must do more to help students develop these skills.

Equipping students with the well-rounded skillset they need for their future careers requires an approach that includes skills-integrated curriculum design, industry partnerships, work-integrated learning, and continuous improvements to course delivery. Universities must ensure that university curricula reflect professional requirements, and that the university teaching workforce is suitably trained and knowledgeable in current industry practices.

Finding: Generic skills

Australia's economy not only needs greater numbers of tertiary educated graduates, these graduates must have the right mix of skills. In addition to discipline-specific knowledge and technical skills, graduates need the transferable generic skills sought by employers. Australian workers now need to be digitally literate, creative, collaborative, good communicators, and able to solve complex problems. Our tertiary education providers must teach these skills more effectively, together with our school system, employers and the wider community.

2.2.2.2 Increasing absorptive capacity with innovative curricula and pedagogy informed by leading-edge knowledge

Revised curricula and teaching methods are needed to meet the future skills needs of a knowledge economy. And advances in pedagogy are required to fulfill the potential of high-quality online and hybrid learning modes, as well as deliver teaching which supports more diverse student cohorts.

Curricula must keep pace with rapid developments in the workplace and wider society in areas such as climate change, artificial intelligence, and the evolving international landscape. The Productivity Commission has argued that highly skilled employees who have been exposed to the latest research and knowledge, and who have the ability to adopt new ideas, processes and technologies, increase a firm's "*absorptive capacity*", that is, a firm's ability to learn from and capitalise on the innovation and research of others".[126] Improving absorptive capacity can aid the diffusion of innovation through the economy and boost productivity growth.

125 JSA, *Annual Jobs and Skills Report 2023*, 147.

126 Productivity Commission, *5-year Productivity Inquiry: Innovation for the 98%*, 5, 100 (Canberra: February 2023), 31–32, www.pc.gov.au/inquiries/completed/productivity/report/productivity-volume5-innovation-diffusion.pdf.

This requires staff to have up-to-date industry knowledge and to engage closely with research experts and employers and industry peak bodies.

Universities which engage in both research and teaching are well placed to ensure that curricula embody the latest developments in cutting edge knowledge. This can include students, even at undergraduate level, being taught by academics who are also top researchers in their field. This exposes students to the excitement of new knowledge, provides them with an understanding of the challenges of research, and can inspire the next generation to become part of the future knowledge economy.

2.3 Mechanisms to support and deliver change

The necessary transformation required by our economy cannot occur without radically different and improved skills supply, brought about by investment, innovation and collaboration across the tertiary education sector.

There are several barriers to meeting current and future skills needs. The current education system is not responsive enough to the skill needs of business and industries (see *Chapter 4 – Delivering for students)* and we are not adequately preparing students for transition into further education, or providing sufficient supports to them when they are studying (see *Chapter 3 – Expanding opportunity to all)*.

The roadblocks in the system include:

- structural barriers to lifelong learning and capacity to upskill including rigidity of the Australian Qualifications Framework (AQF), lack of credit recognition for vocational skills, and lack of support for students to gain higher level tertiary qualifications
- lack of access for enough students to high-quality work-integrated learning (WIL) opportunities, particularly for students from low SES backgrounds and in regional areas
- lack of access to careers advice and relevant work (including appropriate work experience or part-time work while studying)
- highly specialised and inflexible accreditation requirements for professional qualifications that operate as barriers to entry including:
  - mandatory work placement requirements in professional courses which, given that most placements are unpaid and full time, can leave students unable to support themselves while undertaking placement
  - onerous requirements for placement length that limits numbers of placements available per year in critical industries.

Many of these challenges particularly affect under-represented groups, including First Nations, low SES, regional, rural and remote, and people with disability. These issues are discussed in more detail in *Chapter 3 – Expanding opportunity to all*.

2.3.1 A more flexible, efficient and responsive skills system

Achieving an uplift in attainment and skills acquisition requires tertiary education providers to be more responsive to changing and emerging skills needs. According to the World Economic Forum in 2018, Australia ranked 6th for attainment of tertiary education, but 10th for business relevance in tertiary education and 12th for the supply of business-relevant skills.[127]

Case study: The clean energy transition

Jobs and Skills Australia's Clean Energy Capacity Study, 'The Clean Energy Generation', examined the workforce needs for Australia's transition to a clean energy economy. It highlighted that this transformation, which will be "substantial but not unprecedented", will require a "big contribution from the education and training sector working closely with industry".[128]

The study identifies the large array of specific skills and occupations, spanning higher education and VET, which this transition will require, including technicians and trades workers like electricians, metal fitters and mechanics and highly skilled professionals like engineers, chemists, architects and professional managers. JSA highlights that there is a high risk of experiencing skills shortages in workers to support this transition as well as resultant shortfalls in related industries. However, JSA recognises that many of the skills required already exist within our economy and could be utilised effectively with targeted upskilling and/or reskilling.

This transition provides a whole-of-sector challenge across curriculum co-design, course delivery models, funding and workforce integration but it could establish a successful blueprint for effective cross-sector, industry-partnered delivery if appropriate action is taken.

Regional Australia is particularly vulnerable to this mismatch, despite the potential benefits it could gain from construction of renewable energy infrastructure in the regions.

A substantial proportion of future skills demand will be in the VET sector. Cohesion between the higher education and VET sectors will be required to increase flexibility and access to post-school education – firstly, to bring in the people who are not currently participating in tertiary education and secondly, to provide flexible pathways so those who need to upskill and reskill throughout their careers can navigate between the 2 systems as seamlessly as possible.

Many emerging and future skills areas are highly specialised or location specific. Some necessitate rapid deployment of strategies and resources to meet them. In such cases, responses will be best provided by nearby tertiary education institutions. This will require new and innovative delivery solutions that bring together the best knowledge and expertise from across local industry, VET and higher education institutions so the next generation of professionals can attain the required skills.

127 Martin Bean and Peter Dawkins, *Review of university-industry collaboration in teaching and learning*, (Canberra: Department of Education, Skills and Employment, 2021), 17.

128 JSA, *The Clean Energy Generation: Workforce needs for a net zero economy*, (Canberra: 2023), 10, www.jobsandskills.gov.au/studies/clean-energy-capacity-study#finalreport.

Not all universities need to focus on the nexus between higher education and VET – but there must be enough universities doing this. These may include, but not be limited to, dual sector universities, and universities with historically well-developed links to local and regional industry and the vocational sector. The higher education system should foster diversity of institutions and recognise that universities have different comparative advantages in skills provision going all the way to PhDs and professional doctorates.

It is important to have the enabling infrastructure that will foster collaboration between providers (higher education and VET), industry and Jobs and Skills Councils. TAFE Centres of Excellence, which were announced as part of the National Skills Agreement, could be useful here, as could the Regional University Study Hubs. They are structures designed to be rapidly responsive to skills needs.

Australia will also need a more efficient and responsive tertiary education system if it is to address skill needs and expand the benefits of tertiary education to more people. The architecture underpinning the system must include modern regulatory and digital infrastructure, as well as more consistent policy and governance structures that are adopted by all jurisdictions.

2.3.1.1 Australian Qualifications Framework (AQF) reform

The effectiveness and utility of the AQF is arguably more important today than when it was first implemented in 1995. One objective of the AQF is to "facilitate pathways to, and through, formal qualifications" by ensuring qualifications are consistent and comparable and can be articulated between sectors.[129] However, submissions to the Review indicate that the current AQF is widely perceived as inhibiting the future needs of the tertiary education sector and Australia's workforce, economy and society.

The AQF is a national framework that describes the 14 different types of regulated qualifications that can be obtained in Australia, across senior secondary education, VET and higher education. It sets out the essential features of each qualification type, including the knowledge, skills and application of knowledge and skills that learners must demonstrate to achieve the qualification.

The core goal of national qualifications frameworks more broadly is to "establish a basis for improving the quality, accessibility, linkages and public or labour market recognition of qualifications within a country and internationally".[130]

AQF reform is essential if Australia is serious about transitioning to a new truly tertiary education system centred around lifelong learning and attainment of skills alongside knowledge for increasingly diverse learners. The Review recognises the challenges associated with AQF reform and notes there has been little progress towards implementation of the Review of the Australian Qualifications Framework (Noonan Review) in the 4 years since it was released.[131]

The Noonan Review found that, while the AQF Is a valuable framework, it needs reform to meet the changing needs of learners, employers and the economy. The extensive body of work that underpinned this review mounted a compelling case for change and outlined a comprehensive set of reforms. The areas

129 Australian Qualifications Framework "What is the AQF," accessed 10 November 2023, www.aqf.edu.au/about/what-aqf.

130 Sally Kift, *Submission to the Universities Accord Discussion Paper*, 2023, www.education.gov.au/system/files/documents/submission-file/2023-04/AUA_tranche4_Sally%20Kift.pdf.

131 Department of Education and Training, *Review of the Australian Qualifications Framework: Final Report 2019*, (Canberra: 2019), www.education.gov.au/higher-education-reviews-and-consultations/resources/review-australian-qualifications-framework-final-report-2019.

covered included supporting a more connected and aligned tertiary education system; increased visibility of skills across the entire AQF; greater parity of esteem between VET and higher education; support for recognition of prior learning; and recognition of microcredentials – all key concerns for this Review. The Noonan Review forms the foundation of this Review's recommendations on AQF reform.

One challenge hindering progress in implementation of the Noonan Review is the absence of a central body that could coordinate implementation of the reform agenda across the higher education and VET sectors, skills needs, migration, modern awards, and student payments legislation.[132] Despite being a recommendation of the Noonan Review, no such body has been established.

This Review is recommending that the proposed Commission take on this role – discussed in detail at *Chapter 6 – A dynamic, collaborative and responsive system that serves the national interest*. A primary Commission function from day one should be taking overall leadership and ownership of the AQF and driving AQF reform – using the findings of the Noonan Review as a guide, but also adapting these to the needs of the future.

2.3.1.2 Australian Skills Classification/National Skills Taxonomy

The Australian Skills Classification (ASC), now part of the National Skills Taxonomy project, is a framework that sets out the core competencies, specialist tasks and technology tools required for occupations in Australia. Its purpose is to reveal the relationships – and potential transferability – of specialist tasks across occupations. The ASC:

- offers a common language of skills, enabling stakeholders to identify and articulate skills using a comprehensive and universal taxonomy
- identifies key skills attached to an occupation – this is to highlight common and transferable skills across occupations.

In Australia, the current frameworks for skills, qualifications and training programs are fragmented and do not fully capture the wide range of skills needed by employers and workers. This includes not only technical skills, but also generic skills including digital literacy and specific job tasks. The Australian Skills Classification bridges this gap by bringing together existing frameworks and translating them into a standardised language.

The ASC is designed to categorise skills in jobs into three types: core competencies, specialist tasks, and technology tools. It is built around the concept of transferrable skills, enabling identification of skills that can be used across different occupations, employers and industries.

The ASC has many uses, particularly those related to workforce planning, transition planning for affected workers and career planning. In December 2023 the ASC was expanded to include 80% coverage of the labour market and skills statements for specialist tasks.

132 Department of Education and Training, *Review of the Australian Qualifications Framework*, 89–92.

The Annual Jobs and Skills Report 2023 notes a potential opportunity to develop a National Skills Taxonomy to underpin a joined up tertiary education system. In practical terms this would:

- allow for the identification of relationships between units and courses to improve credit and recognition practices, supporting learners to effectively engage in lifelong learning
- allow the National Skills Passport to be an expression of specific skills
- provide tools to education providers that support the improvement of skills articulation in education design, including micro-credentials.[133]

Jobs and Skills Australia has several projects underway to map higher education curricula to the ASC and has commenced work to build a data model and asset to map higher education curricula and vocational education materials to skills. Along with the development of a National Skills Taxonomy with industry, the skills mapping model and data asset would need to be scaled and should be a focus of work for JSA in collaboration with the proposed Commission. This would assist tertiary education providers to develop portfolio-wide skills maps.

The potential use of the ASC as a tool in curriculum design

JSA is undertaking a project to link Australian university curricula to the ASC and identify the specific skills taught in higher education qualifications. Utilising pre-trained natural language processing (NLP) models, higher education curriculum data is analysed alongside the ASC, with the models able to identify similarities between university curriculum data, unit descriptions and learning outcomes, and the skills listed in the ASC – an otherwise highly manual process that would not be able to keep pace with the speed of curriculum change.

Based on the degree of similarity, skills determined to be relevant in the curriculum can be aligned and mapped to the ASC. This tool has the potential to assist providers in developing courses aligned to skills need and providing RPL.

2.3.1.3 Credit transfer and recognition of prior learning

Recognition of prior learning (RPL) involves assessing an individual's prior learning, including formal, informal and non-formal learning, to determine whether it meets the requirements for credit towards a qualification. Credit transfer is an administrative process for granting credit towards a qualification based on previous completion of another equivalent training product. It does not require individual assessment of the student, because it is based on a recognised unit of study. The Review notes credit transfer and RPL are generally offered in a discretionary manner between education providers, and practices for granting credit are often not systematic or transparent. Credit recognition practices differ widely across different tertiary education providers, fields and courses. The process is complex for students to navigate and can be costly for tertiary education providers to administer. Achieving effective RPL has been a problem for decades.

133 Information provided to the Department of Education by JSA.

For students who do not complete a full qualification, it can be challenging to get the learning they have completed recognised. This challenge applies when seeking RPL for a different qualification, or as credit or RPL for future studies, or as proof to employers that they have some requisite learning for a job. This can be especially problematic for students who face additional barriers to completing their studies.

Improving credit recognition practices will help ensure that learners are not required to repeat learning, minimising both time in study and the unnecessary acquisition of debt. It will also make it easier for learners to transition between different education sectors and to upskill and reskill throughout their careers. This is critical to expanding new pathways into higher education, especially for groups facing barriers to participation.

The Review considers that a number of reforms would enable more consistent credit recognition practices:

- developing and widely adopting a common credit point system, as recommended by the Noonan Review, to provide greater transparency about what students have learned and the volume of learning
- extending the National Skills Taxonomy project's consistent national skills taxonomy across higher education and VET and using it as a tool for curriculum design, to help embed RPL into course design by more richly describing the specific skills and competencies taught through the course
- establishing more structured, transparent and systematic processes for quick credit recognition and to facilitate transfers between courses
- improving collaboration among tertiary education providers, industries and businesses to implement a uniform nationwide strategy for acknowledging prior learning and experience that simplifies credit transfer (see case study below)
- developing the National Skills Passport into a tool that students can utilise to provide evidence of their learning and their credentials in support of requests for RPL.

Case study: Embedded credit recognition – North Metropolitan TAFE & Edith Cowan University

North Metropolitan TAFE and Edith Cowan University have developed a pathway partnership (the Cyber Security Industry Pathway Program) that allows for a student to complete 3 qualifications in cyber security in 3.5 years.[134]

A Certificate IV in Cyber Security and an Advanced Diploma of Cyber Security completed at North Metropolitan TAFE over 2 years provides 18 months of credit towards a Bachelor of Science (Cyber Security) at Edith Cowan University, allowing a student to obtain the degree with a further 18 months of study rather than 3 years.

134 North Metropolitan TAFE, "Joining forces to tackle the ongoing cyber security challenge," *TAFE WA*, 15 February 2023, accessed 12 December 2023, www.northmetrotafe.wa.edu.au/news-and-events/joining-forces-tackle-ongoing-cyber-security-challenge.

Finding: Tertiary education

Many students move between higher education and vocational education throughout their lives to enhance, broaden and update their knowledge and skills. Pathways between vocational education and training and higher education are currently fragmented and misaligned, making navigation across sectors very difficult. Admission, credit transfer and recognition of prior learning practices are inconsistent and can act as a barrier to further study. These transitions should be made as seamless as possible.

2.3.1.4 Digital infrastructure and platforms

Digital infrastructure connects the higher education and VET skills systems, providing navigation and information tools that link individuals to upskilling and reskilling opportunities. Investment in well-designed digital infrastructure is a powerful way to address issues of equity and access to the tertiary education system and an important tool in enabling personalisation of pathways – between and through – the tertiary education system and into work.

Digital platforms

Several reviews cite challenges that students face navigating information for the purpose of career pathways, with information often fragmented across different websites and not always complete.[135] Governments have funded numerous digital platforms but there has been a lack of a systemic approach or a clear roadmap to build these platforms in a way that makes them easy for students to navigate.

These challenges limit learners' ability to make well-informed choices, and are linked to skills mismatches with labour market demand, tertiary education system usage, and poor learning outcomes. In recent years, several countries have set up digital platforms that provide students and workers with a record of the skills and qualifications they have attained.[136] These platforms aim to standardise access to education records, making it easier for students to compile and present their credentials, and for employers to verify prior learning. The platforms are often linked to skills and labour market information that assists individuals with career choices.

135 Department of Prime Minister and Cabinet, *Strengthening Skills: Expert Review of Australia's Vocational Education and Training System* Steven Joyce, Strengthening skills: Expert review of Australia's vocational education and training system, (Canberra: 2019), 83, www.pmc.gov.au/publications/strengthening-skills-expert-review-australias-vocational-education-and-training-system; Peter Shergold, Tom Calma, Sarina Russo, Patrea Walton, Jennifer Westacott, Don Zoellner and Patrick O'Reilly, *Looking to the future: Report of the Review of senior secondary pathways into work, further education and training*, (Canberra: Education Council Australia, June 2020), 69, www.education.gov.au/quality-schools-package/resources/looking-future-report-review-senior-secondary-pathways-work-further-education-and-training.

136 Singapore has launched a skills passport as part of MySkillsFuture.gov.sg.

The Review recommends the Australian Government should take a leading role in developing and implementing a unified digital platform for skills and qualifications (see Recommendation 4). There have been positive steps to unite some platforms under the *YourCareer* platform, including through the incorporation of the learner-facing component of *MySkills*.[137]

However, more accessible and navigable information is needed, including digital platforms that identify learning opportunities such as *MicroCred Seeker*,[138] *CourseSeeker*[139] and *SkillFinder*.[140] A platform to access learning credentials such as the National Skills Passport (see below), should be unified across higher education and VET (i.e. to include and expand learning opportunities on the Your Career platform) to support students to pursue pathways across the tertiary education sector that suit their circumstances.

National Skills Passport

A National Skills Passport has the potential to support learners to navigate the skills system and entry and movement across the workforce by providing a consistently recognised document of the qualifications, skills and experience they have acquired, and make it visible to potential employers.

The Review commends the Australian Government's announcement that it will progress a National Skills Passport, in response to the Employment White Paper released in September 2023. A Skills Passport should be developed in consultation with industry, unions, students, tertiary education institutions and governments, as part of efforts to help workers promote their qualifications, and businesses find more skilled workers.[141] A Skills Passport would provide a comprehensive and nationally recognised platform to document an individual's skills, qualifications and competencies.

Unique Student Identifier (USI)

In 2014, the Australian Government introduced legislation to establish the USI system, which became operational in 2015. Initially, the USI was used for VET courses and did not cover the entire education system. From 1 January 2023, all higher education students, including those who commenced prior to 2021, must have a USI in order to receive HELP loans, access Commonwealth supported places, and graduate and receive their award.

The USI is an essential piece of infrastructure for an interconnected system. The USI enables the creation of a single, comprehensive and accurate record that encompasses all of a students' qualifications, awards and statements of attainment from various educational providers. The USI can also facilitate seamless transcript portability. It allows students to share their educational records across different education institutions and employers, and will be a fundamental enabling feature of an integrated National Skills Passport. It will also assist with RPL by simplifying transitions between learning providers and reducing the administrative burden associated with verifying qualifications.

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137 Department of Employment and Workplace Relations, "My Skills is now part of Your Career," 2023, accessed 10 December 2023, www.yourcareer.gov.au/learn-and-train/myskills.

138 Department of Education and the Universities Admissions Centre, "What is a Microcredential," accessed 10 December 2023, www.microcredseeker.edu.au/about.

139 Department of Education and the Tertiary Admissions Centres, "CourseSeeker," accessed 10 December 2023, www.courseseeker.edu.au/.

140 Department of industry, Science, Energy and Resources "About Skill Finder," Skills Finder, accessed 10 December 2023, www.skillfinder.com.au/page/about.

141 Department of the Treasury, *White Paper on Jobs and Opportunities*, 127.

The USI plays a significant role in maintaining the quality and standards of education by providing a linking mechanism for administrative data in education. It aids regulatory bodies and education providers in monitoring trends, identifying patterns, and addressing gaps in the education system. These insights contribute to continuous improvement efforts that enhance the overall quality of education in Australia. The USI also enables the collection of comprehensive data on student participation, progression and completion rates. This data is crucial for policy development, resource allocation and monitoring the effectiveness of various educational initiatives.

Work to support USIs within the Australian schooling system is underway as one of 8 national policy initiatives in the current National School Reform Agreement. This project will see a USI issued to every Australian school student. It will travel with them throughout school and into vocational education and training and higher education. The Australian Government is leading implementation of this initiative in collaboration with state and territory governments and the non-government schooling sector.

The Review recommends that the USI be further expanded by widening it to all forms of learning, including continued expansion into the schooling system and into accredited short-form learning like microcredentials (see Recommendation 4).

2.3.2 Supporting more people to upskill and reskill (lifelong learning)

Automation and the digital revolution, and climate change, are two critical factors that are significantly affecting the job market, rendering certain skills obsolete whilst creating demand for new ones. The linear career trajectory is giving way to a dynamic employment landscape characterised by the need for more regular skilling.[142] As such, in addition to expanding the number of younger people obtaining initial qualifications, we also need to facilitate more people undertaking lifelong study to support upskilling and reskilling.

Lifelong learning is not a new concept. It featured prominently in the 1990s and was used in implementing the Dawkins reforms, which highlighted the importance of lifelong learning to address "the growing pressures for skills development" which required changes "associated with award restructuring, changes in industry structure, technology, and in Australia's demographic profile and the role of women in the workforce and society".[143]

However, since that time, not enough has been done to expand the availability of lifelong learning. The need is now greater and is fundamentally being driven by the growth of knowledge and its application in every part of society. Knowledge-intensive and technological innovation is creating rapid changes in the nature of work in many occupations, while also driving the transformation and restructuring of entire industries.

The Productivity Commission suggests that lifelong learning is no longer just a choice but a necessity due to technological advancements, globalisation and demographic shifts. It makes clear that reform to strengthen foundational learning and provide individuals with a wider range of flexible training options throughout their careers is necessary to deliver the skills Australia needs.[144]

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142 OECD, *Education at a Glance 2023: OECD Indicators,* (Paris: OECD Publishing, 2023), 131, www.oecd-ilibrary.org/docserver/e13bef63-en.pdf?expires=1702424845&id=id&accname=guest&checksum=91113B459B049A3E39F8C1D230A37A21.

143 The Hon John S Dawkins MP, *Higher Education: a policy statement,* (Canberra: Department of Employment, Education and Training, 1988), accessed 20 November 2023, 16, hdl.voced.edu.au/10707/162333.

144 Productivity Commission, *5-year Productivity Inquiry: From learning to growth,* 8, 100, (Canberra: 7 February 2023) www.pc.gov.au/inquiries/completed/productivity/report/productivity-volume8-education-skills.pdf.

The Review has heard that the regulatory, course and institutional structures within the tertiary education system are not currently capable of supporting either the level of participation or the speed of learning and adaptation that Australia's changing economic structure demands.[145] The OECD notes that the financial burden associated with lifelong learning can be prohibitive, especially for adults with other financial responsibilities.[146]

2.3.2.1 Microcredentials

Over the past decade, microcredentials and other short courses have gained popularity as they offer a faster, accessible and affordable way to gain specific credentials that are relevant to industry needs. Microcredentials are shorter than existing Australian Qualifications Framework (AQF) qualifications and build on broader core knowledge and skills. Where they contribute to a larger body of structured and coherent knowledge, they may be aggregated into larger qualifications.[147] Nationally and internationally recognised microcredentials are already being developed for this purpose and are starting to be incorporated into Australia's higher education sector. The VET sector has a robust system of nationally recognised microcredentials through skill sets or accredited short courses to support upskilling of workers.

The Australian Government is funding a Microcredentials Pilot in higher education specifically targeted at areas of key skills need (explored below). As noted in the Interim Report, New Zealand's national qualification authority accredits microcredentials as well as assigning them credit points.[148] The Government of the United Kingdom is trialling higher education short courses as part of its approach to delivering a new student finance product, designed to provide learners with shorter, flexible options to develop their skills.[149]

Some sectors, including technology and broader ICT development, have been proactive in developing their own, industry-specific microcredentials. As an example, the Australian Computer Society offers a range of microcredentials to enable recognition and validation of skills and knowledge across a range of specialisms and function areas within the Information/Cyber Security discipline.[150] Often these are offered independently rather than through tertiary education providers. In such cases, significant government participation may be unwarranted. Other sectors, such as clean energy, require active and innovative government partnerships with tertiary education providers to develop microcredentials to meet industry skills shortages. But students doing such courses should be able to apply for credit for these through RPL mechanisms if they wish to stack them with a higher education-offered microcredential.

Microcredentials provide learners with flexible, modular and inclusive methods to acquire skills rapidly and they give tertiary education providers an industry-aligned offering that is quick-to-market. They can help people to continually update and refresh their skills across their lifetimes, in addition to obtaining

145 RMIT University, *A more responsive tertiary education sector to better meet skills needs* [unpublished report], (Melbourne: Department of Education, 2023), 16.

146 OECD, *Education Policy Outlook 2022*: Transforming Pathways for Lifelong Learners, OECD publishing, 2022

147 Department of the Treasury, *White Paper on Jobs and Opportunities*, 97.

148 New Zealand Qualifications Authority (NZQA), "Micro-credential approval, accreditation and listing," 2023, accessed 10 December 2023, www2.nzqa.govt.nz/tertiary/approval-accreditation-and-registration/micro-credentials/.

149 Office for Students (OfS), "Higher education short course trial," 2023, accessed 7 June 2023, www.officeforstudents.org.uk/advice-and-guidance/skills-and-employment/higher-education-short-course-trial/.

150 Australian Computer Society, "ACS microCredentials, accessed 10 December 2023, www.acs.org.au/professionalrecognition/microcredentials-home.html.

foundational and enduring knowledge from existing higher education and VET qualifications. The Review has heard from industry about its interest in using microcredentials to address specific skills needs across many sectors of the economy. Microcredentials will also be important for addressing identified skills gaps and industry workforce demand, especially for employees in industries undergoing transitions.

Despite these opportunities and benefits, the flexible and online nature of microcredentials challenges some traditional aspects of the tertiary education system. Industry and business need a short timeframe between development and delivery, and this is often at odds with the timeframes required to develop a fully assessed and approved microcredential at a tertiary education institution.

The Review considers that there are many important and valuable microcredentials that are being delivered, and that this should be encouraged. However, there are some microcredentials (for example for people upskilling in areas of skills need) where government investment may be needed, utilising the CGS and HELP through a new microcredentials funding framework for the higher education sector. This framework would need to ensure that funding is consistent with existing frameworks for fees in higher education.

The National Microcredentials Framework

The National Microcredentials Framework (NMF) was developed in 2021 and provided the following guidance on the definition of microcredentials:

> a certification of assessed learning or competency, with a minimum volume of learning of one hour and less than an AQF award qualification, that is additional, alternate, complementary to or a component part of an AQF award qualification.[151]

The Review considers this definition to be extremely broad – reflecting the differing needs of the higher education and vocational education and training sectors, but this breadth is affecting the consistent rollout of microcredentials across the higher education sector in Australia.

Stakeholder feedback during development of the National Microcredentials Framework highlighted several issues with this definition, including the need for clearer guidance on the smallest unit of credit that can be called a microcredential. VET stakeholders most often identified 5 or 6 hours of learning as appropriate, with some identifying one hour as the smallest definable microcredential. Higher education respondents generally described microcredentials as requiring longer to qualify, most often as single subject short courses that could later stack into existing qualifications structures (for example, 8 microcredentials could form a semester of a course).

Further targeted work to identify the most useful forms of microcredentials to support an uplift in tertiary attainment and skills delivery is required. The Review notes the current Microcredentials Pilot in Higher Education will provide valuable insights into the next steps for greater rollout of this form of flexible, agile qualification.

151 Department of Education, *National Microcredentials Framework*, (Canberra: 2022), 3, www.education.gov.au/higher-education-publications/resources/national-microcredentials-framework.

Microcredentials Pilot in Higher Education

The Australian Government has committed $18.5 million to the Microcredentials Pilot in Higher Education (the Pilot). The Pilot will run from 2023–24 to 2025–26 to test the efficacy of microcredentials as a solution to skills shortages in priority industries such as health, engineering, IT, science and education.

The Pilot is assisting higher education providers to design and deliver microcredential courses that provide credit toward a higher education qualification and a digital badge to students who successfully complete a course in partnership with industry.

Funding is being made available in two rounds and aims to deliver microcredentials to up to 4,000 students.

Under the first round, the Pilot is supporting 18 universities to design and deliver 28 microcredentials across a range of professions including nursing, teaching and engineering. The first 2 microcredential courses have commenced delivery: La Trobe University's Professional Certificate in Rural Nursing and Charles Sturt University's Fundamentals of Nuclear Science and Safety. The remaining microcredential courses will commence in 2024.

In considering expansion of Australian Government funding of microcredentials, the Review recommends that governments focus on areas of acute need where private provision is underdeveloped and microcredentials themselves are recognised as part of a full accredited qualification (see Recommendations 5 and 6).

The Review recommends the Government consider implementing a larger scale microcredential pilot to facilitate development of a systematised way of funding accredited microcredentials (see Recommendation 6). Funding through the pilot should support the development and maintenance of the infrastructure needed to issue and verify microcredentials. This includes creating digital platforms for credential management, designing assessment methods, and hiring staff to oversee the process. Funding should be provided to universities through the Commonwealth grants scheme. For the student contribution, income contingent loans should be available through the HELP system.

Microcredentials funded through the pilot should be 'stackable', meaning they are able to be combined or built upon to form larger qualifications where they constitute a larger body of structured and coherent knowledge. This flexibility allows individuals to customise their learning paths according to their specific needs and career goals. By stacking microcredentials, learners can gradually gain a comprehensive set of skills and knowledge, improving their employability and professional development.

In order to make microcredentials stackable, it will be necessary to establish a minimum load requirement, possibly as 1/16th or 1/20th of EFTSL levels. A minimum load is important to indicate that learners have thoroughly engaged with the material and achieved a sufficient level of proficiency. It also helps maintain the integrity and credibility of microcredentials and ensures they provide meaningful value to learners.

The Review also recommends that a system for accrediting microcredentials be implemented across the higher education sector (see Recommendation 6). Accreditation ensures that the educational content, assessment methods and learning outcomes meet established standards of quality and rigor and gives

employers and educational institutions confidence in their value and relevance. This system would provide a pathway for a wider range of providers, including industry and business, to have a course recognised and able to be included in a National Skills Passport.

Early exit with some qualification

'Nested courses' are a set of courses of study that are offered sequentially and can lead to qualifications at different Australian Qualifications Framework (AQF) levels.[152] Nested qualifications would enable students exiting an incomplete degree to still receive a qualification. If exit pathways are integrated into qualifications, students who choose not to complete a full higher education degree will still be able to leave university with a recognisable qualification and enhance their employability outcomes.

Some higher education providers are offering nested undergraduate qualifications that enable students to exit their studies early with an undergraduate certificate. For example, Federation University's Undergraduate Certificate in Early Childhood Studies is nested in a bachelor degree. In general, an undergraduate certificate is a higher education qualification of 6 months duration covered by an existing higher education qualification at AQF levels 5, 6, or 7. Course content is drawn from those existing higher education qualifications. It means that students who complete part of an AQF level 5, 6, or 7 qualification, but for whatever reason are no longer willing or able to continue their studies, may be in a position to receive an undergraduate certificate.

The Review is recommending that higher education providers look at facilitating early exit pathways from bachelor degree courses, at diploma and associate degree levels, to recognise the achievements of students who decide to withdraw before completing the entire degree (see Recommendation 4). These pathways should also provide opportunities for re-entry in the future. This can be part of the regular cycle of curriculum review and may be focused on some disciplines where it is most appropriate. The Productivity Commission in its 5-year Productivity Review also recommended that all Australian higher education providers develop at least one subset of courses that, if completed, lead to a form of nested qualification.[153]

2.3.2.2 Postgraduate qualifications

Domestic enrolments in traditional postgraduate learning have been in sustained decline across many disciplines since before the COVID-19 pandemic, and uncertainty remains about international postgraduate markets in the post-pandemic environment. Postgraduate coursework qualifications remain a critical piece of upskilling and reskilling the workforce, including where a postgraduate qualification is the entry level requirement for a profession. Many occupations that require postgraduate qualifications or have a high proportion of postgraduate qualified workers are also in shortage across the country. This includes specialist medical practitioners (like surgeons and psychiatrists), nurse practitioners and psychologists.

There is a compelling case for increasing Commonwealth supported coursework postgraduate places in areas of high public value – for example, in teaching and nursing, and in other national priority skills areas. According to the OECD, in 2022, the percentage of the population aged 25 to 64 with a masters qualification was lower in Australia (9%) than the OECD average (14%).[154] Increasing the availability

152 TEQSA, "Guidance note: Nested courses of study," accessed 10 December 2023, www.teqsa.gov.au/guides-resources/resources/guidance-notes/guidance-note-nested-courses-study.

153 Productivity Commission, *5-year Productivity Inquiry: From learning to growth*, 125.

154 OECD, *Education at glance: Educational attainment and labour-force status* [data set], (2023), accessed 1 December 2023, www.oecd-ilibrary.org/education/data/education-at-a-glance/educational-attainment-and-labour-force-status_889e8641-en.

of Commonwealth supported places at the postgraduate level in areas of need will support reskilling, and also ensure postgraduate study is an option for more prospective students. This recommendation is discussed in further detail in *Chapter 8 – A new funding model to underpin success*.

Australia's higher degree by research (HDR) graduates will also play a key role in ensuring Australia can compete more effectively in the global knowledge economy. HDR graduates, including professional doctorate holders, will play a pivotal role as Australia continues to shift from a commodity and manufacturing-based economy to a knowledge-based economy, which requires a strong research workforce with the ability to generate and absorb new knowledge and innovation. In addition to their deep technical expertise, Australia's researchers and HDR graduates also bring transferable critical thinking and problem-solving skills to the many and varied sectors they work in.[155] Strengthening and supporting Australia's critical research workforce is explored further in *Chapter 5 – Producing and using new knowledge*.

2.3.3 Partnering with industry to deliver skills needs

The Australian higher education sector and industry need to engage more effectively. While many faculties, particularly in professional disciplines, have Industry Advisory Boards and industry-related accreditation structures, it is not clear that many of these lead to curricula that reflect employer needs adequately. This Review provided an opportunity for higher education providers and industry to examine exactly what type of engagement works best.

Of course, there are good examples of productive partnerships in the system, including Institutes of Applied Technology in NSW, the Queensland Future Skills Partnership and Victoria's Higher Apprenticeship Training Program in the social care sector.

The Review heard from stakeholders that greater industry engagement in student learning and pedagogy can help bridge the gap between the skills that students learn as part of a formal qualification and those that they require for the workplace.

The Review considers that there is a need for a forum between industry and universities to support skills delivery, the co-design of both course curriculum and work integrated learning programs, and improved industry utilisation of higher education research and knowledge. The Review considers this could be developed through the new Commission, as proposed in *Chapter 6 – A dynamic, collaborative and responsive system that serves the national interest*.

2.3.3.1 Work Integrated learning (WIL)

There is a long-standing industry-partnered learning approach in the VET sector in the form of work-based learning. Apprenticeships and traineeships are well-known models. Apprenticeships allow workers to participate in a structured training arrangement which combines on the job training through paid employment with formal off-the-job training to develop their skills.

In higher education, industry-partnered learning primarily happens through WIL which encompasses any arrangement where students undertake learning in a work context for credit towards their course requirements. Placements are one type of WIL.

155 Australian Technology Network of Universities (ATN) and Nous Group, Enhancing the Value of PhDs to Australian Industry, (Melbourne: ATN, 2017), accessed 16 May 2023, 8, atn.edu.au/wp-content/uploads/2021/12/atn01-phd-report-web-single.pdf.

WIL opportunities are intended to help bridge the skills gap between what employers require from prospective staff and what students need in order to demonstrate their skills to potential employers.

In addition to the shortage of WIL places, access to places is unequal. Research from Universities Australia using 2017 survey data shows that about a third of university students (37.4%) had a WIL experience and nearly half of all WIL experiences (43.0%) were placements.[156] Placements that are essential for professional accreditation may partially explain this high proportion.

Students from groups historically under-represented in higher education are less likely to participate in WIL. Less than one third of low SES students (27.8%) participated in some form of WIL compared to almost half of high SES (48.6%).[157]

Industry and provider submissions provided strong and consistent support for the expansion of WIL as a near-universal part of Australian higher education qualifications, particularly where placements were mandatory for professional certification as a component of formal qualifications (discussed further below). The Review notes that major challenges in this area are recognition of student needs, WIL quality, and payment for students' work.

Industry and employers note that they benefit from WIL through early connections to build the skills of their future workforce and recruitment to entry level positions.

National Strategy on WIL

Universities Australia is developing a new National Higher Education Work-integrated Learning Strategy in partnership with the Australian Chamber of Commerce and Industry (ACCI), the Australian Collaborative Education Network (ACEN), the Australian Industry Group (AiG) and the Business Council of Australia (BCA). The new WIL strategy will build on the successes of the previous strategy released in 2015.

The new strategy will seek to set a vision for improved WIL arrangements by outlining good practices and the roles and responsibilities of different stakeholders, including industry, higher education providers and government. It acknowledges the need to expand WIL opportunities to keep pace with the needs of the future economy and to better align it with Australia's changing skill needs, and will include recommendations to achieve these outcomes.

156 Universities Australia, *Work Integrated Learning in Universities: Final Report*, (Canberra: 2019), 8, universitiesaustralia.edu.au/wp-content/uploads/2022/03/WIL-in-universities-final-report-April-2019.pdf.

157 Universities Australia, *Work Integrated Learning in Universities*, 28.

2.3.3.2 Reforming mandatory placements

Placement poverty

Work placements are a mandatory requirement in many professional courses, both to qualify for a degree and to get some form of professional certification. Many students have to forego paid work to undertake unpaid placements and relocate away from home, leading to 'placement poverty'. This results in poor early experiences in the workplace and negative perceptions of employment in the relevant industries, many of which are industries with longstanding skills shortages.

The Review welcomes the Government's commitment in the Employment White Paper (EWP) to "undertake scoping work on approaches to mitigate financial hardship placed on tertiary students completing unpaid mandatory work placements as part of studies in care and teaching professions".[158] Given the urgent and pressing need in these professions, this is a critical starting point. Following this initial phase, more work should be undertaken to consider how financial hardship can be mitigated in a wider range of professions.

Providing financial support for placements is essential to ensure that enough students can meet their placement requirements without falling into poverty and there are enough skilled graduates for future jobs. The Review is recommending that industry and employers make reasonable contributions to the costs of providing placements as they benefit from the pipeline of qualified people to fill jobs, and that the Government provide financial support for students undertaking placements in key industries including nursing, care and teaching (see Recommendation 14).

Professional accreditation

Industry and professional accreditation bodies operate across multiple industry sectors in both vocational and higher education. They maintain considerable authority over qualifications and mandatory work placements for students, though the level of involvement in different fields of study varies. While maintaining standards for professional practice – including for skills, safety, quality, consistency and accountability – is important, there is less clarity on the certification process of the accrediting bodies themselves and their own obligations toward meeting skills shortages, along with tests of reasonableness of placement length and requirements, and the relevant standards for the student experience.

The opportunities for placement differ across fields, regions and institutions. In many fields of study and regions, there are insufficient placement places to meet demand.[159] This limits the supply of graduates, which in turn leads to skills needs not being met.

Given the current pace of change, greater and more structured participation by industry and professional bodies is necessary to help generate solutions to skill acquisition in a workplace environment including through use of technological advances in fields such as AI and simulation.

158 Department of the Treasury, *White Paper on Jobs and Opportunities*, 206.

159 Universities Australia, *Work Integrated Learning in Universities*, 32; Bean and Dawkins, *Review of university-industry collaboration in teaching and learning*.

Accrediting bodies should regularly review their accreditation requirements to ensure they remain fit for purpose and based on up-to-date objective evidence, and that RPL arrangements are working. Professional certification bodies should be expected to consider existing work experience in the field as RPL toward placement requirements. They should also be reviewed to ensure accessible and equitable pathways are being recognised for students.

Possibilities for consideration include:

- greater use of simulated WIL in appropriate professions
- restructuring course design to recognise competencies and prior experience (instead of meeting mandatory minimum hours of practice) which, at a minimum, could accelerate completions and free up training and placement opportunities for students without these
- providing greater flexibility to undertake placements, including recognition of offshore placements, part-time placements and online placements, where feasible.

There is also growing concern over the shortage of supervisors and supervisory standards in some placements. This shortage is mainly attributed to factors such as the increasing number of students seeking placements, limited resources, and the lack of qualified individuals to fill supervisory positions.

Professional bodies, governments and regulators should regularly review the accreditation requirements that underpin professional qualifications. These accreditation requirements often dictate the standards for mandatory placements, including minimum contact hours and methods of delivery (which may not keep pace with advances in technology). While it is essential to maintain quality and ensure that students have developed sufficient skills to enter the workforce, excessive requirements that are not based on objective evidence can deter students and in turn exacerbate skills shortages.

Given the impact that placements have on students, the Commission should work with accrediting bodies and universities to develop a code of practice that underlies their interactions in relation to mandatory placements.

Finding: Accreditation bodies

Placements and other requirements for professional accreditation are not always working effectively. Professional accreditation is crucial for training the future workforce, but accreditation requirements can be unduly burdensome for both students and universities. Mandatory placements can involve onerous hours and can financially disadvantage students who are unable to participate in paid work while on placement or need to relocate to undertake their placement.

2.3.3.3 Earning while learning – Jobs Broker

Many students need to undertake paid, part-time employment to finance their study. If the employment can be obtained in an industry aligned with their field of study, it can provide valuable experience, connections and job skills that enhance their post-graduation job opportunities.

The Review recommends that a national brokerage service (Jobs Broker) be established to support tertiary education students to find paid, part-time work in their chosen field of study (see Recommendation 7). This would be its primary function, and the Review recommends it be implemented immediately via Australian Government tender.

There are some good examples of existing university services which match students with employment opportunities. Western Sydney University's Job Spot allows students to search online for full-time and part--time job opportunities both on and off campus, as well as international jobs and internships, unpaid work experience and volunteer opportunities.

The Jobs Broker could similarly operate through an online portal, supported by limited interactive services, where students can express their interest in available jobs based on their skills, qualifications, study commitments and region, and where employers can advertise available positions and their requirements. It would be a subscription service – free for students, including international students, with employers paying a fee, possibly based on their employee numbers or annual revenue.

Eventually, the Jobs Broker might also be expanded to facilitate placements and WIL opportunities that involve an element of course credit for students, and to provide students with career advice and other information.

The Jobs Broker is also discussed further in *Chapter 3 – Expanding opportunity to all* as a mechanism to remove financial roadblocks to accessing or completing tertiary education.

2.3.4 Building better connections and skills coalitions

VET and higher education are key pillars of Australia's economic and social infrastructure, with distinct but complementary strengths and purposes. When they work together and with industry and business, they have great potential to deliver on meeting individual and employer demand. This is not a new observation, but the Review recommends that working together must become embedded practice to meet the challenges of the future.

The VET sector and higher education have traditionally served different purposes. This has necessitated different regulatory requirements – highlighted by the 2 regulators (ASQA and TEQSA) and their different approaches to course accreditation. Closer integration of the sectors into an aligned tertiary education system is an essential reform, requiring a carefully considered and coordinated approach across jurisdictions that maintains the unique strengths of the VET and higher education sectors.

The Review's recommendation to establish a Commission, as outlined in *Chapter 6 – A dynamic, collaborative and responsive system that serves the national interest*, is fundamental to this integration. In partnership with state and territory governments, through the Skills and Workforce Ministerial Council (SWMC) as steward of the VET system, it is recommended that the Commission will, over time, drive more and better alignment between higher education and VET.

Some of the reforms to drive closer integration have been discussed in this chapter. Reforms to the Australian Qualifications Framework (AQF), focused on clear and consistent qualifications taxonomy spanning the entire tertiary education system, will support greater tertiary integration and a move towards parity of esteem. While improving RPL has clear benefits for students, it could also help widen the pathways between higher education and VET.

Broadening the portfolio of qualifications and credentials that cross both VET and higher education will also create more obvious pathways for students. This is particularly important for under-represented cohorts who are more likely to start their tertiary education with a VET qualification and build to a higher education qualification. Many people with higher education will pick up additional qualifications and skills through the VET system.

2.3.4.1 Role of TAFE and lifting tertiary attainment

Australia's network of publicly owned TAFE institutions is critical to the national skills system and to developing and delivering skills solutions to regions and sectors of need. Through its use of competency standards and the training package system, the TAFE network offers access to relevant skills training, labour market entry and re-entry pathways, and a focus on workplace needs.[160] This culture of industry partnership in training design and delivery allows learners to transition readily from training to work.

In the process of moving to a more fully coordinated system reform, governments, industry and tertiary education providers have invested in the design and piloting of several innovative partnership models over the past decade. These partnership models generally specialise in the delivery of new and emerging qualification types that support quicker and more adaptive course development, are more closely aligned with industry skill needs and are also more attractive to some learner cohorts who are typically underserved by traditional higher education or VET programs.

Australia's TAFE network, working collaboratively with universities and industry partners, is critical to delivering skills needs in regions. TAFE-led delivery models, such as the Queensland Future Skills Partnership with Central Queensland University and TAFE NSW's Institutes of Applied Technology, have been used successfully in the mining and other sectors.

160 Think, Change, Resolve, *Tertiary Education Innovation – two case studies offer possible ways forward: Final Report*, (Canberra: June 2023), 6, www.education.gov.au/australian-universities-accord/resources/think-change-resolve-tertiary-education-innovation-report.

Case study: TAFE-led skills delivery coalitions

There are many strong examples of TAFE-industry partnerships being deployed to rapidly meet critical workforce demand. In addition, the 2023 Employment White Paper outlines the innovative capacity of the TAFE network, arguing that "TAFEs can lift the quality of VET by trialling innovative learning and teaching approaches, developing new curriculum and course materials, and supporting VET workforce initiatives".[161]

Many tertiary education institutions in Australia are involved in both the higher education and VET domains, including 'dual sector universities' and RTOs with accreditation to offer higher education courses. Several TAFE-led delivery models have already been successfully designed and piloted in specific areas, notably TAFE Centres of Excellence.

The Queensland Future Skills (QFS) Partnership is a training partnership between BHP Mitsubishi Alliance, TAFE Queensland and Central Queensland University focused on facilitating development and delivery of new relevant qualifications for open-cut mining operations in Queensland.[162] The partnership aims to bring together knowledge from the resource sector, researchers and government to implement emerging skills for new employment opportunities in the mining sector. Currently the partnership is assisting in the design of relevant microcredentials, skillsets and the Certificate II in Autonomous Technologies offered at TAFE Queensland which has over 80 currently enrolled students.

2.3.4.2 Cooperative models for delivering cutting edge skills

An important element of quickly ramping up skills in areas of acute need is to encourage innovative methods of course delivery, particularly in areas of national priority such as health care, clean energy and defence. Industry providers should be engaged in course design with VET and higher education providers to identify key learning requirements across both sectors. The Review considered models of promoting greater collaboration including the concept of Cooperative Skills Centres (modelled on the successful Cooperative Research Centres (CRC) program) in key areas of urgent need. The Review concluded that this concept could be effectively implemented through the TAFE Centres of Excellence being developed through the National Skills Agreement. These centres would bring together VET, higher education, industry and unions to develop and deliver courses that rapidly upskill people in areas of industry need.

161 Department of the Treasury, *White Paper on Jobs and Opportunities*, 123.

162 TAFE Queensland, "The Queensland Future Skills Partnership," accessed 20 November 2023, tafeqld.edu.au/campaigns/queensland-future-skills-partnership.

The Australian Government has committed to establishing TAFE Centres of Excellence, to design and teach world leading curricula and provide students with cutting edge skills. As noted above, this model shares many of the features of the idea of Cooperative Skills Centres previously explored by the Review, in particular ensuring they support partnerships where higher education providers are active participants alongside TAFEs, Jobs and Skills Councils, and industry and business. In November 2023 the Australian Government reached agreement with states and territories to establish and operate up to 20 TAFE Centres of Excellence, under the National Skills Agreement, through a Commonwealth investment of up to $325 million over 5 years with matching funding from states and territories.

TAFE Centres of Excellence will provide national leadership in the delivery of skills, education and training and bring together employers, unions, universities and other education and training providers to develop and implement real work and practical solutions to meet skills needs. This will support industry and enrich students' learning experience through applied research and problem-solving programs. The TAFE Centres of Excellence will be innovative in the delivery of tertiary education, especially in areas of high demand and skills shortages. The Australian Government has also signalled its intention to double the number of higher apprenticeship commencements in the priority areas identified in the Employment White Paper over 5 years,[163] including by enabling TAFEs to deliver new bachelor-equivalent 'higher apprenticeships' independent of universities.

Ongoing collaboration between governments, industry, employers and tertiary education institutions, facilitated by the Commission – building on the idea of a Skills and Research Compact suggested to the Review by the Business Council of Australia – will be an effective mechanism for jointly identifying key and emerging skills needs and foster a shared approach in addressing them.

2.3.4.3 Leading-edge technical skills

A key role of the tertiary education sector is to equip students with the specific technical skills needed to fulfill the requirements of a job or profession. These are strengths of the VET sector, where links between employers and institutions are well established, and the nature of education is typically more closely aligned with competency accreditation for specific trades and occupations.

Australia needs technical skill provision at the leading edge of industry practice – so that firms are equipped with workers who are familiar with the latest industry leading knowledge in certain domains. Industry-university collaboration is important to ensure that curricula can adapt and respond flexibly to emerging skills needs. Australian higher education and VET providers are already working with industry to develop new programs and qualifications that meet the changing needs of the workforce but more action is needed.

163 Department of the Treasury, *White Paper on Jobs and Opportunities*, 123.

'Skills coalitions' can create mutual benefit for students, tertiary education providers, industry and union partners, and help to create a basis for scaling skills delivery on a sector basis. A variety of innovative approaches is already being employed, such as co-designing and piloting new programs with industry partners and new delivery models that combine knowledge and applied skills. Examples include:

- Rio Tinto launched Australia's first accredited automation qualification in 2019 in partnership with South Metropolitan TAFE and the WA Government. Certificate III and IV courses were released in 2022 which were nationally recognised by the Resources and Infrastructure Industry Training Package
- the New Education & Training Model is a new industry-led workforce training initiative in Sydney's West Parkland City which offers flexible, accessible microcredentials tailored to industry specific skills needs in collaboration with its industry, universities and VET providers
- RMIT's Higher Apprenticeship Training Program was developed to address skills shortages in the Victorian social service sector and to build a pipeline of future leaders. The program adapts apprenticeship models to create upskilling opportunities through nationally recognised qualifications, together with workplace mentoring and leadership opportunities, including credentialing pathways into management roles
- the Skills in Employment Project is a work-integrated learning program to train and employ workers in the disability and aged care sector. Participants are supported to undertake a Certificate III Individual Support (Ageing) or a Certificate IV Disability while they work
- University of Wollongong's Cyber Academy, a 3-year professional apprenticeship program that provides students with a Diploma of Information Technology (Cyber Security) from TAFE NSW and a Bachelor of Computer Science (Cyber Security) from University of Wollongong while providing work experience with Deloitte, an industry partner, or a government department
- to support AUKUS the University of South Australia is partnering with the South Australian Government, the Australian Industry Group and the defence industry to develop university degree apprenticeships to support the construction of nuclear-powered submarines.

Recommendation: Commonwealth supported medical places

3. That to accelerate the supply of medical graduates in communities experiencing medical practitioner shortages and to increase the number of medical graduates from under-represented backgrounds, the Australian Government:
    a. increase the number of new medical Commonwealth supported places to address critical shortages and allocate them on transparent, evidence-based criteria of acute need
    b. provide places for all First Nations students who apply and meet the entry requirements for a medical degree.

Recommendation: A more flexible and responsive skills system

4. That to help students accelerate the acquisition and recognition of their skills, help graduates track skills, qualifications, and experience, and make it simpler for employers to verify job candidate capabilities, the Australian Government implement a National Skills Passport, along with other core infrastructure needed for an integrated skills system by:
    a. immediately progressing the recommendations of the Review of the Australian Qualifications Framework through engagement with industry, unions and governments, as a matter of priority
    b. continuing development and use of the National Skills Taxonomy across the tertiary education system, using rich skills descriptors to make professional and vocational skill formation more explicit and transparent
    c. extending the unique student identifier to provide coverage of the whole tertiary education system, including microcredentials, and continuing to embed the unique student identifier in the schooling system
    d. aligning data standards and practices across the higher education and vocational education and training sectors to allow for better measurement of student pathways and system outcomes
    e. integrating Government digital platforms across the vocational education and training and higher education sectors (including for careers advice and course and study options), making it easier for students to access and navigate the tertiary education system
    f. creating a pathway for short courses provided by industry and business to be accredited and recognised on the National Skills Passport
    g. working with tertiary education providers, industry and business to adopt a consistent, published, national approach to recognition of prior learning (RPL) and credit recognition which should:
        i. address historical, cultural and institutional barriers to RPL and credit recognition
        ii. make it easier for students to gain maximum credit for previous study and minimise the time taken and cost to get a new qualification
        iii. include recognising appropriate work experience
        iv. improve student mobility to enter, exit and return to tertiary education
    h. requiring that higher education providers – through a regular cycle of curriculum review – establish early exit and articulation pathways from bachelor degree courses, at diploma and associate degree levels, for students who decide to withdraw before completing the whole degree.

Recommendation: A more flexible and responsive skills system

5. That to help Australians quickly get the skills they need to fill jobs that are in shortage, the Australian Government establish a comprehensive system of modular, stackable and transferable qualifications, including microcredentials, consistent with a reformed Australian Qualifications Framework.

Recommendation: A more flexible and responsive skills system

6. That to deliver new options for lifelong learning and to encourage higher education participation from new cohorts, the Australian Government move toward funding a set of microcredentials as a new element in the system of Commonwealth supported places, initially in areas of employer demand and national priority. This will require:
    a. new accreditation arrangements for microcredentials in the higher education sector, prioritising those that meet employer demand requirements, provide credit, involve minimum volumes of learning and can be stacked to a full qualification
    b. establishing new rules for 'micro-HELP' student contribution amounts and micro-Commonwealth support for each course, based on the course length
    c. setting conditions so that microcredentials in higher education that are funded as Commonwealth supported places cannot subsequently be provided at full-fee cost to domestic students.

Recommendation: A more flexible and responsive skills system

7. That to ensure students develop work relevant skills for employment after their study, the Australian Government increase opportunities for students to both earn and learn while studying by:
    a. establishing a national brokerage system ('Jobs Broker') to support tertiary education students find part-time work and placements relevant to their fields of study. Delivery should be through a provider that charges paid subscriptions by employers. The service should be free for students, and allow them to earn income while studying and reduce cost of living pressures
    b. promoting work-integrated learning (WIL) by working with peak bodies for employers, industry, business and tertiary education providers to deliver more WIL opportunities in curricula across all disciplines, and provide training to industry supervisors
    c. improving measures of graduate generic skills as part of the Graduate Outcomes Survey and Employer Satisfaction Survey. The Australian Tertiary Education Commission should showcase best practice as part of its 'State of the Tertiary Education System' annual report
    d. using models like degree apprenticeships that encourage an employment relationship as part of course design.

Recommendation: A more flexible and responsive skills system

8. That to improve the speed and focus on meeting high impact skills needs, the Australian Government partner with select tertiary education providers, states and territories, industry, business and unions to rapidly provide students with innovative skills through:
   a. supporting methods of quickly ramping up delivery, including through use of newly developed collaborative infrastructure such as the TAFE Centres of Excellence and the NSW Institutes of Applied Technology
   b. including higher education sector engagement with the Jobs and Skills Australia Ministerial Advisory Board and the Jobs and Skills Councils.

Recommendation: Professional accreditation bodies

9. That to ensure professional accreditation including placement requirements are appropriate for industry and business skill needs, tertiary education providers and the Australian Government, through the Australian Tertiary Education Commission, work with professional accreditation bodies, to agree a code of conduct for these bodies. The code should ensure that any accreditation requirements are evidence-based and proportionate to the gain they provide and that placement requirements ensure that students gain industry relevant skills and experience without imposing onerous placement length and conditions.

Chapter 3. Expanding opportunity to all

3.1 Growth through equity

In this chapter, the Review examines how to improve participation rates and student outcomes for groups which are historically under-represented in higher education to make the nation more equitable and meet Australia's future skills demands.

The Review sets an ambitious target: that specified cohorts of under-represented groups reach the same rates of participation and success as others in the Australian higher education sector.

It recommends 4 interconnected areas of intervention to support increased participation and success for these cohorts:

- building student awareness, aspirations and preparedness for higher education
- creating flexible pathways for entry to higher education while maintaining appropriate entry standards
- enabling success in studying for a degree by ensuring adequate support once students enter higher education
- removing roadblocks to participation.

Higher education participation and success deliver benefits to students, their communities, and the nation. However, higher education continues to be difficult to access for some groups of Australians, despite extensive investment over many years in a series of programs intended to increase participation. The Review has focused on this conundrum – how to substantially increase access and participation in higher education, in light of previous attempts.

While the major higher education reforms of the 1970s and 1980s led to considerable overall increases in participation, enrolment and attainment rates remained well below parity for 3 cohorts of students: First Nations, students from low socio-economic status (low SES) backgrounds, and regional, rural and remote students. Demand driven funding, which was in place from 2012 to 2017, did result in a large increase in enrolments in these cohorts. However, in the context of growth in participation by the population as a whole, this did not deliver on the participation target for students from low socio-economic backgrounds recommended in the 2008 Bradley Review. Students with disability appear to be participating at higher rates compared with other target cohorts. However, challenges in data collection and quality (see section 3.2.2) mean that there is a strong likelihood that this cohort may still be under-represented.

To date, participation in higher education has continued to be heavily influenced by a person's location and socio-economic background, not just ability. This Review's vision is for an inclusive higher education system that supports learning for any who need and desire it – a system driven by ambitious targets to motivate policy and program action towards achieving equity across higher education.

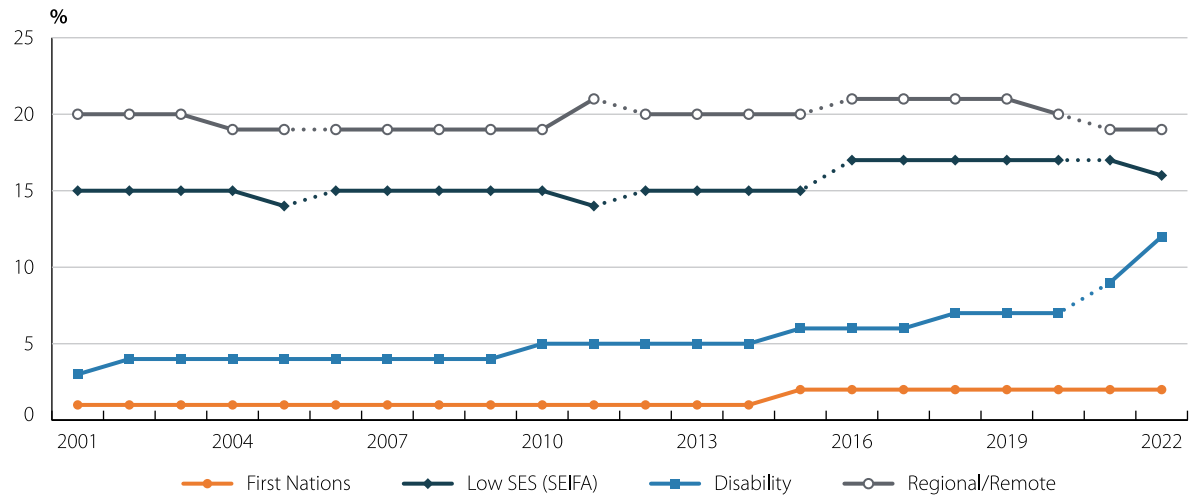
Finding: Equity

Every Australian should have the opportunity to experience the life transforming benefits of tertiary education. This is vital for Australia's future. Only by expanding access to tertiary education to currently under-represented groups – including people from low SES backgrounds, First Nations, people with disability and regional, rural and remote students – can the nation meet its projected skills needs. Access to tertiary education must include high quality teaching and learning targeted to students with lower educational attainment, alongside access to income support where necessary, affordable student housing and the ability to find reasonable work and placement opportunities.

3.2 Participation in higher education among some groups remains too low

Australia's higher education system should aspire to nothing less than population parity for equity groups. The setting of targets is a foundational mechanism for achieving the Review's vision for a fairer and more equitable society. For these reasons, the Review recommends the Australian Government set the target year for achieving parity representation in higher education at 2050, accompanied by a robust measurement and evaluation framework, with interim targets set to measure progress against this goal in 2035 (see Recommendation 10). As part of the target-setting process, it will be essential to establish a framework to measure progress, evaluate what works at a system level, and ensure accountability on this vision. The target date has been refined since the Review's Interim Report, which signalled 2035 as the target year for under-represented groups to achieve population parity.

Figure 12: Participation rates of domestic under-represented student cohorts, share of total domestic undergraduate and postgraduate cohort (%), 2001 to 2022.



Source: Department of Education, *Higher Education Statistics – Student Data – 2022 Section 11 Equity groups* [data set], (Canberra: 2023), published 18 December 2023, www.education.gov.au/higher-education-statistics/resources/2022-section-11-equity-groups.

Note: Changes occurred in the Low SES data series in 2011 and 2016 due to updates in the Socio-Economic Indexes for Areas (SEIFA) index and changes from using SA1 current postcode to SA1 first address. Changes in the 'Regional and remote' data series occurred in 2011 and 2016 due to updated geographical classifications.

Defining target cohorts

Since 1990, successive Australian Governments have recognised 6 identified equity groups:

1. people from low socio-economic status backgrounds (students from low SES backgrounds)[164]
2. people from regional and remote areas (regional, rural and remote students)
3. Aboriginal and Torres Strait Islander (First Nations) peoples (First Nations students)
4. people with disability (students with disability)
5. people from non-English speaking backgrounds
6. women, in non-traditional subject areas.

The Review has focused on 4 groups: students from low SES backgrounds, regional and remote students, First Nations students and students with disability (collectively referred to in this Report as the target cohorts). In determining these target cohorts, the Review has been guided by findings of the 2018 Review of Identified Equity Groups, which found that these groups remained less likely to participate and succeed in higher education.[165] An individual may fall into one or more of these groups, with multiple group membership associated with lower chances of successful participation.[166]

While the Review recommends target-setting focus on these cohorts, it is also conscious of the need to monitor other groups of students who experience educational disadvantage, as outlined in section 3.2.2. The Review also acknowledges that there are myriad ways in which these groups intersect.

Achieving parity of representation in higher education cannot be achieved by the higher education sector alone. Educational disadvantage is complex and linked to other forms of social and economic disadvantage. Reforms to reduce inequities in the early learning and schooling systems will take time to reach full effect, as will reforms to the higher education system recommended in this Review, should they be implemented by the Australian Government.

164 In the Higher Education Data Collection, students from low SES backgrounds refers to students whose address is in an area in the bottom 25% of the SEIFA Education and Occupation Index for 15 to 64-year-olds, by postcode or SA1. Unless otherwise specified, students from low SES backgrounds in this Report refers to First Address Low SES SA1 measures (based on a student's permanent home address at the commencement of study).

165 Institute for Social Science Research (ISSR), *Review of Identified Equity Groups*, (Brisbane: The University of Queensland, November 2018), 36, espace.library.uq.edu.au/view/UQ:bd8a044/Review_of_Equity_Groups_Final_Report.pdf?dsi_version=b288c45b247e4dbcd7bf879e09724b9c. The Review of Identified Equity Groups recommended the current Non-English Speaking Background category be redefined to focus on the considerable under-representation of people from specific language groups, finding students from non-English speaking backgrounds as a whole are not systematically disadvantaged in higher education, and that the women in non-traditional subject areas category be redefined to exclude fields of study where women make up around half or more of the student population.

166 ISSR, *Review of Identified Equity Groups*, 112.

3.2.1 The case for equity targets

The Review's vision is to create a higher education system that delivers opportunities for all and, importantly, that this is delivered in a student population that closely reflects the Australian population. Working towards population parity in higher education will require significant, likely intergenerational, efforts across the education lifecycle and by all Australian governments.

As shown in Figure 13, First Nations people, people from low SES backgrounds and people in regional, rural and remote areas make up a disproportionately low share of the higher education student population compared to the Australian population. For example, in 2022 students from low SES backgrounds made up 17% of domestic undergraduate higher education enrolments at Table A universities, although their representation in the overall Australian population was 25%.[167]

Despite overall gains, participation in higher education is geographically uneven. Among people aged 25 to 34, the rate of attainment of a university degree is lower among those from regional, rural and remote areas (23.8%) than major cities (44.6%).[168] Lower attainment of university degrees is also seen in certain metropolitan and outer-suburban areas, for example among people living in Fairfield, NSW (12.8%), Logan, QLD (12.0%), and Elizabeth, SA (7.9%).[169]

In the case of students with disability in 2022, higher education participation rates (11.6% of the student population) appear to exceed this group's expected enrolment share of 8.4%. However, this likely reflects data collection and reporting practices rather than that parity of participation has been achieved. This is explored further in 3.2.2.

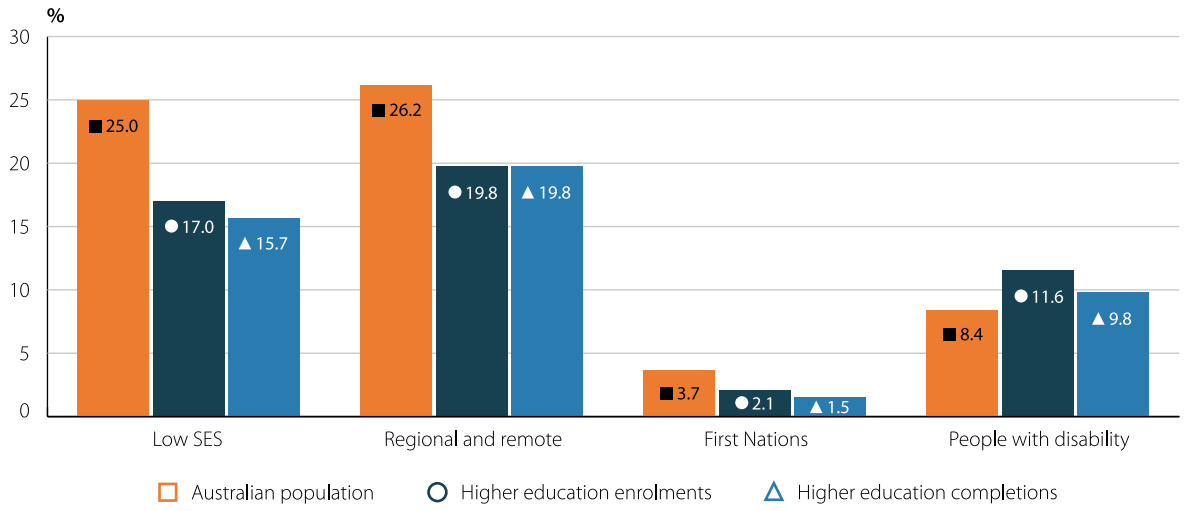
The same trend of under-representation continues in higher education completions, where again students from target cohorts represent a smaller share of total completions relative to their share of the Australian population. For example, working age population parity in higher education completions would see students from low SES backgrounds making up a higher share of total domestic undergraduate completions (25.0%) compared with current levels (15.7%).

167 Department of Education, *Higher Education Statistics – Student Data – 2022 Section 11 Equity groups* [data set].

168 Australian Bureau of Statistics, *Census TableBuilder*, National Remoteness Areas and level of highest qualification, (Canberra, 2023), accessed 19 December 2023.

169 Australian Bureau of Statistics, *Census of Population and Housing, 2021* [data set], (Canberra: 2023). For Logan QLD, Fairfield NSW and Elizabeth SA using State Electoral Divisions.

Figure 13: Target cohorts share of Australian population, higher education participation (domestic undergraduate Table A) and higher education completions (domestic undergraduate Table A) (%), 2022.



Source: Department of Education, *Higher Education Statistics – Section 16 Equity Performance Data* [data set], (Canberra: 2023), accessed 19 December 2023, www.education.gov.au/higher-education-statistics/resources/2022-section-16-equity-performance-data; Australian Bureau of Statistics, *2021 Census TableBuilder, Indigenous Status and level of highest qualification*, (Canberra, 2023), accessed 19 December 2023; Australian Bureau of Statistics, *2021 Census TableBuilder, Remoteness Areas and level of highest qualification*, (Canberra, 2023), published 18 December 2023.

Note: Share of the Australian population for people with disability is an expected enrolment share estimated by the Department of Education, based on the proportion of the 15 to 64-year-old population with disability, adjusted for age profile and profound disability.

Government response to Priority Action 2 from the Interim Report

Priority Action 2 recommended that the Australian Government cease the 50% pass rule immediately and increase reporting on student progress, after finding that the pass rule disproportionately disadvantages students from equity backgrounds.

To put this recommendation into effect, the Australian Government introduced the *Higher Education Support Amendment (Response to the Australian Universities Accord Interim Report) Act 2023* (Cth). This Act amends the *Higher Education Support Act 2003* (Cth) with effect from 1 January 2024. It will remove the pass rule and introduce new requirements for higher education providers approved under the Act to have policies in place to provide support to their students.[170]

Additional requirements around information to be included in a support for students policy and reporting will be set out in the Higher Education Provider Guidelines (HEP Guidelines). After consultation with the sector the Guidelines were made in late 2023 in preparation for an implementation date toward the end of the first quarter of 2024. The Department of Education will continue to work with and provide further updates to the sector, including information about reporting timeframes and compliance, to provide certainty to providers.

3.2.2 Defining and measuring equity targets

In proposing targets for student representation in higher education, the Review recommends that the initial focus be on the undergraduate student population and on 4 target cohorts (see Recommendation 10). There is considerable evidence these groups face persistent educational disadvantage and/or are under-represented in higher education.[171] Additionally, because these groups have been the focus of Australia's higher education student equity framework for almost 30 years, there are rich data and evidence to build on. The Review recommends that, because the vast majority of domestic undergraduate students are enrolled at publicly funded higher education providers, equity targets should only be set for these institutions.

However, there are some data considerations the Review recommends the Australian Government explore further before establishing a measurement framework (see *Chapter 6 – A dynamic, collaborative and responsive system that serves the national interest*). As Figure 13 shows, students with disability make up 11.6% of enrolments compared to an expected enrolment share of 8.4%. This would suggest parity of participation in higher education for people with disability has already been achieved, but this result more likely reflects complexities in data collection and comparison. The expected enrolment share is estimated by the Department of Education based on the proportion of the 15 to 64-year-old population with disability, adjusted for age profile and profound disability, which is assumed to preclude participation in higher education. Definitions and collection of disability statistics in higher education and national data collections like the ABS Census differ, making direct comparison difficult. There are reported inconsistencies in data collection between universities. In addition, under-reporting by some universities during the transition

170 *Higher Education Support Amendment (Response to the Australian Universities Accord Interim Report) Act 2023* (Cth), www.aph.gov.au/Parliamentary_Business/Bills_Legislation/Bills_Search_Results/Result?bId=r7060.

171 ISSR, *Review of identified equity groups*, 14–22.

to the Tertiary Collection of Student Information (TCSI) System makes comparison challenging in recent years.[172] There are also questions about the appropriateness of the current methodology as an indicator of population parity.[173] Other factors, such as the likelihood of disability increasing with age, differences in state populations, reliance on self-identification and the broad spectrum of categories of disability, also need to be taken into account in refining a measurement framework.

While the Review recommends that the Australian Government set targets for the 4 target cohorts and enhance data practices to support effective measurement, this should be one component of an expanded, integrated and evidence-based student equity framework. In addition to setting targets, Government must improve data collection to understand and address more granular indicators of disadvantage better.

There is evidence to suggest other cohorts, such as care leavers, refugees, and some language groups from non-English speaking backgrounds, experience significantly lower higher education participation and attainment outcomes.[174] Enhanced data collection to monitor smaller groups of students who likely face educational disadvantage but whose outcomes are not systematically measured and monitored should be undertaken. The Review recommends the Australian Government, through the proposed Commission (see *Chapter 6 – A dynamic, collaborative and responsive system that serves the national interest)*, consider other potential target groups, such as mature-aged students, carers and prisoners. This would require expanded data collection to identify these students and track their outcomes. A clear definition of first-in-family should also be developed and integrated into an expanded equity data and reporting framework.

3.2.3 Everyone has a role to play in achieving parity of participation

Meeting Australia's future skills needs means the whole higher education system needs to grow. In the context of this anticipated growth, it is even more important that the benefits of higher education are available to all.

A parity target, aiming for equal representation in higher education for all Australians, could be set in a number of ways. The Review commissioned the National Centre for Student Equity in Higher Education (NCSEHE) to explore how population parity targets should be set, taking into account the growth needed in higher education enrolments and completions if Australia is to reach a target of 55% of 25 to 34-year-olds achieving a bachelor level or above qualification by 2050. It is clear from this work that achieving parity is an exceptionally challenging task.

Location and institutional context are important for setting and delivering on targets. The Review weighed the merits of setting a national target (as the Bradley Review did), or a target for each jurisdiction that reflects the composition of the population in that state or territory. The proportion of people from target cohorts differs considerably by state and territory. For example, in 2022, the share of people from low SES backgrounds was higher in Tasmania (42.5%) and lower in the ACT (0.2%) relative to the overall Australian population (25.0%). Taking this into account, the Review considers that a single national target is not the most appropriate way to drive effort.

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172 Department of Education, *Higher Education Statistics –Student data – 2022 Section 11 Equity groups* [data set].

173 For example, the exclusion of people with profound disability.

174 ISSR, *Review of identified equity groups*, 67–95; Andrew Harvey, Patricia McNamara, Lisa Andrewartha and Michael Luckman, *Out of care, into university: Raising higher education access and achievement of care leavers* (Melbourne: La Trobe University, March 2015), 39, www.ncsehe.edu.au/wp-content/uploads/2015/03/Out-of-Care-Into-University.pdf.

Table 1: Target cohort share of the population aged 15 to 64 years (%), by state and territory and nationally, 2021.

	Low SES background	First Nations	Regional, Rural and Remote	Disability
New South Wales	19.7	3.0	22.5	-
Victoria	15.4	0.9	20.7	-
Queensland	29.1	4.4	33.9	-
Western Australia	25.0	4.0	21.0	-
South Australia	30.3	2.6	23.1	-
Tasmania	42.5	5.5	100.0	-
Northern Territory	23.18	31.3	100.0	-
Australian Capital Territory	0.2	1.9	0.1	-
National	**25.0**	**3.7**	**26.1**	**8.4**

Source: Department of Education; Australian Bureau of Statistics, *Census of Population and Housing, 2021* [data set], (Canberra: 2021) www.abs.gov.au/statistics/people/people-and-communities; Department of Education, *2022 Student Data – Section 16 Equity groups* [data set], Table 11 (Canberra: 2022), published 18 December 2023, www.education.gov.au/higher-education-statistics/resources/2022-section-16-equity-performance-data.

Note: Low SES background (Quartile 1) state and territory reference values are based on 2021 SEIFA IEO estimates. First Nations and Regional, Rural and Remote national reference values use 2021 Census. First Nations counts used have been adjusted based on ABS expected underreporting determined using the Post Enumeration Survey for the 2021 Census to better represent expected values for First Nations groups across Australia. The Review has relied on the Department of Education's estimated reference value for students with disability. The Department of Education estimates this value at the national level based on the proportion of the 15 to 64-year-old population with disability, adjusted for age profile and profound disability, which is assumed to preclude participation in higher education. The Department of Education does not estimate reference values at the state and territory level for people with disability.

3.2.3.1 Moving towards parity – state and territory targets

In Australia, most higher education students are enrolled in universities in the state or territory where they live, though this differs somewhat between states and territories. For these reasons, the Review proposes a state- and territory-based approach to targets, where each Table A higher education provider works towards a target that reflects the population of its home state or territory. There should be scope for the proposed Commission to negotiate modified targets where required, for example in the case of multi-jurisdiction universities like the Australian Catholic University. This approach also offers a way to ensure the benefits of increased higher education participation are distributed across Australia.

The Review has also considered how universities should be expected to contribute to their state or territory target. Performance varies across the sector, with some universities already at or approaching parity for some identified equity groups, while others are much further away. NCSEHE's analysis considered multiple options, including requiring all Table A higher education providers to achieve parity (where parity means share of enrolments is equal to share of the relevant state/territory population). This would mean, for example, that each university in Victoria would be set a target that 20.7% of its enrolments be students from regional, rural and remote areas. This is likely to be more achievable for regional institutions than city-based institutions.

Instead, NCSEHE proposed an *equal effort* approach. Equal effort would see each Table A higher education provider in a jurisdiction aiming to increase its proportion of students from the target cohorts at the same rate, with collective growth across all institutions in that state or territory achieving the jurisdictional parity target. All universities would be expected to achieve the same rate of growth in enrolments from the target cohorts, but the volume of additional students they enrol would differ relative to their starting point. Based on NCSEHE's work, the Review recommends an equal effort approach to setting targets as being the most appropriate (see Recommendation 10). The Review recommends the Australian Government consider enabling collaboration and innovation between universities, recognising the need for a target-setting approach that is flexible enough to encourage universities to leverage their strengths and work together to achieve system-level goals.

Under the equal effort approach, every Table A higher education provider within a state or territory would contribute equally to the goal of parity for that jurisdiction. This means there would be an identical percentage increase in participation outcomes from the starting point for each institution, equal to the required percentage increase to achieve a parity outcome for the jurisdiction. Where parity has already been achieved (the participation rate for a *jurisdiction* is higher than the target equity reference value), its parity target will be to see no decrease in rates of participation performance. The Commission will need to work closely with universities to ensure all universities are growing the number of students from target cohorts and that this is supporting system-wide growth in the number of students participating to meet the national 2035 targets.

3.2.4 Achieving parity – a worthy challenge

Achieving population parity in higher education, with no group under-represented, is an exceptionally challenging task, as Australia's previous experience with target-setting illustrates. In response to the Bradley Review in 2008, the Australian Government set a target that 20% of higher education enrolments at the undergraduate level be from low SES backgrounds by 2020. This target was not met in part because of higher-than-expected growth in the total undergraduate population. This is not a bad thing. In fact, it appears that higher-than-expected growth in enrolments was accompanied by a significant increase in the *number* of students from low SES backgrounds, which grew 54.7% between 2008 and 2021.[175]

However, because the total number of undergraduate students also increased, the *proportion* of students from low SES backgrounds increased only marginally from 2008 (16.3%) to 2021 (17.1%).[176] Achieving the level of growth necessary to meet future skills needs, as the Review recommends, will make parity an increasingly challenging task. NCSEHE projections suggest that to achieve parity by 2035, students from the 4 target cohorts would need to make up 86.0% of enrolment growth, clearly an extremely difficult task. While still ambitious, achieving parity of participation by 2050 is a realistic goal that the Review considers can be achieved if the changes needed are made.

175 NCSEHE, *Equity Policy Options* [unpublished report], (Canberra: Department of Education, 2023).

176 NCSEHE, *Equity Policy Options* [unpublished report].

Table 2: Target cohorts share of growth in enrolments as a proportion of total enrolment growth (%), actual and projected to achieve parity.

	Actual 2008 to 2021	To achieve parity by 2035	To achieve parity by 2050
Share of enrolment growth	52.8	86.0	62.9

Source: NCSEHE, *Equity Policy Options* [unpublished report], (Canberra: Department of Education, 2023).

As noted above, we cannot expect the higher education system to achieve the change necessary to reach parity in isolation. There are long-entrenched, structural barriers that affect an individual's aspiration and preparedness for, and ability to participate in, higher education. These barriers extend far beyond the higher education system – and they can only be addressed through a coordinated effort across systems and governments to improve outcomes from early childhood, through to schools, and into adulthood.

Educational disadvantage is apparent from early childhood and multiple societal-level barriers, including economic, socio-cultural, geographical and institutional factors, contribute to under-representation in higher education.[177] Interactions with other systems – for example early learning, schools, vocational education and training, social security, and health – shape a person's preparedness for and ability to successfully participate in higher education. Infrastructure, like access to public transport and high-quality internet, can also be a significant barrier, as can cost-of-living and other financial considerations. Barriers manifest in different ways for different people, but increasing the participation of people from identified equity groups must involve a holistic approach, drawing on multiple policy and communication levers across and outside of the education system:

> For many people, barriers intersect and 'accumulate' over time. Different people may be disadvantaged in Higher Education at different points in the student life cycle and to different extents. This includes accumulation of barriers prior to higher education participation, during early learning and schooling, and is further complicated by non-linearities in the educational pathways that people follow. This highlights the need for holistic, multidimensional, and longitudinal perspectives to monitoring disadvantage in higher education.[178]

Despite these systemic barriers, many students from under-represented backgrounds aspire to and succeed in higher education. We must ensure that approaches to reducing systemic barriers and drivers of disadvantage recognise and build on the strengths of students and, above all, empower students to succeed in higher education.[179]

177 ISSR, *Final Report: Targeted Review of Student Equity in Higher Education Programs and System Level Policy Levers* [unpublished report], (Brisbane: University of Queensland, 2023).

178 ISSR, *Targeted Review of Student Equity in Higher Education Programs and System Level Policy Levers*.

179 Jade McKay and Marcia Devlin, "'Low income doesn't mean stupid and destined for failure': challenging the deficit discourse around students from low SES backgrounds in higher education," *International Journal of Inclusive Education* 20, 4 (Routledge: Taylor & Francis Group, September 2015), 359, dx.doi.org/10.1080/13603116.2015.1079273.

3.2.5 Completion outcomes should be a key performance metric

Enabling access to higher education for people who would not have otherwise gone to university must be complemented by a focus on student outcomes. We must ensure additional students do not just enrol in higher education but complete their degree successfully. The proportion of students from the 4 target cohorts completing their degree within 6 years is below the national average, and the story is the same for retention and success outcomes.[180]

Setting ambitious equity targets will mean many more students will come to the higher education system with varying levels of academic preparedness and study skills, as was seen in previous periods of strong system growth. Analysis by the Productivity Commission found that additional students enrolled as a result of demand driven funding were more likely to be first in their family to go to university and significantly more likely to have an ATAR below 70 (or no ATAR).[181] These students were also more likely to leave without a qualification. By age 23, 21% of these additional students had left university without receiving a qualification compared to 12% of other students.[182] Given these risks, monitoring admission standards and completion outcomes will be a critical measure of the success of participation targets.

Government response to Priority Action 3 from the Interim Report

Introducing demand driven funding for all First Nations students regardless of location was called for in Priority Action 3 of the Interim Report of the Review: *ensure all First Nations students are eligible for a funded place at university*. The measure to implement this was announced by Minister Clare on 19 July 2023 and passed both houses of Parliament as part of the *Higher Education Support Amendment (Response to the Australian Universities Accord Interim Report) Act 2023* which received royal assent on 6 November 2023.[183]

From 1 January 2024, all Aboriginal and Torres Strait Islander students in Australia will be guaranteed a Commonwealth supported place at a university of their choice, when accepted into their chosen course of study. An eligible university place is a non-designated, bachelor level course (other than medicine) at an Australian public university (Table A university). It will provide greater choice for First Nations bachelor students living in metropolitan areas to pursue study at a Table A university of their choice, rather than being limited to universities which have not yet exceeded their allocation.

180 Department of Education, *Higher Education Statistics – Student Data* [unpublished data]; Department of Education, *Higher Education Statistics – Student Data – 2022 Section 16 Equity Performance Data* [data set], (Canberra: 2023), www.education.gov.au/higher-education-statistics/resources/2022-section-16-equity-performance-data. Retention rate measures the proportion of students who continue their studies from the previous year. Success refers to academic performance by comparing the effective full-time student load (EFSL) of units passed to the EFTSL of units attempted.

181 Productivity Commission, *The Demand Driven University System: A Mixed Report Card*, (Canberra: 2019), 15, www.pc.gov.au/research/completed/university-report-card/university-report-card.pdf.

182 Productivity Commission, *The Demand Driven University System*, 2.

183 *Higher Education Support Amendment (Response to the Australian Universities Accord Interim Report) Act 2023* (Cth).

The Review recommends the Australian Government adopt participation targets, with specific completion measures to be identified and monitored through mission-based compacts, publicly reported, and with successful completion to be rewarded (see Recommendation 10). The Review considers individualised measures negotiated by the Commission could better recognise that some students who face greater risk of non-completion will need more support than others to complete their degree. The Review recommends a completion bonus be paid to higher education providers that meet their identified objectives (see Recommendation 13).

Recommendation: Participation targets

10. That to ensure that all Australians regardless of background have the opportunity to go to university and no one is left behind, the Australian Government aspire to equal participation at university for under-represented groups, supported by needs-based funding for universities, more effective learning and teaching, and improved student income support. To achieve this, attainment and participation targets should be set for 2035 and the following years with the aim of reaching equal participation by 2050. This requires:
    a. participation targets to grow the proportion of undergraduate university students from under-represented backgrounds in 2035 to:
        i. 3.3% from 2.1% for First Nations students
        ii. 20.2% from 17.0% for students from lowest quartile SES backgrounds
        iii. 24.0% from 19.8% for regional, rural, and remote students, and
        iv. maintaining participation rates for students with disability.
        v. This is based on the trajectory required to achieve parity in 2050
    b. all universities to make an equal effort in contributing to achieve these targets, recognising that each university will have an individual target for completions that considers the different starting points and contexts of states, territories and universities
    c. universities continue to report annually on their actions and progress toward increasing the participation and attainment by students from under-represented backgrounds
    d. the Australian Tertiary Education Commission, in collaboration with research bodies such as the National Centre for Student Equity in Higher Education, identify and disseminate successful approaches to attracting, preparing and ensuring success for students from under-represented backgrounds who need the most additional support to succeed
    e. continuing effort, in partnership with the National Indigenous Affairs Agency and the Coalition of Peaks, to link the new attainment targets with Closing the Gap targets, and to deliver the current Closing the Gap Target 6, which aims for 70% of First Nations people aged between 25 and 34 years to have completed a tertiary qualification (Certificate III and above) by 2031.

3.3 Increasing aspiration and readiness for higher education

The Review's vision for higher education as a transformational experience available to all who choose to participate relies on more people being academically prepared for higher education. The school system, and even early childhood education, have a significant role to play in driving an uplift in preparedness for post-school education.

3.3.1 How the education system prepares students for post-compulsory study … or doesn't

Educational disadvantage begins early in life and is cumulative.[184] Inequities present in the schooling system influence a student's preparedness and expectations for post-compulsory study. A child's experience at school can be shaped by access to early learning, and more broadly, participation in early learning is an important factor influencing lifelong learning and success. Early learning programs can have positive effects on children's early academic, cognitive, or non-cognitive skills and improve their chances of completing school. This can be especially important for students from low SES backgrounds when parental income or education levels are lower.[185]

There are marked differences in educational attainment across jurisdictions, and especially by identified equity group status. Currently First Nations students, students in regional, rural and remote areas and students from low SES backgrounds are less likely than their peers to complete Year 12. School students from low SES backgrounds are also less likely than their peers to meet NAPLAN proficiency standards for core literacy and numeracy skills. The early years, even before a child starts attending school, are critical in shaping that child's educational, health and wellbeing outcomes, with studies suggesting a positive association between preschool attendance and Year 3 NAPLAN scores.[186]

The Australian school system needs to do more to prepare students for higher education. Australia does well on international rankings, including the Organisation for Economic Co-operation and Development (OECD) average in the Programme for International Student Assessment (PISA) where Australia has fewer underperforming students than the OECD average.[187] However, the proportion of Australian students who attained the National Proficient Standard has decreased in each domain since PISA assessments were first conducted for each domain. In 2022, 42% to 49% of Australian students did not meet Australia's National Proficient Standard across PISA's 3 domains (reading, mathematics and science).[188] More students need to be meeting these benchmarks to succeed in higher education, and to ensure that the Review's vision for a more equal higher education system can be achieved.

An important part of this vision will be assessing the preparedness of students, through admissions standards. Admissions practices have been changing. Where once ATAR was the dominant entry method, more and more students are entering university based on a wider set of factors. As will be discussed

184 Cumulative disadvantage refers to the accumulation of multiple forms of disadvantage.

185 Productivity Commission, *ECEC Draft Report*, 43.

186 Warren and Haisken-DeNew, "Early Bird Catches the Worm," 36.

187 Lisa De Bortoli, Catherine Underwood and Sue Thomson, *PISA 2022: Reporting Australia's results: Volume I Student performance and equity in education*, (Australian Council for Educational Research, 2023), accessed 5 December 2023, xvii–xix, research.acer.edu.au/cgi/viewcontent.cgi?article=1056&context=ozpisa.

188 Bortoli, Underwood and Thompson, *PISA 2022: Reporting Australia's results*, xii-xxiii.

further below, the Review supports students being considered for admission on their wider merits, rather than rankings alone, but emphasises that consistency and transparency are important to maintain trust in the admissions process and the appropriateness of entry standards.

Submissions to the Review have highlighted big differences in students who are allocated an ATAR across jurisdictions. For example, a submission by the Higher Education Standards Panel stated that 62% of school leavers in Victoria were allocated an ATAR compared to 33% in Western Australia.[189] This is likely an effect of the streaming practices prevalent in the Australian school system where students are grouped based on an assessment of their ability, often from a young age,[190] and typically into ATAR or non-ATAR tracks around years 9 and 10.

There is evidence to suggest school leavers without an ATAR are far less likely to transition to a bachelor degree and that this disproportionately affects students from identified and emerging equity groups.[191] This is a complex issue, with a need to balance consideration of student choice and outcomes, esteem for and recognition of vocational and applied learning, and assumptions about the future state of higher education admissions. The Review recommends that student equity be at the heart of further consideration of this issue.

Another consideration is that senior secondary school students from identified equity groups may have a narrower range of subjects to choose from with fewer advanced-level subjects likely to be available at their school.[192] There is evidence that students from low SES backgrounds and non-metropolitan locations are less likely to access higher-level subjects, especially the higher levels of mathematics and science often required for entry to courses like engineering and other areas of skills shortages.[193] This means that study options for some students are curtailed long before they go to university.

More needs to be done to ensure educational opportunity and attainment is equitable in schools if the Review's targets for both attainment and participation in higher education are to be met.

The Better and Fairer Education Review made recommendations to improve these outcomes through identifying student needs earlier and putting in place robust, evidence-based supports to help students catch up and keep up.[194]

189 Higher Education Standards Panel, *Submission to the Australian Universities Accord Discussion Paper*, 2023, www.education.gov.au/system/files/documents/submission-file/2023-07/Higher%20Education%20Standards%20Panel%20%28HESP%29.pdf.

190 Dean, Downes and Roberts, "Access to and equity in the curriculum," 4.

191 Andrew Harvey, Lucy McDermid and Rebecca Wren, *Policy Paper #1: The impact of school streaming on growth and equity in Australian higher education: evidence from Queensland*, (Logan, Griffith University: Pathways in Place, 2023), 6–8, doi.org/10.25904/1912/4989.

192 Dean, Downes and Roberts, "Access to and equity in the curriculum," 1.

193 Dean, Downes and Roberts, "Access to and equity in the curriculum," 5–6.

194 O'Brien et al, *Improving Outcomes for All, Report to Inform a Better and Fairer Education System*.

3.3.2 Building awareness and aspiration

Aspiration for higher education is shaped by many factors. Evidence suggests young people from low SES areas have similar levels of aspiration to those from high SES areas, but lack opportunities to develop a more concrete expectation that they will engage in higher education, or to broaden their perception of what is possible.[195] This is why strategies that nurture aspiration and help people convert aspiration into action are vitally important.

3.3.2.1 Improving access to career information and guidance

The importance of high-quality, appropriate and timely career guidance is well established.[196] Young people form ideas about careers from a range of sources and draw on both formal and informal influences.[197] When making career and post-school study decisions, students from low SES backgrounds are more likely to rely on 'hot' knowledge, or informal advice from family, friends and teachers, compared to 'cold' formal information disseminated by governments and institutions.[198] 'Hot' influences like parents, peers, communities, the media, the internet and social media play a role in shaping aspirations both directly and indirectly.[199] This suggests exposure to a range of different careers, especially through role models and direct experiences, is an important part of enabling aspiration.

Access to high-quality careers information and guidance is not uniform. Career education is not mandated by the Australian Curriculum, so states and territories develop their own strategies, programs and services for students, school-leavers and non-school cohorts. Career guidance is delivered by many stakeholders including schools, universities, registered training organisations, TAFEs, employers, employment services, industry organisations, private career advisors, state and territory governments, and the Australian Government's National Careers Institute which produces high-quality resources, such as the School Leavers Information Kit and tailored information for First Nations young people, regional, rural and remote young people and young people with disability.[200] Submissions to the Review have highlighted that stakeholders that deliver career advice appear to work in isolation.[201] Differing approaches by states and territories, coupled with a busy mix of stakeholders, is resulting in a disjointed approach with limited oversight and coordination.

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195 Lynette Vernon, Stuart Watson, and Andrew Taggart, "University Aspirational Pathways for Metropolitan and Regional Students," *Australian and International Journal of Rural Education 28*, 1 (2018): 85, doi.org/10.47381/aijre.v28i1.167; Nadine Zacharias and Geoffrey Mitchell, "The Importance of Highly Engaged School-University Partnerships in Widening Participation Outreach," *Student Success* 11, 1 (2020), 37, doi.org/10.5204/ssj.v11i1.1458.

196 Kylie Austin, Sarah O'Shea, Olivia Groves and Jodi Lamanna, *Best-practice career education for students from low socioeconomic status backgrounds*, (Perth, Curtin University: National Centre for Student Equity in Higher Education (NCSEHE), 2022), www.ncsehe.edu.au/wp-content/uploads/2022/11/2022-NCSEHE-Austin-Final.pdf.

197 The 2022 National Careers Institute Career Survey found informal networks were a key source of career information with nearly half of respondents having received careers information from a friend or acquaintance. Dawn Bennett, Jane Coffey, Sherry Bawa, David Carney, Alfred Dockery, Kathleen Franklyn, Paul Koshy, Ian W. Li, Subhadarsini Parida and Siobhan Unwin, *Ameliorating Disadvantage: creating accessible, effective and equitable careers and study information for low SES students*, (Perth: NCSEHE, 2022), www.ncsehe.edu.au/publications/careers-study-information-low-ses-students/.

198 Kylie Austin, Sarah O'Shea, Olivia Groves and Jodi Lamanna, *Career development learning for students from low socioeconomic status (LSES) backgrounds: Literature review*, (University of Wollongong and NCSEHE May 2020), 38, documents.uow.edu.au/content/groups/public/@web/@dvce/@in2uni/documents/doc/uow264921.pdf.

199 Austin et al, *Career development learning*, 37–38.

200 Your Career, "School Leavers Information Kit," accessed 24 November 2023, www.yourcareer.gov.au/school-leavers-support/school-leavers-information-kit.

201 National Association of Graduate Career Advisory Services (NAGCAS), *Submission to the Australian Universities Accord Interim Report*, 2023, www.education.gov.au/system/files/2023-09/AUA_inter_tranche6a_139%20National%20Association%20of%20Graduate%20Careers%20Advisory%20Services%20%28NAGCAS%29.pdf.

The National Career Education Strategy was developed by the Australian Government in 2019 to support high-quality career education for all school students, reflecting nationally agreed objectives. However, despite many examples of best practice and innovation, there is variation in the type, quality and level of access to career education across schools. These issues have been well documented by other reviews. The Senior Secondary Pathways Review (Shergold Review) highlighted concerns that career guidance in schools is often outdated, is strongly geared towards subject selection instead of labour market outcomes, and is contingent on a school's available resources.[202] This is consistent with findings of the National Regional Rural and Remote Tertiary Education Strategy (Napthine Review), which heard that schools in regional and remote Australia often lack the resources to hire a dedicated career advisor so this role is filled by teachers.[203] While professional standards have been developed by the Career Industry Council of Australia (CICA), there is no national requirement that career guidance is delivered by qualified practitioners.

Research has found that people from identified equity groups are more likely to miss out on high-quality career guidance, and that this extends past schooling into later life. Schools with more students from high SES backgrounds are more likely to have full-time, more experienced career advisors and mandatory career counselling.[204] Students from high SES areas are also more likely to access information about university, while students from low SES areas are more likely to receive information on vocational pathways, and this trend appears to have become more entrenched over time.[205] Similarly, adults with lower levels of education are less likely to use career guidance compared to highly educated adults.[206] Not unsurprisingly, there is evidence that students from low SES backgrounds have less knowledge of university admission processes and how to maximise their outcomes.[207] Career guidance needs to be improved across all life stages, not only in schools.

Valuable initiatives have emerged to address this issue, but ad hoc approaches mean their impact is often time-limited, such as the National Careers Institute Partnership Grants Program, which operated from 2020 to 2023.[208] Grant approaches have been used to target areas of need, such as the Smith Family's Growing Careers Project.

202 Shergold et al, *Looking to the future,* 56.

203 Denis Napthine, Caroline Graham, Peter Lee and Meredith Wills, *National Regional, Rural and Remote Education Strategy: Napthine Review*, (Department of Education, 2019), 31, www.education.gov.au/access-and-participation/resources/national-regional-rural-and-remote-tertiary-education-strategy-final-report.

204 Bennett et al, *Ameliorating Disadvantage*, 28–30.

205 Bennett et al, *Ameliorating Disadvantage*, 25.

206 OECD, *Strengthening Career Guidance for Mid-Career Adults in Australia: Getting Skills Right*, (Paris: OECD Publishing, 2022, doi.org/10.1787/25206125.

207 Buly Cardak, Mark Bowden and John Bahtsevanoglou, *Are Low SES students disadvantaged in the university application process?* (Perth, Curtin University: NCSEHE, 2015), 2, www.ncsehe.edu.au/wp-content/uploads/2015/11/Are-Low-SES-Students-Disadvantaged-in-the-University-Application-Process-November-2015.pdf.

208 National Careers Institute Partnerships Grants provided funding for organisations such as employers, training providers, schools and community organisations to work collaboratively to deliver targeted career projects through four grant rounds. See Department of Employment and Workplace Relations, "Partnership Grants program," revised 7 July 2023, www.dewr.gov.au/nci/partnership-grants-program.

The Review is also concerned there is a lack of career guidance and support for people outside the school system. Though information does exist, including helpful resources created by the National Careers Institute, the Review is concerned by the lack of consistent guidance available to non-school cohorts. As the higher education system grows and draws in people from all walks of life, including mature-aged students, there is a need to ensure not only that those considering their options can access high-quality guidance, but that they have opportunities to enable their aspirations.

Case study: Good practice approaches to career guidance – Careers NSW

A recommendation of the 2020 Shergold and Gonski Review[209] into vocational education and training in NSW, Careers NSW provides lifelong careers information and guidance to NSW residents at any stage of their career. This includes access to tailored, free support from a qualified careers practitioner or industry expert. Careers NSW is currently trialling services in NSW government secondary schools to support more inclusive and equitable access to careers guidance across the state.

3.3.3 Turning awareness and aspiration into action

While the literature suggests young people from low SES backgrounds have a similar level of aspiration to young people from high SES backgrounds, there can be a marked difference in how young people act on their aspirations. In 2015, 16-year-old students from the highest SES quartile were significantly more likely than those from the lowest quartile to plan to attend university immediately after leaving school.

209 Peter Shergold and David Gonski, *In the same sentence: Bringing higher and vocational education together*, (NSW: NSW Government, 2021), 7, education.nsw.gov.au/about-us/strategies-and-reports/our-reports-and-reviews/review-on-the-nsw-vocational-education-and-training-sector.

Table 3: Post-school plans of 16-year-olds, by SES quartile as a proportion of all students in that SES quartile, 2015.

What do you plan to do in the year immediately after you leave school?	SES			
	Quartile 1 (%) (Lowest)	Quartile 2 (%)	Quartile 3 (%)	Quartile 4 (%) (Highest)
Go to university	36.7	44.9	51.1	62.7
Go to TAFE or private training provider	9.5	7.2	4.8	3.0
An apprenticeship	10.7	6.8	7.0	2.2
A traineeship	2.4	0.3	0.5	0.1
Do some other course or training elsewhere	1.5	1.9	2.2	0.8
Work at a job	13.6	12.6	8.2	6.7
Take a gap year	7.2	10.7	12.8	12.1
Have time off	3.9	3.0	2.5	4.0
Other or don't know	14.7	12.6	10.9	8.5

Source: Department of Education, *Quality Indicators for Learning and Teaching (QILT) LSAY Y15 cohort data* [unpublished data], (Canberra: 2016).

Outreach is an important first step to widening participation

Universities can help to widen participation through outreach into schools and communities to raise individuals' awareness of higher education as a real, relevant and available option for their future. To make meaningful changes to levels of higher education participation in the years to come, outreach needs to start when people are first forming career interests.[210]

Currently, dedicated government funding to support outreach into schools and communities is through the Higher Education Participation and Partnerships Program (HEPPP) and (to a lesser extent) the Regional Partnerships Project Pool Program (RPPPP). The HEPPP allocates funding ($145.2 million in 2023) to Table A higher education providers for activities across the student life cycle (pre-access, access, participation, attainment and transition out) based on their proportion of domestic undergraduate students from low SES backgrounds, First Nations students, and regional and remote students. Approximately 900 HEPPP-funded activities are delivered each year, including one-off school visits, textbook vouchers, scholarships and tailored mentoring programs. Universities primarily use HEPPP funding for initiatives at the Participation and Pre-Access stages (together constituting over 65% of primary target of expenditure in 2022).[211]

210 Maria Raciti and Joshua Dale, "Are university widening participation activities just-in-time or just-out-of-time? Exploring the (mis)alignment between the timing of widening participation activities and university decision-making among students from low socioeconomic backgrounds," *Student Success*, 10, 1, (2019) 56, doi: 10.5204/ssj.v10i1.923.

211 Department of Education, *Administrative data* [unpublished data], (Canberra: 2023).

Though it is difficult to isolate the impact of outreach on student participation in higher education, evaluation of the HEPPP suggests a positive effect on student applications and enrolments, even if the size of this impact is difficult to quantify.[212] Recent work by the Institute for Social Science Research (ISSR) suggests there is a moderate level of evidence the HEPPP has positive effects for students both in terms of immediate outcomes (e.g. confidence) and some primary outcomes (e.g. first year retention), but without more robust evidence it is difficult to assess whether equity programs are meeting their objectives.[213]

Similarly, the Indigenous Student Success Program (ISSP) provides supplementary funding to universities to help students take on the demands of university and succeed. However, these programs are often modest, with limited transparency in the use of funding from the perspective of students.

Despite this, academic evidence suggests indicators of best practice for successful outreach projects include:[214]

- clearly defined objectives and a strong evidence base
- tailoring programs to students, schools and communities
- working in partnership to build positive educational cultures within schools and communities
- developing effective transitions and pathways
- demystifying university culture and cultivating a sense of belonging
- evaluation of impact.

3.3.3.1 Supporting outreach through dedicated funding

Introducing a student needs-based funding model with equity at its heart means existing equity funding programs such as the HEPPP and ISSP should also evolve. The Review proposes a new student needs-based university funding model that focuses on supporting students to complete their qualification successfully, and recognises the additional costs of doing so (see *Chapter 8 – A new funding model to underpin growth and quality)*.

Student needs-based funding would be spent by universities on student-centred academic and support services, inclusive course design and pedagogies, and programs to support improved outcomes for students from under-represented cohorts, such as career planning and work-integrated learning. This student needs-based funding would support students once they enter higher education. The Review recommends that a separate, dedicated outreach program be developed to deliver a more targeted, place-based and community-focused approach to outreach and other initiatives at the pre-access stage (see Recommendation 11).

212 ACIL Allen Consulting, *Evaluation of the HEPPP: Higher Education Participation and Partnerships Program* (Melbourne: ACIL Allen Consulting, 2017), 125, www.education.gov.au/heppp/heppp-evaluation.

213 ISSR, *Targeted Review of Student Equity in Higher Education Programs and System Level Policy Levers*.

214 See for example: Zacharias and Mitchell, "The importance of highly engaged school-university partnerships in widening participation and outreach," 41; Charles Flodin and Nicole Vidovich, "Innovations and insights for higher education aspiration and outreach programs," *Innovations in Higher Education Teaching and Learning*, 17 (2019), 176, doi:10.1108/S2055-364120190000017012; Anna Bennett, Ryan Naylor, Kate Mellor, Matt Brett, Jenny Gore, Andrew Harvey, Richard James, Belinda Munn, Max Smith and Geoff Whitty, *The critical interventions framework part 2: Equity initiatives in Australian higher education: a review of evidence and impact* (University of Newcastle, 2015), 89, hdl.handle.net/1959.13/1389888.

Work undertaken by the ISSR found that current funding settings encourage universities to compete, where collaboration and coordination could lead to better system-level outcomes.[215] A new program should incentivise collaborative consortia-led or regionally networked approaches that separate outreach from marketing and student recruitment and prioritise widespread coverage of initiatives across Australia.

A new program could better target participation and aspiration-enabling initiatives to areas of low attainment. An increasing body of research highlights that strong collaboration between universities and communities is a feature of effective outreach. Research particularly recognises the value of community-centred strategies that acknowledge the influence of communities and families in shaping post-school decision making and the futures of young people.

Evidence suggests place-based approaches, which are tailored to the particular circumstances of a place and involve people from different sectors across the community, could also help to effectively target under-representation in higher education.[216] Outreach is not one size fits all. Place-based approaches could employ context-specific strategies matched to local industries, and tailor initiatives to address the perceived and actual barriers of specific cohorts.[217] Place-based approaches also recognise and leverage the contribution that universities make to communities.

Past reporting requirements have made it difficult to evaluate the effectiveness of equity programs, especially at a systemic level and over time.[218] The Student Equity in Higher Education Evaluation Framework (SEHEEF), which is in the early stages of implementation, should be leveraged to embed appropriate evaluation and reporting mechanisms into the design of the proposed new fund. Universities should be required to account for the effectiveness of their activities, but evaluation structures should also enable longitudinal and systemic evaluation of outcomes at a whole-of-system level.

215 ISSR, *Targeted Review of Student Equity in Higher Education Programs and System Level Policy Levers*.

216 Victorian Government, *A framework for place-based approaches: the start of a conversation about working differently for better outcomes* (Melbourne: Victorian Government, 2020), content.vic.gov.au/sites/default/files/2020-03/Working-%20together-in%20place-Policy%20Framework.pdf.

217 Mollie Dollinger, Andrew Harvey, Ryan Naylor, Marian Mahat and Belinda D'Angelo, *A student-centred approach: Understanding higher education pathways through co-design* (Perth: NCSEHE, 2022), 41, www.ncsehe.edu.au/wp-content/uploads/2022/11/2022-Dollinger-Final.pdf.

218 ISSR, *Targeted Review of Student Equity in Higher Education Programs and System Level Policy Levers.*

Recommendation: Building aspiration including through increasing readiness for tertiary education and providing career advice

11. That to encourage greater aspiration, participation and success in tertiary education among under-represented groups, the Australian Government support effective outreach programs designed to develop familiarity with tertiary education. These outreach programs should be resourced separately from the Review's recommended needs-based funding model and include:
    a. work with state and territory governments to drive a consistent national framework for careers advice across all life stages
    b. work with state and territory governments to ensure post-school pathways are visible and integrated into secondary schooling, including current reforms to senior secondary pathways and assessment, and that the schooling system increasingly produces Year 12 completers who are ready and informed about tertiary education opportunities
    c. a national communications campaign that shares positive examples that build aspiration and that speak to prospective students about their pathway into tertiary education, particularly young people, through media and channels they engage with, trust and respect.

3.4 Preparing for entry

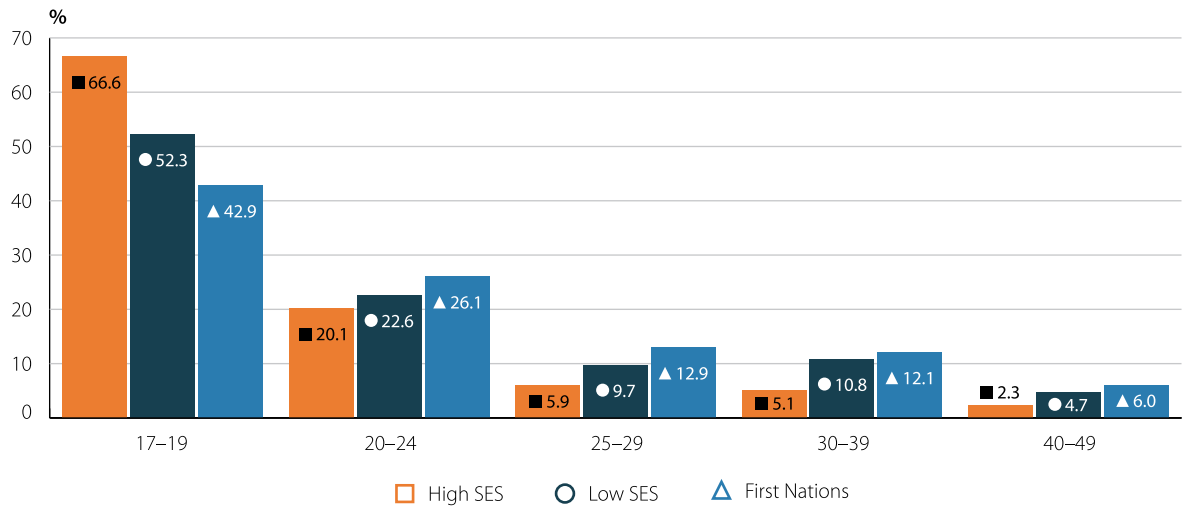
There is a range of ways for students to enter higher education. While many students go directly from secondary education into higher education, others use alternative pathways, including through a VET pathway or another higher education course. For students who require additional support to meet entry requirements for higher education courses, there are 2 primary options: through pathway and foundation courses (such as diplomas of tertiary education); or through enabling programs offered by universities.

Expansion of the higher education enabling system will require the continued availability of varied pathways into higher education, particularly those that provide additional support to students who are under-prepared for higher education study.

3.4.1 Students from groups under-represented in higher education are more likely to enter higher education through a range of different pathways

Students from low SES backgrounds and First Nations students use a wider range of pathways into higher education. This is partly due to their average older age on entry to a degree. In 2022, the proportion of students aged 25 or above on commencement of a bachelor degree was higher among First Nations students (34%) and low SES students (26%) when compared to high SES students (17%).

Figure 14: Age on commencement, share of high SES, low SES and First Nations domestic (onshore) bachelor student cohorts (%), 2022.

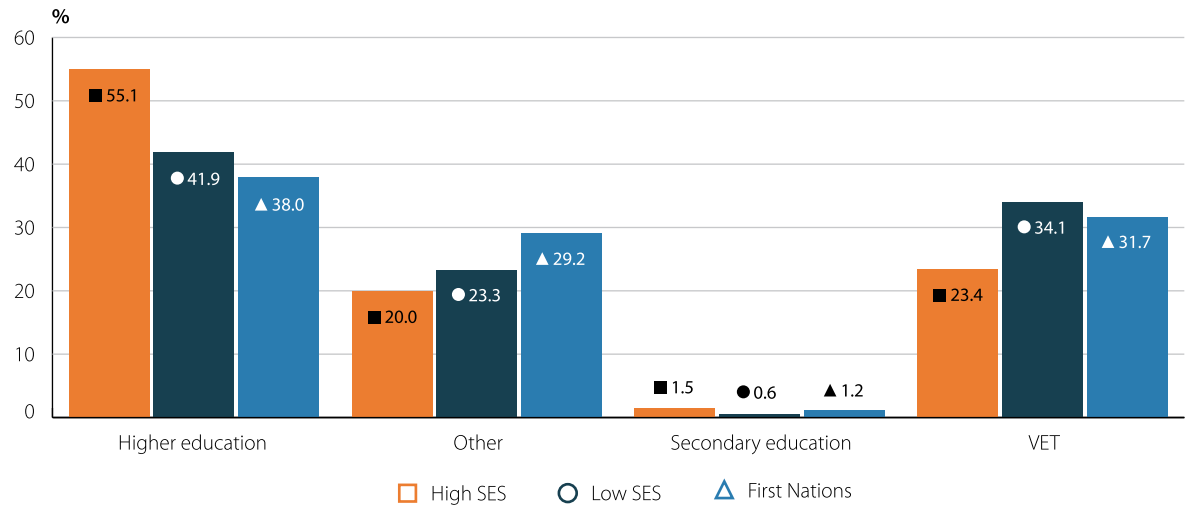


Source: Department of Education, *Higher Education Statistics Collection* [unpublished data], (Canberra: 2023).

Note: Includes Commonwealth supported students at Table A universities commencing study in 2022. "Onshore" means the domestic student has a permanent home address in Australia.

Even among older commencers, students from low SES backgrounds and First Nations students are more likely to enter university via VET than those from high SES backgrounds (see Figure 15). The Review has heard that use of the VET pathway by low SES students is partly due to the greater flexibility offered in TAFEs and other RTOs, with more night class options. It also reflects the academic preparedness of school leavers. Those unable to enter higher education based on school achievement often need to pursue entry through pathway courses, such as TAFE certificates or diplomas in tertiary education, which are designed to offer a replacement for Year 12 qualifications. These award courses are portable, unlike most enabling courses offered in higher education, and provide students with an entry score like an ATAR, allowing them to commence in a higher education course.

Figure 15: Basis of entry for commencing domestic (onshore) bachelor students aged 24 and older, share of high SES, low SES and First Nations student cohorts (%), 2022.



Source: Department of Education, *Higher Education Statistics Collection* [unpublished data], (Canberra: 2023).

Note: Includes Commonwealth supported students commencing at Table A universities. 'Higher education' basis of entry includes complete or incomplete higher education award course. 'Other' basis of entry primarily includes enabling, bridging, and other non-award courses, mature age special entry schemes, professional qualifications. "Onshore" means the domestic student has a permanent home address in Australia.

There are also a range of higher education courses that serve as pathways into bachelor degrees. As explored below, enabling programs are a fee-free choice for students.

In addition, higher education providers offer diploma courses and foundation year programs and, while these are often delivered by private, non-university pathway colleges focussed on overseas students, they are also offered to domestic students, allowing them to enter related bachelor degrees on completion with credit, often for a full year. Students enrolled in these courses are not exempt from paying fees.

While eligible students enrolled in diplomas offered by publicly funded universities will be in Commonwealth supported places and therefore be subject to the same maximum student contributions as other Commonwealth supported students, students at pathway colleges are likely to be in full fee-paying places and subject to fees set by the institution (which they can defer through FEE-HELP if eligible). Because these are award courses, the award is potentially portable between institutions, although decisions on whether to offer credit for another institution's diploma remain at the discretion of each university.

Entry through VET streams, which represent the basis of entry for around 12% of commencing bachelor students, is more frequently linked to industries that share occupational pathways for both VET and higher education graduates. In education and nursing, which account for almost 40% of enrolments for those entering on the basis of a VET qualification, VET graduates can work in early childhood education and care and as enrolled nurses. A number of universities offer credit for VET qualifications in their teaching and nursing programs, which lead to careers as teachers and registered nurses. VET entry bachelor students are less likely to be studying STEM subjects than students entering through other mechanisms.

In addition to access through VET, it is important that student mobility (between providers and/or between courses) be facilitated and supported. As outlined in *Chapter 2 – Meeting our current and future skills needs* improvements in and expansion of recognition of prior learning would support this mobility. This could be particularly beneficial for students from target cohorts who may not be able to get into or relocate to their preferred course or institution, but who could start with one tertiary education provider then transfer, with full credit.

3.4.2 Preparatory programs in higher education

Enabling programs, a special type of pathway course, are non-award higher education courses designed to lead to entry to a full higher education qualification. As enabling programs are not required to lead to an award or whole degree, universities have the flexibility to offer tailored programs to suit their students. A wide variety of enabling programs are on offer, ranging from a few weeks' duration to a whole year, depending on the desired course and the prospective students' level of academic preparation.

Enabling programs provide a valuable stepping-stone for those who wish to enrol in a higher education course, but who require additional preparation to meet entry requirements. While enabling programs are available to any potential higher education student, they are more likely to assist students from groups historically under-represented in higher education. For school leavers in some areas, particularly regional, rural and remote areas and some outer-metropolitan areas, their level of preparation is often affected by the limited availability of specialist teachers in some subjects at their schools. For example, a reduction in students undertaking high-level mathematics subjects at school reduces the number of people who have the preparation to directly enter courses such as engineering.[219]

219 Office of the Chief Scientist and Australian Mathematical Sciences Institute, *Mapping University Prerequisites in Australia* (Office of the Chief Scientist, September 2020) 3–9 www.chiefscientist.gov.au/sites/default/files/2020-09/mapping_university_prerequisites_in_australia.pdf; Australian Council of Engineering Deans, *Position Statement: Mathematics Requirements for Engineering Education*, (February 2019) 1, www.aced.edu.au/downloads/POSITION%20STATEMENT%20No%205%20Mathematics%20Requirements%20for%20Engineering%20Degrees.pdf.

Enabling programs – a path to university

The University of Newcastle's Open Foundation program celebrates 50 years of free and open access enabling programs in 2024. In this time, it has supported more than 70,000 students through a university education. Over the past 10 years, nearly one in 5 students who graduated from the University of Newcastle entered via a free enabling program.[220]

Students select courses based on their interest, and study subjects while also learning academic skills such as research, writing and communication. For example, students interested in studying engineering may take enabling maths and physics courses to prepare for success in the subsequent degree.

Enabling courses are not 'mainstream' first year courses. Rather, they are specifically designed between the specialist enabling teams who teach them and teaching staff in the relevant Colleges (faculties). This way, students learn essential subject matter, while simultaneously learning foundational concepts and skills for study. For example, a student interested in data science may take Information and Communication Technology, studying computational thinking, software applications and emerging technology in coursework, while simultaneously learning scaffolded skills in research, writing, teamwork and presentation, specially designed by enabling practitioners.

Further, students receive wraparound support from enabling teams – who are able to help with a range of questions and challenges and connect students with the other types of supports they need.

In 2022, around 25,000 students undertook an enabling course at a higher education provider (around 9,000 EFTSL),[221] with most (88%) doing so in a Commonwealth supported place.[222] Commonwealth supported students in enabling courses are exempt from being charged a student contribution under HESA. For these students in a Commonwealth supported place, universities receive the relevant Commonwealth contribution through the CGS plus an additional loading in lieu of the student contribution.

220 University of Newcastle, *Response to the Australian Universities Accord Discussion Paper*, 2023, 13, www.education.gov.au/system/files/documents/submission-file/2023-04/AUA_tranche1_University%20of%20Newcastle.pdf.

221 Department of Education, *Higher Education Statistics – Student Data – 2022 Section 5 Liability status categories* [data set].

222 Department of Education, *Higher Education Statistics – Student Data – 2022 Section 5 Liability status categories* [data set].

However, this system has led to some poor outcomes. For example, some institutions received almost $17,000 per enabling place, while others received less than $3,500 per enabling place.[223] This was in part due to the impact of the Job-ready Graduates package, which saw the Commonwealth contribution for disciplines such as society and culture, communications and mixed field studies (which made up almost half of enabling load) reduced to $1,100 per EFTSL.[224] At the degree level, this reduction was largely compensated for by increased student contributions. However, this was not possible in enabling courses, as students cannot be charged a contribution. In addition, the enabling loading is only paid up to a cap per institution, which is not related to student enrolments but to historical outcomes. Some universities have no enabling loading places allocated, some have a handful, while many have hundreds of places (with one university having over 1,600 places).[225] In light of this, the financial viability of many enabling programs is at risk.

For the reasons outlined above, together with confusing funding arrangements and variety in naming conventions, the Review recommends that enabling programs be renamed as preparatory courses. The term enabling may be used when referring to historical examples.

The role and importance of preparatory courses is only going to grow as the higher education system expands. Such courses have been successful in providing students with the experience of university and the preparation needed to progress to a bachelor degree.[226] However, as more students from target groups enter the system, these courses will need to adapt to an expanded cohort, including more students who are less prepared for higher education. It will be essential to ensure quality by understanding which preparatory courses offer the best educational experience and lead to successful outcomes. This will require better data: for example, currently available enrolment figures do not provide sufficient information on the nature of each course undertaken. The Commission can have a role in conducting this research and implementing any regulatory reforms. The Review finds that maintaining the fee-free nature of preparatory courses is important, and such a requirement should continue to be legislated. In addition, higher education providers should receive sufficient funding to deliver these courses and the allocation of this funding should reflect student demand, not historical allocations. Together, these findings and recommendations support a better system for maintaining high standards of entry to higher education award courses, which would help to substantially widen participation to cohorts not currently engaging in higher education.

223 Department of Education, *Administrative data* [unpublished].

224 Department of Education, *Administrative data* [unpublished].

225 Department of Education, *Administrative data* [unpublished].

226 National Association of Enabling Educators of Australia, *Submission to the Universities Accord Discussion Paper*, 2023, www.education.gov.au/australian-universities-accord/consultations/australian-universities-accord-panel-discussion-paper-consultation/submission/15916; Tim Pitman, Sue Trinidad, Marcia Devlin, Andrew Harvey, Matt Brett and Jade McKay, "Pathways to Higher Education: The Efficacy of Enabling and Sub-Bachelor Pathways for Disadvantaged Students" (Perth: Curtin University NCSEHE, 2016), www.ncsehe.edu.au/wp-content/uploads/2016/07/Final-Pathways-to-Higher-Education-The-Efficacy-of-Enabling-and-Sub-Bachelor-Pathways-for-Disadvantaged-Students.pdf; Suzi Syme, Thomas Roche, Elizabeth Goode and Erin Crandon, "Transforming lives: the power of an Australian enabling education," *Higher Education Research & Development*, 41, 7 (2022), 2426-2440, DOI: 10.1080/07294360.2021.1990222.

Recommendation: Fee-free preparatory courses

12. That to help more students who aspire to university to qualify for entry, the Australian Government significantly increase the availability of fee-free places, meeting the need for high-quality preparatory courses by ensuring:
    a. the number of Commonwealth supported places is expanded to meet demand from students
    b. preparatory courses are free for any student in a Commonwealth supported place and this is enshrined in legislation
    c. funding for preparatory places reflects the cost of delivery
    d. recognition of and investment in high-quality models that deliver successful student outcomes
    e. preparatory programs in fields such as mathematics, which are needed for specialist tertiary education entry, are delivered online to improve access
    f. a systematic approach to recognising preparatory and other preparatory-type programs across tertiary education providers through the National Skills Passport.

3.5 Providing scaffolded support during the learning journey

3.5.1 Supporting universities to recognise and teach for student needs

As noted in *Chapter 2 – Meeting our current and future skills needs*, the higher education system will need to grow by at least an additional 900,000 Commonwealth supported students by 2050 to reach the ambitious attainment target needed to meet skills demand. A significant part of this growth must come from cohorts traditionally under-represented in higher education, and the Review has proposed targets for 4 cohorts, as discussed in section 3.2. But improving access is not enough. We must ensure universities are adequately funded to support these students to graduate.

The Review recommends that core funding for Commonwealth supported places differ not only by discipline but also, depending on student characteristics, through the introduction of student needs-based loadings (see Recommendation 13). These loadings, in addition to better provision of enabling courses, would help higher education providers give additional support to students from target cohorts who need it, and address their barriers to success in higher education. Future higher education must ensure that per-student base funding reflects not only the discipline being studied, but the unique characteristics of the individual student to ensure they are supported throughout their learning journey.

Currently, Australia's higher education system does not do well at supporting some groups of students to succeed at university. Students from historically under-represented groups experience significantly lower success rates than the national total, especially First Nations students (around 14% lower) as well as students with disability (7% lower).[227] This is a strong indicator that inequities persist in Australia's higher education system. The additional support these students require should be provided through a system of needs-based funding.

The Review proposes 4 differential loadings to capture characteristics associated with attrition and additional costs, modelled on the Schooling Resource Standard (SRS) used in the Australian school system.

The loadings would recognise the additional costs of higher education providers in providing education to those requiring more academic and other support, a requirement which can be more prevalent in students from the target cohorts. Currently, students from target cohorts have a significantly lower success rate (proportion of units studied that are passed) and higher attrition rate than other students. These students require additional support, though the Review acknowledges that student background is not the only predictor of where additional support is needed.

The 4 loadings align with the target cohorts and are for:

1. students from low SES backgrounds (which could be scaled to ensure funding is provided for those who require the most support)
2. First Nations students
3. students with disability
4. public university campuses operating in regional areas (based on student enrolments).

The first 3 loadings are based on student characteristics and the fourth is institution-based, supporting public university campuses to deliver courses in regional areas. These loadings would form part of the core funding model in Australian higher education to ensure long-term funding that gives higher education providers the stability they need to plan ahead. The rates would be based on the best available evidence of additional costs to ensure students from the target cohorts are appropriately supported. The Commission in its role as the pricing authority would steward this funding system into the future by determining the most appropriate funding rates and working with universities to ensure that the factors with the biggest impacts on student success are addressed.

The Commission would be best placed to assess the cost of meeting the needs of each cohort and determine appropriate loading amounts and distribution at the point of delivery. It would also be responsible for ensuring at the individual university level that discussions are held about target cohorts to ensure the funding allocation has maximum impact on student success.

Loadings should recognise the cumulative and compounding effects of disadvantage for students who belong to more than one identified target cohort. For example, as shown in Figure 16, attrition rates for 2021 commencers were higher among low SES students with disability (21.6%) compared with both students from low SES backgrounds (18.0%) and students with disability (16.9%). In addition, loadings should recognise that students with high ATARs perform well at university, regardless of their background.

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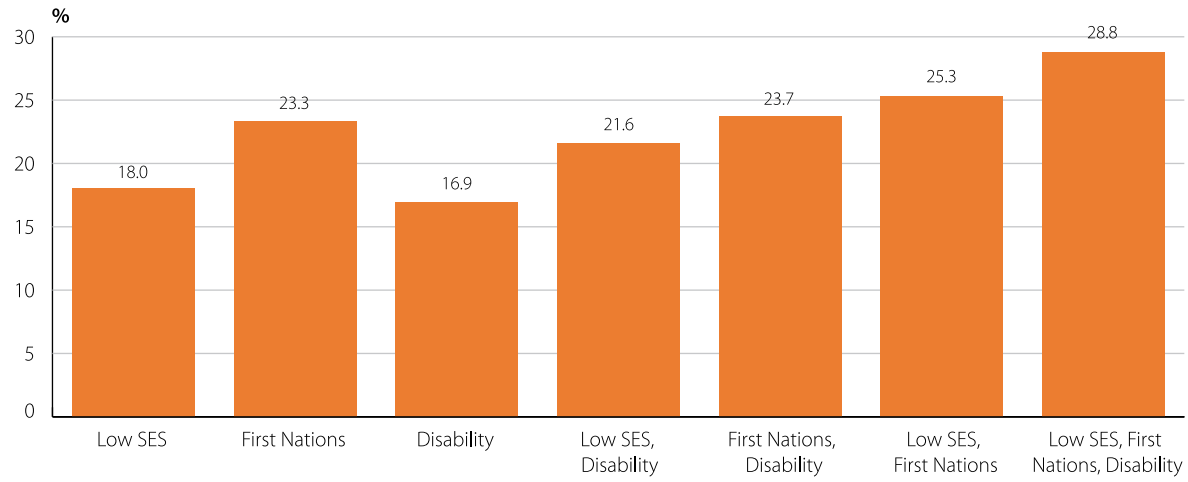
227 Department of Education, *Higher Education Statistics – Student Data – 2022 Section 16 Equity groups* [data set]. Success rates measure academic performance by comparing the EFTSL of units passed with the EFTSL of units attempted.

Figure 16: Cumulative disadvantage – attrition rates for commencing bachelor students, share of student demographic (%), 2021 commencers.



Source: Department of Education, *Higher Education Statistics – Student Data* [unpublished data], (Canberra: 2022).

Note: Includes commencing bachelor students at Table A universities. Attrition rate is "New Adjusted" attrition rate. Attrition is the proportion of students who commenced a course in 2021 who neither completed in 2021 or 2022, nor returned in 2022 at any provider in the system (i.e. students that move from one provider to another are not counted as attrited). Attrition data for 2021 commencing students is the most recent available due to needing a full year of year 2 data to determine students' status.

In addition to providing needs-based funding based on student characteristics, it is also important to recognise the additional costs of delivering courses to students in regional areas. This is further discussed in *Chapter 7 – Serving the regions through tertiary education*.

These loadings would represent a starting point for a new way of delivering and funding support for students in Australian higher education. Once established, the Commission could continue to improve this needs-based system as the quality of data and our understanding of the challenges faced by students improve. The development of these loadings is intended to be an iterative process informed by the Commission's consultations with providers and improved data collection and research practices in the sector.

Finding: Funding for equity

Current funding arrangements limit enrolment growth in student cohorts from under-represented backgrounds because they do not reflect the additional costs of teaching these students who, on average, need additional support to succeed.

Recommendation: Support to participate and succeed in learning

13. That to ensure the new focus on increasing the number of higher education students from an under-represented background is matched by a focus on the success of these students, the Australian Government adopt a needs-based funding model including:
    a. a per-student funding amount for under-represented students that recognises the cost of the additional support they need to succeed, specifically First Nations students, students from lower quartile SES backgrounds, and students with disability
    b. a specific element based on the location of delivery in regional and remote Australia recognising the important equity issues involved in delivering courses to students in regional Australia, and the additional costs of that delivery
    c. a completion bonus for higher education providers who meet agreed completion targets negotiated through their mission-based compact with a focus on students who face the largest barriers to success.

3.6 Removing roadblocks to participation

3.6.1 Financial barriers to study

Stakeholders report that financial barriers deter prospective students. While the HELP system removes upfront tuition costs and levels the higher education playing field to a considerable degree, many students face pressure to meet living costs. There is evidence that financial considerations are front of mind for students from the target cohorts when making study choices.[228]

In 2015, students from the lowest SES quartile were 13 percentage points more likely to report financial difficulties as a barrier to undertaking further study than students from the highest SES quartile. Low SES students are also significantly more likely to encounter family responsibilities as a hurdle.

228 NCSEHE, *Centring the voices of harder to reach under-represented and disadvantaged cohorts* [unpublished report], (Perth: Curtin University NSCEHE, 2023).

Table 4: Barriers to further study identified by 16-year-olds, by share of students in each SES quartile (%), 2015.

Main barriers to study	SES			
	Quartile 1 (%) (Lowest)	Quartile 2 (%)	Quartile 3 (%)	Quartile 4 (%) (Highest)
Academic ability	19.9	28.3	24.4	21.4
Financial difficulty	34.7	31.4	21.7	22.0
Family responsibility	17.5	13.1	10.7	9.8
Lack of family support	8.8	8.1	4.7	5.3
Physical or mental health	16.5	22.8	17.7	19.3
Where you live	12.8	14.3	10.9	8.6
Your social life or other interests	12.7	20.3	11.7	15.4
Your own motivation	31.9	37.2	33.8	31.7

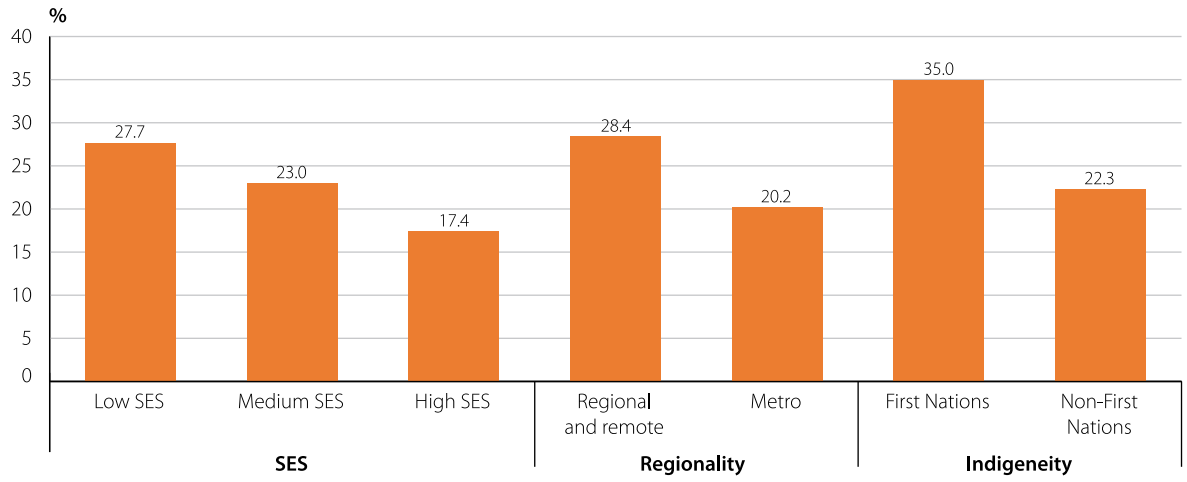
Source: Department of Education, *LSAY Y15 cohort data* [unpublished data], (Canberra: 2016).

Note: Percentages do not sum to 100 as participants could nominate more than one response.

3.6.1.1 There is evidence that student poverty is increasing

As well as deterring prospective students, financial hardship could be a driver of student attrition. It is unsurprising that financial challenges can be a barrier to successfully completing a degree. Evidence from the Student Experience Survey suggests that First Nations students, students from low SES backgrounds and regional, rural and remote students are more likely to report financial difficulties as a reason they consider leaving university early (see Figure 17). They are also more likely to report work/study balance and family responsibilities as reasons for considering departure.

Figure 17: Among undergraduate students who have seriously considered leaving their university studies early, proportion that cited financial difficulties as a reason (%), by demographic, 2022.



Source: Quality Indicators for Learning and Teaching (QILT), *2022 Student Experience Survey* [unpublished data set], (Canberra: 2022).

With widely reported increases to the cost of living causing financial stress for many Australians, it is likely students are also facing increased financial struggles. A recent report *Generation Z: Life at 22* indicated that, in 2022, the percentage of 22-year-olds facing financial stress rose to 30%, a notable increase from 24% in 2016.[229] The survey also revealed that a larger proportion of 22-year-olds struggled to cover essential expenses, such as heating their homes, making timely mortgage or rent payments, and accessing healthcare in 2022 compared to 2016.

Financial barriers during placements

The Review is also concerned that students who need to undertake work placements as part of their course (as is common in courses leading to professions like teaching, nursing and engineering) face additional financial constraints. Stakeholders have raised concerns that, for a placement's duration, students must often reduce or cease paid work in order to gain industry or practical experience, often in multi-week blocks that can be away from where they live.[230] Students unable to cease paid work often work excessive hours across the week on top of the requirements of their placement.[231] The Review is concerned that the financial considerations associated with placements could act as a disincentive to students to study in areas of skills need. The Review further considers this issue in *Chapter 2 – Meeting our current and future skills needs*.

229 NCVER, *Generation Z: Life at 22* (Adelaide: September 2023), accessed 5 December 2023, www.lsay.edu.au/publications/search-for-lsay-publications/generation-z-life-at-22.

230 National Union of Students, *Submission to the Australian Universities Accord Priorities*, 2023, www.education.gov.au/system/files/documents/submission-file/2023-02/AUA_priorities_National%20Union%20of%20Students.pdf.

231 Curtin Student Guild, *Submission to the Australian Universities Accord Priorities*, 2023, www.education.gov.au/system/files/documents/submission-file/2023-02/AUA_priorities_Curtin%20Student%20Guild_0.pdf.

3.6.1.2 A Jobs Broker

Having part-time work is important for students seeking to support themselves while studying. And if the work is in a field related to their field of study, it boosts possibilities of long-term employment post-graduation. A Jobs Broker, recommended by the Review in *Chapter 2 – Meeting our current and future skills needs*, could assist students to find appropriate employment opportunities relevant to their field of study and reduce the financial roadblock to accessing or completing higher education. Jobs Broker should be implemented so students who need to support themselves financially with part-time work, particularly those from the target cohorts, can be helped to find work related to their field of study.

3.6.1.3 The role of student income support payments

Students rely on a range of supports while they study, including family support, paid work and the social security system. The role of student income support payments like Youth Allowance (Student), Austudy and ABSTUDY is to support those students who cannot rely on other means. Not all students can be supported to study by their families or partners. In particular, students studying full-time generally have reduced capacity to work and may not be able to combine paid work and full-time study during study periods without compromising study outcomes.

Access to student payments is particularly important to enable more people from the target cohorts, and other equity groups, to successfully participate in higher education. Analysis of multi-agency government data by the Department of Education found 6-year completion rates of full-time students receiving income support are on average 6 to 7 percentage points higher than equivalent students receiving no payments. The positive effect of income support on student completion is higher for students from low SES backgrounds, and for students whose parents don't have a bachelor degree, but significantly lower or negligible for students from the highest socio-economically advantaged areas.[232]

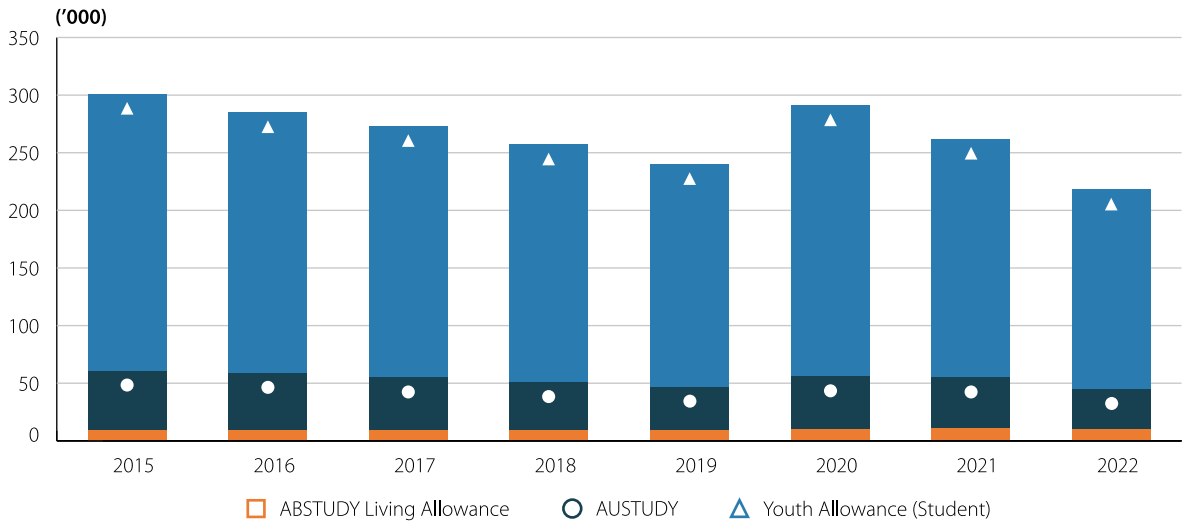
The income support system is a critical lever to lift student equity outcomes. The inadequacy of student payments may undermine students' ability to achieve the significant growth needed in the higher education system and across the tertiary education sector. Student payments should follow an education-first principle where the policy intent is to reduce roadblocks to higher education participation and enable retention, success and completion for these students, with payment settings adjusted where necessary to reflect these objectives. Australia's income support system is complex and changing settings for one payment can have significant flow on effects for others, meaning changes in this area require careful consideration. It is clear to the Review that, as the higher education system grows, the income support system will need to do more.

The number of student payment recipients is declining, despite increases in youth and student populations

The number and proportion of students accessing student income support payments, including Youth Allowance (Student), Austudy and ABSTUDY, have been trending downwards for a number of years, notwithstanding a temporary increase associated with the COVID-19 pandemic in 2020 and 2021 (see Figure 18).

232 Department of Education, Skills and Employment, *Factors affecting higher education completions*, (Canberra: 2020), 1.

Figure 18: Number of students accessing ABSTUDY (Living Allowance), Austudy and Youth Allowance (Student) by payment type (thousands of people), 2015 to 2022.



Source: Services Australia *Bluebook Dataset ADH23-0335: Table 1: Current and Suspended ABSTUDY (Living Allowance), Austudy and Youth Allowance (Student* [unpublished data], (Canberra, 2023), accessed September 2023.

Note: Includes recipients of ABSTUDY (Living Allowance), Austudy and Youth Allowance (Student), as at the last Friday in September in each of the reported years.

The causes of this are complex and likely multiple. In part, this decline appears due to non-policy related factors like the currently strong labour market. These labour market conditions have the effect of both increasing students' ability to undertake paid work while studying, and increasing the number of students who defer study to enter the labour market. Analysis of taxation data by the Department of Education supports the supposition that more students are working now than in the past: the proportion of bachelor students reporting income of more than $12,000 a year has increased from 43% in 2011 to 58% in 2020.[233] It is also possible that the decline in the student income support payment population could be associated with increased part-time study, because only full-time students are eligible for payment.

There is also evidence that it has become harder to qualify for student income support payments, because of issues such as narrowing of parental income testing over time. Students aged 21 and under are considered dependent (unless they meet specific criteria to demonstrate independence). This means that their parents' income is taken into account to determine their rate of payment. Currently, a student's rate of payment will be reduced by 20 cents for every dollar of parental income over $58,108 (known as the Parental Income Free Area).[234] Following the Bradley Review's recommendation, the Parental Income Free Area was raised to align with the Family Tax Benefit Part A income test and is indexed annually to

233 Department of Education, Analysis of Person Level Integrated Data Asset (using higher education data, Data Over Multiple Individual Occurrences (DOMINO) and taxation data from Education, Skills and Employment National Data Asset (ESENDA) [unpublished data], (Canberra: 2023).

234 The Youth Allowance Parental Income Test reductions are shared between all dependent Youth Allowance and ABSTUDY (Living Allowance) recipients in a family. Reductions are further lowered where there are FTB children in the family.

the Consumer Price Index (CPI). The Parental Income Free Area has not kept pace with growth in wages over time, meaning student payments are targeted at lower family income levels. For example, in January 2011 the Parental Income Free Area was around 88.8% of Average Weekly Earnings, compared to 82.0% in January 2021, suggesting parental income testing has become more narrowly targeted over time.

The Review considers the Parental Income Free Area is set too low. Accordingly, the Review recommends the Parental Income Free Area be raised to $68,857 and indexed annually to the higher of growth in the CPI or Male Total Average Weekly Earnings (MTAWE), recognising that current arrangements (indexation to the CPI) have seen the Parental Income Free Area fail to keep pace with wage growth (see Recommendation 15).[235] The Review recommends the figure of $68,857 as a starting point as it is equal to the maximum level of income from earnings a couple on JobSeeker payment can earn annually before they receive no payment. Currently, $68,857 is the point at which government determines a couple is earning sufficient income that they no longer require one dollar of income support.

The Review is also concerned that independence testing arrangements are disadvantaging school leavers who need to move away from home to study. Most students satisfying the workforce participation criteria for independence are regional and remote students via concessional arrangements, suggesting more regional and remote students could be delaying entry to university to work for 14 months so they can access student payments independent of parental means testing. The Napthine Review concluded regional, rural and remote students who take a gap year are less likely to complete their tertiary studies.[236] The Napthine Review also found insufficient income support to participate in tertiary education is a key driver of lower participation and attainment outcomes for people from regional, rural and remote areas, and recommended more flexible pathways to demonstrate independence for Youth Allowance purposes for these students. The Napthine Review indicated its preferred approach, if not for budgetary constraints, would be to see all students who relocate from a regional, rural or remote area automatically considered independent.[237] The specific challenges regional, rural and remote students face in accessing higher education, and the extent to which the student income support system is doing enough to reduce these barriers, warrants further consideration.

3.6.1.4 Income support payment adequacy must be further explored

The Review has also heard concerns that student payment rates are too low. Discussion of the adequacy of all income support payments has featured prominently in public discourse in recent years. In its 2023–24 report, the Interim Economic Inclusion Advisory Committee recommended that the JobSeeker Payment and other working age payments be increased to 90% of the Aged Pension.[238] A student in receipt of Austudy and the maximum rate of Commonwealth Rent Assistance currently receives 62.0% of the Aged Pension.[239] The Review considers it is timely for the Australian Government to examine student payments, with particular regard to the adequacy of income support payment rates (see Figure 19) in supporting successful participation and completion outcomes.

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235 As at December 2023, the maximum level of income from earnings a couple on JobSeeker payment can earn annually before they receive no payment (the cut-out point) is $68,856.67.

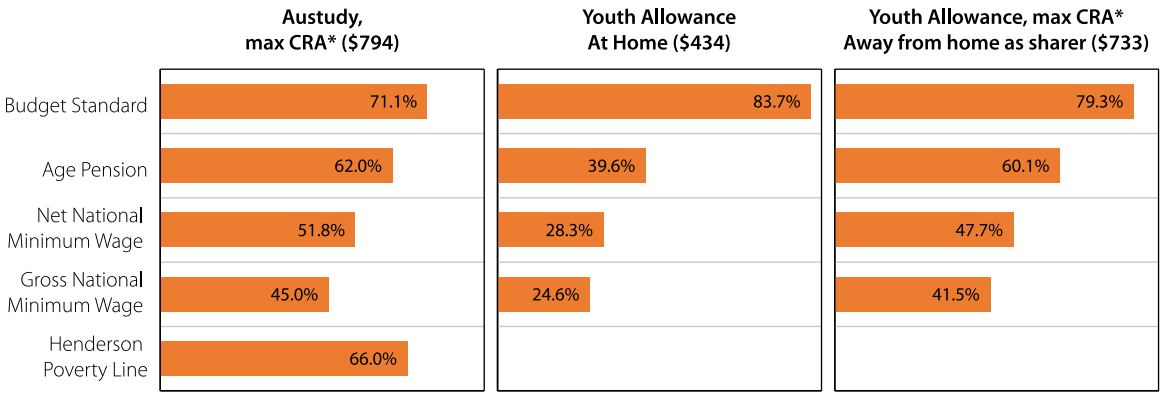
236 Napthine et al, *Napthine Review*, 24..

237 Napthine et al, *Napthine Review*, 46.

238 Department of Social Services, *Interim Economic Inclusion Advisory Committee 2023–24 Report* (Canberra, 2023), www.dss.gov.au/groups-councils-and-committees-economic-inclusion-advisory-committee/interim-economic-inclusion-advisory-committee-2023-24-report.

239 Including maximum Commonwealth Rent Assistance

Figure 19: Student income support payments as a proportion of common benchmarks (%), as at December 2023.



**Commonwealth Rent Assistance*
Comparison uses relevant comparisons based on payment (rent, sharing etc.)

Source: Department of Social Services, *Student payment data* [unpublished data], (Canberra: Department of Social Services, 2023).

Note: Henderson Poverty Line comparison is only available for Austudy, max Rent Assistance. The Henderson Poverty Line assumes Head in the Workforce – this makes an assumption that a single household on Austudy has a similar need for disposable income as a single person who is in the workforce.

The National Minimum Wage (NMW) assesses payments' proximity to full-time low-income wage earners. Gross and Net variations are compared to show the impact of taxation.

The Budget Standards approach takes the form of an estimate of the amount of income households require to have an 'adequate' lifestyle, with those with incomes below this level considered to be in poverty. The Budget Standards developed by the Social Policy Research Institute based on 2016 estimates require assumptions drawing on a large array of information.

Calculations assume no rental costs in the Youth Allowance at home scenario and no economies of scale from living with parents.

No economies of sharing have been assumed aside from rental costs for YA away from home (sharer) budget standard calculation, making the 79.8% figure above a likely lower bound for this benchmark.

3.6.1.5 Student income bank settings should be maintained

Student income support payments have more generous personal income provisions than other payments. For example, a student receiving Austudy can earn up to $480 a fortnight before their payment begins to reduce, while a person in receipt of JobSeeker will see a reduction once their income reaches $150 a fortnight.[240] People receiving student income support payments can also make use of an income bank, which allows them to earn credits in periods when their fortnightly income is less than $480 (for example, if they work less during the semester) and to keep more of their payment in times they earn more (such as during the summer holidays).[241] The Review considers income bank settings for students are a good thing and a feature of the system that should be maintained, but available evidence suggests not all students are leveraging its potential. Across a 12-month period from April 2022, an average of 40% of Youth Allowance

240 Services Australia, "Income test for JobSeeker Payment," revised 28 September 2023, www.servicesaustralia.gov.au/income-test-for-jobseeker-payment.

241 Services Australia, "Income Bank," revised 10 December 2021, www.servicesaustralia.gov.au/income-bank.

(Student) recipients and 47% of Austudy recipients accumulated income bank credits but did not use them.[242] The Review suggests this points to a need for students to be better informed about the income bank, and how they can use it to their benefit.

3.6.1.6 To improve completion outcomes, eligibility for student income support payments should include part-time students

Financial challenges not only prevent some people from enrolling in higher education but are also a barrier to completion for current students. Evidence suggests this disproportionately affects students from target cohorts. Data from the Student Experience Survey shows First Nations students, students from low SES backgrounds and regional, rural and remote students are more likely to report financial difficulties as a reason they consider leaving university early (see Figure 17 above). These students are also more likely to report work/study balance and family responsibilities as reasons for considering departure.[243]

Part-time study is increasingly common and is likely to continue to be a feature of the higher education system. In 2022, 34 of Australia's 38 publicly-funded universities reported a reduction in study intensity (EFTSL per student).[244] More people will come to the higher education system from different backgrounds with various factors that could limit their capacity to study full-time – family and caring responsibilities, need to do paid work, financial constraints, their health, or difficulty managing a full-time study load – yet, currently, student income support is only available to full-time students (defined as studying at least 75% of a full-time load in their course).

The Review acknowledges concerns about the higher risk of non-completion part-time students face. Indeed, 4-year cohort completion rates (2019 to 2022) show part-time students are more than twice as likely to drop out as full-time students.[245] The negative effect of part-time study on completion is at least in part driven by other factors. Part-time students are more likely to be older: 50% of part-time domestic bachelor students, compared to only 16% of full-time domestic bachelor students, are 25 years of age or older.[246] It follows that part-time students are likely to enrol on a part-time basis primarily to accommodate their other life circumstances. Data from the Student Experience Survey supports this assumption, with part-time students who consider leaving their course early more likely to report paid work and family responsibilities as a reason why, compared to full-time students.[247]

In addition, students from target cohorts study part-time at higher rates, shown by differences in part-time study rates among cohorts of domestic bachelor students in 2022: First Nations students (35%) compared with non-First Nations students (27%); students from low SES backgrounds (40%) compared with students from high SES backgrounds (30%); and regional, rural and remote students (31%) compared with non-regional and remote students (26%).[248]

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242 Department of Social Services (DSS), *Student Income Bank Usage* [unpublished data], (Canberra: 2023).

243 Quality Indicators for Learning and Teaching (QILT), *2022 Student Experience Survey National Report* [unpublished data], (Canberra: QILT, 2023).

244 Department of Education, *Higher Education Statistics – Student Data* [unpublished data].

245 Department of Education, *Higher Education Statistics – Student Data – 4 year cohort completion rates 2019–2022* [unpublished data], (Canberra: 2023).

246 Department of Education, *Higher Education Statistics – Student Data – Age group of full-time and part-time domestic Bachelor's students in 2022* [unpublished data], (Canberra: 2023).

247 QILT, *2022 Student Experience Survey* [unpublished data].

248 Department of Education, *Higher Education Statistics – Student Data* [unpublished data].

It is clear that for some students balancing many commitments, part-time study is the only feasible way they can participate in higher education. The Review suggests that these students, who for good reason are unable to take on a full-time study load, should be able to access student income support payments if they need it, especially when they already face increased risk of non-completion compared to students studying full-time. To achieve this, the Review recommends that eligibility criteria for student income support payments should be expanded to include students studying part-time (between 50% and 74% of a full-time study load) and who meet relevant eligibility criteria (see Recommendation 15). Assumptions about what part-time students are doing with the rest of their time, how personal income testing and income bank arrangements apply, and other potential eligibility criteria, should be further considered by the Australian Government.

Finding: Students

The proportion of Australian students studying part-time is increasing. Students are, on average, taking on lower study loads, most likely to accommodate extra paid work, and taking longer to complete their degrees. Supporting combinations of earning and learning that enable more students to study successfully and complete relevant qualifications in timely ways is an urgent priority for tertiary education. Australia needs more people working and more people learning, in the decades ahead.

3.6.2 Geographical barriers to study

Location is a widely recognised and significant barrier to higher education. Distance to a higher education campus limits regional, rural and remote students' access to and affordability of higher education. The proportion of 25 to 34-year-olds with a bachelor degree or above decreases with increasing remoteness.[249] The Napthine Review found individuals who grow up in regional, rural and remote areas are less than half as likely to have a bachelor degree or above qualification by age 35, compared to people from metropolitan areas.[250]

A range of factors contribute to lower attainment and participation rates in regional, rural and remote areas. These include fewer local study options, access to financial support and limited high-quality career guidance.[251] For many regional, rural and remote students, moving on to higher education after finishing school means either leaving their home or undertaking costly commutes. The Review heard directly from regional, rural and remote students in consultations that the added financial stress of relocation and living away from home contributes to students discontinuing their studies before completion. This is discussed further in *Chapter 7 – Serving the regions through tertiary education*.

249 John Halsey, *Independent Review into Regional, Rural and Remote Education, (*Canberra: Department of Education, 2018), 4, www.education.gov.au/quality-schools-package/resources/independent-review-regional-rural-and-remote-education-final-report.

250 Napthine et al, *Napthine Review,* 11.

251 Napthine et al, *Napthine Review,* 13.

Lack of proximity to a university campus or lack of access to services like public transport can also deter students in major cities. While the Australian Government is implementing several initiatives to address this issue, including developing Suburban University Study Hubs and expanding Regional University Study Hubs in response to Priority Action 1 of the Review's Interim Report, more must be done to ensure geography is not an insurmountable barrier to higher education.

Government response to Priority Action 1 from the Interim Report

In July 2023, in response to Priority Action 1 of the Interim Report, the Australian Government announced $66.9 million to double the number of University Study Hubs across the country, including expanding the concept to the outer suburbs of our major cities for the first time. This will see the establishment of up to 20 additional Regional University Study Hubs (formerly Regional University Centres) and up to 14 new Suburban University Study Hubs.

Regional University Study Hubs

An initial application round to select up to 10 of the new Regional University Study Hubs opened on 28 September 2023 and closed on 15 December 2023. An announcement about the successful applicants is expected in early 2024, with Hubs expected to be operational from Semester 2, 2024. An application process to establish up to a further 10 Regional University Study Hubs will open at a later date.

Suburban University Study Hubs

A Consultation Paper to inform the design and implementation of the new Suburban University Study Hubs Program was released on 3 September 2023, with submissions due by 2 October 2023. 44 submissions were received, with the feedback contributing to program design. Further analysis and research are being undertaken to support the establishment of the program, including to inform the location of the new Hubs, with further details to be provided in due course.

Recommendation: Financial support for placements

14. That to reduce the financial hardship and placement poverty caused by mandatory unpaid placements, the Australian Government work with tertiary education providers, state and territory governments, industry, business and unions to introduce financial support for unpaid work placements. This should include funding by governments for the nursing, care and teaching professions, and funding by employers generally (public and private) for other fields.

Recommendation: Student income support

15. That to reduce the cost-of-living pressures on current students and remove the financial barriers to commencing study, the Australian Government improve access to income support for those who need it most and consider how to ensure the level of support is adequate to meet basic living standards while studying by:
    a. increasing the Parental Income Free Area for Youth Allowance from $58,108 to $68,857 per family and index it to the higher of the Consumer Price Index and Male Total Average Weekly Earnings, recognising that the current income free area has not kept pace with growth in wages
    b. expanding income support eligibility and providing pro rata student payments to students who study part-time (between 50% and 74% of a full study load)

    and that, due to the complexity of social security payments, the Minister for Social Services works with the Minister for Education to address the problems the Review has identified by commissioning further technical analysis, with a report back to the Ministers by early 2025. Such work should follow the principles below:
        i. student income support payments should continue to be focused on those most in need of support, and eligibility criteria should be regularly monitored to ensure the level of support is adequate to meet basic living standards while studying
        ii. student income support payments should continue to allow students to undertake reasonable amounts of work while studying, including through arrangements such as the income bank
        iii. student income support payments should follow an education-first principle where the policy intent is to reduce roadblocks to tertiary education participation and enable retention, success and completion
        iv. student income support payments should reduce the barriers facing students deciding whether to commence their study, focusing on the largest barriers of financial security and other responsibilities (such as working, caring and family)
        v. eligibility criteria for youth payments should take into account the specific needs of regional students, including the extra costs of relocation and that, once they leave home to study, many are effectively independent.

3.7 A holistic approach to achieving equity of participation and attainment

Expanding higher education attainment levels can only be achieved by making the higher education system far more equitable. With participation among groups historically represented in higher education being far too low, this chapter proposes a range of measures, including parity targets, to improve equity of access to and outcomes in higher education for all Australians. The Review emphasises the need to take a holistic approach to student equity. This means finding new ways to build people's readiness and aspiration for higher education, enable entry, provide sufficient support for students and institutions, and remove financial roadblocks to study. Only then will we be able to expand opportunities for all people to participate and succeed in higher education, and to achieve the goal of skills growth through equity.

Chapter 4. Delivering for students

4.1 Students at the centre

Preceding chapters have focused on the public benefits of higher education – a skills rich and productive economy, and a strong and equitable civil society. This chapter focuses on students. They are at the centre of the higher education system and are its most direct beneficiaries.

This chapter looks first at the financial contributions students make towards their education and then at the quality of the learning and teaching experience which they receive in return. It focuses on a central element of the system's mission: delivering a fair and affordable education and a high-quality learning experience for all students, both on campus and online, and at all levels – preparatory, undergraduate, coursework postgraduate and higher degree by research.

While the higher education system has many strengths, the Review received many written and oral submissions suggesting improvements.

The Review has looked carefully at the impacts of the 2021 Job-ready Graduates (JRG) package on both student choices and student debt; on some issues resulting from loans under the Higher Education Loan Program (HELP) for fee-paying students; and on ways to improve the broader HELP system. As a result, the Review has identified 2 areas of intervention to deliver better outcomes for students:

- improvements to the level and timing of contributions and repayments, such as aligning student contributions to potential future earnings, and changing HELP debt repayment and indexation arrangements to be fairer for students
- improvements to fee arrangements for coursework postgraduate students.

On the student experience side, the Review looked at issues around safety and student empowerment on and off-campus; and at broader issues of learning and teaching quality. The Review makes recommendations intended to:

- improve the student learning experience through better metrics and quality measures; the use of new technologies in learning, teaching, and research training; mechanisms to share best-practice across institutions; a new teaching standards framework; and greater professional development opportunities especially in teaching for academics
- improve online learning experiences to support equity of access to higher education, particularly for those who face geographical barriers to engaging in study, ensuring better student protections and representation through a student charter, introducing a National Student Ombudsman and enforcing greater institutional accountability and responsiveness to student issues.

4.2 Improving student contributions and debt repayment arrangements

For most domestic undergraduate and coursework postgraduate students – those who have a Commonwealth supported place – the costs of delivery are shared between students and taxpayers (via the Australian Government).[252] This reflects the basic premise that higher education has a private benefit to the student (through increased income and other life benefits) and a public benefit to society as a whole, such as providing the necessary knowledge and skills that a successful, modern society requires. The proportion paid by the student is categorised as the 'student contribution,' with the maximums determined by the Australian Government. Historically, these maximums broadly reflected estimates of future earnings, but with some adjustments to reflect government priorities and the cost of teaching.

An important feature of the student contribution is that it can be paid by the student upfront before the start of each semester of their course or, if the student is eligible, deferred under the Australian Government's Higher Education Loan Program through a HECS-HELP loan. HECS-HELP loans become accumulated HELP debt which students repay through the tax system once they meet a specified salary threshold.

A small number of domestic undergraduate students (mostly at non-publicly funded universities) and most coursework postgraduate students do not have a Commonwealth supported place and are required to pay fees, which institutions – universities and non-university higher education providers (NUHEPs) – may set at market rate or full-cost recovery rates. These students may also be eligible to defer payment under a HELP loan (FEE-HELP), on the same basis as HECS-HELP loans.

In 2022, 93.4% of domestic undergraduate students had a Commonwealth supported place while 5.6% were accessing FEE-HELP. For domestic coursework postgraduate students, 39.0% had a Commonwealth supported place and 41.7% accessed FEE-HELP. Some students do not access HELP and instead pay the course fees upfront.

The student contribution and HELP system is world-leading and has been imitated or drawn on by many other countries including the United Kingdom and New Zealand. Since its introduction in 1989, it has been instrumental in enabling overall higher education system growth.

However, it is not all working smoothly. Various cost pressures on students as a result of higher fees are impeding student access to, and participation in, higher education – with a consequential effect on further system growth.

252 80.9% of domestic coursework students were Commonwealth supported in 2022. Department of Education, *Higher Education Statistics – Student Data – 2022 Section 5 Liability status categories* [data set].

Policy changes introduced as part of the JRG package in 2021, designed to influence student choice and usher students into areas of expected employment demand, have not worked. Rather, they have resulted in some students incurring disproportionately large HELP debts relative to future potential earnings, meaning that HELP debts are taking longer and longer to repay.

For all students and graduates with HELP debts, increased inflation has led to increases in indexation rates in recent years, meaning the headline value of HELP debts is growing rapidly.

These issues are leading to adverse student outcomes. Together with some entrenched negative perceptions about the HELP system and debt in general, they could discourage future students from studying, especially students from disadvantaged backgrounds. It is essential that students are supported to access and participate in higher education without unreasonable costs and HELP debts to ensure Australia can meet its future skills needs.

For international students, course costs are covered by the fees they pay, which are set by each higher education provider at free market rates.

For most domestic HDR students, the costs are covered by taxpayers, mainly via the Australian Government's Research Training Program (RTP), as discussed in *Chapter 5 – Producing and using new knowledge*. These 2 student categories are not further discussed in this section.

4.2.1 Fairer contributions for Commonwealth supported students

The introduction of the JRG package in January 2021 has led to large and unfair increases in student contributions for many Commonwealth supported students. The package aimed to deter students from studying a specified subset of subjects with the intention of guiding them towards subject areas with higher employment demand. The Review finds that this deterrent approach did not work and is in fundamental conflict with the need to grow the number of people with higher education qualifications significantly to meet the nation's future skills needs.

The JRG package

At its core, the JRG package adjusted the student and Commonwealth contributions paid for different subjects. While this was the most substantial and controversial change in the package, it also funded additional Commonwealth supported places, restored CPI indexation to university funding and provided additional flexibility to universities to move their funding between undergraduate and postgraduate.

One goal of the changes was to "increase the level of support going to fields of study that will contribute to national priorities and future prosperity," while reducing support for others.[253] The significant savings in the Commonwealth Grants Scheme (CGS) of around $1 billion per year through the changes to contributions were redirected to other elements of the package, such as additional Commonwealth supported places and the National Priorities and Industry Linkage Fund (NPILF).

Design of the CGS clusters and bands prior to the JRG reforms

The JRG changes were the first wholesale redesign of per-place funding since the 2005 introduction of the CGS.

Prior to JRG, student contributions were generally set based on likely future earnings of graduates, with the highest-earning fields attracting the highest student contribution band. This was moderated to an extent for expensive-to-deliver fields, like science and agriculture, where the student contribution was set at a higher rate than would have been the case based purely on future earnings.

Commonwealth contributions were subsequently set to bridge the gap to the accepted level of base funding per place, based on a rough measure of the cost of delivery and a base level of research capability.

Key reforms under JRG

The JRG changes introduced a significant departure from this formulation: according to the then government's stated objectives, student contributions now had 2 roles to play:

- An incentive element: Those in priority fields of education seen to deliver a 'public benefit' would pay lower fees – despite often-higher private benefits and course delivery costs – to attract prospective students. For example, student contributions for mathematic s and agriculture were reduced by 59%, while contributions for teaching, English, nursing and foreign languages were reduced by 42%.
- A deterrent element: Those in fields seen not to be priorities would face the highest fees to deter prospective students, despite often lower levels of private benefit and course delivery costs. For example, student contributions for communications, humanities, society and culture and human movement were increased by 113%, while contributions for law, economics and management and commerce were increased by 28%.

253 Explanatory Memorandum, Higher Education Support Amendment (Job-Ready Graduates and Supporting Regional and Remote Students) Bill 2020, (Cth), 39, parlinfo.aph.gov.au/parlInfo/search/display/display.w3p;query=Id%3A%22legislation%2Fems%2Fr6584_ems_79c2b067-a1b7-4c5d-949a-73e246023baa%22.

Overwhelmingly, submissions and consultations for the Review called for the deterrent element introduced by the JRG changes to be remedied. They characterised the misalignment of prices and graduate incomes resulting from the JRG changes as deeply unfair and punishing students for following their interests. Particularly harmful was the 113% rise in student contributions for Commonwealth supported students studying communications, humanities, other society and culture, and human movement units.

The JRG changes had little impact on student choice, with research finding that only 1.5% of students applied to enrol in courses they would not have applied for under the previous student contribution structure.[254] The Productivity Commission found "the overall demand for university enrolment in Australia is unresponsive even to significant price increases given ICLs [income contingent loans] and existing subsidies".[255]

The Review suggests the Australian Government use the following principles when considering changes to student contribution arrangements.

The principles for fair student contribution arrangements

1. There should be a fair contribution amount.
2. The system should be simple to understand.
3. The amount students contribute towards their learning should depend on their field of study.
4. The higher the future earnings potential linked to their field of study, the greater the student contribution.

Recognising the complexity and cost (both to students and the Australian Government) of remedying the JRG changes, reducing the maximum student contributions for those subjects listed above is a priority (see Recommendation 16). As the level of student contributions does not affect student choice, over time the system should evolve into one where student contributions are set on the basis of projected potential future income, while maintaining fairness in the system. This is discussed further in *Chapter 8 – A new funding model to underpin growth and quality*.

The Australian Government should continue to be responsible for setting student contributions, but these decisions should be based on detailed analysis and advice from the Commission and other experts.

Finding: Job-ready Graduates

The Job-ready Graduates package needs urgent remediation. Its intended purpose of influencing students' choice of courses through price signals has failed. While some students are paying less, the overall funding balance has shifted in the direction of lower government contributions and higher student contributions. Many students have extremely high student contributions resulting in large HELP loans that do not reflect their future earning potential.

254 Yong, Coelli and Kabatek, *University fees, subsidies and field of study*, 3.

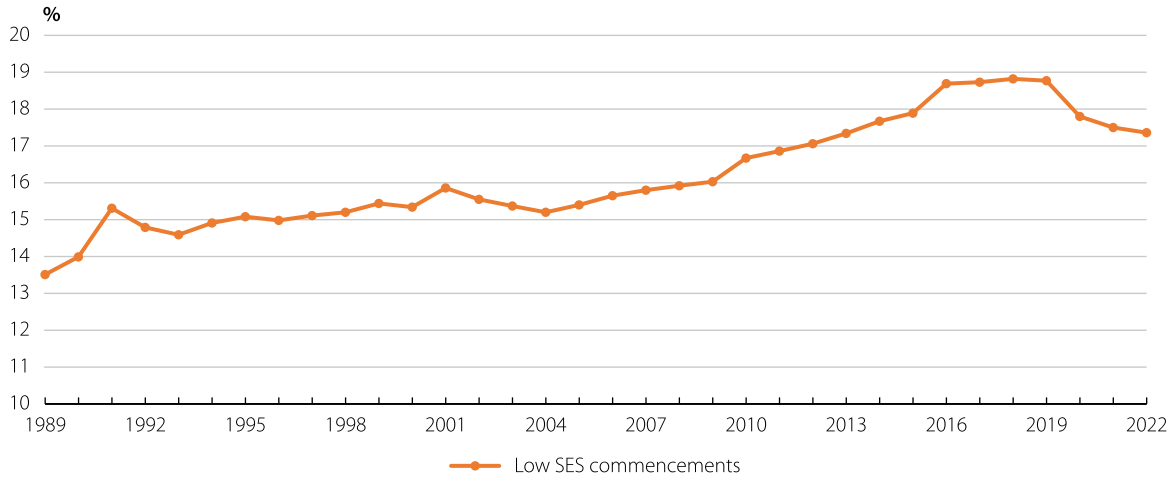
255 Productivity Commission, *5-year Productivity Inquiry: From learning to growth*, 69.

4.2.2 Building on the world-leading success of the HELP system

The HELP system was introduced in 1989 (as HECS) to keep Australia internationally competitive as a knowledge-based economy by growing the number of university students in an affordable way. Australia's HELP system successfully assisted in funding expanded access to university study for many students, including those from historically under-represented backgrounds. Without HELP, such levels of sustained growth would have placed considerable pressure on both the Commonwealth budget and university resources.[256]

Since its introduction, HELP has been successful in increasing the proportion of low SES students commencing university studies, as a percentage of all commencing students (see Figure 20). Since the introduction of HELP, the proportion of commencing university students from a low SES background has increased from 13.5% in 1989 to 17.4% in 2022. However, more work needs to be done given Australia is still a long way short of population parity, and a fairer HELP system would be a key enabler of this.

Figure 20: Proportion of commencing university students from a low SES background as a share of all commencing students (%), 1989 to 2022.



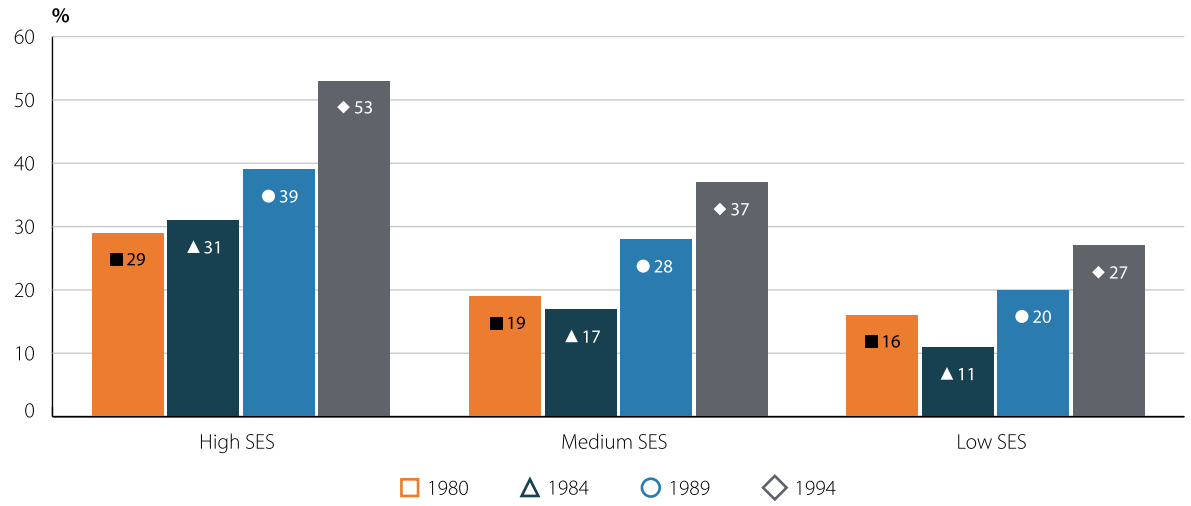
Source: Department of Education, *Selected Higher Education Statistics – 2022 Student data, Student Enrolment Time Series* [unpublished data], (Canberra: 2023).

Note: SES in this figure is determined by postcode to maintain a consistent measurement.

256 Universities Australia, *Submission to the Australian Universities Accord Priorities*, 2022, 5, universitiesaustralia.edu.au/wp-content/uploads/2022/12/UA22005-Accord-Submission-FA.pdf; Matthew Chingos and Susan Dynarski, "The International Final Four: Which Country Handles Student Debt Best?" *The New York Times*, (2 April 2018), www.nytimes.com/2018/04/02/upshot/an-international-final-four-which-country-handles-student-debt-best.html.

Analysis by Emeritus Professor Bruce Chapman AO shows that the introduction of HECS led to a considerable expansion of the higher education system across all cohorts.[257] Figure 21 shows that the introduction of HECS saw an increase in the higher education participation rate of 19-year-olds across all SES cohorts, especially low and medium SES cohorts which grew at a proportionately higher rate. Between 1980 and 1984 the proportion of low and medium SES 19-year-olds who had enrolled in university declined. However, it increased markedly between 1984 and 1994 with the introduction of HECS in 1989.

Figure 21: Proportion of 19-year-olds who have ever enrolled in higher education by socio-economic status (%), 1980 to 1994.



Source: Michael Long, Peter Carpenter and Martin Hayden, *Participation in education and training 1980–1994,* (Canberra: Australian Council for Educational Research, September 1999), 70, citing LSAY data, research.acer.edu.au/lsay_research/21/.

Note: This analysis is limited to the period from 1980 to 1994 due to a change in the way SES was measured in LSAY over time.

Whilst HELP has been a successful enabler of university access, there is a risk that rising HELP debts will create a barrier to students. Reform of the system is necessary to ensure HELP arrangements remain fair and fit for purpose and continue to meet student needs.

257 Bruce Chapman, "The rationale for the Higher Education Contribution Scheme", Australian Universities Review, (1996): 43, brucejchapman.com/wp-content/uploads/2018/12/The-rationale-for-the-HECS.pdf.

Finding: Students

The HELP system needs to be modernised to make it fairer and simpler. HELP has served Australia well by expanding access to many more students. Its core components – no upfront tuition fees and income contingent repayment – are fundamental to its fairness and effectiveness. HELP is an indispensable part of the higher education funding system, but it requires reform to retain its social licence. Australians should not be deterred from higher education because of the increased burden of student loans.

4.2.2.1 Ensuring HELP repayments are fair

Repayment of HELP debts is income contingent, meaning that individuals only start repaying their loans once their income has reached a minimum repayment threshold. For those who never reach this income level, there is never a requirement to repay.

However, changes in repayment rates and a decrease in the minimum repayment threshold means that repayment of HELP debts has become more burdensome for low-income earners over time.

HELP repayments now occur at a lower income threshold and at higher rates than originally envisaged

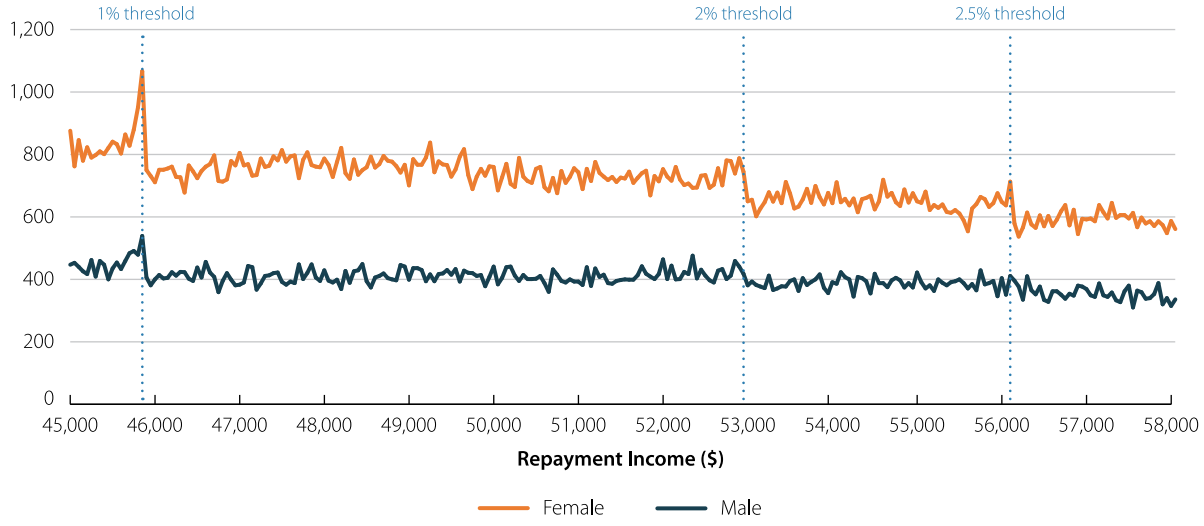
Loans provided through the HELP system are repaid as a percentage of a graduate's taxable income. Repayment rates vary with income, with higher earners obliged to repay at a higher rate. Currently, there are 18 thresholds, with the rate of repayment ranging from 1% to 10% – many more than the initial 3 thresholds of 1%, 2%, and 3% in the first year of the scheme (income year 1988–89).

The minimum repayment threshold above which those with HELP loans are required to make repayments is currently around 50% of the average income level – the result of steady decreases in the minimum repayment threshold over time. It was originally envisaged that those with HELP loans would only be required to repay once they reached around an average income level.

As HELP repayments are levied based on a debtor's entire income, rather than just income above the repayment threshold, repayment obligations can increase substantially as incomes rise above each repayment threshold, and by more than the total increase in income. The effect is particularly pronounced at the lowest HELP repayment thresholds and can create a disincentive to earn additional income, particularly for those who already face high barriers to entering the workforce, such as sole parents and those on income support payments.

The system also creates incentives for debtors to reduce their incomes to avoid repayment, potentially by reducing hours worked or by claiming additional tax deductions against their assessable income. Figure 22 shows evidence of clustering of incomes just below the first HELP repayment threshold ($45,881 in 2019–20). This 'income bunching' is considered to be statistically significant.[258] This suggests that debtors are aware of the repayment obligation above this income level and seek to avoid or delay exceeding it. This is particularly pronounced for women with HELP debts, who are more likely to be on lower repayment incomes (especially due to part-time work) and who typically face more barriers to working additional hours such as child caring responsibilities and access to childcare.[259]

Figure 22: Frequency of repayment incomes for HELP debtors ($) by number of debtors, financial year 2019–20.



Source: Department of Education, *Internal Administrative data* [unpublished data], (Canberra: 2023).

258 Australian Government Productivity Commission, *Shifting the Dial: 5 Year Productivity Review*, Supporting Paper No. 7, (Canberra: 2017), 68, www.pc.gov.au/inquiries/completed/productivity-review/report/productivity-review.pdf.

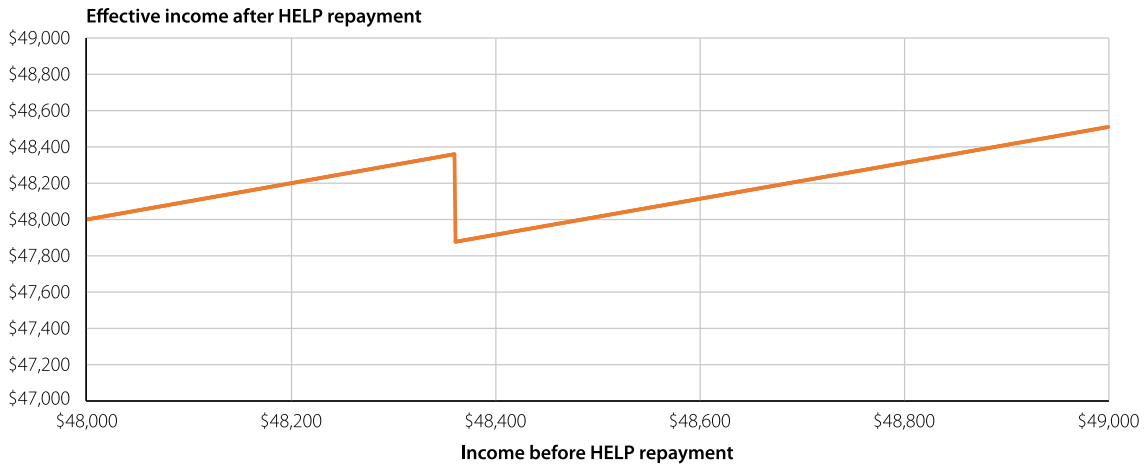
259 Australian Bureau of Statistics, *Barriers and Incentives to Workforce Participation, Australia 2022–23* [data set], (Canberra: 2023), published 27 November 2023, www.abs.gov.au/statistics/labour/employment-and-unemployment/barriers-and-incentives-labour-force-participation-australia/latest-release

High effective marginal tax rates associated with HELP repayment

While HELP repayments are not considered taxation, they have a real impact on the take-home income of those making repayments. From the perspective of the borrower, the reduction in income resulting from HELP repayments is particularly pronounced at HELP repayment thresholds – and while this does not increase their tax rate, it does increase their 'effective marginal tax rate' (EMTR).

As shown in Figure 23, under current arrangements, a debtor earning $48,360 would have had no requirement to make a HELP repayment, whereas a debtor earning $48,361 would exceed the first HELP repayment threshold and would therefore have a repayment obligation of $483.61 – an effective tax of $483.61 on that one additional dollar. A debtor would see no increase in their after-repayment income until they earned an additional $490 (to a total of $48,850).

Figure 23: Impact of HELP repayment on effective income (before tax) from $48,000 to $49,000, 2022–23 repayment rates.



Source: Australian Taxation Office, *Study and training loan repayment thresholds and rates* [data set], (Canberra: 16 June 2023), accessed 25 October 2023, www.legacy.ato.gov.au/rates/help,-tsl-and-sfss-repayment-thresholds-and-rates/#HELPandTSLrepaymentthresholdsandrates201.

Similar effects exist at each HELP repayment threshold, but the proportion of additional income lost as a result of repayment is highest at the lowest 2 thresholds.

This effect is not limited to the impacts of HELP repayments: EMTRs represent the financial loss associated with earning an additional dollar of income after accounting for things like taxes, transfers through the income support system, childcare payments, as well as HELP repayments. HELP repayment can exacerbate these EMTRs, particularly around repayment thresholds.

The Review finds that the current HELP repayment arrangements disproportionately affect those on lower incomes, who are more likely to be women, and suggests moving to arrangements based on marginal income.[260] Under a marginal system, repayments would only be levied on earnings above the minimum and each subsequent threshold, ensuring that those making repayments would derive some benefit from each additional dollar earned (beyond the benefit of repaying the loan).

New arrangements should be designed to:

- reduce the rate of repayment that relatively lower income earners are required to make
- remove the unfair situation where someone earns additional income but, as a result of HELP arrangements, sees a decrease in their post-HELP repayment income
- reduce the disproportionate impact on women
- limit workforce disincentives caused by HELP repayments, particularly for sole parents.

The Review is not recommending specific new rates or thresholds for HELP repayments. Depending on how the rates and thresholds are set under a marginal system, the majority of HELP debtors who make a repayment (around 35 to 40% of all debtors) would repay less in a given year than under current settings. It should be acknowledged that this change could also result in a small number of high-income HELP debtors (likely less than 10% of HELP debtors) making higher repayments in a given year than they otherwise would. However, these people would likely have benefited from lower repayments in earlier years when their income was lower and will still not pay more than the real value of their HELP debt in aggregate.

4.2.2.2 Adjustments to HELP indexation arrangements

To ensure HELP debts retain their real value over time and are not eroded by inflation, the value of outstanding HELP debt is indexed based on CPI. Indexing debts ensures that the system remains sustainable over the long-term. If debts were not indexed, any drop in real value would have to be borne by the Australian Government. But a high rate of CPI, as at present, resulting in the application of a high indexation rate to HELP loans, can create concern for those whose debts are increasing faster than repayments. Concurrently, real wages have been falling, creating a perverse outcome where HELP debts are growing just as relative ability to service debts is declining.

Capping indexation to limit the growth of HELP debts

Over 2023, the CPI was at its highest level since the 1980s.[261] The Review notes that the indexation of HELP debts has become an area of public concern, with escalating indexation and HELP debts leading to a negative perception of the HELP system. This may discourage some future students from enrolling in university if unaddressed.

260 Department of Education, Higher Education Loan Program Data [unpublished data], (Canberra: 2023).

261 Reserve Bank of Australia, "Measures of Consumer Price Inflation," Reserve Bank of Australia, revised 29 November 2023, www.rba.gov.au/inflation/measures-cpi.html.

To address these emerging concerns, while also protecting the stability of the HELP system, the Review recommends the introduction of a cap on indexation based on the lower of Consumer Price Index (CPI) or Wage Price Index (WPI) (see Recommendation 16). The Review considered alternative caps, such as the long-term Australian Government borrowing rate. However, a cap based on wages is preferred and would act as an effective control mechanism. Such a cap will ensure that the indexation of HELP debts no longer outstrips the growth in wages and the servicing capacity of debtors does not go backwards overall.

Timing changes to benefit students

The Review has also heard concerns about the timing of indexation on 1 June each year. Though this timing (which is late in the financial year) assists with the administration of the HELP system, amounts withheld during the year are not applied to reduce HELP debts until the following June. In some circumstances, HELP debts may have been 'acquitted' if not for the application of indexation prior to repayments being recognised. Further, voluntary repayments made before 1 June are considered before indexation is applied, creating a perceived disparity between compulsory and voluntary repayments.

The Review recommends that the timing of HELP debt indexation be changed to allow the Australian Taxation Office (ATO) to ensure that amounts withheld from debtors' income during the financial year can be applied as a compulsory repayment before indexation occurs (see Recommendation 16).

4.2.2.3 Waivers

Expanding the use of debt waivers to reduce the prevalence of life-long debts was another option explored by the Review. Under the current system, HELP debts are typically written off only at death, with limited waiver schemes to reduce the debts of those working in certain occupations in regional and remote areas.

The Review looked at some time-based models but considered they would either be of little practical benefit to current debtors or would undermine the financial viability of the HELP system. It considers that the recommendations above about repayment and indexation would have more meaningful and practical benefits.

The cost of any potential broad waiver scheme – such as a time-based automatic write-off – would likely be large unless the write-off period was sufficiently long. But writing debts off after an extended period would be of limited real benefit to those with HELP debts, especially as the write-off would likely occur well after it has the potential to assist with life decisions like buying a house or raising a family.

Currently, targeted debt waivers are available for teachers working in very remote areas and health workers in rural areas. Their purpose is to incentivise debtors to fill crucial skill gaps. These schemes have not been in effect long enough to gauge their effectiveness accurately. Pending a review of the programs for health workers in 2025, the option to broaden program criteria and expand the use of such waivers could be re-examined.

4.2.2.4 HELP debt and home lending

Many stakeholders told the Review that large HELP debts may affect graduates' ability to enter the property market. This is a complex issue involving the intersection of a range of factors, such as supply issues, prices, rising interest costs and individual bank policies and practices.

Repayment of HELP debt reduces the income that individuals have available to service a mortgage, so is taken into account when determining how much someone is able to borrow for a mortgage. The Review notes that larger HELP debts that take longer to repay can affect mortgage debt servicing capacity over a longer time period.

HELP debts are not like other debts, such as credit card debts or personal loans, as it is not possible to default on them. Unless someone earns sufficient income, there is no obligation to repay and as such they should be treated differently.

The Australian Prudential Regulation Authority (APRA) (for banks) and the Australian Securities and Investments Commission (ASIC) (for all lenders) provide guidance on how a borrower's repayment capacity should be assessed when applying for a mortgage. APRA also requires banks to report a range of data on the profile of their home loan books — this includes, for example, the proportion of households that have borrowed with low equity (loan-to-valuation ratio) or at high leverage (debt-to-income ratio). These reporting requirements are used by APRA to monitor banks' risk profiles, but do not create obligations on banks in relation to how they assess a borrower's repayment capacity.

Measures outlined in this chapter to revise student contribution amounts, improve repayments and limit excessive indexation should have a positive impact on the intersection between HELP debts and individuals' ability to obtain a mortgage, especially for those on lower incomes.

4.2.3 Fair and flexible arrangements for full fee-paying students

A smaller part of Australia's higher education landscape is the domestic full fee-paying student cohort, which includes some undergraduate and a majority of coursework postgraduate students (61%).[262] There were around 200,000 domestic full fee-paying students in Australia in 2022, up from almost 180,000 in 2011.[263] These students may have the option of deferring their fees through FEE-HELP.

In this part of the system, there are no price controls. While there is a HELP loan limit of $113,028 (in 2023) for most students, higher education providers have flexibility to charge more. The loan limit places a ceiling on the amount a student can borrow over time, but not the fees an institution can charge for each subject.

Depending on the provider at which a full fee-paying student studies, and the level of their study, the student may incur an additional loan fee which is 20% of the amount borrowed. Students accessing FEE-HELP need to be fairly treated regardless of their provider and course, and the Review has considered whether change to loan fee arrangements is needed. A relevant consideration is that, like all HELP loans, FEE-HELP loans are income contingent and there are implicit subsidies associated with the government providing them: the loans are provided without market rates of interest (though they are indexed by CPI each year), and some will never be repaid in full as the relevant income level is never reached.

262 Department of Education, *Higher Education Statistics – Student Data – 2022 Section 5 Liability status categories* [data set].

263 Department of Education, *Higher Education Statistics – Student Data – 2022 Section 5 Liability status categories* [data set]. This compares to 860,000 Commonwealth supported students in 2022.

4.2.3.1 FEE-HELP at the undergraduate level

A number of submissions to the Review from independent providers argued that the loan fee applied to some undergraduate FEE-HELP loans is inequitable and discriminatory, and advocated for this fee to be removed from FEE-HELP loans (as well as from VET Student Loans).[264] However, other commentators have advocated for a consistent loan fee across all HELP loans, given the implicit government subsidy in providing them.[265]

Loan fee arrangements at the undergraduate level

Table A universities are not permitted to offer full fee-paying places in undergraduate courses to domestic students, except in some exceptional circumstances. As a result, undergraduate students at these institutions are usually in Commonwealth supported places and access HECS-HELP (where eligible).

In contrast, students enrolled at Table B universities and other higher education providers are predominantly in full fee-paying places. Eligible undergraduate students at these institutions currently receive support through FEE-HELP.

Generally, FEE-HELP loans for those undertaking undergraduate study attract a loan fee set at 20%, which students repay on top of the course fee. The exception (introduced in 2019) is where study is undertaken at a 'Table B university' – Bond University, Avondale University, Torrens University, and University of Divinity – in which case no loan fee is paid.

Because institutions can charge unlimited fees in full fee-paying places, fees deferred under FEE-HELP tend to be higher than those under HECS-HELP. As a result, it can be more costly for the government to provide a loan to a student accessing FEE-HELP. This has been the general justification for why FEE-HELP attracts a loan fee.

HECS-HELP loans taken out by Commonwealth supported students tend to be lower and do not have a loan fee applied.

Given the higher costs associated with FEE-HELP loans, the Review believes a continued 20% loan fee for undergraduate FEE-HELP loans is justified.

4.2.3.2 FEE-HELP at the postgraduate level

While most undergraduates are in Commonwealth supported places, many coursework postgraduate students are in full fee-paying places, reflecting the ability of Table A universities to charge full fees at this level.

264 Independent Tertiary Education Council Australia, *Submission to the Australian Universities Accord Discussion Paper*, 2023, www.education.gov.au/australian-universities-accord/consultations/consultation-discussion-paper.

265 Andrew Norton and Ittima Cherastidtham, *Shared Interest: A Universal Loan Fee for HELP*, (Grattan Institute, 2016), grattan.edu.au/wp-content/uploads/2016/12/883-Shared-interest-A-universal-loan-fee-for-HELP.pdf; Productivity Commission, *5-year Productivity Inquiry: From learning to growth*, 84.

Most of these full-fee places are in the fields of society and culture and management and commerce, for degrees such as Juris Doctor (JD) and Master of Business Administration (MBA). The permitted flexibility in prices gives universities additional incentive to offer these courses, while the government prioritises postgraduate Commonwealth supported places in priority disciplines such as nursing.

Loan fees

Unlike most undergraduates accessing FEE-HELP, postgraduates do not incur a loan fee. But, as with undergraduate loans, FEE-HELP loans are income contingent, and there are subsidies associated with the government providing them.

The Review is concerned about the seeming lack of coherence around FEE-HELP arrangements for students at different classes of provider. These issues – which students should be liable for a loan fee and what the rate should be – raise complex financial and equity considerations that currently lack a reliable public evidence base. Rather than recommend piecemeal changes, the Review considers the Government should investigate the question of FEE-HELP loan fees and consider the best way to resolve the apparent inequities in the loan system.

Course fees

Depending on the discipline, course fees can be higher at the postgraduate level as universities have full price discretion and students are often prepared to pay a premium for these qualifications. In some exceptional cases, such as JDs and MBAs, high prices for postgraduate study can be considered a proxy for quality. This quality signal can lead to increased student demand for such courses, and consequent 'exclusivity'. Although these examples are not common, such highly priced courses raise questions around equity and access.

The coursework postgraduate full fee-paying cohort should continue to be characterised by a level of pricing flexibility, but this freedom should exist within a framework that ensures student fees are not exorbitantly high.

To achieve this, the Review recommends that, for the small number of high fee courses (e.g. those that charge over $40,000 per EFTSL), the Commission require a scholarship contribution (see Recommendation 17). Under such a contribution, providers would be obliged to re-invest a proportion of fee income above this level back into scholarships and bursaries for historically under-represented students in these courses, to ensure they have access to, and can benefit from, these high-fee courses.

Another way to reduce what students are required to pay for postgraduate qualifications is to increase the number of Commonwealth supported postgraduate places, given students in these places are only required to pay a student contribution that is capped by the Australian Government. As outlined in *Chapter 8 – A new funding model to underpin growth and quality*, these places should be provided in areas of national priority and skills shortage. Ensuring students wishing to enrol in these courses can access a Commonwealth supported place rather than having to pay full fees will significantly reduce the amount they are required to either pay or defer through HELP.

Recommendation: Reducing student contributions and reforming HELP repayment arrangements

16. That to reduce the long-term financial costs of studying for students, the Australian Government make student contributions fairer and better reflective of lifetime benefits that students will gain from studying and reduce the burden of HELP loans by introducing fairer and simpler indexation and repayment arrangements. This should involve:
    a. reducing student contributions to address the most significant impacts of the Job-ready Graduates (JRG) package starting with students in humanities, other society and culture, communications and human movement, and moving toward a student contribution system based on projected potential lifetime earnings
    b. reducing the financial burden of repayment on low-income earners and limiting disincentives to work additional hours by moving to a system of HELP repayment based on marginal rates
    c. reducing repayment times by changing the timing of indexation for HELP loans so that amounts withheld for compulsory repayment can be accounted for before indexation is applied
    d. ensuring that growth in HELP loans does not outpace growth in wages by setting the HELP indexation rate to the lower of the Consumer Price Index (CPI) and the Wage Price Index (WPI)
    e. reviewing bank lending practices to ensure banks recognise that HELP loans are not like other types of loans and are not treated in a way that unduly limits peoples' borrowing capacity for home loans.

Recommendation: Reducing student contributions and reforming HELP repayment arrangements

17. That to improve access to postgraduate coursework studies:
    a. the Australian Government increase the number of Commonwealth supported places available for postgraduate study in areas of national priority and skills shortages
    b. the Australian Tertiary Education Commission negotiate as part of mission-based compacts with universities that they prioritise Commonwealth supported postgraduate places over full-fee paying postgraduate places
    c. higher education providers charging high fees (above $40,000 per Equivalent Full Time Student Load) for domestic full-fee postgraduate courses be required to re-invest a proportion of income earned back into scholarships and bursaries to support students from under-represented backgrounds to access these courses.

4.3 Ensuring a high-quality student experience

The first part of this chapter looked at the student financial contribution to higher education.

This part of the chapter looks at what students should expect: strong technical and advanced generic skills, a safe learning environment, a student voice in the system, high-quality teaching, innovative delivery modes (both on campus and online), better experiences from student placements, and responsive curricula and pedagogy with deep connections to industry.

To assess if these outcomes are being delivered, they must be measurable. Despite high rates of graduate employment and consistently positive student experience ratings through QILT, the Review has heard that measuring student outcomes (and teaching performance) is inherently difficult. Student experience metrics – though valuable – are indicators only, the results of which do not easily translate to improved learning and teaching practices. Measures of graduate outcomes are valuable but are often far removed from learning and teaching practice, making it difficult to understand which practices work. Where best practice is adopted, there is no formal, whole-of-system approach to sharing this and delivering broader benefit.

If Australia is to achieve the ambition of this Review and significantly grow student enrolments, particularly among those from historically under-represented groups, it must strive to be a world leader in delivering innovative, best practice learning and teaching for its students.

The interventions proposed here are supported by recommendations outlined elsewhere in this Report, including a range of delivery, governance and funding mechanisms such as the new funding model for learning, teaching and scholarship, the Jobs Broker program, improved Work Integrated Learning, and considerations of income support arrangements for those most in need.

Each of these measures to improve what students put into and get out of the system, and to deliver a high-quality learning experience and affordable education, will benefit not only students, but the higher education system and nation more broadly.

4.3.1 Ensuring student safety and wellbeing

Student wellbeing and safety is fundamental. In response to the Review's Interim Report, action is already being taken to prioritise student and staff safety, including the establishment of a cross-jurisdictional Working Group to strengthen university governance that included an expert on the prevention of violence against women and children. Every student deserves to be and feel safe while they are engaged in higher education.

It is important for students to feel a sense of connection and belonging to their university, which can have positive impacts on wellbeing, student transition and retention and academic outcomes.[266] The Review has found that technological changes, including the growing prevalence of technology-based communication and use of artificial intelligence in curriculum and support services, can affect students' sense of belonging to their universities. In this sense, technology has undermined a formerly unique advantage of campus life.[267]

266 Rachel Wilson and Lucy Morieson, "Belonging as a responsive strategy in times of supercomplexity and change," *Journal of University Teaching & Learning Practice* 19, 4 (2022), ro.uow.edu.au/jutlp/vol19/iss4/03.

267 Young, *Future Disruptions for Australian Universities*, 9.

As the student cohort continues to diversify and more students look to study through online or hybrid models, universities need to explore innovative ways to facilitate student belonging. Universities could be supported in this work through improved data on students' sense of belonging, including through the Student Experience Survey.

Higher education institutions need to ensure learning environments – both on campus and online – are safe, welcoming and inclusive spaces for all students. When issues arise, universities need to respond quickly and take action to protect those students whose safety has been compromised or threatened by gender-based violence, racism, discrimination, bullying and harassment and other forms of discrimination. This includes addressing student safety within the context of national and global events. At the Review's First Nations Roundtable in September 2023, stakeholders discussed their own lived experiences of feeling unsafe or unsupported at a university. They proposed a national racism survey to understand the pervasiveness of the issue and what action is needed to provide safer, inclusive spaces for First Nations people at universities. Importantly, stakeholders noted the survey would be an important step in the path to truth-telling and giving voice to the experiences of First Nations Australians. The proposal for a national racism survey is explored further in *Chapter 6 – A dynamic, collaborative and responsive system that serves the national interest*.

Issues affecting student wellbeing need ongoing attention, including student safety, mental health, improving accessibility for students with disability, and a lack of social supports and culturally safe spaces. Other issues, such as accessibility of online learning environments and housing instability, extend beyond the physical campus but are equally important to a student's wellbeing and learning, particularly for those from under-represented groups. Many higher education students are young adults who may be living away from home for the first time and may come from varying cultural backgrounds. These students can be particularly vulnerable, and it is important that their safety and wellbeing are prioritised by government and universities.[268]

The Review has heard from many people that students and staff who have experienced gender-based violence have not received the care and support they need and deserve from their higher education providers. There are often inadequate pathways for victim-survivors to raise complaints about providers' responses and there is a perceived lack of accountability for broader action across the system to address the drivers of this violence and respond appropriately. This situation cannot continue, and the Review notes the immediate commitment of the Government to act on Priority 5 of the Interim Report to address these issues urgently. Given the urgency to address issues of safety, the Review notes the Australian Government has released the Draft Action Plan to Address Gender-based Violence in Higher Education for public consultation.[269] The Draft Action Plan sets out 7 actions, including establishing a new National Student Ombudsman and strengthening provider accountability for issues relating to gender-based violence through new regulatory and compliance measures and support to employ best practice in prevention and response.[270] The Plan will be further considered by Education Ministers in early 2024.

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268 The Senate Legal and Constitutional Affairs References Committee, *Current and proposed sexual consent laws in Australia*, (Canberra: Senate Printing Unit, September 2023), www.aph.gov.au/Parliamentary_Business/Committees/Senate/Legal_and_Constitutional_Affairs/sexualcontentlaws/Report.

269 Department of Education, *Draft Proposal: Addressing gender-based violence in higher education*, (Canberra: 2023), www.education.gov.au/australian-universities-accord/resources/draft-action-plan-addressing-genderbased-violence-higher-education.

270 Department of Education, *Draft Proposal: Addressing gender-based violence in higher education*, 6–9.

Finding: Governance

In recent times, our regulatory and university governance arrangements have been too slow to recognise and respond to several important issues, especially in the areas of student wellbeing and staff employment. The Review's consultations heard repeatedly about failures to ensure students are safe, particularly from sexual assault and sexual harassment, and about staff employment concerns, especially relating to casualisation and underpayment.

4.3.1.1 Addressing student wellbeing and facilitating engagement through a Student Charter

The Review recommends there should be a Student Charter that sets out a shared, national commitment to the welfare, safety and wellbeing of all students regardless of their background, study level or mode of study (online or in person) (see Recommendation 18). This includes international students.

The Charter should outline commitments to provide a mentally, socially and physically safe, inclusive, respectful, supportive and accessible physical and digital learning environments. The Charter should be underpinned by a National Student Code that outlines the legislated requirements for timely and fair complaints processes.

The Charter should be accessible to all students and make it easier for students to understand student rights and student responsibilities and the obligations of their universities.

International students can face a range of significant issues while adjusting to life in Australia including social isolation, financial hardship, workplace exploitation and discrimination. Attracting the best and brightest international students is a priority and Australian higher education providers should also prioritise equity, diversity and inclusion across all educational settings. Supporting social cohesion within and beyond the classroom will benefit international and domestic students alike.

Case study: Self-review processes in The New Zealand Code

In New Zealand, the *Education (Pastoral Care of Tertiary and International Learners) Code of Practice 2021* (the Code)[271] outlines the obligations of education providers to support student wellbeing, safety and academic success.

A key component of the Code is universities conducting self-review processes to evaluate and improve their performance by identifying strengths, weaknesses, opportunities and gaps. To support this process, the New Zealand Qualifications Authority has developed tools that universities may use to assist in reflecting on their performance. University self-review reports must be made available to the public, increasing accountability through transparency across the system.

271 NZQA, "The Code for learners," NZQA, accessed 19 October 2023, www2.nzqa.govt.nz/tertiary/the-code/the-code-for-learners/; NZQA, "Self-review and attestation," NZQA, accessed 19 October 2023, www2.nzqa.govt.nz/tertiary/the-code/the-code-for-education-providers/self-review-and-attestation/.

Similarly, other cohorts such as students with disability, students in university accommodation, students on work integrated learning placements, and mature age students juggling work and family commitments could benefit from the Student Charter incorporating elements specific to their needs.

Students need a say in the issues that affect them, and this should extend to international students. To empower the student voice and allow students the opportunity to advocate for their interests further, the Review considers that student consultation on, and co-ownership of, the Charter should be a key focus in its development.

Further, the Review notes that for First Nations Australians to be at the heart of the higher education system, the representation and genuine participation of First Nations people, including students, in decision making and oversight roles are vital.

4.3.1.2 The Student Services and Amenities Fee

Universities are permitted to charge students a Student Services and Amenities Fee (SSAF) for student services and amenities of a non-academic nature. Most universities have the discretion to decide how much of the SSAF should be provided to the various services they offer, including how much is provided to student unions. Universities are required to consult with students on the allocation of proceeds from any compulsory SSAF. While the SSAF is a major source of funding for student unions, which use it to deliver a range of services, many universities allocate less of the fee directly to unions and use it themselves for services that benefit students.

The Review recognises student unions' important contribution and has considered whether they should be guaranteed a minimum percentage of the SSAF. The current system can mean that student unions are vulnerable to fluctuations in funding, which may affect their ability to provide services and support to students. However, restricting the universities' use of the SSAF could impede the delivery of other services including professional wellbeing and mental health support for students, career development advice, and sport and recreation.

The Review recommends the long-term sustainability of student-led organisations should be protected and that a set proportion of SSAF funding should be guaranteed to these organisations (see Recommendation 19). In implementing this recommendation, the Australian Government should set appropriate mechanisms to ensure funding for key services, such as mental health, are not adversely affected.

4.3.1.3 University accountability and responsiveness

When an issue arises, students and universities should first work together to address concerns. If the issue is not able to be resolved, students should then be able to escalate complaints on issues covered by the Charter. While the regulator is the appropriate body to engage with the institutions when they fail to meet their regulated obligations, students need a simpler and more accessible mechanism that allows them to pursue their complaints with appropriate supports. The Review recommends that this should be done through a Student Ombudsman, which is also being considered by the Australian Government as part of the Addressing Gender-Based Violence in Higher Education Action Plan, in response to the Review's Interim Report (see Recommendation 18).[272]

272 Department of Education, *Draft Proposal: Addressing gender-based violence in higher education*.

This pathway should be easy for students to navigate rapidly and avoid unnecessary red tape. In addition, the Ombudsman should collect and regularly publish data on complaints made to universities and to the Ombudsman, supporting universities to undertake self-review and implement systemic improvements.

4.3.1.4 Admissions practices and early offers

Broader admissions pathways

For many students, the first time they interact with the higher education system is through an admissions process. These processes allow universities to assess the preparedness of students for study, and aid students' understanding of what studies and skills they need for their chosen course.

As emphasised throughout this Report, if the higher education sector is to progress towards the Review's attainment and equity targets, improving access to higher education and attracting a wider range of prospective students is necessary. This includes students who may not have considered themselves candidates for further study.

To foster a more diverse student body, universities should continue to offer admissions pathways that take into account various combinations of previous study, work and life experience. This will increase admission of prospective students without an ATAR or Senior Secondary Certificate of Education (SSCE), non-school leavers, older students, and those looking for a mid-career change.

Addressing at-school offers

Many universities make early offers to study a higher education course to some Year 12 students before the completion of their senior secondary studies. This practice is not new but became widespread during and since the COVID-19 pandemic. At their October 2023 meeting, state and territory Education Ministers noted the Review's consideration of entry pathways to university and, in particular, early university offers, and agreed to revisit this issue in 2024.[273]

The Review, informed by consultations and submissions, has identified early offers as a contentious practice. There is no consistency or transparency around the making of early offers, and scant data on their use across the system. In evaluating the issue of early offers the Review sought the expertise of the Higher Education Standards Panel.[274]

There is evidence that early offers can be helpful for some students experiencing stress about Year 12. On the other hand, the Review has also heard concerns that an early offer can contribute to student disengagement in the final and important weeks or months of school. In addition, the Review heard that there is a risk that early offers can favour students who have existing personal or socio-economic advantages such as strong school performances, principal and parent advocacy, school culture and career guidance, and community and extracurricular claims.

273 Education Ministers Meeting, *Education Ministers Meeting Communique: October 2023*, (Canberra: Department of Education, 2023), www.education.gov.au/collections/communiques-education-ministers-meeting-2023.

274 Advice provided to the Panel by Professor Kerri-Lee Krause, Deputy Chair, Higher Education Standards Panel.

Therefore, the Review sees a need for a fair, open and consistent framework for the use of at-school offers, based on evidence on their appropriate use. The Commission should work with schools, higher education providers and admissions centres to develop this framework.

At a minimum, the Review is recommending early offers should be conditional on completion of the SSCE and achievement of course entry requirements. Jurisdictions should adopt and follow nationally consistent practice on early offers. Offers should take place within a consistent time window that occurs after coursework in the final year of school is complete. Finally, there is a need for better availability and transparency of data than is currently the case.

In advance of this framework being developed, the Review recommends that at-school offers for 2025 and 2026 should not be issued before September in the relevant year and that a new system be proposed and in place by 2027 (see Recommendation 20).

Recommendation: Ensuring student safety and experience

18. That to improve the overall student experience and reflect domestic and international student expectations of their higher education outcomes, the Australian Government work with national student bodies and the higher education sector to:
    a. develop a national student charter that sets out a shared, national commitment to the welfare, safety and wellbeing of all students on campus and online
    b. establish a National Student Ombudsman to respond to student complaints.

Recommendation: Ensuring student safety and experience

19. That to ensure the sustainability of student-led organisations, such as associations, unions and guilds, the Australian Government ensure that a proportion of the Student Services and Amenities Fee received by each higher education provider be directed to these organisations to deliver agreed services and amenities.

Recommendation: Early at-school offers

20. That to recognise the critical importance of school to higher education pathways, to ensure that students get the most out of their final year of school, and to maintain the integrity of senior secondary certificates, governments (through the Education Ministers Meeting) agree that early at-school offers for 2025 and 2026 should not be issued before September in the relevant year. Relevant stakeholders (including schools, higher education providers and tertiary admission centres) should also develop a national, cross-jurisdictional approach to at-school offers in time for 2027 offers that includes:
    a. the timing of when at-school offers are made
    b. a consistent and transparent framework for admissions requirements and assessment processes for at-school offers
    c. approaches to improving post-school transitions through at-school offers, particularly for those most at risk of falling out of post-school education
    d. improvements to data and analysis across at-school offers.

4.3.2 World-class learning and teaching

In addition to student safety and wellbeing, high-quality learning experiences and environments are central to delivering an improved higher education system for all students.

If student enrolments are to grow, this growth will be dominated by new entrants from non-traditional or less well-prepared backgrounds. It follows that:

- modes of learning need to accommodate diversity and growth
- the university workforce will need to be bigger and better equipped to help different student cohorts learn well.

Australia should aspire to be a world leader in delivering innovative, best practice learning and teaching – not only maintaining but improving higher education student experience and outcomes as the system grows. This means pursuing excellence in learning and teaching at a system-wide level and moving beyond the current threshold standard approach to quality.

Leadership in this area should be taken by the Commission, working closely with higher education providers, industry, unions and bodies representing the professions.

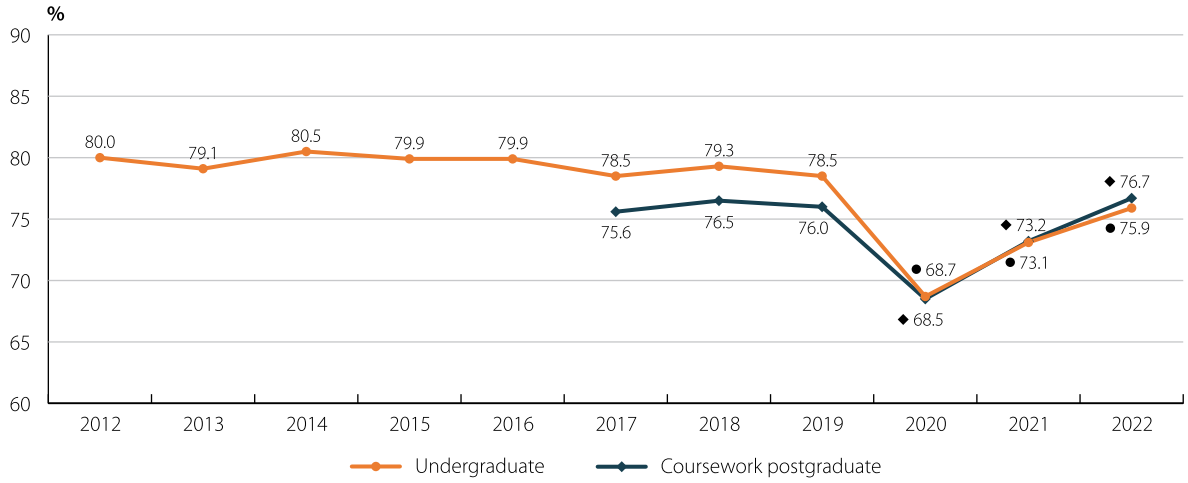
4.3.2.1 Student outcomes are generally positive, but there is room for improvement

Australian higher education currently produces good employment outcomes for most students, as measured by the Graduate Outcomes Survey (GOS). In 2019, 88% of undergraduates were in employment 4 to 6 months after completing their studies. Three years later, 94% of that same group of undergraduates

were in employment.[275] Strong graduate employment outcomes suggest students have skills and capabilities which are sought after by employers, but also reflects strong labour market demand and persistent skills shortages in some occupations.

Student ratings of their learning experience have been generally positive and fairly stable over time, as seen below in Figure 24. Prior to the COVID-19 pandemic, around 80% of undergraduate students consistently rated their educational experience positively. The notable exception, shown in the figure below, is the sharp decline in ratings due to the impact of the COVID-19 pandemic, though ratings have largely recovered in following years.

Figure 24: Quality of entire educational experience (% positive rating), by study level, 2012 to 2022.



Source: Quality Indicators for Learning and Teaching (QILT), *Student Experience Survey* [data set], (Canberra: Department of Education, 2022), accessed 20 November 2023.

Note: Results from 2015 onwards include students attending both university and non-university higher education institutions and therefore are not directly comparable with results from earlier surveys which refer to university students only.

Although comparisons with international systems are difficult due to a lack of directly comparable survey data, Australian students have historically rated their education experience slightly lower than those from the United Kingdom and the United States. This gap has narrowed in recent years and may not indicate substantive differences in the quality of education offered between the countries.[276] Nevertheless, Australia must continue to strive to deliver a world-leading student experience.

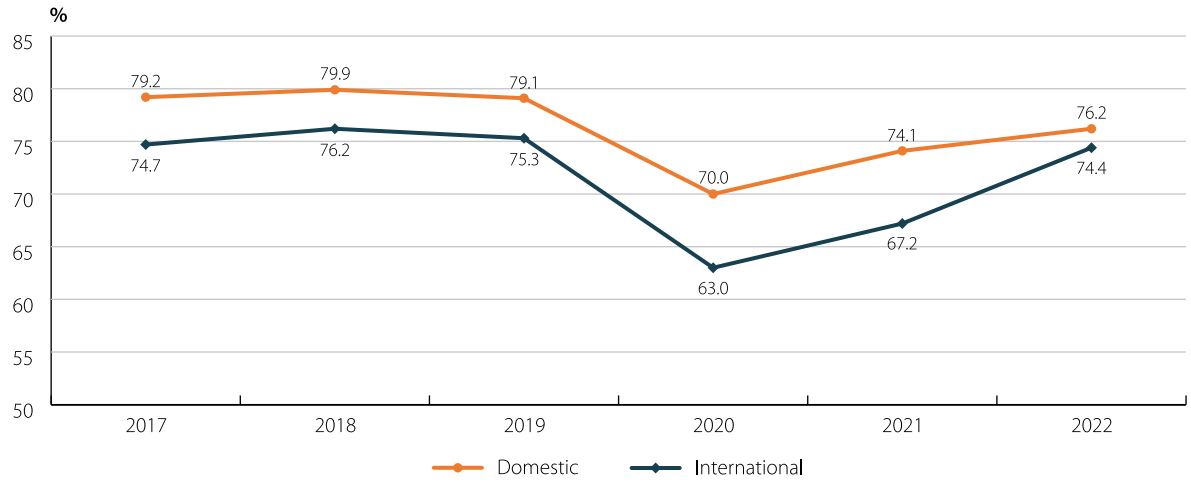
275 QILT, *Graduate Outcomes Survey 2022 [*data set], (Canberra: Department of Education, 2023), www.qilt.edu.au/surveys/graduate-outcomes-survey-(gos); QILT, *Graduate Outcomes Survey – Longitudinal 2022* [data set], (Canberra: Department of Education, 2023), www.qilt.edu.au/surveys/graduate-outcomes-survey---longitudinal-(gos-l).

276 QILT, *2022 Student Experience Survey National Report,* (Canberra: Department of Education, 2023), 30, www.qilt.edu.au/surveys/student-experience-survey-(ses).

At the institutional level, the teaching quality of Australia's best ranked universities has declined relative to international competitors, as measured by the Times Higher Education (THE) World University Rankings. In the 2024 THE rankings, despite having 11 universities in the top 200 for overall rankings, Australia had only 6 in the top ranked 200 universities for teaching, down from 7 in 2015. Over the same period, 5 of the top 6 rated Australian universities saw their ranking for teaching decline, with only Monash University improving its ranking.[277]

International students' ratings of their study experience have tended to be somewhat lower than those of domestic students, although the rebound in international ratings post-COVID-19 has been stronger (see Figure 25). Graduate employment outcomes are substantially lower for international students than their domestic counterparts. This poses a risk to Australia's standing as a provider of high-quality international education. It is vital to improve learning outcomes and student experiences for all students, encompassing international students in addition to domestic students.

Figure 25: Quality of entire educational experience (% positive rating), undergraduate, by citizenship, 2017 to 2022.



Source: Quality Indicators for Learning and Teaching (QILT), *Student Experience Survey* [data set], (Canberra: Department of Education, 2022), accessed 20 November 2023.

4.3.2.2 Building the evidence base

Measuring teaching performance is inherently difficult. Australia's approaches include the measurement of student experience and graduate outcomes and the transparent publication of results at both the national and institutional level. Efforts to improve metrics should, however, be ongoing. The Review recommends that the Commission oversee this work (see Recommendation 21).

277 Teaching ranks calculated using scores based on Times Higher Education, *World University Rankings* [data set].

A challenge for improving the quality of higher education learning and teaching is the availability of reliable and actionable data. Currently available metrics, including student experience ratings and employment outcomes referred to above, are valuable but are indicators only. They do not directly measure teaching performance or student learning gain, and it is often difficult to translate results into improved teaching practice. The existing Student Experience Survey could be enhanced and complemented by a new survey of teaching staff, examining resourcing and the learning environment.

Alongside survey data, increased and systematised use of peer review of teaching is also recommended (see Recommendation 21). Though many universities already make use of peer review processes, the uptake and consistency of review methodologies could be improved through a national accreditation system. This should be underpinned by evidence of effective and efficient methodologies which focus on providing actionable feedback to teaching staff on how to improve their practice. Peer review also has the potential to enhance system-wide evidence of teaching quality. The Productivity Commission has outlined how peer review processes could be used to validate existing and new questions in the Student Experience Survey.[278]

New and existing metrics should be brought together in a comprehensive Australian Higher Education Teaching Quality Framework covering multiple domains such as institutional investment, staffing and professional development, student cohort diversity, learning and employment outcomes, and student experience. In the United Kingdom, the Teaching Excellence Framework administered by the Office for Students fulfills this role.[279] In Australia, a National Quality Framework has been developed for the early childhood sector by the Australian Children's Education and Care Quality Authority.[280]

An aim of the framework would be to make transparent to higher education institutions, students, government and the broader Australian community whether public expenditure on teaching is being effectively used to ensure good learning outcomes for students from all walks of life. Increased accountability can ensure quality continues to be a central consideration for higher education providers, driving towards a system where university-led continuous improvement in teaching standards is the norm across the system. The framework would also help regulators identify and address emerging challenges to the quality of learning and teaching.

Finding: Students

Globally, learning and teaching methods are undergoing a profound shift. A marked trend towards more online learning (the 'virtual classroom') and enrolment in more affordable courses that are more tailored to individual student need is creating new expectations and opportunities to innovate for tertiary education providers. Australia needs to be at the forefront of these developments to be prepared for the changes that are coming.

278 Productivity Commission 2023, *5-year Productivity Inquiry: From learning to growth*, 106.

279 OfS, "The TEF," Office for Students, accessed 12 December 2023, www.officeforstudents.org.uk/advice-and-guidance/the-tef/.

280 Australian Children's Education & Care Quality Authority (ACECQA), "National Quality Framework," ACECQA, accessed 12 December 2023, www.acecqa.gov.au/national-quality-framework.

4.3.2.3 Raising teaching quality and status

The quality of teaching is an important factor in student experience and learning outcomes. Increasing student rates of participation and attainment over the next decades needs many more students from diverse backgrounds to succeed in the higher education system. Many will be less academically prepared for higher level studies than previous cohorts. The academic workforce will need to be larger and better equipped to help different student cohorts learn well.

Raising teaching status, professionalisation and training for teaching in higher education institutions will be important for these cohorts. The Review recommends that professional standards be developed for Australian higher education teaching, modelled on the framework administered by AdvanceHE in the United Kingdom (see Recommendation 31).[281] Formalising professional standards should raise the status of higher education teaching as a whole and allow staff to demonstrate their skills and accomplishments as they pursue academic careers. This work should be initiated by the Commission.

Given the importance of quality teaching, the Review suggests all higher education teaching staff, including sessional staff and PhD students engaged in teaching, should be encouraged to gain an accredited teaching qualification. Formal training and accreditation are requirements for teaching staff in the school, vocational education and training, and early childhood sectors. The main pathway for entering higher education teaching is the completion of a PhD, the primary component of which is undertaking research rather than training in pedagogy. Over time it should become the norm that higher education teaching staff hold teaching qualifications. Higher education providers should report how many of their staff have undertaken accredited training.

To help teaching staff meet the new professional standards and raise rates of accreditation, existing academic staff, including sessional staff members, will require high-quality professional development opportunities. Ideally, professional development should be structured around formal, accredited qualifications in evidence-based teaching methodology. In the school system, these qualifications are mandatory. For PhD students, accredited teacher training leading to a teaching qualification such as a Graduate Certificate in Higher Education Teaching and mentoring from senior academics should be provided alongside traditional research training activities, especially for those PhD students aspiring to an academic career. This will help develop the pipeline of highly skilled educators that Australia will require in the future. Development of the university workforce is discussed further in *Chapter 6 – A dynamic, collaborative and responsive system that serves the national interest.* Structuring training and career pathways for PhD candidates are discussed further in *Chapter 5 – Producing and using new knowledge*.

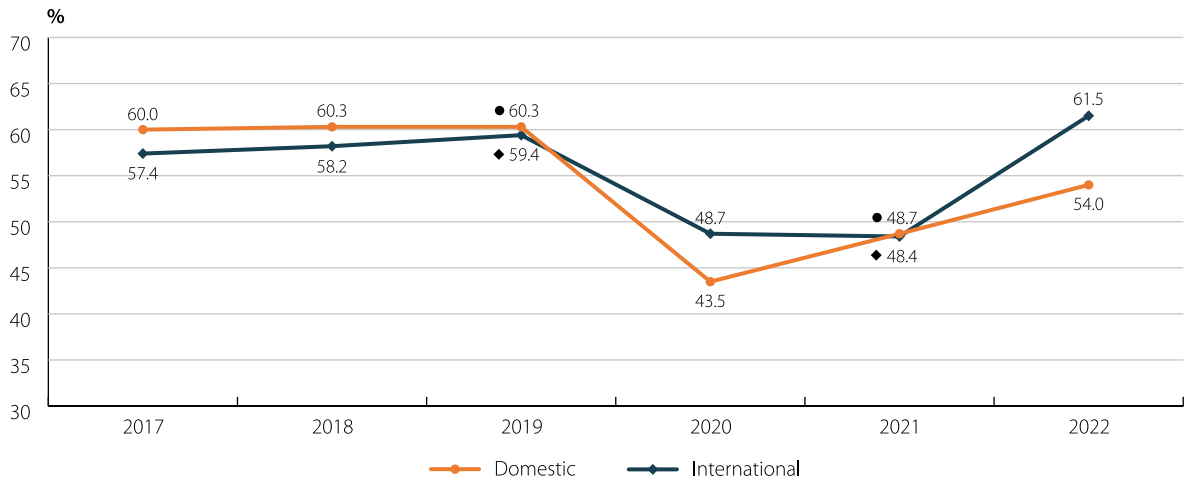
4.3.2.4 Enabling connectivity and belonging through digital delivery and other off-campus experiences

The widespread move to digital and hybrid modes of course delivery, particularly following the COVID-19 pandemic, presents challenges and opportunities for learning and teaching.

The rapid expansion of online learning during the pandemic, whilst enabling learning to continue, resulted in many students feeling isolated from their peers and teaching staff. This was reflected in student ratings of their learning engagement, which declined markedly between 2019 and 2020. For domestic students, these ratings have not yet returned to pre-COVID-19 levels (see Figure 26).

281 AdvanceHE, "Professional Standards Framework for teaching and supporting learning in higher education 2023," AdvanceHE, published 31 January 2023, advance-he.ac.uk/knowledge-hub/professional-standards-framework-teaching-and-supporting-learning-higher-education-0.

Figure 26: Learner engagement (% positive rating), undergraduate, by citizenship, 2017 to 2022.



Source: Quality Indicators for Learning and Teaching (QILT), *Student Experience Survey* [data set], (Canberra: Department of Education, 2022), accessed 20 November 2023.

The potential of digital delivery to accommodate student diversity and growth must be harnessed, whilst ensuring an excellent learning experience is provided no matter how a student engages with their studies. This includes helping students develop a sense of belonging to their learning community.

University innovation in online delivery methods helped Australia during the COVID-19 pandemic, but there are more opportunities that the higher education sector should capitalise on in the future. Artificial Intelligence is likely to change the way Australians work, and universities should look to harness its potential further in learning and teaching.

Case studies: Supporting students through the campus community

Building a sense of belonging and connection to their learning community can help students navigate the complexity of higher education. However, students are spending less time on campus as they increasingly juggle study commitments with employment or family responsibilities. Many universities have programs which develop social cohesion on campus and provide support services outside of the classroom setting.

For example, La Trobe University has operated The Lounge, a "student-run, transportable space promoting mental wellbeing". Offering relaxation and wellbeing activities, The Lounge offers a safe space for students to refresh during stressful periods of the academic year. It was developed by students participating in The Rural Health Innovation Sprint, through La Trobe's own Rural Health School.[282]

Cost-of-living pressures are a major concern for many students, and universities are helping students to cope. For example, the University of Canberra runs the UCX Food Pantry to supply students with free non-perishable food, as well as providing access to fresh fruit and vegetables through Second Bite and OZ Harvest. The Food Pantry is staffed by student volunteers.[283]

Support efforts are not limited to students physically present on a campus. Monash University, for example, has developed a range of supports for its online students including student advisers and subject-matter experts to assist students to navigate their study pathway and succeed academically. Students can also connect with peers through discussion boards and online study groups.[284]

In regional, rural and remote areas, Regional University Study Hubs help students access higher education without the need to leave their community. Student testimonials speak to the benefits of accessing dedicated support services and connecting with peers in person, combined with the opportunity presented by online tertiary study.[285] The Australian Government has announced it will establish up to 20 new Regional University Study Hubs and up to 14 Suburban University Study Hubs in response to the Priority Actions listed in the Review's Interim Report.

4.3.2.5 Teaching and research informed by First Nations knowledges

In addition to other new knowledge, it is important that teaching and research recognise, and are informed by, the knowledges of the world's oldest continuous cultures. Many universities are embedding First Nations knowledges into their teaching and research, with some also fostering First Nations cultural competency as a graduate attribute. This is supporting a diverse cohort of domestic and international students to develop an understanding and respect for First Nations values, culture and knowledge which can be transferred across broad disciplines. This research needs to be Indigenous-led and respond to the priorities and needs of First Nations communities.

282 La Trobe University, "Take time out in The Lounge," My La Trobe, published 17 February 2023, www.latrobe.edu.au/mylatrobe/take-time-out-in-the-lounge/.

283 University of Canberra, "Food Pantry," UCX, accessed 12 December 2023, ucx.canberra.edu.au/initiatives/ucx-food-pantry.html.

284 Monash University, "Support," Monash Online, accessed 12 December 2023, online.monash.edu/support/.

285 Department of Education, "Student Testimonials," Regional University Study Hubs, published 20 October 2023, www.education.gov.au/regional-university-study-hubs/student-testimonials.

At the Review's First Nations roundtable, stakeholders raised the need to recognise First Nations knowledge as a national skill need to ensure all Australian students understand and value the knowledges derived from First Nations people and how this knowledge can be applied to address local, national and global challenges. This is an idea that the Review believes needs to be further explored through an Indigenous-led process.

4.3.2.6 Ensuring high-quality generic skills

As discussed in *Chapter 2 – Meeting our current and future skills needs,* there is industry demand for advanced generic skills alongside the technical and professional skills students gain through their studies. To ensure all graduates possess these skills, generic skills formation needs to be explicitly incorporated into qualification and assessment frameworks, and work integrated learning (WIL) opportunities need to be expanded so that more students can build connections to and experience in the work environment. This should be informed by consultation with industry and community partners. Generic skills development needs to be a focus of all quality improvement efforts recommended throughout this chapter, including systematisation of best practice curriculum and teaching methods, and introduction of a professional standards framework. New ways to measure generic skills formation should also be explored.

4.3.2.7 Sharing best practice between universities is vital

Many of the challenges described above are arguably too complex and urgent to be addressed by individual educators and higher education institutions working in isolation. A more collaborative approach could help drive innovative curriculum and raise the quality of teaching practice. Variations in student ratings by provider and study area suggest there is room for sector-wide improvement and adoption of best practice. The Productivity Commission has argued for "finding policy approaches that raise standards amongst 'laggards'".[286] Improving the student experience requires better understanding of what best practice means and the ability to recognise it when it does occur. Central to this is better performance measurement tools.

Since the cessation of the Office for Learning and Teaching (OLT) in 2016, Australia has not had sufficient national focus on system-wide improvements in these areas. As a result, while there are many examples of high-quality teaching and educational research within Australian universities, the benefits of this work are not shared and systematised.

The Review recommends the creation of a Learning and Teaching Council of the Commission which would take up and expand the role of the former OLT – see *Chapter 6 – A dynamic, collaborative and responsive system that serves the national interest.* It would oversee the ongoing coordinated and collaborative effort needed to update research into best practice learning and teaching approaches, taking into account rapid changes in global higher education and in technology. A project should be commissioned to draw together effective methodologies for student learning in Australian higher education, guided by a panel of experts and embedded within teaching networks and communities of practice. The project's focus could be sharing 'what works' in student achievement, such as evidence-based approaches to improving student outcomes including development of generic and technical skills. This includes improving the

286 Productivity Commission 2023, *5-year Productivity Inquiry: From learning to growth*, 96.

outcomes of diverse student cohorts, effectively using digital delivery and embedding generic skills development in curriculum. The repository could be hosted by the Commission and provide access to implementation guides and tools that can be adapted for different university contexts and missions.

Best practice curriculum resources for specific discipline areas could also be commissioned. Internationally, sharing educational resources through digital repositories has become a widespread practice over the past decade, aimed at advancing student learning and promoting global access to higher education. Missing from that landscape of open access resources are quality-assured, student-centred learning materials designed specifically for the Australian context and aligned with the Australian Qualifications Framework. Discipline-specific digital repositories could be hosted by designated centres – each headquartered in one university but acting as a 'hub' for cross-institutional collaboration. Projects could be led by academics with high standing in their discipline communities. They would engage closely with professional bodies and industry partners to develop a shared understanding of current challenges and opportunities in their fields.

Recommendation: Quality learning and teaching

21. That to improve student learning outcomes and prepare the higher education sector for growth in student numbers (particularly of students from under-represented backgrounds who need additional support) the higher education sector, in partnership with the Australian Government, improve the quality of learning and teaching through:
    a. using proven innovative learning approaches which embrace online and hybrid teaching modalities
    b. sharing and encouraging the uptake of best practice teaching methodologies and curriculum
    c. improving the evidence-base for the quality of higher education learning and teaching by:
        i. developing a comprehensive Australian Higher Education Teaching Quality Framework, with regular reporting against the Framework, to improve transparency of provider performance across multiple dimensions of student outcomes and teaching practice
        ii. developing new metrics and improving existing metrics for measuring learning and teaching quality in higher education
        iii. encouraging the more systematic use of peer review of teaching to assist educators to improve their practice.

4.3.3 International education

As one of Australia's most successful exports, international education is an important source of revenue and a two-way connector to the world, and has helped Australia extend its global footprint. Many Australian universities have established campuses throughout the Asia-Pacific region, or have strong linkages to overseas universities.

The Government has played a leadership role to advance Australia's international education partnerships, deepen relationships in the region and broaden opportunities for Australian higher education providers. This includes work with partner governments to increase transnational education delivery, including by facilitating the recent opening of Monash University's campus in Jakarta, the first foreign-owned campus in Indonesia; the soft launch of Western Sydney University's campus in Surabaya, Indonesia; and the establishment of international campuses by Deakin University and the University of Wollongong in GIFT City, India. These milestones sit alongside a suite of collaborations in the region, and ongoing work with our key partner countries to provide the skills needed for economic growth and regional enhancement.

However, rapid growth has also contributed to fragmented quality. Most international education providers offer a high-quality service to students. These providers, who represent the bulk of the market, have a proven track record of meeting or exceeding expected standards. In 2022, international student ratings of their higher education experience were on par or higher than those for domestic students across all focus areas.[287] At the other end of the spectrum the Review is aware of market segments where low quality, unethical providers are exploiting the system and their students. This is to the entire sector's detriment. The Review's assessment is that the regulatory regime and risk management burden placed on providers should reflect evidence about these differing risk profiles.

In line with significant changes to the policy landscape on education and migration, Minister Clare has foreshadowed the development of an International Education Strategic Framework ('the Framework'). The Government will use this to update the role and direction for international education to achieve Australia's economic, productivity and social wellbeing objectives through a high quality, sustainable and diverse international education sector.

4.3.3.1 International student numbers and concentration

Following years of strong growth, measures implemented in response to the COVID-19 pandemic – including the closure of Australia's borders – took a toll on international education, both economically and on students stranded onshore and offshore. International student numbers have largely recovered to pre-COVID-19 levels. As at August 2023, international student enrolments in higher education are 1% lower than the same time in 2019. However, commencements have increased by 17% when compared with the same period in 2019,[288] which raises concerns about the capacity of the higher education sector and associated infrastructure. The Migration Strategy sets out a commitment to getting the migration system back on track and returning migration levels to normal.[289] The Strategy also notes that growth of the international education sector needs to be sustainable and principally driven by quality and a strong

287 QILT, *2022 Student Experience Survey: The International Student Experience*, (Canberra: June 2023), accessed 4 December 2023, www.qilt.edu.au/.

288 Department of Education, *Provider Registration and International Student Management System (PRISMS)* [unpublished data], (Canberra: 2023).

289 Department of Home Affairs, *Migration Strategy: Getting Migration Working for the Nation*, (Canberra: 2023), 7, accessed 13 December 2023, immi.homeaffairs.gov.au/programs-subsite/migration-strategy/Documents/migration-strategy.pdf.

connection with our national interest. To support this position, the Government has announced measures to strengthen integrity and quality in the international education sector. These actions combined may slow growth leading to lower international student numbers over the forward years to support a sustainable international education sector.[290]

The Review recognises the extensive work across government to respond to concerns about some low-quality providers in the wider international tertiary education market. The Review is recommending that, to maintain trust and integrity in the Australian visa system, the Australian Government should continue to act on the recommendations of the Nixon Review and implement the Migration Strategy to protect international students from unscrupulous providers (see Recommendation 23).

Throughout the Review process, there has been significant discussion about the size of international student cohorts in Australian universities and the potential for large concentrations to affect international and domestic student experiences. For example, in 2022, international students at some universities exceeded 40% of the total student population: the University of Sydney (47.5%), Monash University (42.7%) and RMIT University (45.0%). The data for 2023 is not yet available but is expected to show an increase in the proportion of international students across more universities. There has also been discussion on whether there should be a cap, or limit, on international student numbers by institution and/or course discipline. While some commentators have suggested between 30 and 40% as an optimal concentration for international students in a particular institute, the basis for such figures remains unclear.[291] What is clear, however, is that social licence to operate international education can become challenging when large cohorts are concentrated in particular classes, courses or providers – especially if there are limited efforts to ensure integration across different cohorts.

In this light, providers need to consider how they might broaden their student support services and structure their classes to help improve the student experience, and only support an increase in the international student intake where it is educationally sustainable.

Optimal concentrations may also vary across fields of study and between undergraduate and postgraduate levels. In 2021, of those courses with total enrolment numbers over 100,000 nationally, the broad fields of Information Technology and Management and Commerce, had international student enrolment concentrations exceeding 45%, and much higher in some providers.

High concentration rates of international students have led to concerns about the negative impact on the student experience for domestic and international cohorts alike. While the Review has not seen compelling evidence to suggest that these negative impacts are widespread, some staff and students who experience these concentrated impacts are expressing concern. This raises the question of whether there is a role for government to undertake further research on the impact of international student concentration.

Recent analysis undertaken by Navitas shows that when total international student numbers decrease – as happened, for example, during the global financial crisis and the COVID-19 pandemic – the Group of Eight (Go8) increases its share of international students. This suggests that constricting the sector through regulation may disproportionately benefit Go8 providers as international students continue to enrol in higher-ranked universities.[292] Heavy regulation of international student numbers may also

290 Department of Home Affairs, *Migration Strategy: Getting Migration Working for the Nation*, 31.

291 John Ross, "Australian Universities cap international student numbers," *Times Higher Education*, 6 June 2019, www.timeshighereducation.com/news/australian-universities-cap-international-student-numbers.

292 Navitas, *International global student flows: scenarios for the next 10 years*, Presentation, Australian International Education Conference 2023, 19.

lead to unintended consequences. To overcome some of the perceived challenges surrounding student concentration, higher education providers should therefore explore alternative mitigation strategies such as supporting greater cohesion between domestic and international student cohorts.

This is why the Review is recommending that the Australian Government have a role in ensuring the regulatory environment addresses any issues that might arise in course concentrations and the resulting impact on quality of the student experience (see Recommendation 23).

Finding: International

International education is well-recognised as a crucial export industry, but less so as an important element of Australia's soft diplomacy, reputation and ability to generate relationships across the world. International alumni can be strong champions for institutions, regions and the nation and their potential needs to be harnessed. Maintaining the quality and integrity of the international education system is essential to continuing to deliver this value.

4.3.3.2 International student visas and migration pathways

Attracting the best and brightest international students is a shared priority for the Australian Government and the tertiary education sector. Australia is an immensely popular study destination for international students, offering unique study and lifestyle opportunities. As noted in the Inquiry into Australia's tourism and international education sectors, "through international education Australia can elevate broader engagement to support global and regional democratic development, human rights and economic stability".[293] More can be done, however, to improve outcomes for international students, particularly in relation to migration opportunities and positive employment outcomes, as acknowledged in the Australian Government's Migration Strategy.

With the Australian Government's support, tertiary education providers should prioritise equality and inclusion throughout the lifecycle of international student engagement with the higher education sector. Improving transparency, clarity and communication about the Australian visa system would improve migration outcomes for international students. This includes addressing issues associated with a 'permanently temporary' visa status – where migrants remain in Australia without the opportunity to acquire permanent residency.

The Migration Strategy highlights the need to end "settings that drive long-term temporary stays (known as 'permanent temporariness')", and restore integrity to the migration system and international education.[294] This is crucial to improving outcomes for international students, whether they choose to stay in Australia or return overseas, and strengthens Australia's soft power diplomacy. Developing a well

293 Joint Standing Committee on Foreign Affairs, Defence and Trade, *Quality and Integrity - the Quest for Sustainable Growth: Interim Report into International Education*, Inquiry into Australia's tourism and international education sectors, (Canberra: Parliament of Australia, October 2023), 1, accessed 15 November 2023.

294 Department of Home Affairs, *Migration Strategy: Getting Migration Working for the Nation*, 15.

targeted skilled migration program is critical to meeting skills shortages, while also emphasising the government's sovereign responsibility to upskill the Australian populace to meet longstanding areas of skills shortage.

The Inquiry into Australia's Skilled Migration Program also commented on the value of providing a "clear pathway to permanency" in areas of persistent skills shortage for international students who are excelling in relevant areas of study.[295] The Grattan Institute suggests that "migrants granted permanent residency are likely to remain in the workforce for decades" and that "selecting younger, skilled migrants who are proficient in English and have good employment prospects is likely to maximise the benefits that permanent skilled migration offers the Australian community".[296] This is why the Review is recommending that the contribution international students make to Australia be recognised, and that there be greater alignment and coordination between the courses and programs marketed to international students and the national skills agenda and relevant migration initiatives (see Recommendation 22).

Migration Strategy

Released in December 2023, the Government's Migration Strategy is a comprehensive review of Australia's migration system. It forms part of a whole-of-government program and aligns with broader Government priorities, such as the Employment White Paper. The Strategy identifies eight key actions, with a policy roadmap that will be delivered across three phases: existing commitments, new commitments, and areas for future reform.

One of these priority actions will be to strengthen the integrity of international education and recalibrate student and graduate visa settings to support both the education sector and Australia's migration needs, and to create clearer pathways for students to transition to the workforce.

The Migration Strategy recognises that international students play an invaluable part in Australian communities, bringing new ideas and skills to enrich the fabric of our society. International students who stay in Australia to pursue work opportunities help alleviate national skills shortages and make an ongoing contribution to Australia's communities and way of life. Maintaining the quality and integrity of the sector is critical for the safety and overall experience of international students, the economy and Australia's international relationships. To support this mission, the Migration Strategy introduces several integrity measures to protect Australia's international education sector. Among others, these include a new 'Genuine Student' requirement in an application process that provides greater clarity, bolstering the student visa integrity unit in Home Affairs, restricting onshore 'visa hopping', and raising English language requirements.

295 Joint Standing Committee on Migration, *Final Report of the Inquiry into Australia's Skilled Migration Program*, (Canberra: Parliament of Australia, 2021), 58, accessed 13 December 2023, parlinfo.aph.gov.au/parlInfo/download/committees/reportjnt/024680/toc_pdf/FinalReportoftheInquiryintoAustralia'sSkilledMigrationProgram.pdf;fileType=application%2Fpdf.

296 Brendan Coates, Trent Wiltshire and Tyler Reysenbach, *Australia's Migration Opportunity: How Rethinking Skilled Migration Can Solve Some of Our Biggest Problems*, (Melbourne: Grattan Institute, December 2022), 22, grattan.edu.au/wp-content/uploads/2022/12/Australias-migration-opportunity-how-rethinking-skilled-migration-can-solve-some-of-our-biggest-problems.pdf.

4.3.3.3 Student experience and English language proficiency

There are multiple factors that affect the student experience both within and beyond the classroom. Students' ability to communicate effectively with one another is a significant factor. There is anecdotal evidence to suggest that even slight improvements in language skills for international students help them integrate more successfully into educational settings, seek help, and engage more effectively with international and domestic peers.

To help protect the experience and education of international students so that they contribute to Australia's overall education environment, tertiary education providers need to deliver on the promise of a high-quality education experience that is expected of an Australian institution. Providers need to apply rigorous testing and admission benchmarks to ensure international students have the appropriate English language level to succeed in the classroom and beyond, and provide tailored support where required. As noted in the Government's Migration Strategy, "English proficiency has a clear and direct relationship with strong education and labour market outcomes".[297]

Under the Migration Strategy, the Government will increase English language requirements for Student and Temporary Graduate visas from early 2024.[298] Along with test scores required for Student and Temporary Graduate visas, language requirements for students undertaking an English Language Intensive Course for Overseas Students (ELICOS), and students undertaking a university foundation or pathway program that delivers reputable English language training, will also be raised.[299]

These measures will support a range of better outcomes for international students and the international education sector more generally, driving an improved educational experience, increasing the outcomes of international students in the labour market, strengthening the integrity and reputation of the international education sector, and reducing the workplace exploitation of international students.[300]

Regional universities using metropolitan-based campuses to attract international students

The Review has noted concerns about regional universities using metropolitan-based campuses to attract international students. In its Interim Paper, the Joint Standing Committee on Foreign Affairs, Defence and Trade, Quality and Integrity conducting the Inquiry into the Post COVID-19 Recovery of Australia's Tourism and International Education sectors recommended that the Accord process consider the desirability of the widespread practice in the university sector whereby universities establish Central Business District (CBD) campuses largely comprising international students and sub-contract the teaching to private institutions. The Committee noted that adjustments to funding formulas may be warranted to ensure that genuine regional universities are adequately funded and not forced to chase revenue in this manner.[301] Placing restrictions on such campuses without a parallel increase in funding would further disadvantage regional universities.

The Committee also noted that regional communities offer exceptional student experience and employment opportunities.

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297 Department of Home Affairs, *Migration Strategy: Getting Migration Working for the Nation*, 64.

298 Department of Home Affairs, *Migration Strategy: Getting Migration Working for the Nation*, 65.

299 Department of Home Affairs, *Migration Strategy: Getting Migration Working for the Nation*, 65.

300 Department of Home Affairs, *Migration Strategy: Getting Migration Working for the Nation*, 65.

301 Joint Standing Committee on Foreign Affairs, Defence and Trade, Quality and Integrity, *The Quest for Sustainable Growth: Interim Report into International Education*, xxi

Regional Australian higher education providers often excel in specialist field of study rankings, for example James Cook University in marine sciences. However, despite efforts by successive governments, it has proven very difficult to attract students to study in regional areas in significant numbers. More could be done to promote regional Australian university rankings at a field of study level, rather than institutional level. State and territory government and individual university efforts to promote regional study are important. Under the Migration Strategy, the Government will retain the ability for students who studied in a regional area to apply for an extension of their Temporary Graduate visa for a period of one to 2 years.[302]

Student housing

The Review has heard that international students are one of the factors contributing to pressures on housing availability and cost, and broader infrastructure. The Australian Government needs a planned and managed approach to determining the optimal size and composition of the higher education sector. This managed approach should assess these pressures against the broader benefits that international students bring to the economy, labour market and Australia's influence in the region and globally.

The international student recovery has coincided with increasing housing pressures across Australia, with limited supply, high prices and low vacancy rates. These issues have created challenges for students seeking housing in a wide variety of contexts – including inner city locations, metropolitan universities, large regional centres, and smaller regional towns. These effects are most pronounced for under-represented cohorts, for whom additional housing stress may be an important factor disincentivising enrolment, preventing access to the transformational opportunity of higher education.

Purpose-built student accommodation (PBSA) plays a key role in providing dedicated housing for domestic and international students, reducing pressure on the private rental market. PBSA currently provides over 76,500 beds to students across Australia in over 200 buildings, with 8,000 new PBSA rooms expected to be delivered across Australia between 2023 and 2026.[303] The PBSA market is dominated by for-profit student housing providers, resulting in high-cost housing which prices-out many students, particularly those from under-represented groups. Some PBSA is owned by universities themselves, though in many cases this housing is also high-cost and managed for profit. PBSA is complemented by a pool of university owned or affiliated colleges, primarily servicing domestic students.

International students may also choose to live in homestay accommodation, with the hosted accommodation sector providing vital support in regions where other accommodation types are unavailable or limited. The Inquiry into Australia's tourism and international education sectors has recommended that the Government encourage states and territories to develop homestay in their respective jurisdictions to help alleviate pressing student accommodation issues and deepen connections between international students and Australian society. Following best practice models such as the 'Host for the Coast' program,[304] consulting with relevant stakeholders, and strengthening risk management measures will allow homestay to offer meaningful and culturally connected accommodation options for international students in regional and urban settings. Such arrangements would benefit on-shore international students with their studies as well as during placement rounds.[305]

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302 Department of Home Affairs, *Migration Strategy: Getting Migration Working for the Nation*, 68.

303 CBRE, *Accommodating the growth in students: Demand, supply and pricing for Australian PBSA market*, (CBRE Research, August 2023), mktgdocs.cbre.com/2299/c5166330-37d3-4674-8cda-dce518da0b37-1392467054.pdf.

304 Study Gold Coast, "Host for the Coast," 2023, accessed 13 December 2023, www.studygoldcoast.org.au/host-for-the-coast/.

305 Joint Standing Committee on Foreign Affairs, Defence and Trade, *Quality and Integrity - the Quest for Sustainable Growth: Interim Report into International Education,* xxi.

The Review is recommending that providers have appropriate risk management strategies for international education that include consideration of access to and availability of affordable student housing (see Recommendation 23).

Recommendation: International education

22. That to plan for a strong future for the international education system and recognise the contribution international students make to Australia, the Australian Government and the Australian Tertiary Education Commission:
    a. work with tertiary education providers to ensure greater alignment and coordination between the courses and programs that are marketed to international students and the national skills agenda and relevant migration initiatives
    b. work across government and tertiary education providers to support the growth of international education in regional and remote areas, encouraging providers to communicate the benefits of studying and living in regional and remote Australia
    c. work with tertiary education providers to explore opportunities and review visa requirements to support diversification of international student markets within a national strategic framework, including through using innovative transnational education delivery modes. This engagement should particularly focus on medium term opportunities in South Asia, consistent with *Australia's Education Strategy for India*, and Southeast Asia, consistent with the *Southeast Asia Economic Strategy to 2040*
    d. support tertiary education providers, in partnership with relevant government agencies, to enhance Australian alumni engagement in students' countries/regions of origin. These alumni networks should aim to foster enduring connections to Australia which strengthen Australia's international research networks and partnerships.

Recommendation: International education

23. That to address issues with the integrity and quality of teaching and facilities in international tertiary education and ensure that international education providers maintain their social licence to operate, the Australian Government and the Australian Tertiary Education Commission:
    a. work across government and with tertiary education providers to ensure trust and integrity within the Australian visa system is maintained, in line with agreed recommendations from the Nixon Review and the Migration Strategy to protect international students from recruitment agents and providers that do not meet the high national standards expected by the industry
    b. through TEQSA's existing or expanded regulatory functions and negotiation of mission-based-compacts, ensure that providers have appropriate risk management strategies for international education consistent with the *Education Services for Overseas Students Act (ESOS Act)*, other legislative obligations and the higher education standards, taking an evidence-based approach to issues including:
        i. managing demand volatility
        ii. course concentrations and the quality of the student experience
        iii. access and availability of affordable student housing.

4.4 Changes that focus on students

Students are at the centre of the higher education system. Delivering for them will continue to be a challenge as the system expands to meet skills needs and includes more students from under-represented cohorts. The Review has proposed a range of measures to ensure that the system delivers for students, including addressing the unfairnesses inherent in the Job-ready Graduates package so that student contributions are fairer and more affordable, and improving student loan arrangements. Some measures go directly to the student experience, such as quality teaching and learning, student safety and student voice, and admissions processes. Together, the recommendations in this chapter put students first, with the aim of ensuring they get outstanding value from their investment and effort.

Chapter 5. Producing and using new knowledge

5.1 Introduction

Australia's higher education research sector is crucial to nation building and to the prosperity of all Australians. The world-class research produced by our universities should be a key driver of our economic competitiveness. The nation's future depends on its ability to strengthen knowledge, information and technology acquisition and application.

The higher education research sector does much of the underpinning work for the innovation and research and development (R&D) system, training PhD students, carrying out the bulk of our basic and strategic basic research, and producing the majority of our scientific publications. This is a big achievement as Australia produced 3.4% of the world's published research in 2022 even though it has only 0.33% of the world's population.[306] The university sector produces a relatively high percentage of publications jointly with researchers in other countries, boosting Australia's access to global R&D.[307]

This research comes from a breadth of disciplines, spanning STEM (science, technology, engineering and mathematics), HASS (humanities and social sciences) and Health. All need to work together to grow and transform our economy and enhance the wellbeing of society. HASS, for example, is crucial to understanding the contributing factors to a cohesive society, and enabling Australia not only to understand and take advantage of opportunities offered by global economic, scientific, technological and political trends, but to exert a positive influence in our region of the globe.

In this chapter, the Review recommends a range of measures to secure the future of Australian research, and Australian higher education research in particular, so that its impact is as high and transformative as possible. We must ensure that we not only *support* quality basic and translational research, but that we *use* the resulting research capacity and capability.

This will require Australia to continue to invest in and strengthen the higher education research sector. It will require encouragement of research end-users (industry, governments and communities) to become exemplary users of university research capability to explain conundrums and solve wicked problems and it will require entrepreneurial commercialisation of research results.

No one mechanism will be sufficient to achieve these goals. Most urgently, action must focus on taking full advantage of the nation's research potential by increasing government and industry use of university research capacity and capability and expanding government support for research translation. It must

306 Clarivate, *Web of Science Documents* [data set]; The World Bank, *Population, total* [data set], accessed 24 November 2023, incites.clarivate.com/#/analysis/0/organization; The World Bank, *Population, total* [data set], accessed 24 November 2023, data.worldbank.org/indicator/SP.POP.TOTL.

307 Department of Industry, Science and Resources, *Australian Innovation System Monitor* [data set].

build on and maintain the strong foundation of Australia's research system, namely the discovery of new knowledge through basic, strategic basic and applied research. And, recognising the outsized role Australian universities play in generating research outputs compared with countries that have similarly high-performing research sectors, it must focus on providing research funding that enables cutting-edge research outputs and builds the conditions for more world-leading research to emerge.

A range of enablers will support progress toward these goals. One element is support for the research training system, to allow higher degree by research (HDR) students to learn how to generate the new knowledge that the nation needs. Another is ensuring First Nations participation in research embeds the wealth of First Nations knowledges in research pursuits.

The key mechanisms the Review has identified to reinforce and improve Australia's research sector are:

- continuing to deliver high-quality foundational research
- enabling and promoting a better national understanding (and appreciation) of higher education research – including mechanisms to evaluate research quality and impact through a national framework
- making sure the full impact of research is seen, appreciated and used by Australian communities, industry and governments
- building a platform to secure higher education research and grow research quality, capacity and capability in the future
- empowering universities to deliver on Australia's strategic research agenda.

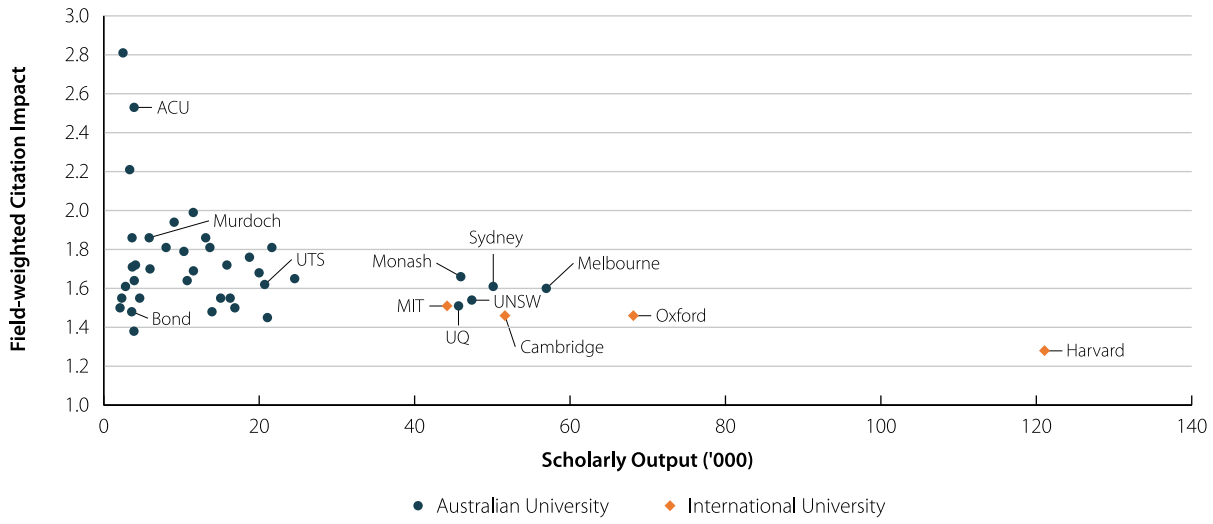
5.2 Australian higher education research – context and comparisons

5.2.1 Higher education research is high-quality

As noted, Australian universities are strong research performers, with highly cited, high-quality and high-impact research. The 5 universities with the highest research output are all large metropolitan universities, and all but one university that receives research block grant funding in Australia have a citation index greater than one, meaning their research is cited more extensively than the world average (see Figure 27). Our universities are well-positioned to assist Australia's transition to a digital, knowledge economy, with IT-related Australian research cited twice as much as the global average, reflecting strong performance in the fields of multimedia, data science and artificial intelligence, including machine learning and computer vision.[308]

308 SciVal, *Benchmarking – The World University Rankings* [data set], (Elsevier, 2023), accessed 8 December 2023, www.scival.com/benchmarking/ranking/the/worldUniversityRankings.

Figure 27: Field Weighted Citation Impact relative to number of publications by university (thousands), 2019 to 2022.



Source: SciVal, *Benchmarking – The World University Rankings* [data set], (Elsevier, 2023), www.scival.com/benchmarking/ranking/the/worldUniversityRankings.

Note: A Field Weighted Citation Impact >1 means publications are cited more frequently than the relevant global average.

Over 84% of Australian university research is rated at or above world standard, and Australia produces the fifth highest number of highly cited researchers in the world.[309] In 2022, 59.8% of all research publications with an Australian author included an international co-author, higher than the EU (43.5%) and the US (37.3%).[310] When countries are ranked by the number of their universities included in the world's top 500 worldwide, Australia appears 5th, behind significantly larger economies (USA, UK, Germany and China).[311] This performance and reputation have helped our universities stand out on the global stage and made our universities attractive for international students and our researchers partners of choice, and is based, in turn, on significant investment of international student fee revenue by universities into their research effort.

However, although the quality of university research is high, universities cannot on their own achieve the level of research Australia requires to meet the challenges of the future. The picture of total research expenditure in Australia tells its own story.

309 Australian Research Council (ARC), *State of Australian University Research 2018–19: ERA National Report*, (Canberra: ARC, 2019), dataportal.arc.gov.au/ERA/NationalReport/2018/; Clarivate Plc, "Clarivate Reveals World's Influential Researchers in Highly Cited Researchers 2023 List," Australian Associate Press (APA), 15 November 2023, www.aap.com.au/aapreleases/cision20231115ae68209/. This is calculated as a sum of Rating 3, Rating 4 and Rating 5 two-digit Units of Evaluation (UoEs) based on the State of Australian Research 2018–19 report (dataportal.arc.gov.au/ERA/NationalReport/2018/pages/section1/research-quality/). It's worth noting that since the percentage of UoEs within each Rating band (1–5) is a rounded figure, it is possible that the true figure for Rating 3–5 (at or above world standard) is 85%.

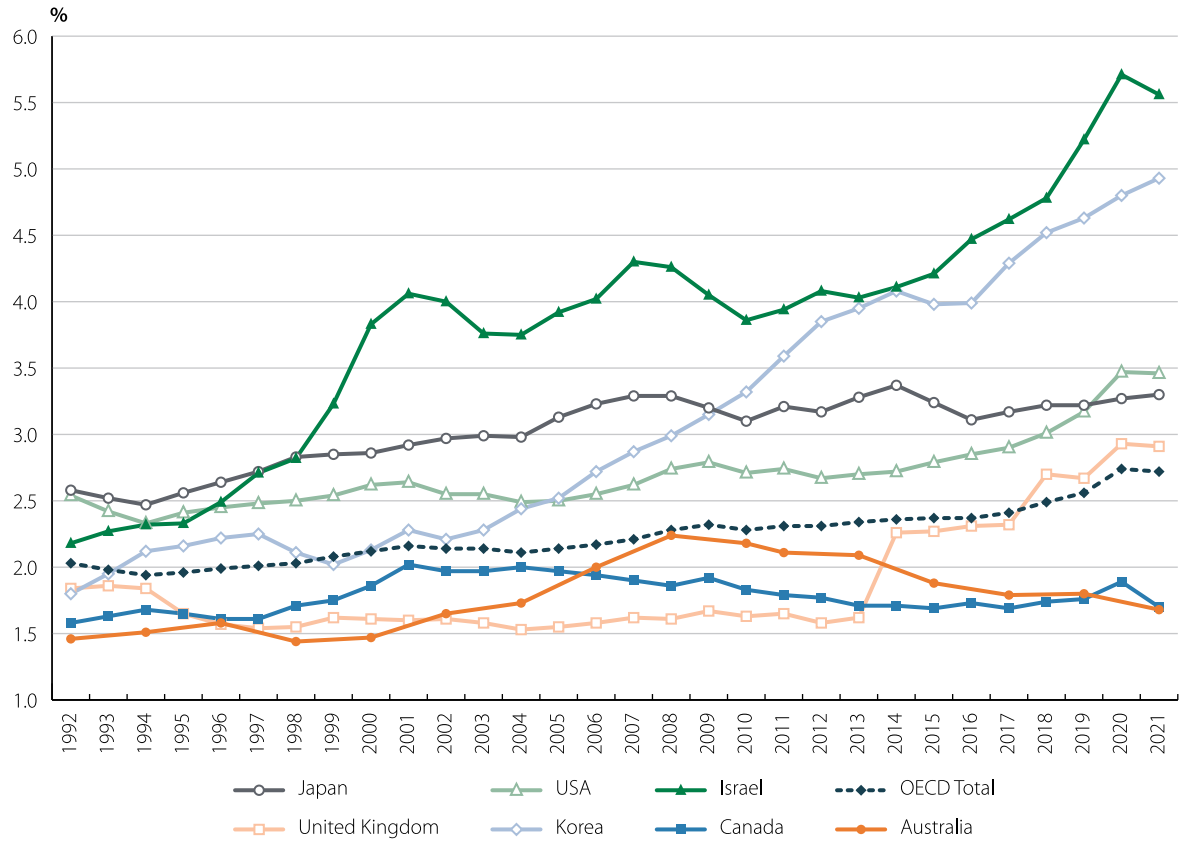
310 SciVal, *Collaboration by Australia* [data set], (2023) accessed 19 December 2023, www.scival.com/collaboration/collabMetrics?uri=Country/36

311 QS, *QS 2022 World University Rankings 2023 Result Tables* [data set].

5.2.2 National R&D expenditure is low and overly reliant on higher education

While Australian universities research invest significantly in research, national R&D expenditure overall is low for an advanced economy, at 1.68% of GDP in 2021–22 (see Figure 28).[312]

Figure 28: Gross Expenditure on R&D as a Percentage of GDP, OECD country comparisons, 1992 to 2021.



Source: OECD, *OECD Main Science and Technology Indicators* [data set], 2023, stats.oecd.org/Index.aspx?DataSetCode=MSTI_PUB.

Australia's gross domestic expenditure on R&D (GERD) peaked at 2.25% in 2008–09 and has continuously declined to 1.68% of GDP in 2021–22.[313]

Business expenditure on R&D (BERD) peaked in 2008–09 at 1.37% and declined to 0.89% of GDP in 2021–22 (see Figure 29).[314] Rising expenditure coincided with the emergence of the mining boom in the early 2000s, showing strong demand for R&D innovations in the early stages then cooling following the end of the resources boom.

312 Australian Bureau of Statistics, *Research and Experimental Development, Businesses, Australia 2021–22* [data set].

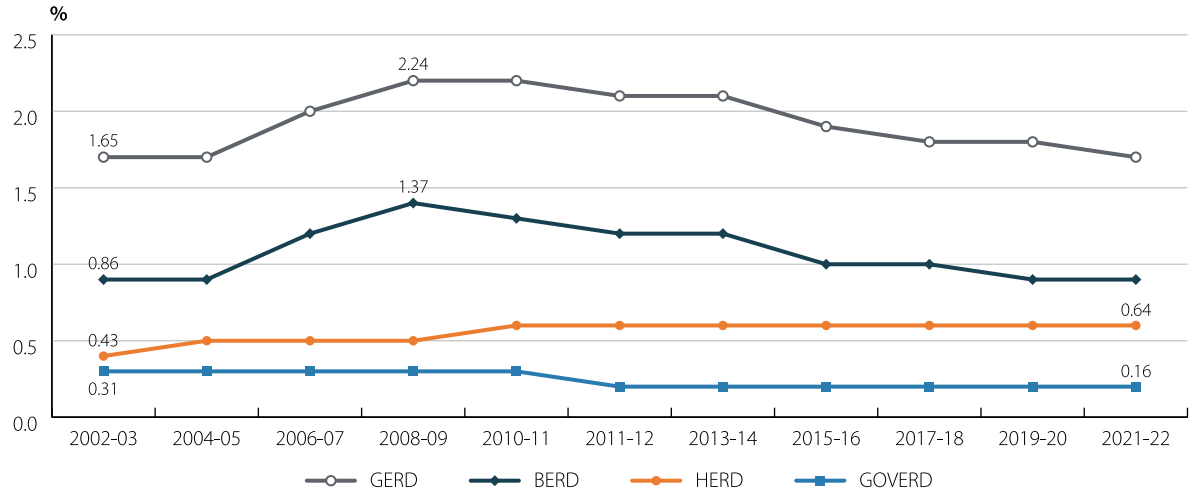
313 Australian Bureau of Statistics, *Research and Experimental Development, Businesses, Australia* (various) [data set].

314 Australian Bureau of Statistics, *Research and Experimental Development, Businesses, Australia* (various) [data set].

Government expenditure on R&D (GOVERD) also declined from 0.31% of GDP in 2002–03 to 0.16% of GDP in 2021–22 (see Figure 29).[315] Total Australian Government investment in R&D has been relatively stable over the past decade fluctuating around $10 billion per annum.[316]

As total R&D expenditure has declined, Australia's R&D has become increasingly reliant on investments made directly by the higher education sector itself, with higher education expenditure on R&D (HERD) peaking in 2019–20 at 0.64% of GDP before falling to 0.56% in 2021–22.[317]

Figure 29: R&D expenditure sources as a percentage of GDP (%), Australia, 2002–03 to 2021–22.



Source: Australian Bureau of Statistics, *Research and Experimental Development, All Sector Summary, Australia*, 2008–09 [data set], Cat. No. 8112.0, (Canberra), published 11 October 2010, www.abs.gov.au/AUSSTATS/abs@.nsf/Lookup/8112.0Main+Features12008-09?OpenDocument; Australian Bureau of Statistics, *Research and Experimental Development, Businesses, Australia, 2021–22 [*data set], (Canberra), published 25 August 2023, www.abs.gov.au/statistics/industry/technology-and-innovation/research-and-experimental-development-businesses-australia/latest-release#cite-window1; Australian Bureau of Statistics, *Australian National Accounts: National Income, Expenditure and Product (June 2023) [*data set], Table 36, (Canberra), published 6 September 2023, www.abs.gov.au/statistics/economy/national-accounts/australian-national-accounts-national-income-expenditure-and-product/jun-2023.

Note: GOVERED, HERD and PNPERD figures are taken from the GERD publication which are based on ABS estimated figures for consistent time periods with BERD. ABS started modelling HERD, GOVERD and PNPRD since 2011 to align them with BERD reporting years. Now they use ARIMA (1,1,0) model.

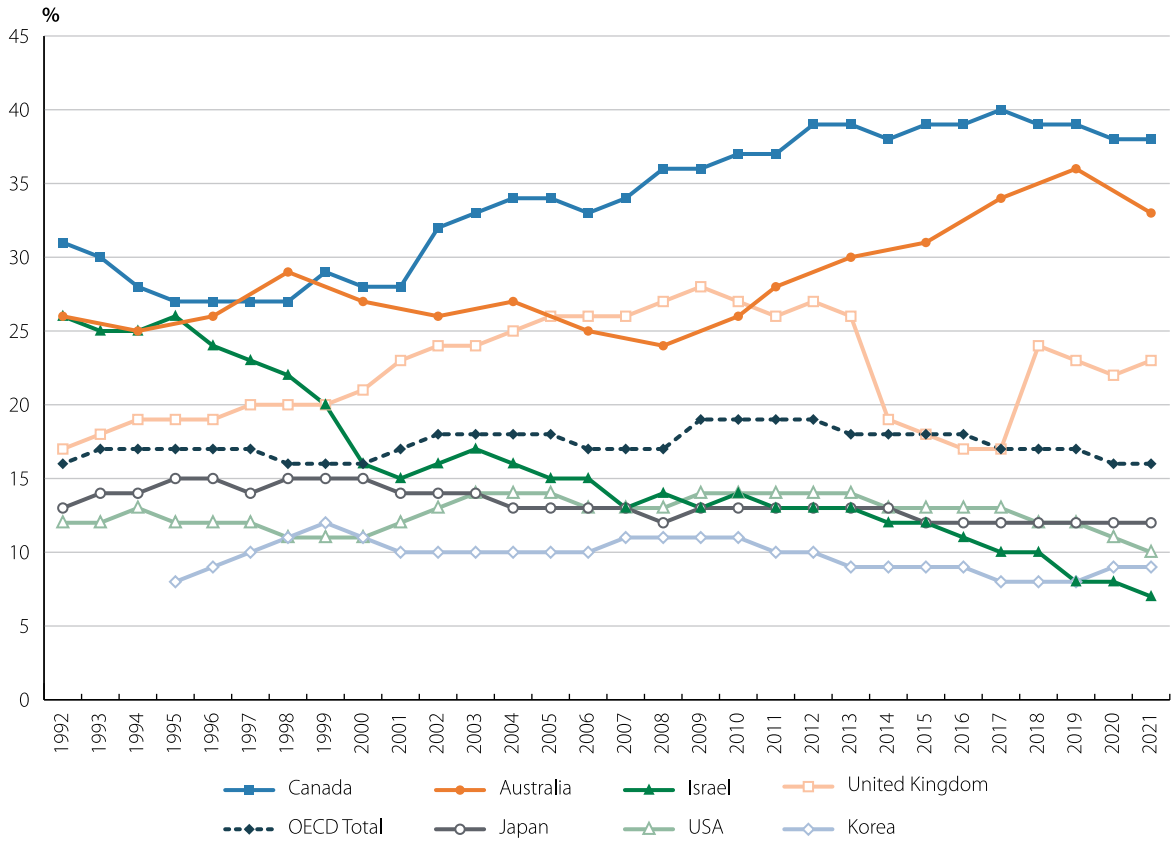
315 Australian Bureau of Statistics, *Research and Experimental Development, Businesses, Australia* (various) [data set]; Australian Bureau of Statistics, *Australian National Accounts: National Income, Expenditure and Product* [data set], Table 36 (Canberra), published 6 December 2023, www.abs.gov.au/statistics/economy/national-accounts/australian-national-accounts-national-income-expenditure-and-product/latest-release.

316 Department of Industry, Science and Resources, *2022–23 SRI budget tables*, Department of Industry, Science and Resources, Australian Government, 28 April, 2023, www.industry.gov.au/publications/science-research-and-innovation-sri-budget-tables-2022-23.

317 Australian Bureau of Statistics, *Research and Experimental Development, All Sector Summary, Australia, 2008–09, Gross resources devoted to R&D, summary statistics–1992–93 to 2008–09*; Australian Bureau of Statistics, *Research and Experimental Development, Businesses, Australia (various), GERD by sector*; Australian Bureau of Statistics, *Australian National Accounts: National Income, Expenditure and Product* [data set], Table 36 (Canberra), published 6 December 2023, www.abs.gov.au/statistics/economy/national-accounts/australian-national-accounts-national-income-expenditure-and-product/latest-release

By international benchmarks, the amount universities spend on R&D in Australia as a percentage of GERD remained well above the OECD total from 1992 to 2021 (see Figure 30), reflecting the atypical role Australian universities play, and the considerable investment they make, in Australia's research system. After declining to 24.2% of GERD in 2008, Australia's HERD was at 35.7% in 2021 which, when compared to similar countries, was second only to Canada at 38.9%.[318]

Figure 30: HERD as a percentage of GERD (%), OECD country comparisons, 1992 to 2021.



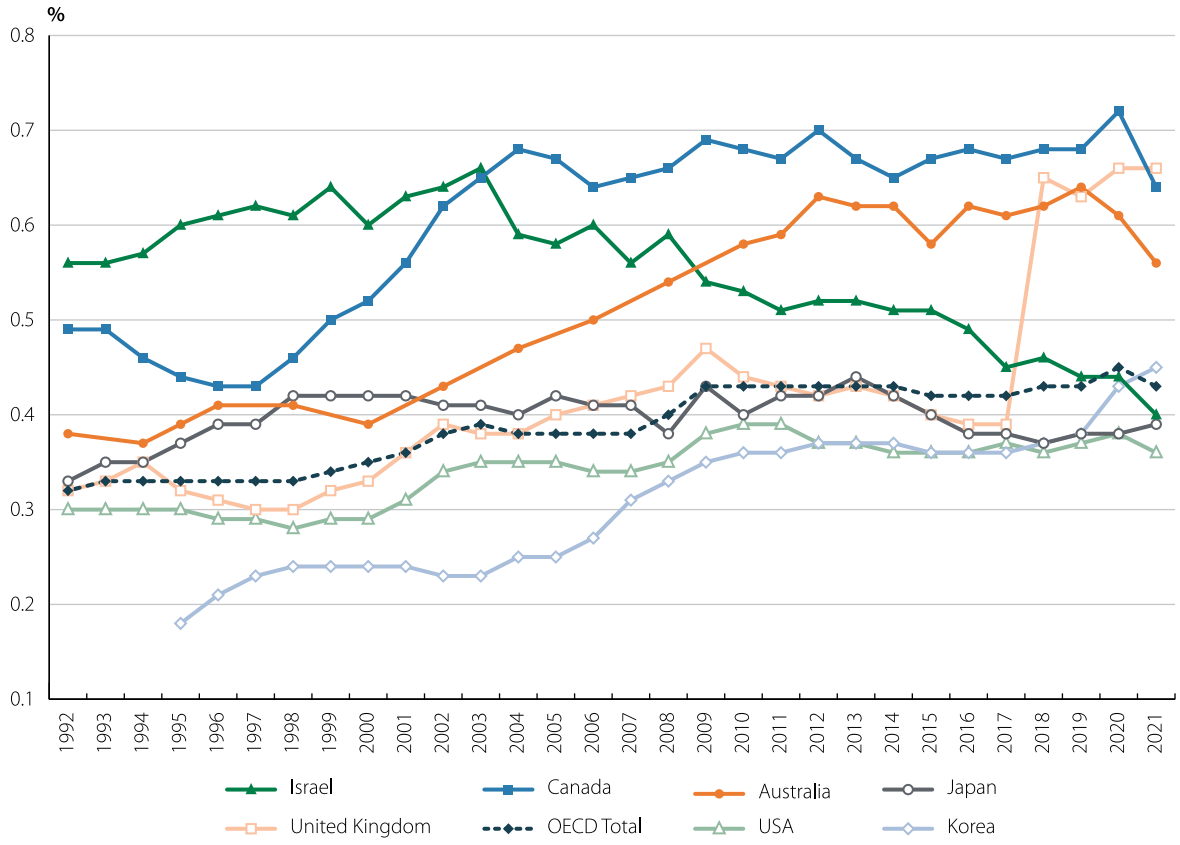
Source: OECD, *OECD Main Science and Technology Indicators* [data set], 2023. Percentage of GERD performed by the Higher Education sector HERD as a percentage of GDP.

When comparing Australia's HERD relative to GDP to other advanced research systems (see Figure 31), Australia still performs strongly at 0.61%, which is well above the OECD average in 2020 of 0.45% but behind the UK (0.66%) and Canada (0.72%).[319] Australian universities have responded to direct and indirect research funding shortfalls by strongly backing the public value of the research they conduct in the national interest, seeking out and utilising their discretionary revenues – by and large, international student fee revenue – for this.

318 OECD, *Main Science and Technology Indicators: Percentage of GERD performed by the Higher Education sector* [data set], accessed 13 December 2023, stats.oecd.org/Index.aspx?DataSetCode=MSTI_PUB#.

319 OECD, *OECD Main Science and Technology Indicators* [data set], OECD, 2023.

Figure 31: HERD as a percentage of GDP (%), OECD country comparisons, 1992 to 2021.



Source: OECD, *OECD Main Science and Technology Indicators* [data set], 2023. The 2021 figure for Australia is sourced from Australian Bureau of Statistics, *Research and Experimental Development, Businesses, Australia 2021–22* [data set], www.abs.gov.au/statistics/industry/technology-and-innovation/research-and-experimental-development-businesses-australia/2021-22

5.2.3 Innovation outputs are low

Strong performance in university research quality has not been matched in Australia by industry and government R&D investment to achieve equivalent strong problem-solving and commercialisation outcomes. Indeed, some conspicuous Australian research successes – the photovoltaic solar cell is one widely cited example – have only borne fruit when they have been taken up by overseas investors and manufacturers. When compared to other nations in the OECD, Australia ranks 20th when it comes to 'product innovative' firms introducing new-to-market innovations, based on a 2023 OECD report.[320] This reluctance on the part of Australian business to invest in our home-grown research has led to our nation being ranked 30th for innovation outputs, even though it ranks 16th for innovation inputs in the 2023 Global Innovation Index.[321]

320 OECD, *OECD Business Innovation Indicators 2023 edition*, (Paris: 2023), accessed 14 December 2023, www.oecd.org/sti/inno/innovation-indicators-2023-highlights.pdf; Eurostat, *Community innovation survey 2020 (CIS2020), European Union: 2020), accessed 14 December 2023*. ec.europa.eu/eurostat/cache/metadata/en/inn_cis12_esms.htm#annex1678715583437.

321 WIPO, "Global Innovation Index."

Finding: Research

Australian university research is of high quality and is highly connected globally. Its size reflects the larger role universities play in our research ecosystem compared to most countries, where the relative percentage of private sector research investment tends to be higher. Australia's governments and industries are not making enough use of university research capability and capacity, nor are they using it across as broad a range of disciplines as they should be.

5.3 A call for a considered R&D target strategy

Securing Australia's high-quality research bedrock and increasing the use of Australia's world-leading research by governments and industry – in a time of increasing global competition – will require significant growth of Australia's R&D system. This growth cannot be achieved without a steady increase in Australia's expenditure on R&D as a proportion of GDP.

Other advanced economies are swiftly escalating their investments in R&D to avoid being outcompeted for new jobs, industries and income sources, yet Australia's overall expenditure in R&D has plummeted to a 17-year low.[322] This is especially pronounced in the business sector. This reduction in research expenditure in comparison to GDP means the Australian economy has forgone the benefits of new ideas, practices and technologies that could have powered multifactor productivity and innovation for the domestic economy. In some instances, our hesitancy has been a boon to investors in other jurisdictions, who have plucked the fruits of Australian research and advanced them through development into production overseas.

Australia's economic complexity ranking, which measures the current state of the country's productive knowledge, has continued to slide partly as a consequence of our national unwillingness to back our own researchers, from 71 (2004) to 93 (2021).[323] Currently, Australia's GDP growth is powered mostly by its population growth and workforce participation rates, rather than productivity gains,[324] which has negative implications for our long-term economic growth and ability to absorb new knowledge and innovations.

Australia's future economic prosperity hinges on our universities', industries' and governments' ability to work in concert to develop, grow and apply productive knowledge in more complex industry settings. Achieving this structural transformation requires significant growth of the R&D system, supported by increasing Australia's total investment in R&D.[325]

322 Ross, "Australian R&D Investment hits 17 year low."

323 Harvard Growth Lab, *Country and Product Complexity Rankings* [data set], (Massachusetts: 2022), accessed 31 October 2023, atlas.cid.harvard.edu/rankings.

324 Department of the Treasury, *Intergenerational Report 2023*.

325 Recent analysis by the International Monetary Fund (IMF) found that a 'decline in R&D and information and communication technology investment—which tend to be more productivity-enhancing than other types of investments—is likely contributing to the productivity slowdown in Australia; IMF, *Australia: Selected Issues*, Report No. 21/256, (December 2021), www.imf.org/en/Publications/CR/Issues/2021/12/02/Australia-Selected-Issues-510757.

A stronger R&D system will bring economic, social and cultural benefits, improving the nation's ability and capacity to address the many wicked environmental, technology, social and health problems. Any uplift in national research effort should ensure that these outcomes are enabled and rewarded.

Later in this chapter, the Review makes specific recommendations – moving toward funding the full economic costs of university research and establishing a new strategic fund to reward universities demonstrating use of their research capability and capacity – that will be crucial steps in securing the R&D expenditure uplift required to move Australia closer to its global competitors.

However, to increase Australia's overall spending on R&D as a percentage of GDP to meet, or even exceed, the OECD average, action is required.

Targets for national spending on R&D are necessary to ensure all institutions and beneficiaries of R&D – including governments, industry and universities – are working towards a common, measurable goal. This would bring Australia in line with global competitors, including the United Kingdom, where targets for total R&D investment have been set to increase investment in research.

Universities already spend large sums on, and produce considerable amounts of, R&D. In the light of both the volatility of the primary source of revenue for this investment (international student fees) and other emergent pressures on university budgets – such as the underfunding of learning and teaching in many courses, and the need for increased targeted support measures for growing cohorts previously under-represented in higher education – the nation's reliance on this degree of 'self-funding' of the university component of GERD is neither strategic nor sustainable. Increasing Australia's overall expenditure on R&D will require *all* beneficiaries and key stakeholders to increase their research expenditure and investment levels, including businesses, large and small, and governments.

A multi-government-agency strategy (ideally coordinated by the Department of Industry, Science and Resources) outlining a medium-term and a long-term target is necessary to ensure long-term and sustainable growth of Australia's R&D system. The strategy would take into account the stakeholders (including industry and state and territory governments), programs, funding and policy required to achieve national R&D targets. The development of these targets would also need to incorporate both current and future economic structure and industry composition and their subsequent impact on R&D intensity and overall investment. The Review supports calls from many in the community for a long-term target of investment in research to be lifted to, and maintained at, 3% of GDP.

Finding: Research

While Australian universities invest significantly in research, national R&D expenditure overall is low for an advanced economy and our rankings on innovation indices are poor. Securing Australia's high-quality research bedrock will require significant growth of Australia's R&D system. This growth cannot be achieved without a significant increase in Australia's expenditure on R&D as a proportion of GDP.

Recommendation: Producing new knowledge and using research capability

24. That the Australian Government commission a formal strategic, cross-portfolio examination of national research funding with a view to increasing Australia's capacity to maximise Australia's R&D competitiveness for economic gain, and environmental, cultural and social good. As part of this, the Australian Government develop a multi-agency government strategy that sets medium and long-term targets for Australia's overall national spending on R&D as a percentage of GDP, requiring a significant increase to ensure Australia fully utilises the potential of its research sector and, consequently, competes more effectively in the global knowledge economy. As a starting point, this work needs to note that while university investment in research has been strong over the last 25 years, additional business and government investment in research is essential. The strategy should also undertake a root and branch consideration of the suitability and sustainability of the national research funding and governance architecture.

5.4 Making sure that Australian university research has maximum impact

Given the proven strength of Australian university research and its potential under-utilisation by governments and industry, the Review's primary focus for research is maximising the impact in Australia of our current research capacity. Key to this is ensuring that governments and industry use research capability, capacity and output both to solve the challenges they face and to grow the innovation sector.

Every day, governments and industry are working on complex problems. Ideally, they should turn to the research sector for assistance with solving these. Not only does this bring appropriate expertise to bear and enhance the chances of a quality solution, but it also drives researchers to engage in problem solving in areas of national interest. This has both a push and pull effect: researchers have their research capability appreciated by those who use it and governments and industry get appropriate expert assistance to find answers to their problems.

There are some great success stories where this has worked well, including use of quantum computing research and automation of mines and ports using large robotics.

As well as commissioning research to shine a light on hard problems, some governments use the university sector for consulting needs.[326] As noted in the Productivity Commission's 2023 *5-year Productivity Inquiry: Advancing Prosperity* report, this should happen more extensively.

Governments at all levels should lead by example in the use and uptake of Australian university research capability, capacity and consulting, as well as using the direct outputs of research. As part of enabling this, Commonwealth, state and territory government procurement policies should optimise procurement

326 Productivity Commission, *5-Year Productivity Inquiry: Advancing Prosperity*, 1 (Canberra: Productivity Commission, 2023), 50-52, www.pc.gov.au/inquiries/completed/productivity/report/productivity-advancing-prosperity-all-volumes.pdf.

processes to make drawing on university expertise easier. Government procurement of Australian research will not only drive better recognition of Australian university research but should motivate universities to improve the discoverability, accessibility, quality and competitiveness of their services.

Drawing on university research and research capability more effectively will require cultural change and enabling practices that could take time to establish. Current best practice examples can be drawn on in fostering greater uptake of university research by governments, including the Tasmanian Government's longstanding collaborative relationship with the University of Tasmania on agricultural and aquaculture research, and the NSW Innovation and Productivity Council's commitment to working with NSW universities.[327]

5.4.1 Mechanisms for sharing research problems and capabilities

Given the need to improve engagement between universities (with their expert subject knowledge and problem-solving capabilities) and research end-users (who are best placed to identify the problems facing them), the Australian Government should identify ways to enable and uplift engagement endeavours as a priority.

Successful research broker bodies, such as AMIRA Global in the mining sector and the Research Development Corporations in agriculture, are models that should be examined for potential replication in other sectors, where the nature of the research allows for benefit across an entire sector of industry (i.e. when its discoveries are in the pre-competitive phase, where collective benefit does not come up against the imperatives of commercial competition). The capacity to harness university research into high-impact outcomes for end-users by creating genuine partnerships and a common understanding between industry and universities is badly needed.

Another enabling measure worthy of exploration is a mechanism to keep universities, business and industry and government informed of nationally significant research *problems* on the one hand, and of nationally significant research *capabilities* in the higher education sector on the other hand. A mechanism such as Interface Scotland, a regionally based central hub connecting organisations from national and international industries to all of Scotland's universities, research institutions and colleges,[328] has the potential to improve connectivity between Australian universities and end-users, creating more opportunities for high impact research.

Yet another mechanism might be for Australian governments to work closely with business and industry peak bodies (e.g. Business Council of Australia, the Australian Industry Group, Australian Chamber of Commerce and Industry) to establish a Research Investor Forum to explore future mechanisms for sharing research problems and capabilities. During the Review, the Business Council of Australia suggested bringing industry, employers and institutions together through a forum to facilitate stronger collaboration on research. The Review believes strongly in the power of collaboration and the Commission should use its convening power to draw in relevant parties to help establish a way forward on issues like how to maximise use of research capacity to solve problems.

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327 Greg Clark, Tim Moonen, and Jake Nunley, *The Innovation Economy: Implications and Imperatives for States and Regions* (Sydney: Innovation and Productivity Council, NSW Government, August, 2018), 53, www.investment.nsw.gov.au/assets/Uploads/files/IPC/Full-Report-IPC-The-Innovation-Economy-2018.pdf; Department of Premier and Cabinet, State of Tasmania and University of Tasmania - Making the Future Partnership (Hobart: Department of Premier and Cabinet, Tasmanian Government, 2015), www.dpac.tas.gov.au/divisions/policy/partnership_with_the_university_of_tasmania.

328 Interface, *Interface Annual Review 22–23*, (Interface, 2023), accessed 10 Nov 2023, interface-online.org.uk/.

Government grants schemes encouraging university collaboration with industry also have an important role in achieving success in this area. Between 1989 and now, many government policies and funding schemes have prioritised the translation and commercialisation of research. These include: the very successful ARC Collaborative Grants Scheme (now the ARC Linkage Scheme), introduced in 1991 and expanded in 2012 to include the Industrial Transformation Training Centres (ITTCs) and Industrial Transformation Research Hubs, the ARC Centres of Excellence Scheme, (replacing the Special Research Centre Program in 2000), the Cooperative Research Centres (CRC) Program introduced in 1990 and expanded in 2016 to include the more nimble CRC Projects scheme, and the various rural Research and Development Corporations (RDCs) since 1989, amongst others.[329]

The University Research Commercialisation Action Plan released in February 2022 has been an important recent addition, creating the Trailblazers program, the Australian Economic Accelerator and the National Industry PhD Program, and is showing signs of early success.[330] Like all these schemes, it is oversubscribed. Across the first 2 rounds of the National Industry PhD Program, 214 applications for PhD projects were submitted for 72 available scholarships, demonstrating strong interest and the potential to leverage more industry relevant research than is currently possible.[331] The IITCs are also heavily over-subscribed, with insufficient funds available to the ARC to award more than around one-third of applications for advanced industrial research collaboration.[332]

If industry were to invest more in employing PhDs and encouraging existing staff to undertake PhD training, the connection to industry from universities would arguably be immediately enhanced. Setting a target number for employees in industry undertaking a PhD relevant to their firm could underpin this uplift while enabling the sector to measure and track progress.

5.4.2 A strategic fund aimed to reward 'real-world' impact

Encouraging and rewarding universities for working closely with government and industry end-users, with the aim of increasing end-user take up of research capability and capacity, will require changes in how universities, their researchers and their research offices orient their research efforts. To support this, the Review recommends the establishment of a new strategic research fund, the Solving Australian Challenges Strategic Fund (see Recommendation 25). Its purpose will be to reward universities with a clear track record of using their research capability and capacity to solve major problems for industry, government, business and the community and/or achieving major success in research deployment and commercialisation of research results.

The allocation of this fund should be determined as the result of a research portfolio assessment carried out annually by the Commission in consultation with the ARC. Universities with exceptional performance should be rewarded at a higher level than others. Administratively, the fund would be 'light touch', with only minimal reporting requirements.

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329 Mary O'Kane, *Collaborating to a purpose: Review of the Cooperative Research Centres Program* (Canberra: 2008), 8.

330 Department of Education, Skills and Employment, *Research Commercialisation Action Plan* (Canberra: February, 2022), www.education.gov.au/university-research-commercialisation-package/announcements/research-commercialisation-action-plan-has-been-released.

331 Department of Education, "Funding Outcomes," Department of Education, revised 30 November 2023, www.education.gov.au/national-industry-phd-program/funding-outcomes .

332 Australian Research Council (ARC), *Industrial Transformation Training Centres Selection Report for Funding Commencing in 2023* (Table 2), (Canberra: ARC, 2023), accessed December 15, 2023, www.arc.gov.au/funding-research/funding-outcome/selection-outcome-reports/industrial-transformation-training-centres-selection-report-funding-commencing-2023.

Because the Fund will reward universities with a clear commitment to strengthening research capability use, it should further encourage universities to continue making strategic research investment decisions that not only improve research quality but also help improve the use of research and research expertise. While every university would have access to the Fund, having an element of competition in the awarding process will ensure that it does not function simply as an extension of the current research block grant allocations. More importantly, it will be focused on research capability, activity and the outcomes of that activity, rather than as general support to the research system, as block grants are intended. Awarding a fund based on the end outcomes of research or the advancement of Australia's capability to be world leading in areas of national interest will focus universities, industry and government on conducting purposeful research activity.

A commitment to a long-term strategic research fund will have the by-product of improving the overall resilience of the university research sector. The fund will provide some 'guard rails' for the university research funding system, as it will be an ongoing funding source that can be drawn on in the event of shocks to other strategic research funding sources.

It will also provide benefits for governments, regions, industry and the general community, given that university research that achieves 'pull through' will often be oriented towards improving outcomes for these sectors.

Recommendation: Producing new knowledge and using research capability

25. That to ensure Australia's research capacity and capability has a high impact and is made use of as effectively as possible:
    a. Australian governments lead by example in the use and uptake of Australian research and innovation, and develop processes to draw heavily on the research and consulting capacity and capability of Australia's universities and publicly funded research agencies in addressing acute and stubborn economic, social, health, climate and environmental challenges
    b. Australian governments working closely with business and industry peak bodies (e.g. Business Council of Australia, Australian Industry Group, Australian Chamber of Commerce and Industry) establish a Research Investor Forum to explore mechanisms that keep universities, industry and government informed of significant research problems that need to be addressed, and of significant research capabilities in the higher education system
    c. the Australian Government establish a new Solving Australian Challenges Strategic Fund to reward universities which can demonstrate effective use and development of their research and innovation capacity in working with and for governments, industry and communities to address major challenges. The allocation of this fund should use a light-touch portfolio assessment and have regard to each university's mission. Universities with exceptional performance should be rewarded at a higher level than others
    d. firms invest in upskilling staff to PhD level at scale, collaborating with peak bodies and governments to establish a target for the number of PhD candidates employed in industry undertaking a PhD relevant to their firm.

5.5 Maintaining a strong foundation

5.5.1 Investing in basic research

Australia's strong research system is based on its investment in basic research. For Australia's research to be high-impact, Australia must continue to support investigator-led discovery of new knowledge.

Basic research is the prerequisite for many great discoveries – but its effects are generally not immediately felt.[333] COVID-19 mRNA vaccines, for instance, were developed off the back of 30 years of basic research.[334] Basic research stimulates innovation and productivity, with positive implications for economic growth. The beneficial outcomes of basic research are felt across more sectors in more countries and for longer periods of time than applied research.[335]

The Australian research system is heavily dependent on the higher education system to deliver breakthroughs, with universities undertaking 84.8% of 'pure basic research' (knowledge acquired for knowledge's sake) and 39.5% of 'strategic basic research' (knowledge acquired about specific phenomenon or in specific fields which might lead to practical discoveries).[336] Over the past 13 years, Australia's spending on basic research as a percentage of GERD has been static: 20.1% in 2008–09 and 22.1% in 2021–22.[337] Many submissions to the Review have expressed concern that funding of longer-term basic research is being overlooked for shorter term and applied research.[338]

Looking ahead, Australia needs to increase investment in basic research to safeguard the entire research system. The Review recognises that Australia's strong R&D outputs are attributable in large part to Australia's world-class university research system and that Australia's wealth and security is contingent on its ability to protect and increase the research strength of its universities, including to do what they do best: basic research.

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333 Group of Eight Australia, *Basic Research: The Foundation of Progress, Productivity, and a More Sovereign Nation* (Canberra, ACT: Group of Eight Australia, September, 2023), go8.edu.au/wp-content/uploads/2023/09/Go8-Policy-Brief-Basic-Research.pdf.

334 Philip Barrett, Niels-Jakob Hansen, Jean-Marc Natal and Diaa Noureldin, "Why Basic Science Matters for Economic Growth: Public Investment in Basic Research will Pay for Itself," *IMF Blog*, 6 October 2021, www.imf.org/en/Blogs/Articles/2021/10/06/blog-ch3-weo-why-basic-science-matters-for-economic-growth; Group of Eight Australia, *Basic Research: The Foundation of Progress, Productivity, and a More Sovereign Nation*.

335 Barrett et al, "Why Basic Science Matters for Economic Growth: Public Investment in Basic Research will Pay for Itself."

336 Australian Bureau of Statistics, *Research and Experimental Development, Businesses, Australia 2021–22* [data set], accessed 23 November 2023; Australian Bureau of Statistics, *Research and Experimental Development, Government and Private Non-Profit Organisations, Australia 2020–21* [data set], accessed 23 November 2023; Australian Bureau of Statistics, *Research and Experimental Development, Higher Education Organisations, Australia 2020* [data set], accessed 23 November 2023; Universities Australia; Universities Australia, *Submission to the 5 Year Productivity Inquiry Interim Reports 2022* (Deakin, ACT: Universities Australia, November, 2022), 4, universitiesaustralia.edu.au/wp-content/uploads/2022/11/UA-submission-to-the-Prodcutivity-Commission-5-Year-Inquiry-Interim-Report-1.pdf.

337 Australian Bureau of Statistics, *Research and Experimental Development, (various)* [data set], accessed 23 November 2023.

338 For instance, see Group of Eight Australia, *Submission to the Australian Universities Accord Interim Report*, 2023, www.education.gov.au/australian-universities-accord/consultations/australian-universities-accord-panel-discussion-paper-consultation/submission/15945. These criticisms were also raised in the 2018 Inquiry into Funding Australia's Research. See Parliament of Australia, *Inquiry into Funding Australia's Research*, Subsections 5.59–5.66 (Canberra: 2018), www.aph.gov.au/Parliamentary_Business/Committees/House/Employment_Education_and_Training/FundingResearch/Report/section?id=committees%2Freportrep%2F024212%2F26494.

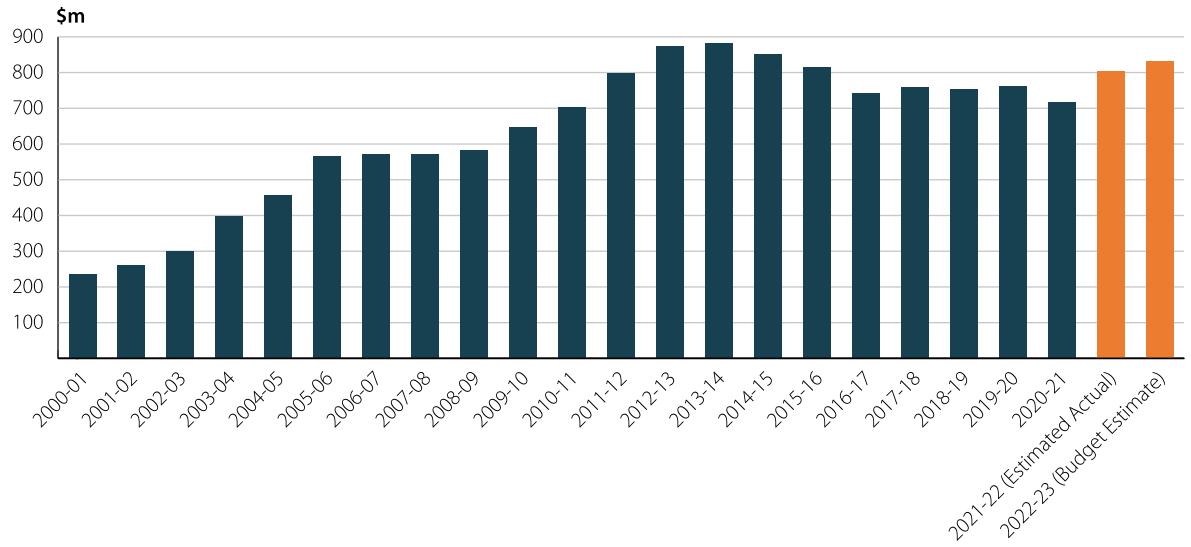
The ARC plays a pivotal role in Australia's research system through financing basic research at universities. In 2022–23, $850 million in National Competitive Grants Program (NCGP) funding was available to support Australian universities.[339] These grants have resulted in high levels of fundamental and discovery research, improving Australia's sovereign capability to tackle wicked problems.

The Review notes that funding for the ARC has not grown significantly for many years (see Figure 32), and that increased investment is needed to strengthen the nation's capacity to undertake breakthrough research and to engage with the best basic research from around the world. This is the only way to ensure the nation is prepared for, ready to engage with, and take advantage of new fields of knowledge as they arise. As a precursor to increases in ARC funding, the ARC should ensure that recent reviews of its governance and the management of its competitive grants are fully implemented.

Substantial additional funding should be provided to the ARC to foster high-impact, collaborative research. Further investment in ARC grants will be of particular benefit to Australia's high-performing research workforce. The highly selective nature of Australian competitive grants gives Australian researchers an excellent training ground, and pushes emerging researchers to hone their skills in solving problems, ensure their research is innovative and high-impact, and develop generalist skills, including research project management. However, success rates have for some time been hovering at levels that threaten the viability of the research funding ecosystem, as researchers with high quality but unfunded projects become discouraged from repeatedly re-applying to under-resourced schemes. We risk losing such researchers to other jurisdictions or other industries, and even from research altogether. At the height of its funding in 2013–14, the ARC still ran highly competitive rounds but success rates encouraged unsuccessful quality applicants to polish their proposals and try again. While funding has increased recently it has not recovered to the level of that peak in real terms, despite the fact the sector has expanded substantially over the intervening decade and is bearing a greater share than ever of the national research investment profile.

339 ARC, *ARC at a Glance,* (Canberra: ARC, June 2023), 2, www.arc.gov.au/sites/default/files/2023-06/ARC%20at%20a%20Glance%20-%20June%202023%20v4_double-page.pdf.

Figure 32: Government funding for Australian Research Council (ARC), 2000-01 to 2022-23, $m (current prices).



Source: Department of Industry, Science and Resources, *2022–23 SRI tables* [data set], (Canberra: 2023), accessed 15 November 2023, www.industry.gov.au/publications/science-research-and-innovation-sri-budget-tables-2022-23.

Note: Figures are in current prices.[340]

5.5.2 Longer grant times

Under current arrangements, most Australian Government competitive grants provide funding on a short to medium basis (5 years or less), with most Discovery Project grants funded for 3 years.[341] This undermines the capacity of universities to build coherent and connected programs of activity that drive longer-term basic or 'blue sky' research, i.e. the research which will provide the best, most innovative platforms for developing future solutions to wicked problems. It also negatively affects the research workforce, particularly early career researchers (ECRs), as it deters universities from offering long-term employment contracts beyond the life of a grant. The consequent job insecurity is jeopardising Australia's research workforce, as researchers secure work outside of Australia or leave the sector altogether.

Setting a minimum percentage of competitive grants that run for 5 years or longer is the first crucial step to expanding research capacity including for basic research, supporting longer-term financial and resource planning for universities, and improving job security for researchers, particularly ECRs. It is imperative however, that this reform be accompanied by additional ARC funding, to avoid a dramatic reduction in already parlous success rates.

340 Data reported in current (or "nominal") prices for each year are measured in the prices for that particular year. For example, current price estimates shown for 1990 are based on 1990 prices, for 2000 are based on 2000 prices, and so on. Definition from The World Bank, What is the difference between current and constant price series?, datahelpdesk.worldbank.org/knowledgebase/articles/114942-what-is-the-difference-between-current-and-constan, accessed 18 December 2023.

341 ARC, *Evaluation of the Discovery Projects Scheme: Final Report* (Canberra: ARC, 2020), 94-5, www.arc.gov.au/sites/default/files/2022-06/Evaluation%20of%20the%20Discovery%20Projects%20scheme%20%28PDF%29.pdf.

5.5.3 Valuing and supporting First Nations knowledge and research

At Australian universities, First Nations people make vital and critical contributions as researchers, leaders, creators and custodians of knowledge, teachers and learners. These contributions are all the more valuable given, as the highly-respected Professor Lester-Irabinna Rigney has stated, that First Nations researchers operate as producers of knowledge and scholars of science investigation in institutions that have historically taken First Nations people and communities to be the subjects of scientific inquiry.[342] Positive outcomes for local communities and the nation have resulted when research initiatives have been culturally safe, collaborative and, crucially, First Nations-led – from advancements in water management to improving First Nations health and wellbeing in the face of COVID-19.[343] While immense progress has been made, more needs to be done to support First Nations knowledge and to close the gap on First Nations disadvantage.

The Review notes the opportunity the current development and revitalisation of the National Science and Research Priorities (NSRPs) presents to drive this progress. The NSRPs will shape the long-term vision of Australia's science system, ensuring research in the national interest is supported to drive social, economic and environmental benefits. It is for this reason that the Review recommends the Australian Government add Protecting First Nations Knowledges and Closing the Gap to the NSRPs (see Recommendation 27). Doing so will acknowledge the crucial and valuable position of First Nations research and knowledge and will also acknowledge that Closing the Gap is a process that requires sustained, national effort from governments, universities, communities, researchers and research funders.

5.5.4 Securing research infrastructure

Research infrastructure facilities are crucial to strong foundations for Australia's research sector. They are essential to breakthrough fundamental research, cutting-edge applied research, adoption of new technologies, and addressing global challenges. They also provide sovereign capability that can rapidly respond to new opportunities and threats, such as artificial intelligence or the COVID-19 pandemic.

Australia's current research excellence is underpinned by access to excellent national research infrastructure (NRI). Providing infrastructure of the quality and scale required for cutting-edge research has long lead times and requires nationwide, long-term planning. This is done through the National Collaborative Research Infrastructure Strategy (NCRIS), a highly collaborative and distinctively Australian program which maximises Australia's NRI investments by coordinating open access, targeted specialities and co-funding by government, universities and, sometimes, publicly funded research agencies (PFRAs) and industry across the research sector. This enables Australia to adapt to rapid technological shifts, engage in multidisciplinary and international research, and maintain world-leading status in complex and emerging fields that would otherwise be out of Australia's financial reach.

342 Lester-Irabinna Rigney, "A First Perspective of Indigenous Australian Participation in Science: Framing Indigenous Research Towards Indigenous Australian Intellectual Sovereignty," *Kaurna Higher Education Journal,* 7 (2001), 1-13.

343 Bradley Moggridge, Ross Thompson, and Peter Radoll, "Indigenous research methodologies in water management: learning from Australia and New Zealand for application on Kamilaroi country," *Wetlands Ecology and Management,* 30, (2022), 853–868, link.springer.com/article/10.1007/s11273-022-09866-4; Australian Partnership for Preparedness Research on Infectious Disease Emergencies (APPRISE), "First Nations-led projects funded for COVID-19 research," APPRISE website, accessed 11 November 2023, www.apprise.org.au/project/first-nations-led-projects-funded-for-covid-19-research/.

The need for dedicated research infrastructure facilities has increased over time. As cutting-edge equipment is developed with higher resolution and innovative features, purchasing costs increase and more specific expertise is required to manage it.[344] The current data-driven era of research discovery has also significantly increased the need for digital research infrastructure in a wide range of fields.[345]

Ongoing funding of NCRIS at current annual funding levels is necessary to maintain this critical enabler of the research sector and underpin critical research and key outcomes (see Recommendation 26). For example, increasing the 'granularity' of ocean temperature data can allow weather forecasts to be more localised, with clear benefits for transport and agriculture industries. Supporting world-class quantum computing and sensor research will position Australian researchers as preferred partners in major computer modelling projects. The demands of the developing 'personalised medicine' approach require – and have led to – collaborations across NCRIS projects to support these research projects in an integrated way. The complementary developments in genomics also require collaborations to collect and analyse samples, with the ability to manage and analyse the resulting data for insights.

5.5.5 Training the next generation of researchers

Universities, as the only institutions empowered to award PhDs, undertake most of the research training in Australia. Most of this training is funded by the Australian Government through the Research Training Program (RTP). Given its central funding role in research training, the Government must address some existing problems to secure Australia's research pipeline.

A priority is the current stipend for HDR students, provided through the RTP. The stipend is too low and is not attracting enough of the best students to become the next generation of researchers, including students from under-represented backgrounds. Potential candidates are currently faced with an economic disincentive to pursue research training. The very individuals best suited to pursue research careers have ample other avenues open to them – they are our smartest and most curious, and industry can easily trump the RTP stipend to entice them away from research. In other cases, it is less a case of incentive or opportunity cost than sheer possibility – their financial circumstances simply render the semi-voluntary labour of HDR life impossible.

The Review acknowledges that the stipend is not a wage, but it should be higher than its current rate. An increase to the minimum RTP stipend would bring Australia more in line with global competitors, given that the lower bound of the RTP ($29,863 in 2023) is lower than stipends internationally when adjusted for purchasing power parity. While Australia's maximum stipend rate ($46,653 in 2023) is more competitive with other countries' rates, this rate is rarely offered to stipend recipients. An increase to the minimum stipend rate will ensure Australia can continue to attract top research students, and will favour improved completion rates. An increase to the rate must be funded by an expansion of the RTP pool, to avoid reducing the total number of RTP-funded HDR students.

344 Federica Rosetta, "The Growing Importance of Research Infrastructures," *Connect*, 9 March 2023, www.elsevier.com/connect/the-growing-importance-of-research-infrastructures.

345 For example see, Academy of Social Sciences in Australia, *Australia's Data-Enabled Research Future: The Social Sciences*, (Canberra: Academy of Social Sciences in Australia, 2022), socialsciences.org.au/data-enabled-reseach-future/; Department of Health and Aged Care, *Research Data Infrastructure Initiative*, (Canberra: 2023), revised 4 October 2023, www.health.gov.au/our-work/mrff-research-data-infrastructure-initiative#about-the-research-data-infrastructure-initiative.

In addition, if a student is studying part-time, their stipend is treated as taxable income, whereas full-time stipends are not taxable. This is an anomaly that should be removed. From an equity perspective, HDR students from under-represented backgrounds are relatively over-represented in part-time studies (see Table 5), and yet the relative value of their support is reduced by taxation. This tax treatment affects parents, particularly women. It also disincentivises students currently working in industry who are looking to undertake research training without leaving their positions – an arrangement we ought to be encouraging as a nation. As such, it goes against 2 key aims of the Review – to increase participation in higher education from under-represented groups and to make sure Australian research is as high impact as possible. Students should be given maximum flexibility to complete their higher degrees by research, making part-time scholarships tax-free (see Recommendation 26). This would mean being able to undertake research training full-time or part-time as required, making part-time scholarships tax-free (see Recommendation 26), and not being financially disadvantaged for doing whichever works best. This flexibility will improve connections between research students and industry partners, build on the linkages to industry required to produce high impact research, and ensure the opportunity to undertake a higher degree by research is open to all, including those for whom it may not otherwise be economically feasible. This reform, combined with an improved stipend rate, will also help boost part-time HDR completion rates, which are weaker than for their full-time colleagues.

Table 5: 2022 part-time HDR enrolments.

Student types	Part-time HDR students (no.)	Total HDR students (no.)	Part-time HDR students (%)
All Students	18,008	67,198	26.8
First Nations students*	268	806	33.3
Students with a disability*	1,436	3,522	40.8
Low SES*	1,506	3,939	38.2
Regional Students (ASGS)*	2,437	5,824	41.8
Remote students (ASGS)*	112	242	46.3
Women	10,417	34,957	29.8
Students from non-English speaking backgrounds	1,071	15,310	7.0

Source: Department of Education, *Higher Education Statistics – Student Data* [unpublished data], (Canberra: 2023).

Note: Regional and remote students are categorised based on Australian Statistical Geography Standard (ASGS) measure. Students with postcodes classified as over 50% regional or remote have been counted. *Numbers only include domestic students with a permanent home address in Australia

There is a need to equip the next generation of researchers with skills for the diverse careers a PhD enables. Research training has historically focused on readying students for academic careers. It is paramount that students continue to be trained for careers in teaching, research and industry, with demand for highly skilled Australian researchers likely to outpace supply over the coming years. University enrolments will increase as the higher education system grows, and half of Australia's ageing academic workforce will retire over the coming decades.[346] At the same time, studies suggests that industry demand for advanced research skills is high and will continue to grow.[347] Nevertheless, industry uptake of research graduates could be strengthened, through greater awareness on both sides of what university research training and industry experience each have to offer. Australian businesses experience difficulties in meeting their skills requirements and have called for "an ongoing pipeline of quality workers, with the right skills, in volumes that industry needs".[348] The Review has recommended in *Chapter 2 – Meeting our current and future skills needs* that universities work to improve responsiveness to meet skills needs. This could include strong encouragement for research students and postdoctoral researchers to undertake additional qualifications in cognate areas, such as entrepreneurship, business, leadership and teaching, in parallel with research training, in preparation for careers beyond universities.

As part of reforming the structure and model of PhDs, the Review also encourages universities to innovate in both their PhD and their professional doctorate models. These innovations could include using portfolio, project and multi-part dissertation formats and revitalising HDR coursework offerings such as those offered in the United States. This would signal a shift away from the perception that PhD candidates simply provide academic firepower to a focus on the underlying education candidates receive from their degree, improving the knowledge and skillset for whatever career path they wish to pursue.

Industry should also be encouraged to upskill their staff to PhD level. To enhance industry and university collaboration, the Review recommends that firms, peak bodies and government collaborate to establish a target for the number of PhD candidates employed in industry undertaking a PhD relevant to their firm (see Recommendation 25). Such a target would underpin greater upskilling and collaboration while enabling the sector to measure and track progress.

While many PhD graduates go on to work in industry after they graduate, there is a need to facilitate pathways for graduates better, especially those without prior industry experience. The Review recommends that a National Research Workforce Development Strategy should be developed to facilitate, among other things, pathways for HDR students both into and out of higher education institutions (see Recommendation 26). The strategy might consider innovations to current PhD programs to develop such pathways, support greater knowledge flows between sectors, and break down persistent cultural barriers between academia and industry. The conceptual model underpinning the strategy needs to move away from the linear and unidirectional vectors of the past and embrace an interwoven trajectory of flow back and forth between university and industry, research and production, bench and factory floor, education and employment, fully integrated with personal goals and milestones as much as employer needs and educational offerings.

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346 Emmaline Bexley, Richard James and Sophie Arkoudis, *The Australian Academic Profession in Transition: Addressing the Challenge of Reconceptualising Academic Work and Regenerating the Academic Workforce* (Department of Education, Employment and Workplace Relations and University of Melbourne Centre for the Study of Higher Education, University of Melbourne, September 2011), 4, melbourne-cshe.unimelb.edu.au/__data/assets/pdf_file/0010/1490923/The_Academic_Profession_in_Transition_Sept2011.pdf.

347 Inger Mewburn, Hanna Suominen and Will Grant, *Tracking Trends in Industry Demand for Australia's Advanced Research Workforce* (Canberra: Australian National University and CSIRO, August 2017), 10–17, openresearch-repository.anu.edu.au/handle/1885/209175.

348 Australian Industry Group, *Submission to the Australian Universities Accord Interim Report*, 2023, 14, www.education.gov.au/australian-universities-accord/consultations/consultation-accord-interim-report/submission/16952.

Teaching qualifications at the HDR level will be central to ensuring a high-quality experience for students as the system grows to meet the ambitious attainment targets outlined in *Chapter 2 – Meeting our current and future skills needs*. A significant proportion of tutoring, lecturing and demonstrating in Australian universities is undertaken by doctoral students employed on a casual basis, yet these students are not always provided with professional development opportunities to develop teaching-specific expertise. Evidence shows that, while students' ratings of their education experience through the Quality Indicators for Learning and Teaching (QILT) survey have not declined over the past decade, there has not been any sustained trend towards improvement.[349] There is a need to uplift the teaching capabilities of HDR candidates who remain in teaching. It is for this reason that the Review recommends universities offer HDR students teaching qualifications, such as a graduate certificate or diploma, in addition to their research training, in line with recommendations made in *Chapter 6 – A dynamic, collaborative and responsive system that serves the national interest* on improving the quality of higher education teaching.

Attracting students to research careers, and retaining our existing research workforce, requires better conditions. Though many early career researchers value postdoctoral training, the number of opportunities at this level is limited. Greater funding security for universities and longer grants, which the Review has recommended, will increase opportunities for postdoctoral candidates.

The introduction of better standards for higher education teaching, industry-aligned training at the PhD level, longer grants, and changes to the stipend to provide more flexibility for students, will provide a stronger research training basis, enabling Australia to continue to train our future knowledge workers.

Finding: Research

The current stipend for Higher-Degree-by-Research students is too low and is discouraging many of the best students from becoming the next generation of researchers. This includes students from under-represented backgrounds. Potential candidates are currently faced with an economic disincentive to pursue research training. The Research Training Program needs to be increased in order to address this.

Centring the voices, experiences and expertise of First Nations researchers is vital to ensuring a more inclusive research workforce. Australia's First Nations researchers bring both extensive disciplinary and cultural knowledge and expertise to our universities. Yet the Review has heard that First Nations students and researchers are still working within a system that does not always understand the importance of First Nations knowledge or self-determination.[350] Growing Australia's pipeline of First Nations research students will require a larger cohort of First Nations researchers in the research workforce, to ensure this research is First-Nations led and that students have access to culturally appropriate supervision.

349 QILT, *Student Experience Survey* [data set].

350 See for example, the National Aboriginal and Torres Strait Islander Higher Education Consortium (NATSIHEC), *Submission to the Australian Universities Accord Interim Report*, 2023, www.education.gov.au/systemSystem steward and engagement with the systemfiles/2023-09/AUA_inter_tranche14_304 National Aboriginal and Torres Strait Islander Higher Education Consortium.pdf.

The Review suggests this is an opportunity to set out a plan to secure Australia's research workforce over time, delivering a more inclusive system as well as the stronger job security needed to deliver more research breakthroughs for Australia, and making Australia globally attractive to researchers pursuing their careers. A national research workforce strategy would provide the opportunity to get this right, and ensure greater consistency across institutions, and that all stakeholders are working towards a common goal. Such a strategy would also acknowledge that research workforce settings are a responsibility shared between government, research funders, universities, researcher managers and researchers.

5.5.6 Evolving research training to expand access and increase diverse participation

The Review's vision is to create a higher education sector that delivers opportunities for all, and one that puts First Nations people at the heart of the higher education system. Reducing barriers to HDR study will enable a more diverse cohort of HDR students. There is a need to build the next generation of research leaders, and empower a more diverse cohort of PhD students and early career researchers, including postdoctoral fellowships. This is important because research is productive and has real-world applications – from developing novel medical treatments to enhancing our understanding of history and culture.

PhD students benefit from high rates of full-time, professional and high salary employment post-graduation.[351] It is important that these benefits are available to all. This will lead to stronger social and economic outcomes for students, as well as Australians as a whole, as students traditionally under-represented at the PhD level leverage their skills to develop new knowledge, driving productivity growth and better outcomes for society, upon their graduation.

In recent years, reforms to research block grants were introduced to incentivise universities to support First Nations students to enrol in and complete HDR degrees. The average annual growth rate of First Nations PhD enrolments post implementation is higher than the pre-implementation period. Before the introduction of this policy, the rate was volatile, which could be due to the smaller base number. After its introduction, total enrolments of First Nations PhD students immediately increased by 10.5% from 2016 to 2017 – double the previous annual rate, then started going slowly down (the rate dropped in 2021, likely due to COVID-19).[352]

Despite this, more needs to be done to ensure the future research workforce is truly representative of Australia's diverse population. As discussed in *3 – Expanding opportunity to all*, there is a need to ensure that educationally disadvantaged groups have equal access and opportunity to higher education. This holds true for the PhD cohort, with First Nations students, students with disability, students from low SES backgrounds and regional rural and remote students making up just 1.9%, 8.7%, 9.6% and 14.9% of total PhD enrolments respectively.[353] Achieving the ambitious targets set out in *Chapter 3 – Expanding opportunity to all* will have a flow on impact to the HDR cohort. This will ensure Australia's stock of knowledge, in all fields of knowledge production, is representative of all Australians. It will also ensure that the future generation of university teaching staff reflects a growing, and increasingly diverse, student population.

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351 Social Research Centre, *2022 Graduate Outcomes Survey* (Melbourne: Social Research Centre, February 2023), 6, www.qilt.edu.au/docs/default-source/default-document-library/2022-gos-national-report.pdf?sfvrsn=c5d342c8_2.

352 Department of Education, *Domestic PhD Student Enrolments (by Equity Group) 2022* [unpublished data], (Canberra: 2023).

353 Department of Education, *Domestic PhD Student Enrolments (by equity group)* [unpublished data]. Students may contribute to more than one group in these percentages.

Putting First Nations students at the heart of the higher education system, and supporting them to complete HDRs and then go on to become the next generation of researchers, requires more than awareness of the barriers First Nations students face. It requires action. Adequate financial support is one critical element because, when compared to the broader domestic cohort, First Nations students studying at the HDR level are more likely to be from a low SES background and/or from regional, rural and remote areas, and many are mature age with caring responsibilities.[354]

It is for this reason that the Review recommends additional scholarships be provided for First Nations students through the RTP (see Recommendation 26). This will ensure our First Nations researchers continue to make critical contributions across all disciplines – from astrophysics and agricultural research to history and law. The pipeline needs to be further strengthened by increased investment in postdoctoral fellowship opportunities that lead to secure employment.

While financial support will be crucial, universities must also ensure that culturally appropriate supervision is provided and that they understand the tensions between university and community commitments that many First Nations students feel.[355] Growing the pipeline of First Nations researchers and building the First Nations workforce within the sector is one way to create a more culturally safe environment for Australia's First Nations academics, but this will take time and sustained commitment from governments, universities and communities.

354 Department of Education, *Indigenous Students in Higher Degrees by Research: Statistical Report, August 2019,* (Canberra: 2020), 13, www.education.gov.au/higher-education-statistics/resources/indigenous-students-higher-degrees-research.

355 Nikki Moodie, Shaun Ewen, Julie McLeod and Chris Platania-Phung, "Indigenous graduate research students in Australia: a critical review of the research," *Higher Education Research & Development* 37, 4, (February 2018), 805–820, doi.org/10.1080/07294360.2018.1440536.

Recommendation: Producing new knowledge and using research capability

26. That to improve Australia's research quality, the Australian Government strengthen the fundamentals of the Australian research system by:
    a. enhancing the ARC's capacity to support fundamental research by additional investment in its programs with the allocation of the new funding to be advised on by the board of the Australian Research Council
    b. setting a minimum percentage of national competitive grants that run for 5 years or longer
    c. substantially increasing investment in the Research Training Program and improving the attractiveness of the program by raising minimum stipends and making part-time scholarships tax free
    d. providing dedicated PhD scholarships and postdoctoral fellowships for First Nations researchers to support, broaden and grow the pipeline of First Nations researchers at Australian universities
    e. ensuring that training in entrepreneurial, business, teaching and leadership skills is offered through additional qualifications in parallel with research training in preparation for careers beyond academia
    f. requiring the Australian Tertiary Education Commission, with advice from the ARC and industry peak bodies, to develop a National Research Workforce Development Strategy by the end of 2026. This strategy should capture research career pathways, including higher degree by research (HDR) graduate employment pathways. It also should support national research workforce planning and facilitate pathways for HDR students into and out of universities
    g. providing stable and predictable ongoing funding for the National Collaborative Research Infrastructure Strategy (NCRIS).

Recommendation: Producing new knowledge and using research capability

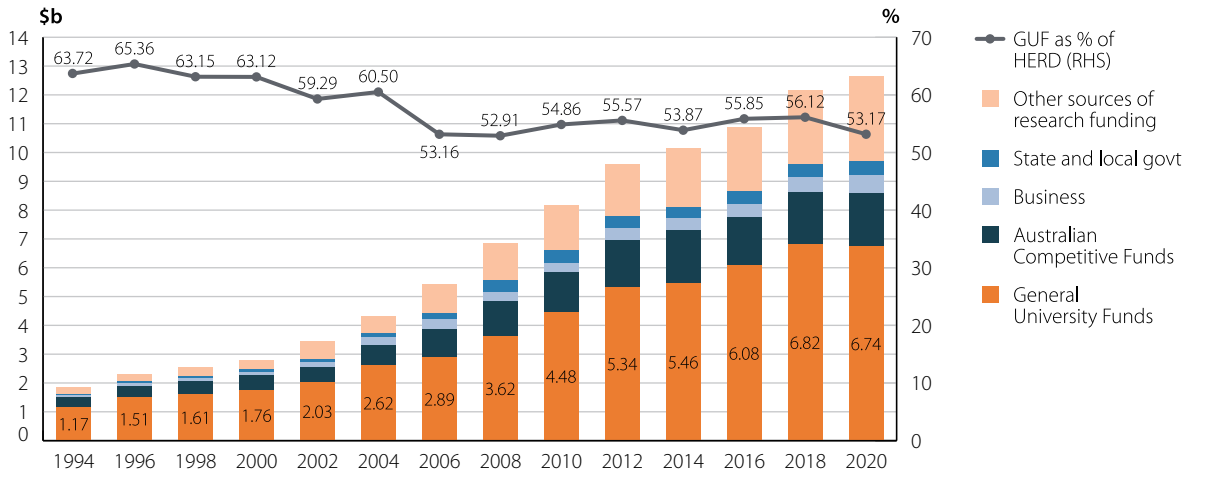
27. That to advance the Australian Government's focus on the importance of research into First Nations knowledges and the need to make sustained progress on closing the gap in outcomes for First Nations people, the Australian Government elevate First Nations knowledge, knowledge systems and Closing the Gap through First Nations Leadership to the National Science and Research Priorities, implementing a framework that ensures First Nations-led research, First Nations leadership and capacity building, self-determination, and impactful, transformative outcomes.

5.6 More needs to be done to fund the full economic cost of research

As mentioned above, university research is funded from a variety of sources (see Figure 33), with universities providing the majority of research investment from their General University Funds (53% in 2020). Australian Competitive Funds and research block grants comprise $2.1 billion (2021) and $2.0 billion (2022) respectively, provided by the Government.[356] Other sources include state and territory governments, and industry, overseas and philanthropic sources.

Government funding is generally given in the form of research block grants or as project funding through Australian Competitive Grants. Australian competitive grants do not cover the full costs (both direct and indirect) of the projects they fund. This leads to the so-called 'full-funding' problem for universities – the more successful they are at winning 'grants' from government schemes, the more they must co-invest from their own funds. These co-investments register in the General University Funds. This phenomenon is known in the United Kingdom as 'the burden of full funding'.[357]

Figure 33: Higher Education Expenditure on R&D (HERD) by source of funds ($ billions), 1994 to 2020.



Source: Australian Bureau of Statistics, *Research and Experiment Development, Higher Education Organisations* [data set], various years, (Canberra: 2023).

The research block grant was originally introduced through the Research Quantum in the early 1990s, partly to address this issue. Over time it has morphed into the block grant known as the Research Support Program (RSP). There is considerable flexibility as to how it can be spent, but it is less focused on partial matching to national competitive grants than it was in its original form. Although block grants are an

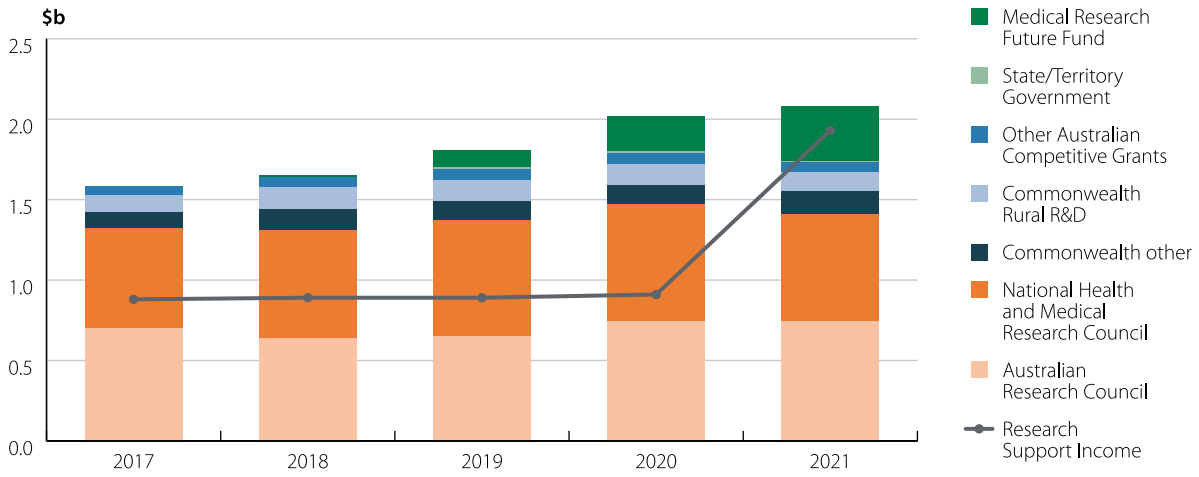
356 Department of Education, *Consolidated Time Series Datasets– Research Income Time Series and Research Block Grant Allocations* [data set], (Canberra: 2023), www.education.gov.au/research-block-grants/consolidated-time-series-data.

357 Terry Cutler, *Alliances for Innovation and Economic Development: the Australian Experience* (Melbourne: United Nations Economic Commission for Latin America and the Caribbean [ECLAC], and Culter and Company, 2008).

important source of funding for Australian university research, their growth has not kept pace with competitive income growth. Universities have responded by investing from their own general university funds, but this comes at the cost of other strategic agendas within universities.

While the issue of research support funding structures was briefly ameliorated by a COVID-related one-off $1.0 billion payment to the RSP in 2021, recent competitive grant developments have underscored the problem. For example, the establishment of the Medical Research Future Fund (MRFF), which built up its funding from $0 in 2017 to $340 million in 2021 (see Figure 34), has weakened the underlying research support structure.[358] Because the block grant pool is fixed, and is driven by a formula based on research income, the inclusion of each new tranche of MRFF funding dilutes the block grant dividend for all universities, with the result that other universities effectively subsidise the universities in receipt of the grants. While the Review welcomes the addition of MRFF funding, which has been a positive development for the entire research system, it notes that it exacerbates the indirect cost support problem.

Figure 34: Competitive research income ($ billions) by sub-category, 2017 to 2021.



Source: Department of Education, *Consolidated Time Series Datasets – Research Income Time Series and Research Block Grant Allocations* [data set], (Canberra: 2023), www.education.gov.au/research-block-grants/consolidated-time-series-data.

Another issue is that the full costs of research are not always covered in commissioned contract research, because some universities undertake such research at rates below its full economic cost, and the inclusion of industry funding in block grant calculations creates pressure on universities to do so. While university pricing strategies are an operating decision for each university, and alternative pricing approaches can be legitimate in areas of strategic interest, undertaking research at below full cost leaves a deficit that must be funded from elsewhere. In the case of both competitive and contract research, the balance must be met by university funds.

358 Department of Education, *Consolidated Time Series Datasets – Research Income Time Series and Research Block Grant Allocations* [data set], www.education.gov.au/research-block-grants/resources/research-block-grant-allocations-time-series; Parliament of Australia, *Budget Review 2020–21*, (Canberra: Parliament of Australia, October 2020), 41, parlinfo.aph.gov.au/parlInfo/download/library/prspub/7622081/upload_binary/7622081.pdf;fileType=application%2Fpdf#search=%22library/prspub/7622081%22.

As Figure 33 shows, over the past 30 years, universities have substantially invested their own discretionary funds (GUF) into their R&D efforts. GUF has largely matched the expansion of HERD in that period, with only a minor decrease more recently. As HERD has become a bigger proportion of GERD over this same period, it is clear that GUF is an increasingly vital component of our nation's research system. That is to say, Australian university investment in research – funded predominantly by international students – is one of the largest contributions to national research funding.

The ongoing investment by universities in R&D reflects the importance Australian universities place on producing new knowledge and innovation, be it new research reflecting institutional strategic priorities or cooperative research with external partners. Current funding arrangements provide universities with autonomy to make strategic decisions aligned with their unique missions and priorities about how they spend their own internal funds. This can have broader benefits, as many universities' priorities are linked to what is most beneficial to their local, national and global communities.

While there are advantages in current arrangements, there are also risks. With such a large quantum of Australian universities' research expenditure coming from universities' own funding sources (i.e. international fee revenues), Australia's strategic R&D capacity is at risk in the event of a major global event or other funding shock. Such volatility can jeopardise the long-term strategic research programs of universities, given that a research project expenditure timeframe can be significantly longer than a project's initial revenue stream. This is a particular concern for the long-term resilience of Australia's university research system.

5.6.1 Pathway towards increased indirect cost support for nationally competitive research grants

There is a particular need for a transparent pathway towards increased indirect cost support for national competitive research grants to help support the resilience of the university research system.

In the case of Australian Competitive Research Grants (ACRGs), any pathway for supporting the indirect costs should incorporate the following:

- transparency in what is provided for in ACRGs. A future publicly funded research system should be transparent upfront about the indirect costs that are to be funded as well as the direct costs. This would give universities certainty and assist with their overall budgeting process and their institutional decision-making about the need for and extent of any co-investment. A similar approach to transparency of publicly funded research for fixed indirect cost support applies in the US for federal research grants.
- a constant rate for indirect costs to be provided by the Australian Government. The impracticalities and administrative burden of different funding rates, varying between fields of research and universities, is not beneficial for the research system as a whole. A transparent constant indirect support rate will provide for an equitable competitive environment between universities and allow universities to determine if and when co-investment may be needed.
- an indirect cost mechanism that can respond to changes in the quantum of ACRGs. It is important that a mature publicly funded research grant system incorporates a funding principle that indirect costs of research must be factored into the system to accompany any direct research investment expansion.

With the recommended establishment of the Solving Australian Challenges Strategic Fund and its use of engagement metrics as proposed in section 5.4.2 , the opportunity should be seized for a complete reshaping of research block grants. Instead of the Research Support Program being used for general support for the university research system, the Review recommends it should explicitly be designated for indirect cost support for ACRGs, working towards the transparent provision of the full economic cost of research (see Recommendation 28).

As an interim measure, the Australian Government should provide an indirect cost support rate for all ACRGs of 50 cents per direct research dollar awarded by 2030. This target rate should then be examined by the Commission to ensure it is still fit for purpose, and subsequently re-examined every 5 years.

The initial recommended rate of 50 cents is not as high as the support applying to federal grant research in the US (55 cents per direct dollar in 2017)[359] but it is broadly accepted across all parts of the research sector as a reasonable medium-term target while working towards a full-cost model that sustainably, transparently and fairly prices the cost of high quality research. The combination of transparency and meaningful indirect cost support is intended to bring confidence in public research funding settings, allowing universities to strategically co-invest in ACRGs long-term.

For contract research, universities should incorporate the expected full economic cost of research into their pricing strategies, and end users such as industry and government should pay this rate.

Further details about how this may change the research funding landscape can be found in *Chapter 8 – A new funding model to underpin growth and quality.*

Recommendation: Producing new knowledge and using research capability

28. That to develop a pathway to fund the full economic cost of university research:
    a. universities charge, and governments and industry pay, full market rates for commissioned and contract research and consulting
    b. the Australian Government provide transparency and significant material support for national competitive schemes, amending the Research Support Program to provide explicit indirect cost support tied to national competitive grant schemes by:
        i. setting a base for indirect costs, increasing over time to a target of 50%. This target should be reviewed by the Australian Tertiary Education Commission on a 5-yearly basis for suitability
        ii. changing Australian Research Council (and other national competitive grant) funding rules to ensure grants deemed fundable are funded with the fixed indirect cost support rate amount.

359 Based on facilities and administrative costs at 107 US research institutions in 2017. Dr. Kelvin K. Droegemeier, "Written testimony submitted to the Appropriations Sub-Committee on Labor, Health and Human Services, Education and Related Agencies, United States House of Representatives" for the hearing titled *The Role of Facilities and Administrative Costs in Supporting NIH-Funded Research*, (October 2017).

5.7 Keeping Australian research quality high

The evaluation of publicly funded research is essential to demonstrate value for money. Evaluation results help guide national research priorities and research funding policymaking and drive continuous quality improvement by researchers.

Research evaluation needs robust and transparent measures that go beyond traditional measures of research excellence to include both quality and impact and these can be defined as follows:

- research excellence: The production of high-quality research that contributes to the creation of new knowledge and thinking, complexity of thinking, breakthroughs in understanding of challenging concepts and the transcendence of boundaries
- research quality: The rigour that research goes through. High-quality research should be transparent, reproducible, adhere to the necessary reporting and supervision standards, and adopt appropriate methods, measurements, data analysis and research design
- research impact: The benefits of research to society, including economic, social, environmental and other benefits.[360]

The Review recommends that Australia invest in a new methodology to evaluate research, tailored to meet the needs of key stakeholders, including government, industry and the university sector.

5.7.1 Improving research evaluation and data collection

5.7.1.1 Research quality

Australia requires a national research evaluation framework that includes an assessment of research quality. This should be supported by improved data and information collection processes.

Since 2010, research quality in Australian universities has been assessed through the Excellence in Research for Australia (ERA) framework.

Excellence in Research for Australia Objectives

1. Provide a national stocktake of discipline-level areas of research strength and areas where there is opportunity for development in Australia's higher education institutions.
2. Identify excellence across the full spectrum of research performance.
3. Identify emerging research areas and opportunities for further development.
4. Allow for comparisons of Australia's research nationally and internationally for all discipline areas.[361]

360 Australia's Chief Scientist, *Trust in Science: Clarifying the Distinctions between Research Integrity, Research Quality, Excellence, and Impact* (Canberra: Office of the Chief Scientist, Australian Government, 2023), 3, www.chiefscientist.gov.au/sites/default/files/2023-08/Clarifying%20the%20distinctions%20between%20research%20integrity%2C%20research%20quality%2C%20excellence%2C%20and%20impact.pdf.

361 ARC, *State of Australian University Research 2018–19: ERA National Report.*

The first round of ERA was conducted in 2010, followed by assessments in 2012, 2015 and 2018. The indicator to measure university research quality steadily increased across the 4 rounds of assessment, from approximately 65% of Australian university research in ERA 2010 being rated 'at world standard' or 'above world standard' to 92% of university research receiving these ratings in 2018.[362]

Although quality assessment provides a feedback loop that ensures continuous quality improvement, it relies heavily on peer review, benchmarking and rating of fields of research, processes that create an administrative burden on universities participating in the assessment.

The recent independent Review of the Australian Research Council Act 2001 (ARC Review) canvassed stakeholder views on ERA. The ARC Review found there was a strong view that ERA had served its purpose and should be abolished, with many comments objecting to the administrative burden of preparing for ERA.[363] The ARC Act Review included this as one of its recommendations. The Minister for Education then referred consideration of ERA and Engagement and Impact Assessment (EI) to this Review.

Rapid changes to the collection and analysis of bibliometric data means that it is becoming increasingly possible for at least some of the data collection for an ERA-style quality assessment to be automated, thereby providing a significant saving in time and resources. That said, while automating data and information collection offers enormous potential, it should not disadvantage disciplines, such as those in the humanities, some social-sciences and some First Nations fields of research. Therefore, more work will be required to assess the potential to take advantage of advances in artificial intelligence, particularly natural language understanding, and data science to develop a 'light touch', automated, metrics-based research quality assessment system for both traditional and non-traditional forms of research. That work should also examine how best to match the way an assessment is structured to the uses to which it will be put.

It is important that a research assessment scheme can demonstrate the high-quality research undertaken in Australia to a range of stakeholders. Taxpayers must be able to see a return on the substantial investment made by the Australian Government each year and gain a better understanding of the social benefits of research. Importantly, high-quality research attracts industry collaboration and investment, which is vital for the economy and productivity.

For over 10 years, ERA has done the job of lifting the quality of Australian research. However, the time has come for a more streamlined approach to assessing research quality.

The global research evaluation landscape is in the midst of an important shift as a result of new possibilities associated with cloud computing, machine learning and the growing availability of research data that is openly available.[364] Alongside this are rising expectations of transparency and accountability. Researchers are expected to be accountable to the communities that fund, and depend on, the work they do.

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362 ARC, *Standard: Excellence in Research for Australia (ERA) and Engagement and Impact (EI) 2018 Outcomes*, ARC, State of Australian University Research 2018–19, ARC, accessed 15 December 2023, www.arc.gov.au/standard-excellence-research-australia-era-and-engagement-and-impact-ei-2018-outcomes. These results are based on the four-digit Units of Evaluation (UoE) measure for all universities.

363 Margaret Sheil, Susan Dodds and Mark Hutchinson, *Trusting Australia's Ability: Review of the Australian Research Council Act 2001 Final Report* (Canberra: Department of Education, March 2023), 57-58, www.education.gov.au/higher-education-reviews-and-consultations/resources/trusting-australias-ability-review-australian-research-council-act-2001.

364 James Brooks, "Leiden rankings to add open-source version in 2024," *Research Professional News,* published 15 September 2023, www.researchprofessionalnews.com/rr-news-europe-universities-2023-9-leiden-rankings-to-add-open-source-version-in-2024/.

Research institutions must operate transparently and support claims about their performance with evidence. Funders and the bodies charged with evaluating research and institutions are required to demonstrate that the evaluation data and methods they use are fair, consistent and appropriate.

There is an opportunity to leverage technological developments and open data to increase transparency and reduce the burden of research evaluation, shifting the focus of assessment from summative audit and accountability towards formative incentives driving positive change in research culture and practice. An improved data environment cannot and should not supplant peer review, but it can reduce the burden of gathering evidence to support evaluation and provide new opportunities to understand, capture and support engagement and impact.[365] This is why the Review is recommending the Australian Government develop a fit for purpose national research evaluation framework (see Recommendation 29).

5.7.1.2 Research impact

The availability of verifiable, auditable, robust and qualitative and quantitative data on the impact of research from across the discipline spectrum leads to robust and compelling narratives about the successes and outputs of Australia's research system. This fosters community and industry faith in the system, and leads to engagement and buy-in.

The EI was developed to complement the quality assessment of the ERA and to encourage collaboration between universities and industry. The EI was piloted in 2017 and was implemented in 2018 as a companion exercise to the ERA. A second EI assessment was planned for 2023, but both assessments were recommended for discontinuation in 2023.[366] While the 2018 EI assessment may not have been perfect, in part possibly because it was not given enough development time, it is vital that there be ongoing development of methods to assess research impact.

Improved impact measurement is the 'holy grail' of research evaluation. The initial focus on improving the quality of research by evaluating discrete outcomes of research, for example publications, has evolved into more complex attempts to evaluate a full range of research impacts – economic, social, environmental, ecological and systematic.

As the OECD has stated:

> Demand for evaluation is increasing and changing from evaluating the quality of research (via peer review) to assessing the outcomes, output and impact of public R&D. There is also…interest in evaluating entire research systems and research portfolios, and in enhancing the role of evaluation as a tool for priority setting and decision making.[367]

Greater effort and investment in research by universities and government, as well as the need to tackle entrenched and complex challenges, has led to governments, institutions and the public wanting to understand the impact of research better, and potentially influence or direct those impacts. But assessing

365 Karl Chun-Kai, Cameron Neylon, Lucy Montgomery, Richard Hosking, James P. Diprose, *Open Access Research Outputs Receive More Diverse Citations*, version 3 (Zenodo, September 2023), doi.org/10.5281/zenodo.8362576.

366 ARC, *ERA EI Review: Final Report 2020–2021* (Canberra: ARC, 2021) 38, www.arc.gov.au/sites/default/files/era_ei_ac_report.pdf; Sheil, Dodds and Hutchinson, *Trusting Australia's Ability: Review of the Australian Research Council Act 2001*, 60.

367 OECD, *Enhancing Research Performance through Evaluation, Impact Assessment and Priority Setting*, (OECD, 2015) accessed 21 November 2023, 5, www.oecd.org/sti/inno/Enhancing-Public-Research-Performance.pdf.

impacts remains a challenge for most countries. Globally, there are many and various approaches to assessing research performance, demonstrating that there is no one right way to evaluate the impacts of government-funded research.

A particular difficulty with impact assessment is trying to establish causal links between the generation of a new outcome from research and subsequent new products, policy changes and interventions, or other social and economic impacts, not least because of the time lag between research output and research impact. The knowledge development process is complex, and it is rarely the case that just one piece of research leads to the final advancement or breakthrough.

Current evaluation methodologies also struggle to take account of developments in knowledge that are made by multiple individuals at different institutions around the world over many years – highlighting that impact is not a linear or static process. The OECD suggests the process from research to outcome "leads through circuitous routes to dead ends, to positive social outcomes, to negative outcomes".[368]

Specific challenges that make assessing the impact of research complex include:

- the time between undertaking research and the impact of the research can be very long, and timeframes vary between disciplines
- the impact of research may differ depending on the point in time in which it is assessed
- attributing impacts to particular research origins can be difficult given there may be multiple contributions to its development
- much new knowledge generated from research may be adapted into multiple new ways of doing things over time without recognition of the original contributing research
- the challenge of identifying the link between research and impact is exacerbated by the limited existence of suitable data.[369]

The Review recommends that the Australian Government should strengthen the capacity of Australian universities and researchers to describe in detail the powerful impact of Australian university research – and deepen community and industry buy-in. A fit for purpose research quality and impact evaluation system will drive better outcomes for Australia, and these challenges will need to be considered as the system is developed.

5.7.2 National Research Evaluation and Impact Framework

The Review recommends a national research evaluation and impact framework as the appropriate mechanism to structure research evaluation in the university research system (see Recommendation 29). However, a range of issues will need to be factored into such a framework's development.

Ideally, a national research evaluation and impact framework would utilise elements of current research assessments in the short term (research quality assessment and further development of research impact measures) and incorporate them into a holistic framework in the medium to longer term.

368 OECD, *Enhancing Research Performance through Evaluation, Impact Assessment and Priority Setting*, 11.

369 Teresa Penfield, Matthew J. Baker, Rosa Scoble and Michael C. Wykes, "Assessment, Evaluations, and Definitions of Research Impact: A Review," *Research Evaluation 23*, 1 (8 October 2013) 25-27, doi.org/10.1093/reseval/rvt021.

The ARC Act Review stated that the administrative effort required of universities to undertake ERA and EI assessments was burdensome and out of proportion to the perceived benefits.[370] Despite this, the Review believes that some form of research quality assessment may be desirable, though the assessment's audience and purpose should be established before undertaking work.

Automating the collection of data for research assessment to reduce administrative burden is welcomed by the higher education sector. However, concerns remain that fields of research with non-traditional, non-citation outputs, in particular some humanities, creative industries, social science and First Nations areas of study, could be disadvantaged by this approach. This will need to be considered as a national research evaluation framework is developed. Disciplines must only be subjected to assessment through means that appropriately and reliably capture quality and impact in those domains. Shaky or partial data can result in worse outcomes than the absence of data, because they can create the illusion of knowledge, where no basis for confidence in fact exists. It may be that some of those fields can only be properly assessed with the assistance of peer review methodologies possibly augmented by sophisticated natural language understanding techniques.

The collection of data and information will be important too. Ensuring that collections are made in a strategic and sustained manner can be guided by a supporting data and information collection framework and strategy.

Because the development of a new assessment system will take time, and a raft of other major reform is already underway at the ARC, a 'lighter touch' automated (where appropriate and feasible) approach to quality assessment could be developed in due course with a view to undertaking it in 2025.

Over time, a national research evaluation and impact framework could help identify the benefits of research for various stakeholders, including government, industry and the community as well as researchers and universities. The framework could incorporate research quality and impact as well as a national research data strategy.

The framework should develop streams of research evaluation that are relevant to the types and stages of research that are non-linear and recursive in nature. The framework should incorporate a national assessment process alongside options to understand longer term outcomes and impacts of research. This approach will support deep dives into research activity and enable an examination of whether research activity is aligned to priorities such as the redeveloped National Science and Research Priorities.

Assessing research quality and understanding the impact of research will rely on strong underlying data and information collection. Developing impact measures at the later stages of research development, such as the innovation or commercialisation stages, will be dependent on data and information collection processes that are established at the start of the research pipeline. This will include robust individual evaluation frameworks for individual programs and initiatives. Collecting this will require adjusting existing administrative processes, such as the Higher Education Research Data Collection (HERDC), and introducing new processes, such as the collection of persistent identifiers for all forms of publicly funded research.

370 Sheil, Dodds and Hutchinson, *Trusting Australia's Ability: Review of the Australian Research Council Act 2001*, 57.

These processes will enable improved analysis of inputs, outputs, outcomes and impacts at various stages of the research process and for different stakeholders. It will enable evaluations that are appropriate for the different types and stages of research, such as econometric studies on the impacts of basic research, the diffusion of ideas from a single project over time, or the commercial opportunities arising from late-stage research for targeted industry stakeholders.

Improved data collection should make both research investment and costs more transparent, help ensure that the system is sustainable, and inform strategic research allocation decisions.

The development of the framework should be the responsibility of the ARC, working in concert with the Commission, TEQSA and the universities, and in consultation with the Learned Academies and the sector more broadly. Consideration could be given to including the NHMRC and the PFRAs, depending on the desired scope of concern of the research assessment exercise: the question of remit could be addressed by the whole of government strategic examination of national research funding recommended above (see Recommendation 24). Since the provisions of the Australian Research Council Amendment (Review Response) Bill 2023 currently before the Parliament will take effect on 1 July 2024 (subject to the Bill's passage), and they involve a considerable change, it is not plausible to expect the framework to be ready for testing let alone implementation prior to 2025.

5.7.3 Research integrity

A system to investigate potential breaches of the research code of conduct was jointly established in 2011 by the ARC and NHMRC. In 2022 an independent evaluation of the Australian Research Integrity Committee (ARIC) was undertaken and found that opportunities exist to improve ARIC's operations to better meet stakeholder needs. The NHMRC and ARC have noted the findings of the evaluation and have committed to refine processes to deliver the suggested improvements.[371]

The Review recommends providing funding to the ARC to further strengthen and improve research integrity arrangements, to ensure that Australian research remains highly credible, with quality research outputs that can be relied upon to support evidence-based decisions.

371 Pending release of report.

Recommendation: Producing new knowledge and using research capability

29. That to demonstrate the quality of and return on investment in Australian university research, the Australian Government commission the ARC to work with the Australian Tertiary Education Commission, TEQSA and universities to develop a fit for purpose research quality and impact evaluation system through the creation of a National Research Evaluation and Impact Framework that is data driven and uses intelligent technologies and that:
    a. is less burdensome for universities to measure and report research quality and impact without affecting robustness
    b. delivers a clear evaluation to Government and the community of the quality and impact of Australian university research
    c. strengthens the capacity of Australian universities and researchers to describe in detail the powerful impact of Australian university research – and deepen community and industry buy-in
    d. improves the external scrutiny of research integrity through providing additional funding to the Australian Research Council to strengthen its independent research integrity processes.

5.8 The case for new knowledge

There is a compelling need for Australia to build new knowledge and use its research and research capability. Although Australia's research generation is high quality, the national effort to use our research expertise is not strong. To ensure the nation's research system is well positioned to tackle the challenges facing the nation and harness the talent of its people, this chapter proposes mechanisms to increase research use, investment, impact, integrity and excellence, and ensure government grants fund research at full cost.

Chapter 6. A dynamic, collaborative and responsive system that serves the national interest

6.1 The need for stewardship

Chapters 2, 3, 4 and 5 of this Report describe the major shifts required of Australia's tertiary education sector between now and 2050: meeting skills needs, expanding participation in higher education – particularly for groups that have been historically under-represented – and deploying Australia's significant national research capacity and capability to the greater benefit of the country.

This chapter notes that, over the past 30 years, policy and funding changes have been fragmented and made without a cohesive view of their impact on the tertiary education system. This has led to system architecture and structures that inhibit the major shifts required to deliver the recommendations of the Review.

For example, some changes to funding policy have led to perverse student outcomes, and have often seemed ad hoc, such as in the case of the Job-ready Graduates (JRG) package.

Others have resulted in regulatory inconsistencies, insufficient data and metrics with which to monitor, evaluate and compare sector performance, and concerns about university governance and workforce arrangements, including high rates of casualisation.

Overall, fragmented policy changes have eroded both the stability and sustainability of higher education providers, and their flexibility in adapting to changing needs. To grow the system – and to achieve the ambitions outlined in previous chapters – change is needed.

This chapter proposes improvements to current system governance arrangements to enable a dynamic, collaborative and responsive tertiary education system with the capacity and capability to drive reform. They include a new National Tertiary Education Objective to underpin a strong, equitable democracy and to drive Australia's economic and social development and environmental sustainability as an advanced nation.

This chapter covers the whole of the tertiary education system. However, in some cases the reforms proposed are intended to start first with higher education before being expanded to the whole tertiary education system.

The recommendation to establish a Commission to enable greater coordination and adaptability across a diverse tertiary education system and promote long-term strategic thinking was included in the Interim Report. Further consultation and analysis in the Review has reaffirmed the need for such a body to work closely and collaboratively with the tertiary education sector and guide the system towards its vision for 2050. The Commission is a key recommendation of the Review and, if implemented, will represent a landmark change to Australia's higher education landscape.

This chapter also describes the need for a system that is adaptive to the scale and diversity of providers that are needed, and the type of workforce arrangements for staff that are required to support this adaptability.

Importantly, each of these is intended to be implemented in a way that reduces administrative burden on institutions whilst increasing tertiary education system intelligence, harnessing system capability and reinforcing institutional autonomy. This will enable the system to grow and to deliver on areas of national need, now and in the future.

6.2 The need for a deep-thinking system with clear direction

The Review has identified many challenges for the tertiary education system across the full spectrum of its activities in the coming decades. To meet these challenges, the system must be able to think, plan and act more cohesively. However, the current approach to system-wide planning and policymaking is fragmented, lacks collaboration and does not focus on the long-term future.

This is not a new issue. Since the abolition of the Commonwealth Tertiary Education Commission (CTEC) in 1988, tertiary education policy and implementation in Australia has lacked deep thinking and clarity of direction. This dynamic cuts across the diverse activities of the tertiary education system and research sectors. It means that Australia is not making effective use of its education institutions' expertise or of the resources it commits to the system.

At the same time, and across successive governments, there has been a decline in the capability and capacity of the public institutions responsible for overseeing the system. This has been compounded by the shape of the institutional structures governing it, which are centred in policy departments which lack a long-term system focus and have instead prioritised responsiveness to ministerial and government priorities. Compared with other large and complex policy systems with a high degree of government involvement, for example the health system, the tertiary education landscape lacks stewardship-focused bodies that are able to provide continuity and deep historical knowledge of the system. These other systems have provided guidance for the Review in identifying the opportunities that a long-term system steward, coupled with a responsive, high capability department of state, can provide for tertiary education.

In the absence of a single institution responsible for long-term vision to guide policy development, the system has accrued a legacy of the shifting priorities of ministers and governments described by one submission as 'programmatic confetti'.[372] This reflects the missed opportunities for cohesive, stable and future-focused settings that will give institutions the confidence to make the changes required to meet the challenges identified by this Review.

372 Stephen Duckett, *Submission to the Australian Universities Accord Interim Report*, 2023.

The gap has been particularly stark in areas including policy design, planning for evolution and change, projecting future need and uptake, and accurate pricing of teaching and research activities. Recent examples point to how these shortcomings affect the providers and students in the system:

- the JRG reforms included policy changes that relied on student behavioural responses not supported by evidence to increase student enrolments in government-preferred fields of study
- the lack of planning for growth in areas of poor tertiary education provision and strong population growth, for example the outer metropolitan areas of our major cities
- the persistent under-representation of some student cohorts in higher education, meaning many Australians do not have the opportunity to participate in and benefit from post-school education
- ongoing challenges from the lack of alignment between the higher education and vocational education and training sectors, including barriers to reskilling and recognition of skills, have exacerbated skills shortages
- the growth of competitive research funding without planning for oncosts and indirect costs has led to the burden of matched funding problem, described in the previous chapter
- the lack of coherent and coordinated risk management planning was starkly evident during the COVID-19 pandemic when short term skills needs were unmet and international student enrolments suddenly fell
- the system has not been successful at projecting and acting on opportunities for skills development that would help Australia engage better with our region (e.g. Indonesian language skills)
- the current lack of clarity on pricing what government and students pay to reflect the true cost of delivery, both for the teaching of individual courses and for research activities, limits the targeting of funding arrangements to achieve intended policy outcomes
- the disconnect between the international education policies of tertiary education providers and broader migration policy means the potential benefits for international students and the nation are not being fully captured.

For the tertiary education system to flourish and be agile to future needs, the policymaking and operational parts of the system need to be better at identifying and responding to challenges and opportunities. The Review is of the view that adding deep thinking and clarity of direction through an institutionalised system steward would improve outcomes across the tertiary education system. A system steward would enable improvements in:

- ensuring the higher education sector is working in concert with the vocational education and training sector and responding to the current and expected future skills needs of the country
- driving the system as a whole to improve access and opportunities for historically under-represented cohorts
- ensuring higher education is affordable for Australians who choose to participate
- improving student experiences in tertiary education, including their safety and wellbeing
- planning for the changing shape and expectations of the tertiary education system, including for geographic areas of under-provision and the diversity of providers
- improving the understanding of the costs of delivery, including the cost of providing additional support for students to succeed

- encouraging continuous improvement across the system for the quality of education, research and research training
- improving the training, professional development and opportunities available for staff in higher education, including addressing reliance on casual employment
- connecting efforts and policy across the country to drive a cohesive tertiary education system
- bringing in the users and stakeholders of the system to be part of the problem identification and policy development and implementation processes.

This system steward, proposed to be called the Australian Tertiary Education Commission (the Commission), would provide new capability to convene government agencies, education and research providers, students and staff, industry and business representatives, unions and civil society. Stakeholders would be convened to consider current and future national needs, participate in policy design and prioritisation, and provide ballast in the system to ensure that responsive policymaking is paired with long-term vision and stability around key parameters including funding.

The Commission could be explicitly responsible for considering the whole-of-tertiary education system, pulling together both higher education and VET in response to national needs. A body like this has been missing from the existing system governance architecture and is a long-wasted opportunity given the complementary strengths of both sectors.

This requires a Commission that can work in partnership with the Australian Government and states and territories, through existing structures like National Cabinet, the Education Ministers Meeting, the Skills and Workforce Ministerial Council and the shared stewardship model for VET established by the National Skills Agreement.

The Commission would address the current lack of capacity and independence for long-term and strategic policy thinking by government policy departments that results from the day-to-day pressures and responsiveness to the government of the day. As a stewarding body, it would be better placed to identify the flow-on effects from change in one part of the tertiary education system to the others, facilitating planning for the consequences of change and mitigating system risks. It would provide a cohesive, whole-of-system view that currently no one entity holds. The Commission is a necessary complement to the strengths of existing policymaking bodies and would enable the tertiary education system to better adapt to changing needs over time.

Finding: Leadership – Australian Tertiary Education Commission

Our tertiary education system lacks the coordinated, future-focused and evidence-based, decision-making capacity necessary for Australia's future success. This must change. Over the past 20 years, there have been significant failures – both of action and inaction – where the absence of a strong sector stewardship function has been telling. The tertiary education system is too important to Australia's social, economic and environmental wellbeing to leave its future to the uncoordinated action of individual institutions.

6.2.1 Regulatory challenges

The tertiary education system often faces new regulatory challenges and a system for dealing with these as they arise is needed. It needs to be complemented by continuous quality improvement in regulation, a critical role for the Commission, including through transparent reporting on the state of the system and providing data and feedback to the sector.

The Review considers that there are opportunities to improve substantially the effectiveness and clarity of regulatory arrangements for the tertiary education system.

The fragmentation of requirements across multiple pieces of legislation creates unnecessary complexity for providers in identifying obligations and designing their activities for compliance.

Over time, a more forward leaning higher education Act, that addresses issues of fragmentation and recognises the interlinkages between the higher education and VET sectors, would be desirable and should be developed over the next 3 years.

Finding: Regulation

The creation of TEQSA following the Bradley Review has helped strengthen the reputation of Australia's higher education sector. It has been successful in establishing a set of minimum standards and enforcing a baseline for provider behaviour. However, new regulatory challenges will continue to emerge, and a process for responding to these is needed.

When working well, the regulatory system should allow for innovation in the tertiary education system and intervene to avoid problems occurring. For example, Artificial Intelligence (AI) presents opportunities for student learning, but also enables cheating and deception across both teaching and research. However, TEQSA's powers of regulation are limited by its enabling legislation and the regulatory standards. Its powers need to be reviewed regularly – and adjusted as necessary – to allow it to become the agile and forward-leaning regulator required to support a dynamic tertiary education system.

There are other regulatory challenges at the intersection of the higher education and VET sectors. The dual regulatory model of divided responsibility for higher education and VET providers between TEQSA and ASQA creates barriers to a more integrated tertiary education system. This division of responsibilities is reinforced by different accreditation frameworks, distinct (and for dual sector providers, duplicative) reporting obligations and institutional inertia. Policy proposals (discussed elsewhere in this Report) that would improve the experience of students and providers have struggled to progress in the current regulatory environment. Examples include closer integration between the higher education and VET sectors and the standardisation of recognition of prior learning (RPL). This is to the detriment of students and will make it harder for the nation to address the rapid upskilling required of its future workforce.

6.2.2 Addressing some serious issues

The Review has heard from many people that serious issues facing students, particularly relating to gender-based violence, have not been adequately addressed under current arrangements. There are few pathways for individual complainants to raise issues rapidly and there is a perceived lack of accountability for broader action across the system to address the causes of gender-based violence.

This situation cannot continue, and the Review notes the commitment of the Australian Government to act on Priority Action 5 of the Interim Report to begin addressing these issues. On 22 November 2023, Education Ministers released a Draft Action Plan Addressing Gender-based Violence in Higher Education for further consultation. The Draft Action Plan recognises the leading role the higher education sector can and should play to prevent gender-based violence and set the example for appropriate, trauma-informed responses to victim survivors.

These issues have also been discussed in *Chapter 4 – Delivering for students*.

6.2.3 Workforce challenges

A secure and professional workforce is central to Australia's tertiary education system. However, the Review has heard that issues such as casualisation, underpayment of staff and a growing administrative burden are undermining the workforce.

Staff are essential to the tertiary education system. They are the people teaching and supporting those who will be the future of Australia's society including nurses, teachers, electricians, plumbers, doctors, lawyers and engineers. As the tertiary education system grows and expands to include a wider cohort of students, this job will become even more important and at times challenging, as staff support more students who may need extra help to succeed in their studies. Academics, many of whom both teach and carry out research, are the backbone of Australia's research system. Without their curiosity and creativity there would be no high-quality research system. The Review also recognises the important role of professional and technical staff, who keep the system running and connected to government agencies, business and the wider community, and who provide important supports to students.

For the tertiary education system to succeed the workforce will need to grow considerably, and staff will need new training to support their work in a new, more diverse and larger system. Investment in staff at all stages of their careers is essential, both to ensure the day-to-day work of the sector in teaching and research, but also to foster future leaders and thinkers in Australia's universities, TAFEs and VET providers. Priorities for supporting the workforce, including professional standards, accreditation, and training and development opportunities, are discussed in *Chapter 4 – Delivering for students*. The Review notes that workforce arrangements are a matter for institutions and their staff and unions, but there is also a role for a new Commission in helping bring these parties together to plan for the future.

In recent decades, the higher education workforce has grown. However, growth in student numbers has outstripped growth in staff numbers, resulting in a workforce that often reports being under pressure. Between 2012 and 2021, total higher education academic staff, including casual staff (full-time equivalent (FTE)), grew by 12.0% (to around 60,000 people). In the same period, students grew by 20.7% (to 1.0 million people),[373] and the ratio of students to academic staff (including casual staff) grew from 20.4 to 23.2 (EFTSL and FTE).[374]

Among other things, frequently changing funding arrangements and the cost of doing business present a challenge for workforce planning for providers across the sector. These uncertainties have contributed to the increased use of redundancies and of casual and fixed term contracts in both teaching and research.

6.2.3.1 Casual staff in higher education

As shown in Table 6, the proportion of casual staff has risen considerably since 1995, most notably in the period from 1995 to 2010. In 2021, casual staff comprised 22.1% of the academic workforce (FTE).[375]

Table 6: Casual staff as a percentage of total university staff, full-time equivalent (FTE) unless otherwise indicated, 1995 to 2021.

Year	All university staff (no.)	All academic staff (no.)	Casual academic staff (no.)	Casual academic staff (% of all staff)
1995	81,296	36,573	5,777	15.8
2000	81,988	36,999	7,106	19.2
2005	93,994	42,255	7,979	18.9
2010	110,929	50,791	10,691	21.0
2015	124,356	56,846	12,943	22.8
2020	136,951	62,507	13,358	21.4
2021	128,965	60,292	13,321	22.1

Source: Department of Education, *Higher Education Statistical Collection - Staff data multiple years* [data set], (Canberra) accessed 15 December 2023.

Note: Staff data is only collected from Table A and B universities.

373 Department of Education, *Higher Education Statistics –Staff data – 2021* [data set], (Canberra: 2022), accessed 8 December 2023, www.education.gov.au/higher-education-statistics/staff-data/selected-higher-education-statistics-2022-staff-data; Department of Education, *Higher Education Statistics – Student data – 2021* [data set]. Figures include staff and students at Table A and B universities only and include actual casual staff.

374 Higher Education Statistical Collection - Staff 2022 data. Numbers include staff and students at Table A and B universities only.

375 Department of Education, *Higher Education Statistical Collection - Staff data 2021* [data set], (Canberra) accessed 15 December 2023. Figures include staff and students at Table A and B universities only.

The Review has heard that casual staff are found in many roles. For example: eminent people giving one-off lectures (e.g. a judge addressing a final-year law course); those doing a PhD and doing casual teaching alongside their research studies; casuals employed to enable permanent academics to focus on intensive research; and those employed to do the day-to-day administrative work that underpins academic output. The Review has heard that some academics prefer casual and fixed-term arrangements or see them as necessary to gaining a permanent position, and that many higher education providers see casual academic teaching staff as necessary to deliver teaching across Australia's higher education sector. Casual academics also tend to have a high degree of flexibility which can be seen as a desired aspect of academic employment. Conversely, the Review also heard that some elements of the higher education sector have become reliant on the use of casual staff, particularly for teaching-only roles. In some cases, this can limit professional development and the retention of staff. Casual employment is more common in teaching focused roles but universities use casual contracts for many different roles, including in response to changing financial structures and revenue streams (including Government funding). A new system, which provides funding for the efficient cost of delivery, will provide an opportunity for providers to reconsider the use of casual staff in all roles.

The Review has formed the view that the consistently high rates of casualisation in the system since 2010 hinder the higher education sector as it strives for improvement in learning and teaching quality. Large numbers of casual and fixed term working arrangements are unlikely to attract or foster the capability, skills and number of academics required to accommodate the needs of an expanded higher education system. In addition, the Review has heard that casual pay rates, including the complexity of piece rates and activity misclassification, are the primary causes of wage theft in the higher education sector – an untenable situation. Over-reliance on casual and fixed term working arrangements will limit effectiveness of the Review's recommendations to build the capacity of academics through continuous professional development.

6.2.3.2 Administrative burden and growth in non-academic roles

Another challenge in growing the teaching and research workforce is the increasing proportion of non-academic staff. Australian universities have higher numbers of non-academic staff (around 68,700 FTE) than academic staff (around 60,300 FTE), driven in part by the burden of increased regulation and institutional administrative performance.[376] At the same time, academic staff report that their time is increasingly being spent on non-academic activities.[377] Also, the proportions of high-level non-academic staff have doubled, and senior/executive non-academic staff tripled, since 1991.[378]

376 Department of Education, *Data – Staff Data* [data set], Table 2, (Canberra: 2022), accessed 20 November 2023, www.education.gov.au/higher-education-statistics/staff-data/selected-higher-education-statistics-2022-staff-data.

377 Gwilym Croucher and Peter Woelert, "Administrative transformation and managerial growth: a longitudinal analysis of changes in the non-academic workforce at Australian universities," *Higher Education* (August 2021): 173, doi.org/10.1007/s10734-021-00759-8.

378 Gwilym Croucher, "Three Decades of Change in Australia's University Workforce," Melbourne Centre for the Study of Higher Education (September 2023): 1, 5, www.doi.org/10.26188/23995704.

6.3 Mechanisms to drive change

The operating environment for tertiary education providers in Australia is complex and fragmented. New and refreshed institutional structures must add coherence and focus collective efforts across the whole of the tertiary education sector.

This section discusses mechanisms to drive collaborative, whole of-sector change that are lasting and deliberate. Many proposals are intended to address specific challenges facing the tertiary education system currently. Yet each mechanism working in concert with the others would build foundations for the system to renew and adapt in a changing world.

The Review notes that some of the mechanisms proposed below are possible to implement quickly, with little administrative burden and to immediate effect. Others may take time to implement and drive change. The Review recommends the establishment of a temporary Implementation Advisory Committee to guide delivery arrangements and provide advice to the Education and Skills and Training Ministers on the implementation of the recommendations in this Report, including the transition to the proposed new funding model and governance arrangements (see Recommendation 44). This committee should quickly bring together Ministers and stakeholders in the tertiary education system to build the early shared understanding and cooperation that is necessary to make enduring change happen.

6.3.1 An overarching objective

As noted previously, the Review has developed an overarching National Tertiary Education Objective to underpin a system which is fit for purpose and can meet student, community and national needs effectively and efficiently.

The proposed objective of the tertiary education system is to:

1. underpin a strong, equitable and resilient democracy
2. drive national economic and social development and environmental sustainability.

The objective would be achieved through ensuring:

a. a strong, dynamic and efficient tertiary education system that has the capacity, capability and infrastructure it needs
b. affordable and equitable opportunity for all Australians to access and participate in high-quality, engaging and transformative tertiary education programs
c. delivery of graduates with the creativity and technical skills to meet future workforce and societal need
d. collaborative and purposeful work between governments, tertiary education providers, industry, employers, and unions to flexibly align local skills supply with demand
e. the creation and diffusion of new knowledge and its innovative application for the betterment of society.

The Review has considered recommendations for the tertiary education system within this framework.

6.3.2 Establishing a single system steward: an Australian Tertiary Education Commission

The Review is firmly of the view that a new body is needed to steward the tertiary education and research system to deliver improved policy, administration and coordination for the sector. It recommends that the Commission be established under legislation to work collaboratively with tertiary education institutions, supporting the tertiary education system to meet the needs of students, community, research users and employers by:

- delivering on the overarching objective of the system
- focusing the system on current and future skills needs
- promoting access and opportunity
- developing an improved understanding of the cost of delivery for providers and appropriate and fair levels of student contributions
- promoting a diverse choice of institutional and study options
- fostering a cohesive tertiary education system through the development of sound policy
- encouraging continuous improvement in tertiary education, research, and research training
- providing support for increasing the quality of the tertiary education workforce
- providing expert advice to the government and tertiary education sector.

6.3.3 Form and composition of the Commission

The Commission should be an independent statutory authority answering to the Education and Skills Ministers, to enable it to provide robust advice and support evidence-based decision making and planning. It needs to be agile and responsive to immediate issues, whilst remaining future-focused overall.

The Review's proposed model for this body takes a whole of tertiary education perspective. The Review has heard from many stakeholders that the complexity of the connections between the higher education and VET sectors requires a body with responsibility for improving experiences for students and coherent policy development across the tertiary education system. This body needs to be able to work with all stakeholders across the whole of the tertiary education sector, including states and territories.

Drawing together the higher education and VET sectors will likely take a number of years. However, several practical steps could be taken immediately. The establishment of the Commission should simplify overall governance arrangements in the sector, including through bringing TEQSA and the ARC into the Commission, as independent agencies.

The Commission's leadership structure should reflect its role in providing specialist advice and stewardship across diverse policy areas, including tertiary education, First Nations, equity and regional experience. This will require balancing the number of appointed commissioners with the need for each to bring particular expertise and clarity of focus to their roles. In this context, the Government should explore the appointment of part-time or fractional commissioners as an option to bring diverse experience to the Board without creating a 'top-heavy' organisational structure. The Commission should also include an Advisory Board with representatives from tertiary education providers, governments, students, staff, employers (including business and industry representatives), unions, alumni, and civil society organisations, to facilitate ongoing consultation and inform the Commission's advice to Ministers.

6.3.4 Roles of the Commission

The Commission's core responsibilities and functions would initially include higher education system stewardship, policy advice and development, planning for growth, allocating funding for teaching and research in higher education, acting as a higher education pricing authority, working with First Nations people to build solutions to systemic issues, creating accountability mechanisms for progress towards future system objectives, supporting the development of a quality tertiary education workforce and promoting a diverse range of institutional and study options for students to choose from.

It is proposed that the Commission would work closely with the tertiary education sector and other stakeholders in the evolution of the tertiary education system. This would lead to increased certainty and confidence in the funding and governance settings required to make long-term changes as the system responds to the needs of the nation. The Commission would work as a first priority with universities in the higher education sector to support the long-term national goals of the Review, while supporting universities' academic freedom and autonomy to guide aspects of course design, delivery and research.

In the initial years of the Commission's creation, the Review expects that it would focus primarily on higher education, along with key priorities in tertiary education such as stewardship of the Australian Qualifications Framework and helping to streamline pathways between both higher education and vocational education and training for students through credit recognition and RPL. Over time, and in close consultation with Australian Government and state and territory ministers, the Commission's role would expand to focus equally across the entire tertiary education system.

The Commission's role regarding research would focus on research and research training carried out in universities and would not include the entirety of Australia's research system. This is due to the significant amount of research that is undertaken outside of the higher education sector, in addition to the specific roles played by Australian Government departments and entities that sit beyond the Commission's remit. However, it is proposed that it will work closely with other entities to ensure there is a consistent national approach to research policy.

6.3.4.1 System steward and engagement with the system

The Commission's stewardship role would see it work in close collaboration with a broad cross section of stakeholders in the tertiary education system, including universities and also non-university higher education providers, private VET providers, TAFEs, students, academic and professional staff, employers, industry, unions, bodies representing the professions, research end users, alumni, and all levels of government.

As convenor of the ongoing process of consultation, the Commission would be guided by the National Tertiary Education Objective and charged with responsibility to build and maintain a coalition of stakeholders to drive the Review's reforms, identify effective ways to leverage the collective resources of the tertiary education system to deliver better outcomes, and ensure the tertiary education system is responding to meet the changing needs of society. As discussed further in *Chapter 9 – In closing*, in advance of the establishment of the Commission, the Review recommends that a time-limited Implementation Advisory Committee maintain the pace of reform, advising the Commonwealth Minister for Education on the implementation of the Review's recommendations (see Recommendation 44).

6.3.4.2 A continued role for mission-based compacts

Higher education institutions will be critical to achieving the national targets set by the Review and must be treated as active and valued partners. Mission-based compacts are currently agreements between the Australian Government and each university. They are required under the *Higher Education Support Act 2023* to outline a provider's mission and priorities in key areas, yet they lack real clout and strategic impact, including enforcement or incentive mechanisms. Through renewed and upgraded compacts, the Commission could support institutions to deliver on their unique missions, supporting sector diversity and ability to deliver on local and national needs. The Commission could work with universities through their mission-based compacts to establish strategic priorities including by ensuring coordination and strategic alignment across the system, documented through the aggregated mission-based compacts from each university. Mission-based compacts will be the primary tool to grow university aspiration and formalise institutions' contributions to meeting the national targets over time.

6.3.4.3 Policy coordination and development

Changing national demographics, global dynamics (geo-political and environmental) and advances in technology are just some of the challenges and opportunities for the tertiary education system and Australia more broadly. The Commission would be responsible for proactively identifying and analysing these challenges and opportunities from a tertiary education system-wide vantage point, then guiding the system through policy advice and coordination.

It is important that the Commission be empowered to provide advice across all areas of tertiary education. This advice should be informed by its work in coordinating implementation of the wide range of the Review's priorities, including:

- learning and teaching policy
- research and research training policy
- community engagement policy
- international education policy.

The Commission's policy function would draw on expertise across the tertiary education system to advise on what is needed across portfolios and align sector settings with input from ongoing consultation and national priorities. The Commission would need to work closely with Australian Government agencies (such as the Departments of Education, Employment and Workplace Relations, and Industry, Science and Resources) and their related bodies, with Jobs and Skills Australia regarding the areas of national skills needs to inform target setting and national priorities in education, and with state and territory governments, which are jointly responsible for VET policy, funding and delivery.

6.3.4.4 Planning for the future: fostering diverse tertiary education provision

Deliberate, collaborative and systematic effort is required to deliver on the national priorities identified in this Report. This effort will come in the form of planning, with an eye to structural change and growth responding to the future tertiary education needs of Australia.

It is proposed that the Commission would coordinate efforts and inputs across the tertiary education sector, in cooperation with the states and territories and across jurisdictions to meet these national priorities. To fully achieve this role, its planning functions should include:

- **Strategic planning:** Monitor the need for system change and actively coordinate structural adjustment to get there, including identifying future needs and advise on managing volume increase across the system, undertake feasibility assessments for new institutions, identify geographic areas of under-provision including outer suburban, rural, regional and remote areas, and negotiate mission-based compacts with higher education providers to support sector diversity and ability to deliver on local and national needs
- **Awareness and assessment:** Showcase the scalability of excellence and innovation, manage insights and sharing of best practice across the whole tertiary education system, identify and reduce duplication of effort and activity
- **Allocation:** Translate JSA's projections on skills needs into a system-level view of student load and delivery against targets; plan for future growth of the system with individual providers through negotiation of mission-based compacts
- **Tertiary education alignment:** Provide advice on alignment between the higher education and VET sectors, convene stakeholders to address shared challenges and deliver on national priorities
- **Consultation and representation:** Provide avenues for stakeholder representation and contribution to the planning and improvement of the tertiary education sector
- **International education:** Monitor patterns in enrolments across the sector, in order to identify risks to the sustainability of the sector and the quality of all students' experience.

Fostering progress and engagement with First Nations peoples

The Review's Interim Report called for First Nations people to be at the heart of Australia's higher education system. First Nations leadership and self-determination, not just participation in the tertiary education system, are central elements of progress.

The Review has heard that First Nations governance will be key to moving towards self-determination and greater equity. Consistent with Closing the Gap priority reforms, self-determination offers the best chance for genuine and effective measures to support the success of First Nations people.

For this reason, the Review proposes that the Commission have a dedicated First Nations Commissioner, who will lead a First Nations Council that oversees core elements of review and reform, policy and funding. These and other recommendations relating to First Nations peoples are outlined in more detail later in this chapter.

6.3.4.5 Funding allocation and pricing

Funding for teaching

An important role for the Commission will be to implement the revised funding model for learning, teaching and scholarship, described in detail in *Chapter 8 – A new funding model to underpin growth*.

Funding allocations for teaching would be one mechanism the Commission uses to influence incentives in the system to encourage progress towards increased growth, equity, quality and responsiveness.

Pricing and costs of delivery

Since 2016, the Department of Education has engaged Deloitte Access Economics to produce reports on university expenditure focused on the cost of course delivery. This work has attracted considerable criticism from universities, including that it does not include costs associated with research or with new infrastructure and buildings. Further, it collects information on expenditure, rather than costs, and does not account for changing student demographics.

To deliver the revised new funding model for learning, teaching and scholarship successfully, the system requires a significantly improved understanding of the efficient cost of delivering specific courses of study at individual providers and across the higher education sector at large. This is particularly true for higher cost courses where providers face significant disincentives if costs are not covered. Delivery costs change over time so understanding costs and setting prices is not a 'set and forget' exercise but must be an ongoing process. In the past, the system has experienced set and forget pricing which ignores changes in the shifting cost between courses and across the system. This has hindered innovation and responsiveness of universities to changing environments and technologies as well as changing approaches to teaching.

The pricing role would also include establishing a shared understanding of the cost of the additional support required by target cohorts as part of the student needs-based funding model, discussed in detail in *Chapter 3 – Expanding opportunity to all*.

This pricing authority requires close engagement with universities to understand their cost base. It also requires independence from government to implement well, and for the process to be perceived as apolitical and rigorous. This is particularly so for decisions that affect the relative distribution of funding across the system at large and across higher education providers. Universities would also benefit from feedback on patterns of costs nationally to help facilitate benchmarking and internal management. A transparent approach to best practice management would enable universities to achieve efficiencies in administration and operating structures, maximising available resources allocated to core activities of teaching and research.

To carry out this pricing role, the Commission would need authority to make independent pricing decisions within a policy framework and funding envelope set by government. This pricing function needs to be linked closely with the policy oversight function to facilitate informed policy development and should live within the Commission.

Research funding

Research is an intrinsic part of Australia's higher education landscape and plays an emerging role in VET. The work that universities contribute is essential to Australia's national research system. The Commission would be responsible for university research policy and funding and would provide strategic guidance on the operation of university research within the national research system.

Accordingly, the ARC should also be within the organisational structure of the Commission, though retain its role as an independent statutory body, with its chair to serve as an ex-officio Commissioner. The Review also supports the ARC reforms now being implemented by government, consistent with the findings of the Review of the Australian Research Council Act 2001 (Sheil Review) – in particular the central role of peer review in funding decisions and the importance of independent decision making by the ARC.

6.3.4.6 Regulation

Australia's tertiary education system must be trusted by the national and international community to deliver high-quality education and research and meet the needs of students. To guarantee this over time, the system needs a regulatory framework that is attuned to quality not only in the core activities of education and research but also in operational areas of broad community concern. In the broadest sense this regulatory environment should provide appropriate oversight of student and staff safety, compliance with industrial relations obligations (including through enterprise agreements and the Fair Work Act), teaching quality and online delivery, research integrity, and institutional governance arrangements.

Such a regulatory framework should be clear and comprehensible to providers, their staff and students and the community at large. It should provide practical and reasonable compliance expectations of providers and be responsive to evolving expectations of the sector. Monitoring, compliance costs and administrative burdens need to be reasonable and not create an unnecessary burden.

The Commission should be closely involved with regulatory policymaking and ensure that the priorities from its work as steward of the system are used to inform sector regulation. To enable this, the Commission should take on responsibility for supporting the Higher Education Standards Panel (HESP), currently with the Department of Education.

In addition, TEQSA should be brought within the Commission as an independent agency with its Chief Commissioner forming part of the Commission Board, and with the accountabilities set out in its regulatory Act.

Bringing both regulatory arrangements and provider registration activities under the organisational umbrella of the Commission will enable a more unified approach to the implementation of policy, strategy and regulation, in addition to reducing administrative burden. This requires a careful and balanced management of system wide policy advice, regulatory oversight, enforcement roles and respect for institutional autonomy.

Giving the Commission a role in the design of regulatory policy would also help the system achieve a more cohesive whole-of-tertiary education perspective. It could begin this by working with TEQSA, ASQA and tertiary education providers to identify areas of friction in reporting arrangements and administrative burden and encouraging the regulators to co-ordinate information sharing and develop a more streamlined approach to regulation, particularly for dual sector providers. Closer alignment between ASQA and TEQSA would similarly benefit many private providers who are currently required to engage with both agencies, through reduced regulatory burden and related compliance costs.

As a first step the Review is recommending the Commission, working with TEQSA, encourage and assist TAFEs to build the institutional capability to attain self-accrediting status in higher education, for instance through knowledge sharing partnerships with universities (see Recommendation 38). This could be achieved through partnering universities with TAFE Centres of Excellence. The Review considers that assisting TAFEs to obtain self-accrediting status will enable the tertiary education sector to meet skills needs more rapidly, improve parity of esteem and allow comparably large and professional institutions to operate on an equal footing.

6.3.4.7 Building workforce capability

The Review finds that staffing and workforce composition are matters for higher education institutions, acting within applicable legal frameworks. Providers are autonomous entities managing complex and competing objectives and require flexibility to meet those objectives. At the same time, their human resources are their greatest asset. Staff are entitled to secure, flexible, well-rewarded employment.

Those who have chosen an academic career are generally highly motivated. Australia needs to continue to attract the best possible academic staff with aspirations that align with university workforce gaps. As the system grows and builds capability, there will be greater opportunity for learning, teaching, research and sharing of best practice.

Enterprise bargaining is designed to promote improvements in wages and conditions in return for efficiency gains or productivity offsets, delivering attractive arrangements for staff to stay in and enter the sector. However, in higher education, conflict and distrust on both sides has made achieving this very challenging.

Ongoing collaboration and consultation, as envisaged by the Review, present a unique opportunity to navigate this challenge. The convening power of the Commission's Advisory Board is essential to bring all stakeholders – staff, unions, universities and others – together to build trust in the system. It is also essential to ensure a positive workforce that is equipped to support the sector as it expands. The National Tertiary Education Objective will not be achieved without a more harmonious and high-trust industrial environment. Recommendations made in this Report, including funding certainty and the proposal for a planned system with a Commission, are expected to reduce institutional and system volatility, and to provide a more stable university operating and workforce environment.

Government response to Priority Action 5 from the Interim Report

The Review's Interim Report noted concerns raised around psychosocial stress in higher education workplaces. Priority Action number 5 of the Interim Report addressed the safety and wellbeing of students and staff. It recommended that government:

Through National Cabinet, immediately engage with state and territory governments and universities to improve university governance, particularly focusing on:

- universities being good employers
- student and staff safety
- membership of governing bodies, including ensuring additional involvement of people with expertise in the business of universities.

Subsequently, the Australian Government established a cross-jurisdictional Working Group to provide advice on concrete actions to strengthen university governance, including ensuring student and staff safety, particularly regarding sexual assault and sexual harassment. On 22 November 2023, Education Ministers released a Draft Action Plan Addressing Gender-based Violence in Higher Education for further consultation. The Draft Action Plan was informed by the views of victim-survivor advocates, student leaders, subject matter experts and representatives from universities and student accommodation providers. Following stakeholder consultations and public feedback on the Draft Action Plan, a final Action Plan will be considered by Education Ministers in early 2024.

6.3.4.8 Evaluation to support change

Any mechanism designed to drive sector change should be measured, monitored and evaluated independent of the main decision makers and system participants.

To drive accountability and improvement, the Commission would monitor system performance by tracking student and provider metrics, including demand, outcomes, excellence, finance and risk, through data provided by institutions and shared with other data-holding agencies.

The Commission would also increase sector transparency through preparation of an annual 'State of the Tertiary Education Sector' report and rolling triennial 'Future of the Sector' report, both discussed in section 6.3.6 below.

The Commission would work with the Australian Government, data custodians and stakeholders to continually improve higher education data capability in a low-administration manner, including:

- **Data collection:** Collect new types of data such as more granular equity indicators (e.g. students who are care leavers, carers or refugees) and course delivery costs to inform analysis
- **Data sharing and integration:** Integrate data from existing bodies and collection series through information sharing agreements to avoid duplication and utilise existing expertise. Coordinate data collection efforts to be better targeted and consistent across the system

- **Analysis:** Undertake continuous expert analysis on sectoral issues to provide evidence for decision making. Evaluate performance and evolve metrics
- **Dissemination:** Provide evidence and expertise to facilitate conversation between all stakeholders. Support annual and triennial reporting
- **International comparisons:** Build up detailed data and knowledge of systems in comparator countries.

6.3.4.9 Subsidiary bodies

It is proposed that the Commission have a wide remit of responsibilities and it will need to draw on expertise from across the tertiary education system to inform its activities. The Commission should also have the independent TEQSA and ARC within its organisational structure as described earlier in this chapter.

The Commission should create opportunities for all participants in the tertiary education sector to be an active part of designing and implementing reforms following this Review. A core principle of the Commission is that it focuses on working collaboratively.

The Review considers that collaboration can be enhanced by establishing standing councils within the Commission, to bring specialised expertise. The number of councils will likely evolve as the Commission responds to emerging challenges and community expectations. However, at commencement, the Review considers it crucial to establish 2 councils within the Commission as subsidiary bodies:

- a First Nations Council that supports a focus on First Nations self-determination at the heart of the higher education system – the Review proposes full adoption of the approach outlined in the *National Agreement on Closing the Gap*, requiring that policymaking that affects the lives of First Nations people is done in full and genuine partnership.[379] A full description is provided in more detail in a sub-section below
- a Learning and Teaching Council focused on advancing the quality of higher education experience and delivery and on the use of technologies such as Artificial Intelligence (AI) tools and techniques.

The Review believes strongly in the power of collaboration. There are other areas where the Commission should use its convening power to draw in relevant parties to help establish a way forward, for example on workplace relations as discussed above. Another example is bringing industry, employers and tertiary education institutions together through a forum to facilitate stronger collaboration on research and on skills, as was suggested to the Review by the Business Council of Australia. This approach could see individual or clusters of businesses partnering with a university to develop tailored collaborations that benefit the universities, students and businesses. These collaborations could take place through research and education activities, for instance by co-designing courses in priority subjects to ensure students are equipped with the most contemporary skills, or as a 'clearing house' to better match students, researchers and businesses with the opportunities and skills they are looking for.

379 Closing the Gap, "National Agreement on Closing the Gap," July 2020, accessed 13 December 2023, www.closingthegap.gov.au/national-agreement/national-agreement-closing-the-gap.

6.3.4.10 Research into the higher education system

A Centre of Excellence in Higher Education and Research

There is relatively limited expertise regarding the higher education sector as a whole, and similarly limited capability in understanding complex interactions across the whole tertiary education system. While the Review was able to call on advice and assistance from many experts and stakeholders, it was not without difficulty, and demonstrated that there are considerable gaps in knowledge and understanding of this complex system. A forum is needed for regular and ongoing engagement, learning and best practice. As part of its policy role, the Commission should facilitate greater research and analysis on the higher education system itself, including its interaction with the wider national research system.

The Review is recommending a Centre of Excellence in Higher Education and Research, to be housed within the Commission, which would develop deep, specialised knowledge on the system to be fed into the Commission's planning and coordination, and policy functions. Such a body would require resourcing and capacity for data collection, analysis and publication of research on the health of the system (see Recommendation 32).[380]

A Centre of Excellence in Higher Education and Research would allow the Commission to fulfill its leadership role in relation to system-wide improvements and innovation, for example, meeting participation targets or enhancing the quality of learning and teaching. It would also allow the Commission to steer improvements in the national university research environment.

There is a need in Australia for greater research on education more generally. The Review suggests that the new Centre of Excellence should partner with researchers specialising in early childhood, school and vocational education.

A racism study to build inclusion and safety

In consultations, the Review heard of instances of racism at higher education providers, including from First Nations students and staff, both at campus and online. Racism takes many forms. It can be deliberately harmful or carelessly casual. In education and employment settings – enrolment, assessment, recruitment and promotion – racism can take the form of conscious or unconscious bias.

The Change the Course Report and the National Student Safety Survey played a powerful role in systematically acknowledging the prevalence of sexual violence in university communities and the impact of this violence on students' wellbeing.

In a similar vein, the Review believes there is value in conducting a future National Tertiary Education Racism Study, led by experts across a wide range of stakeholder groups, into the prevalence and impact of racism across the tertiary education sector (see Recommendation 33). An important element of the study would specifically focus on the experiences of First Nations staff and students while another could extend to staff and students from other groups who have experienced racism in the sector.

Following the study, the Australian Tertiary Education Commission would be tasked with leading the response and acting on the outcomes of the analysis, with the overall objective of increasing staff and student wellbeing, inclusion and safety.

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380 Gwilym Croucher and Vin Massaro, *Submission in response to the Australian Universities Accord Discussion Paper*, 2023, www.education.gov.au/system/files/documents/submission-file/2023-04/AUA_tranche3_Gwilym%20Croucher%20%26amp%3B%20%20Vin%20Massaro.pdf.

Recommendation: Establish an Australian Tertiary Education Commission

30. That to deliver on the National Tertiary Education Objective and establish a public sector steward for the tertiary education system, the Australian Government establish an Australian Tertiary Education Commission as a statutory, national body reporting to the Minister for Education and the Minister for Skills and Training.
    a. The Australian Tertiary Education Commission would:
        i. convene ongoing collaborative engagement about the future of the tertiary education system
        ii. foster a high quality and cohesive tertiary education system, that encourages diversity and student choice
        iii. advise on meeting skills and equity targets
        iv. ensure that regulatory burden is monitored and minimised in the sector
        v. provide expert advice to the Government and tertiary education system.
    b. The Australian Tertiary Education Commission would have the following functions:
        i. policy coordination and development for higher education and university research, and joint development of policy initiatives on tertiary education with the Skills and Workforce Ministerial Council
        ii. system planning
        iii. negotiating mission-based compacts for universities
        iv. pricing authority for the higher education sector
        v. funding allocation for the higher education sector
        vi. facilitating wide engagement with the tertiary education system
        vii. strengthening First Nations representation and self-determination
        viii. advising the Minister on regulatory frameworks within the higher education sector
        ix. overseeing and monitoring of the Australian Qualifications Framework
        x. accountability, quality and performance
        xi. improving data and metrics
    c. The majority of the Australian Tertiary Education Commission's functions will start in higher education with additional priorities aimed at achieving higher levels of tertiary education system alignment, focused on student pathways, credit recognition and the Australian Qualifications Framework. The Australian Government should also negotiate with states and territories to expand the Australian Tertiary Education Commission's role to focus on the whole tertiary education system, with governance arrangements reflecting the ongoing role of all jurisdictions in its future, and with expansion to take effect in the context of the next National Skills Agreement
    d. The Australian Tertiary Education Commission should be reviewed every 5 years of operation

e. To ensure the Australian Tertiary Education Commission has a comprehensive view of the whole tertiary education system, the Tertiary Education Quality and Standards Agency (TEQSA) and the Australian Research Council should form part of the Commission, as independent statutory bodies under its umbrella, with each Chair becoming a dedicated Commissioner and retaining their legislated roles

f. Governments should also consider the desirability and timing of bringing the Australian Skills Quality Authority into the Australian Tertiary Education Commission in order to reduce regulatory duplication

g. The Australian Tertiary Education Commission should be governed by a Board comprising the Chief Commissioner as Chair, 2 Deputy Commissioners, the TEQSA Chief Commissioner, the ARC Board Chair, a First Nations Commissioner, an Equity Commissioner and the Regional Education Commissioner. Most commissioners would be fractional or part-time. The day-to-day administration of the Australian Tertiary Education Commission would be handled by a full-time CEO

h. The Australian Tertiary Education Commission should seek the views of a wide range of stakeholders in the tertiary education system, through:

   i. an ongoing Advisory Board, with representatives from tertiary education providers, all Australian governments, students, staff, employers (including business and industry representatives), unions, alumni and civil society organisations

   ii. a First Nations Council

   iii. a Learning and Teaching Council

   iv. regular engagement with representatives from key stakeholders covering learning and teaching, research, equity, regional issues, and private tertiary education providers

i. Through the pricing authority function, the Australian Tertiary Education Commission should develop a deep understanding of the true costs of delivery of the range of activities across the tertiary education system, with a priority on pricing issues in higher education related to learning and teaching, additional support for under-represented students, regional delivery, and the full economic cost of research.

Recommendation: Improving workforce capability and capacity

31. That to improve capability and capacity of the workforce, higher education providers with Australian Government support:

   a. develop professional learning and teaching standards for academics

   b. encourage minimum teaching qualifications for higher education teaching roles

   c. improve professional development for all staff

   d. provide opportunities for higher education staff to access training in research and research training, management, and learning and teaching.

Recommendation: Centre of Excellence in Higher Education and Research

32. That to build the evidence and expertise base necessary to support the Australian Tertiary Education Commission' core functions, the Australian Government establish a Centre of Excellence in Higher Education and Research.

Recommendation: Tertiary Education Racism Study

33. That to contribute to making the tertiary education system as safe as possible for students and staff, the Australian Government conduct a study into the prevalence and impact of racism across the tertiary education system, on campus and online, guided by an expert committee with representation from a wide range of stakeholder groups, with the Australian Tertiary Education Commission tasked with leading the response and acting on the outcomes.

6.3.5 First Nations leadership

In adopting the principle that First Nations should be at the heart of the tertiary education system, the Review believes that the choice First Nations people have, both collectively and as individual students and staff, over their place in the system should be recognised and made a reality. The Review affirms the importance of a strong commitment to the fundamental principle of self-determination. This includes recognition that First Nations people:

- need to be the custodians of policies, programs and funding that support their participation and progress
- have the freedom to engage in education and to direct what, how, when and where education takes place
- have a role in decision making at the national level and within individual institutions
- are represented by a First Nations Council which would be responsible for advising Ministers and the Australian Tertiary Education Commission on a self-determined approach to matters relating to First Nations people in the tertiary education sector.

The Review also proposes adoption of the approach outlined in the *National Agreement on Closing the Gap*, requiring that policymaking that affects the lives of First Nations people is done in full and genuine partnership.[381]

381 Closing the Gap, "National Agreement on Closing the Gap."

In this context, the interests of First Nations people in the higher education system should be represented by a First Nations Council, responsible for advising Ministers and the Australian Tertiary Education Commission on a self-determined approach to matters relating to First Nations people in the tertiary education sector.

First Nations people have said for a long time that they need a greater say in how programs and services are delivered to their people, in their own places and on their own country. The Western Sydney University Indigenous Professoriate made this point clearly:

> Genuinely having Indigenous people at the heart of the Australian higher education system will likely require significant shifts in government and institutional thinking. We are not a passive populace waiting to be swept into higher education to fill national workforce needs, but rather sovereign peoples seeking opportunities to develop and succeed commensurate with our community aspirations.[382]

The Commission must ensure the perspective of First Nations peoples' lived experience is sought and listened to, and that First Nations perspectives are embedded in the policymaking process of Australia's higher education system. The Review heard throughout consultation that strong First Nations leadership and governance are important steps towards a more self-determined approach to higher education for First Nations people. Importantly, stakeholders emphasised representation must extend beyond tokenism and deliver a truly effective mechanism for First Nations people's active involvement in decision making, including representation on university governing bodies.

While stakeholders provided specific recommendations for the Review to consider, the Review is of the firm view that future reform and system level changes must be driven by the expertise and lived experience of First Nations people and reflect a self-determined approach.

Finding: First Nations participation

Participation in tertiary education learning, teaching and research is an essential pathway to success for First Nations families and their communities, and is necessary for Closing the Gap. Weaving First Nations cultures and knowledge more strongly into the fabric of our tertiary education system will enrich Australian society. A strong First Nations workforce in tertiary education will help achieve this goal.

382 Western Sydney University Indigenous Professoriate, *Submission to the 2023 Australian Universities Accord Discussion Paper*, 2023, 1, www.education.gov.au/australian-universities-accord/consultations/australian-universities-accord-panel-discussion-paper-consultation/submission/16041.

Finding: Leadership – First Nations

To ensure that First Nations are central to the higher education sector, it is essential that there is First Nations leadership and a self-determination framework. This includes ensuring First Nations leadership in policies, programs, funding and decision-making that affects First Nations staff and students within individual institutions and nationally through representation by a First Nations Council responsible for advising Ministers and the Australian Tertiary Education Commission on a self-determined approach to matters relating to First Nations people in the tertiary education sector.

6.3.5.1 First Nations Council

A First Nations Council, led by a First Nations Commissioner, would provide a First Nations-led focus in the Commission. The First Nations Commissioner would be a ministerial appointment (in consultation with key First Nations stakeholders) and would occupy a senior role in the Commission, with a mission to embed First Nations knowledge and improve outcomes for First Nations people across the sector.

In submissions to the Accord Interim Report, stakeholders endorsed establishing a First Nations Council. This was also a focus of discussions at the Review's First Nations roundtable, with the Council seen as an important step towards First Nations people sitting at the heart of the system. The Council would be comprised of First Nations representatives including students, staff, community leaders and higher education experts, and it will provide advice to the Commission and the Minister.

6.3.5.2 First Nations-led review of the system

The Review sees value in the Australian Government immediately commissioning a First Nations-led Review of the system, reporting to the First Nations Council once established. Following the Bradley Review in 2008, the Australian Government initiated a Review of Higher Education Access and Outcomes for Aboriginal and Torres Strait Islander People (the Behrendt Review) in 2011. Similarly, the Review recommends that a review led by, and for, First Nations can build on this Report to specifically examine how to improve higher education experiences and outcomes (see Recommendation 34).

This idea was also supported in submissions to the Review and at its First Nations roundtable. The 12-month timeframe for the Accord did not allow for the necessary level and depth of consultations with First Nations people about all relevant issues, and it is these that should be covered by the First Nations-led Review. They include the barriers around access, participation and attainment as well as broader matters such as First Nations workforce, funding and policy settings, and advancing First Nations research capability. The review should focus on the broad themes of national system level changes and strengthening First Nations knowledges and research.

The First Nations Review should:

1. identify how to move towards a self-determined approach to national funding and policy settings, particularly in relation to First Nations students, employment, teaching, research and engagement, and explore the feasibility of new institutional models such as First Nations University Colleges as one possible path towards a more self-determined approach to higher education in Australia
2. examine the barriers around access, participation and outcomes for First Nations students
3. examine the role, governance and funding of institutions such as the Batchelor Institute and potentially the Australian Institute for Aboriginal and Torres Strait Islander Studies to ensure efforts to improve aspiration, access, participation and outcomes for First Nations students are coordinated across the sector
4. examine the type and availability of data and examine the need for a national centre for First Nations student research and policy focused on First Nations student aspiration, access, enabling, participation and experience (as equity has been elevated through the National Centre for Student Equity in Higher Education)
5. consider First Nations workforce including identifying ways to strengthen the pipeline of early career First Nations researchers
6. consider ways to increase First Nations research leadership, capacity and opportunity
7. examine ways to enhance research capability for First Nations knowledges, including supporting greater collaboration and partnerships between First Nations communities, governments and universities
8. consider whether higher education providers should adopt a universal graduate attribute on First Nations cultural awareness that would result in core units of First Nations knowledge and cultural competence included in every degree.

There are other specific matters the Review heard throughout consultation that warrant further inquiry. These include:

- assessing student contributions for First Nations students' first degree
- improving the integration of VET and higher education through flexible pathways
- addressing the barriers faced by First Nations staff in tertiary education, including to recruitment, retention and career progression
- considering whether an allocated percentage of the Australian Research Council's annual national competitive research grants funding should be committed to First Nations research
- evaluating the need to develop a national program for First Nations postdoctoral researchers
- strategies to increase and support international First Nations networks to build knowledge and undertake world class research
- identifying how to support place-based research positions that allow for connection to community and country.

6.3.5.3 First Nations representation and institutional leadership

First Nations people should be represented in every part of the system – as students, as teachers and researchers, in professional, corporate and administrative roles. The Australian Government should examine the representation of First Nations people in all these roles and employ strategies that advance proportional representation.

The Government should also work with state and territory governments and universities to increase the representation of suitably qualified First Nations people in university governance and institutional leadership positions.

But it is not enough to pursue parity of institutional staffing in traditional educational structures.

In addition to First Nations representation, stakeholders also raised the need for new forms of institutional leadership to address the systemic challenges created by colonial structures of knowledge and value.

One example of a self-determined approach to higher education is the First Nations University of Canada. This institution is a First Nations-controlled university college with a distinct mission of enhancing the quality of life of Canada's First Nations people, as well as preserving, protecting and interpreting First Nations history, language and culture.

Existing First Nations-led institutions such as the Batchelor Institute of Indigenous Tertiary Education and the Australian Institute for Aboriginal and Torres Strait Islander Studies could play a role in devising new models for learning that are led by and for First Nations people. Their role and the adequacy and sources of funding should be reviewed as part of this work.

Recommendation: A First Nations-led Review

34. To deliver on the commitment to self-determination for First Nations people, the Australian Government commission a First Nations-led review of higher education in consultation with relevant First Nations stakeholder groups with terms of reference that include:
    a. national system level changes including:
        i moving toward a self-determined approach to funding and policy settings
        ii removing barriers around access, participation and outcomes
        iii the role of institutions such as the Batchelor Institute of Indigenous Tertiary Education and the Australian Institute for Aboriginal and Torres Strait Islander Studies
        iv the need for a national centre for First Nations student research
    b. strengthening First Nations knowledges and research including around:
        v First Nations workforce and the pipeline of early career First Nations researchers
        vi allocation of competitive research grants to First Nations research
        vii enhancing research capability for First Nations knowledges
        viii introduction of a First Nations graduate attribute.

Recommendation: First Nations governance

35. That as part of the work on strengthening university governance that resulted from the Interim Report, the Australian Government examine the representation of First Nations people in university governance and leadership positions and work with state and territory governments and universities to increase the representation of suitably qualified First Nations people.

6.3.6 Knowing what works: the importance of good data and metrics

The success of delivering the reforms in this Review will depend on quality partnerships between all participants, which must be informed by robust evidence and evaluation underpinned by quality data and metrics. Currently, there is a lack of quality data to support robust evaluation, and a lack of linkages between core tertiary education data sources. This already presents challenges to measuring the impacts of tertiary education policies, and demand for improved data will only increase as the sector faces more change and complexity.

Quality data and metrics are the basis of ongoing improvement in the tertiary education system, allowing identification of what works and what does not, sharing of best practice, and reflection on progress over time. As steward of the tertiary education system, the Commission will help develop and embed this learning approach by monitoring progress against the goals set by the Australian Government and in mission-based compacts with individual universities, as well as facilitating the development of public reporting and transparent data sources.

6.3.6.1 Improving the quality of tertiary data and metrics

Monitoring progress relies on available data

The Review frequently encountered a lack of quality data which could be used to better understand and quantify issues in the sector and understand their long-term outcomes.

This included a lack of historical records of change to the system, consistent and timely data series, regularly published reports, and academic research into the Australian higher education and research systems (including international comparisons). Challenges raised with the Review include:

- a two-year delay in the availability of student enrolment data
- lack of visibility and confidence in data covering university expenditure in functional areas (such as teaching, research and engagement)
- international comparisons on sector performance such as attainment rates, participation rates and enrolment by field
- no consolidated source of government expenditure by higher education provider and program (such as the Commonwealth Grant Scheme).

Accurate, complete and integrated data sources are crucial to supporting the tracking and measuring of the sector's progress on the goals of this Review, and to ensure that actions are based on quality evidence. Timely data will be particularly essential for activities involving funding, pricing and managing places, and to support a quick response to emerging issues.

The Australian Government will need to work with the Commission, stakeholders and data custodians on identifying gaps in the current measurement framework for the higher education sector, and facilitate action to improve the quality of datasets and their reporting or analysis. This could involve collecting new data, moving to real time reporting, developing specifications and common definitions, and improving linkages between datasets. The aim should be a fit for purpose data capability which can be used to understand problems, answer difficult policy questions, evaluate initiatives, identify emerging issues, and monitor long-term student outcomes through the education system and beyond.

6.3.6.2 Data should support reducing the administrative burden

In addition to striving to collect data that is fit for purpose, future data assets should also aim to be a mechanism to reduce red tape and administrative burden. A 'share once, use often' principle should be adopted, with a focus on streamlining reporting requirements and reducing ad hoc or duplicative requests of providers. Consistent definitions and collection methodologies will assist with this by ensuring data can be collected from the right person, at the right time, and reused in an integrated data capability.

6.3.6.3 Data integration is critical to shed a light on the effectiveness of policies

There are several core data sources that are reasonably comprehensive and centralised but need continued improvement and investment:

- **Higher Education Statistics Collection (HESC):** Covers students and staff at higher education institutions including courses, staff and student numbers and their characteristics, student load, completion of units, and income and expenditure
- **Total VET Activity (TVA):** Covers all registered training organisations (RTOs) including students, participation, courses and qualifications
- **Quality Indicators for Learning and Teaching (QILT):** Consists of a range of surveys for higher education current students, graduates and their employers
- **Financial reports of higher education providers:** Contains financial information compiled from annual financial reports prepared by Australian universities.

In addition, the key data sets for research include:

- **The Higher Education Research Data Collection (HERDC):** Collects data about the quantum and source of research income received by Australian universities
- **Higher education expenditure on R&D (HERD):** The ABS collects data on expenditure and human resources devoted to research and development carried out by higher education organisations in Australia as part of its broader 'technology and innovation' statistics collection
- **Science, research and innovation (SRI) budget tables:** the SRI tables outline the Australian Government's investments in research and development, science and innovation.

There is currently no linking between the VET dataset (TVA) and the 2 higher education datasets (HESC and QILT), making it difficult to track student movement between the higher education and VET sectors. The datasets also have different definitions and measures for some items.

More broadly, future reforms would be assisted by sharing and integrating datasets to examine individual students' journeys through the entire education system – from school to tertiary education and beyond. This includes linking data across systems such as schooling data (currently held by states and territories and individual school systems) with tertiary education and employment outcomes. The aim should be to deliver a complete picture of lifelong learning from the early years, through school, into tertiary education and on to employment. This will be supported by the recommendations made by this Review on skills infrastructure including the Unique Student Identifier and the National Skills Passport in *Chapter 2 – Meeting our current and future skills needs.*

Understanding what helps and what hinders educational achievements and transitions is essential to informing progress and evaluating the success of the reforms in this Review, as well as identifying emerging challenges in the coming years.

6.3.6.4 Informing progress and evaluating success

Establishing a measurement framework

The Commission would be responsible for developing a measurement framework to track the tertiary education sector's progress towards the shared goals of the reforms in this Review.

The framework would be developed in consultation with governments, tertiary education providers and data custodians. It would include specific, well-defined and measurable metrics, and – where appropriate – targets which define success. As the Review's reforms are long-term, the framework would require interim, shorter-term targets. It will also need to evolve to reflect the needs and perspectives of the tertiary education sector and society.

The attainment targets at the heart of the reforms in this Report will need to be included in the evaluation framework, as well as the interim attainment and participation targets.

Ongoing evaluation and reporting

As part of the monitoring of progress on the ongoing reforms recommended in this Review, the Commission would undertake frequent public reporting on progress against the above measurement framework, alongside a broader picture and commentary of the tertiary education sector's performance.

As noted above, this would form part of an annual 'State of the Tertiary Education Sector Report' which would provide a picture of how the sector is:

- tracking against its reforms
- performing on a broader set of measures, including international comparisons
- producing examples of good practice which can be shared across providers.

The aim of the State of the Tertiary Education Sector Report would be to increase understanding of tertiary education sector performance, establish consistent benchmarks across the sector and its providers, and provide a basis for conversations and mission-based compacts between the Commission and providers.

In addition to the State of the Tertiary Education Sector Report, the Commission would produce a rolling triennial 'Future of the Tertiary Education Sector Report' which would be a comprehensive and strategic planning document which covers:

- how the sector is changing and its emerging issues
- analysing, forecasting and planning the supply and demand of places
- gaps between the sector's current state and where it needs to be to meet future needs
- plans to be taken to close the gap between where the sector is and where it needs to be.

To produce the 2 reports, the Commission may require higher education and VET providers to collect and report data that is not collected elsewhere, including financial information (for example, information on revenue from international students and investment in research).

Recommendation: Data, measurement and reporting

36. That to improve our understanding of the state of Australia's tertiary education system, and its broad economic, social and environmental importance:
    a. the Australian Government build on existing data assets to develop a fit-for-purpose, integrated and timely tertiary education data capability which can be used to understand problems, answer difficult policy questions, identify emerging issues, and monitor long term student outcomes through the education system and into post-study destinations
    b. the Australian Tertiary Education Commission produce an annual State of the Tertiary Education System Report and a rolling triennial planning report which will evaluate the system's progress towards the shared goals of the Review, report on the broader performance of the system, share good practice, and identify emerging issues.

6.3.7 A responsive and locally adapted system

6.3.7.1 Size and shape of the sector

The Review has established targets for sustained growth in the Australian tertiary education system over coming decades. It is not intended that this growth be evenly spread across existing providers. Tertiary education needs to be delivered in locations where it maximises the possibility of access for an increasingly diverse cohort of students, taking into account trends in population growth. In particular, the education needs of outer suburban areas are a pressing problem. These areas are experiencing the fastest rates of population growth in Australia, especially in the urban fringes of Melbourne, Sydney and Brisbane.[383]

383 Australian Bureau of Statistics, *Regional Population 2021–22* [data set], (Canberra: 2023), www.abs.gov.au/statistics/people/population/regional-population/2021-22.

Public universities are and will remain at the core of Australia's higher education system. These universities are currently concentrated in metropolitan locations and include a number of very large institutions. For example, in Victoria, which has 9 universities (8 public and one not for profit), 50.9% of domestic undergraduate students are enrolled at just 3 universities.[384] Australia's regionally located universities have a well-established role providing education in smaller population centres across Australia, along with campuses operated in regional locations by metropolitan-based universities. There is, however, a need to consider models to meet the under-supply of higher education in outer suburban areas.

How to meet the future higher education needs of people living in outer suburban areas should be the subject of deliberate planning and decision making by government, rather than ad hoc responses or assumptions the system will adjust itself without conscious intervention. Some growth will be accommodated within existing institutions, including through the delivery of digital and hybrid learning modes. A good example is Suburban University Study Hubs, which the Australian Government has committed to establishing to provide facilities and in-person support services to students in outer metropolitan areas who are studying via online modes, in response to priority actions from this Review.

However, the establishment of one or more new public universities, including discipline-specific or research-intensive universities, to meet demand in key areas should also be considered. This would be a major undertaking and a departure from the recent history of the sector with no new public universities created over the last 20 years despite considerable student and research growth. The last public entity to be granted the status of university was the University of the Sunshine Coast in 1994. Since the year 2000, only 3 private institutions have been granted university status. This is despite the substantial increase in total student numbers experienced following the Bradley Review.

Finding: Size and shape of the tertiary education sector

Institutions need to innovate and evolve in type, diversity, size and number over the coming decades to respond to the changing needs of our students and economy. Achieving this greater level of institutional innovation and diversity will require long-term planning, system-wide collaboration and proactive intervention by governments to reduce barriers to evolution and change, and to unlock the innovation potential within the sector.

Diverse new institutions

In place of establishing new universities, Australia's existing universities have become larger. The forthcoming establishment of Adelaide University in South Australia promises a single institution with more than 70,000 students. A review of Western Australia's public university sector is currently underway. The Review supports institutional restructuring where there are demonstrable benefits for students, staff and the wider community.

384 Department of Education, *Higher Education Statistics – Student data – 2022 Section 2 All students* [data set], (Canberra: 2023), published 18 December 2023, www.education.gov.au/higher-education-statistics/resources/2021-section-2-all-students.

There is not strong evidence about whether university size directly leads to improved student experience and outcomes. However, the Review has heard that some students find large universities hard to navigate and difficult to deal with when trying to resolve problems or seek help when experiencing safety issues. The Review has formed the view that it is time to consider if new and more diverse types of universities should be a focus for the Australian Government.

Establishing new universities would be an opportunity to explore new provider models and greater differentiation within the sector. One model could see a new university focus on delivering high-quality learning and skills development to previously under-represented cohorts. This might include traditional physical campuses but could operate via online delivery modes with localised support hubs.

A teaching focused university could also be established. This could leverage the expertise and capacity of the existing system. For example, an existing university might be provided funding to open a new campus in a population growth area, which over time might separate from its 'parent' institution and begin operating as a separate entity. Alternatively, TAFEs could be assisted to gradually broaden the levels and fields of higher education qualifications they offer and become a new model for dual-sector, teaching-only delivery. This might be achieved through a partnership arrangement with an existing university. Specific arrangements guaranteeing funding over a number of years would be required for any new teaching-focused university to establish its viability.

Another new university could be created to become a research-intensive university that undertakes world leading knowledge-creation across a broad field of disciplines, adding a new institution among the Group of Eight (Go8). This would require appropriate start-up funding to establish facilities and attract staff. This institution could be located in any state or territory, and the Review has discussed the merits of having more institutions with their main campus in outer metropolitan areas.

In addition to considering new models of a university, the system would also benefit from fostering the creation of institutions that are highly specialised and can deliver both teaching and research in discrete disciplines. International examples of how this model could work include the California Institute of Technology which has a closely integrated research and teaching model that delivers high-quality outputs in science and engineering.[385]

The creation of a new university could occur under a model of support or sponsorship provided by already established universities. This nurturing system could assist with a smooth transition to meet the intentionally high requirements for becoming a university.

Establishing new institutions may take some creative thinking. Investment and seed funding would be required, and regulation and legislation that act as roadblocks to specialisation would need to be adapted (for example the Provider Category Standards (PCS), which require universities to undertake substantial research activities, would need to be modified to allow for universities which are teaching only). Managed Growth Targets may need to be adjusted to provide 'headroom' for the new institution to grow. The Commission would need to work with governments so any changes are in the national interest.

385 Caltech, "ENVision 2030," California Institute of Technology, 2023, accessed 4 December 2023, www.eas.caltech.edu/about/strategic-plan.

Recommendation: Planning the tertiary education system of the future

37. That in its role as the steward, the Australian Tertiary Education Commission address the appropriate diversity of tertiary education providers of varying size, shape, purpose and location to meet national and place-based needs, including by:
    a. exploring the case for the establishment of new public universities in under-serviced areas, including research intensive institutions. All governments should work together closely to ensure alignment of planning priorities and resourcing
    b. facilitating the emergence of tertiary education providers which specialise to a greater or lesser extent in teaching or research
    c. facilitating the evolution of tertiary education providers to become nimble in responding to skills needs, diverse in nature and offerings, and aiming for excellence in specialised areas
    d. encouraging and incentivising new models of delivery and collaboration to increase tertiary education and research provision, particularly in regional and under-serviced areas, and internationally
    e. encouraging more cross-provision of VET by higher education providers, and vice versa, such that dual sector provision becomes commonplace
    f. considering revisions to the Provider Category Standards to:
        i. reinforce the importance of scholarship and engagement in all universities
        ii. consider relaxing the current requirement to meet benchmark levels of research in at least 3 broad Fields of Education
        iii. facilitate entry for high quality applicants for university status, for example from overseas institutions
    g. building alignment such that policy changes in relation to VET, and in relation to higher education, produce outcomes which enable both the higher education and vocational education and training sectors to thrive in the pursuit of growth in skills and avoid any unintended consequences that put those outcomes at risk.

Recommendation: Planning the tertiary education system of the future

38. That to achieve better alignment between higher education and vocational education and training and to allow TAFEs to be more responsive to student and industry needs, the Australian Government:
    a. encourage and assist TAFEs to become self-accrediting organisations in higher education
    b. explore pathways for selected TAFEs to become self-accrediting in VET at the Australian Qualification Framework (AQF) Level 5 and above in areas of national priority, starting with areas such as net zero emissions, care and digitisation.

6.4 A pathway to improving system governance and regulatory arrangements

The transformation of the tertiary education system that this Review envisages cannot occur without major improvements to current system governance and regulatory arrangements. The Australian Tertiary Education Commission proposed in this chapter is a centrepiece of this vision. Its purpose is to provide greater coordination across the diverse tertiary education system, to promote long-term strategic thinking, and to guide the system to 2050. Under the Commission's stewardship, the system will, in time, accommodate a variety of institutions of different types and with different missions, foster diversity and student choice and access, and build workforce capability to better deliver quality learning.

Chapter 7. Serving the regions through tertiary education

7.1 Benefits of regional tertiary education

Delivering a more equitable and responsive system capable of meeting our nation's skills needs requires a concerted effort to strengthen tertiary education in regional, rural and remote Australia. This is because the benefits of tertiary education are profoundly and directly relevant to Australia's regions. There are many reasons for this:

- the qualifications offered by regional tertiary education institutions create much-needed career opportunities and social mobility for many Australians, enabling the retention of necessary services, and boosting the productivity of the local workforce
- regional tertiary education institutions play an important role in improving tertiary education participation and success for First Nations people. In addition, many regional universities undertake research that responds to community needs and respects community knowledge and cultural practices, consistent with Closing the Gap
- research by regional universities is often targeted and locally relevant, contributing to regional innovation and environmental sustainability, and it can also have broader national and global impact
- regional tertiary education institutions are vital to regional development, contributing to regional economic growth, services and population levels
- in regional centres, tertiary education institutions are major direct economic and social contributors and may be the largest employers
- regionally based medical schools work closely with their teaching hospitals, helping deliver regionally based specialist medical care which would otherwise not be locally available
- the value of tertiary education institutions as civic institutions is most directly demonstrated in the regions, where they act as centres of local leadership and work in partnership with local government, organisations and local businesses and industries to promote educational and economic opportunities, individual creativity, cultural awareness, democratic values and social cohesion.

The Review therefore sees regional tertiary education institutions as crucial to meeting the nation's current and future knowledge and skills needs. Without flourishing regional institutions, an accessible, strong and transformative tertiary education sector is simply not possible.

Elevating and expanding the role of regional institutions is essential, but not simple. Specific characteristics of regional tertiary education – its enrolment profile and capital intensity, most notably – mean it is typically more expensive to provide tertiary education in regional areas than in metropolitan areas. The Review is of the opinion, however, that the cost to the economy and society of *not* adequately funding regional tertiary education would be far greater than funding it.

For this reason, the Review's central recommendations relating to the stewardship, funding, equity and cost of tertiary education have been designed with the specific needs of the regions in mind. These are complemented by further recommendations in this chapter pertaining directly to regional tertiary education.

7.2 The case for additional investment in regional tertiary education

The case for additional investment in regional tertiary education is strong. Approximately 28% of Australia's population lives in regional, rural and remote Australia. The efforts of regional people add strength and diversity to our economic performance and generate an outsized proportion of our national prosperity.[386] In 2023, regionally based sectors like rural products and resources comprised 11.1% and 61.5% of Australian exports respectively.[387] Like all industries, regional and rural industries need an increasingly highly skilled, educated and productive workforce to continue their operations. Yet our regions face shortages in critical occupations – not just in education[388] settings but also in health, engineering, information communication technology (ICT) and science.[389] Supplying and retaining that workforce requires us to raise the higher education participation and completion rates of students from regional and remote communities as well as maintain the volume and value of the research our regional higher education institutions do there.

This immediately presents a problem: as Figure 35 shows, tertiary education attainment rates are progressively lower in regional, rural and remote areas than in metropolitan areas. The 2018 *Independent Review into Regional, Rural and Remote Education* (Halsey Review) found that the proportion of young Australians with bachelor or higher degrees declines as geographical remoteness increases.[390] Similarly, the 2019 *National Regional, Rural and Remote Education Strategy* (Napthine Review) identified that Australians in regional, rural and remote areas were 40% less likely than their metropolitan peers to gain a higher-level tertiary education qualification and only half as likely to gain a bachelor level qualification by age 35.[391] These disparities are long-term and stubborn.

386 Department of the Treasury, *Profile of Australia's population*, (Canberra: Australian Institute for Health and Welfare (AIHW), 2023), www.aihw.gov.au/reports/australias-health/profile-of-australias-population.

387 Reserve Bank of Australia, *Composition of the Australian Economy Snapshot*, (December 2023), www.rba.gov.au/education/resources/snapshots/economy-composition-snapshot/.

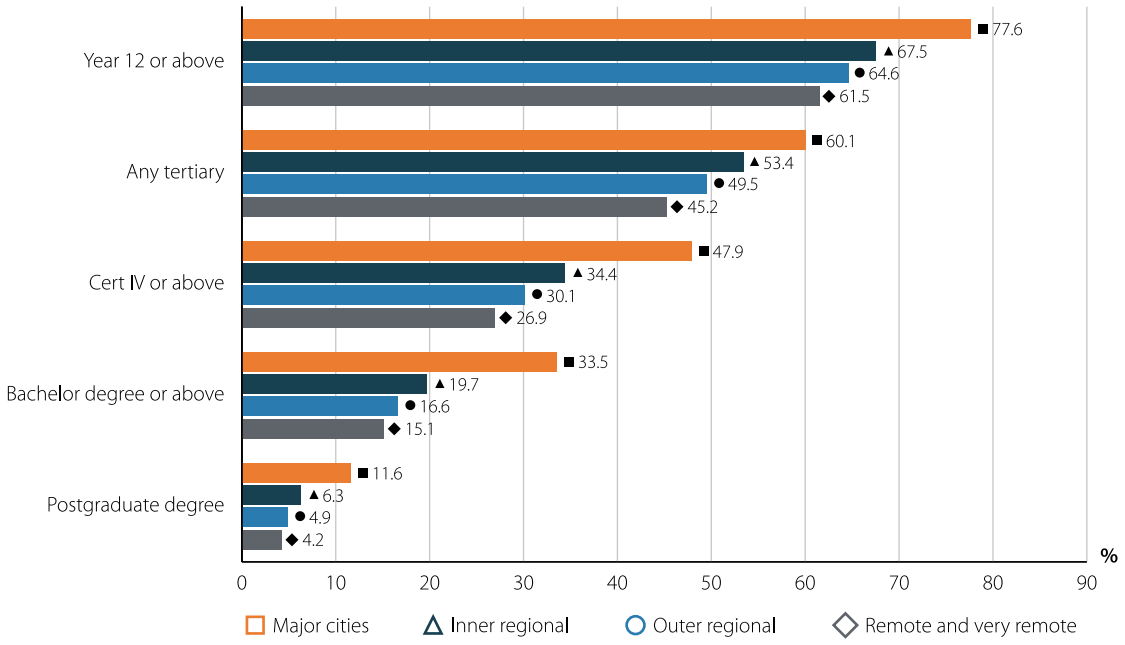
388 Australian Institute for Teaching and School Leadership, *Australian Teacher Workforce Data National Trends: Teacher Workforce*, (Melbourne: June 2023), www.aitsl.edu.au/research/australian-teacher-workforce-data/atwdreports/national-trends-teacher-workforce.

389 JSA, *Skills Priority List: Key Findings Report*.

390 Halsey, *Independent Review into Regional, Rural and Remote Education*, 4.

391 Napthine et al, *Napthine Review*, 5.

Figure 35: Educational attainment by geographical remoteness, 2021.



Source: Australian Bureau of Statistics, *Level of highest educational attainment (HEAP)*, (Census of Population and Housing: Census Dictionary, 2021), www.abs.gov.au/census/guide-census-data/census-dictionary/2021/variables-topic/education-and-training/level-highest-educational-attainment-heap.

The Review believes that considerations of equity, social cohesion, productivity and future economic prosperity compel Australia to take strong action to improve access for regional, rural and remote students.

Attracting and retaining students in regional higher education has positive economic and social results. More than 13% of domestic students are currently enrolled in a regionally headquartered university[392] and they have a strong tendency to stay in the regions once they graduate, to the direct benefit of their local labour markets and communities. According to the Regional Universities Network (RUN), almost 70% of their bachelor-level graduates and 55% of their coursework postgraduates go on to work in regional Australia, demonstrating that regional universities play a crucial role in skilled regional workforce creation.[393] For this reason, we should view regional and rural higher education providers as 'anchor institutions' that enable highly productive Australians to remain in the regions.

392 Department of Education, *Student Enrolments Pivot Table 2022* [data set] (Canberra: 2023), published 18 December 2023, www.education.gov.au/higher-education-statistics/resources/student-enrolments-pivot-table-2022. For the purposes of this chapter regionally-headquartered universities are: Charles Darwin University, Charles Sturt University, CQUniversity, Federation University Australia, James Cook University, Southern Cross University, The University of New England, University of Southern Queensland and the University of Tasmania.

393 Regional Universities Network, "Statistics," Regional Universities Network, 2020, accessed 12 December 2023, www.run.edu.au/about-us/statistics/.

7.3 The character of regional, rural and remote higher education

The benefits of studying at a regional university were made evident to the Review.

Students told the Review during consultations how regional institutions allow them to remain close to home and retain their sense of community and belonging. They also reflected that these institutions typically offer smaller class sizes and more direct engagement with teaching and research staff and provide courses relevant to the needs of their communities.

Regional universities are highly diverse, reflecting the differing skill and research needs of their surroundings. For example:

- Charles Darwin University, the only university headquartered in the Northern Territory, has 9 campuses, including its main campus in Darwin. Each campus seeks to serve the needs of its own community, which has led to a strong VET focus through Charles Darwin University TAFE, offering a range of industry-based courses with flexible entry and study options from engineering and mining to cyber security
- Federation University's technology park located on the University's Ballarat (Mt Helen) campus, jointly led by the University and IBM, is a leading model for collaboration between education providers, local government and industry. Working with IBM mentors, students can access placements and internships to accelerate their transition into careers in IT
- James Cook University is internationally renowned for its research excellence in tropical health and marine ecology.

In addition to regionally headquartered universities, there are a number of other universities which, while operating in urban areas, also deliver outside Australia's big cities and contribute to these communities. Examples of these include:

- the University of Wollongong, which operates 4 regional campuses in Bega Valley, Eurobodalla, Shoalhaven and Southern Highlands, and offers local students the opportunity to undertake their first year of study while staying in their community
- the University of Tasmania, which services a community facing high levels of disadvantage, including lower levels of educational attainment,[394] and is focused on developing teaching and support practices for regional, remote and low SES cohorts
- metropolitan universities in South Australia and Western Australia, which service regional communities in their respective states through regional campuses and strong, local partnerships with regional communities.

394 Australian Bureau of Statistics, *2021 Tasmania, Census All Persons* [data set], (Canberra), accessed 14 December 2023, www.abs.gov.au/census/find-census-data/quickstats/2021/6.

Case study: The University of New England SMART Farms

The University of New England's SMART Farms enable researchers, industry and community partners to work together on activities related to Sustainable, Manageable, Accessible, Rural Technologies (SMART). Spread across 3,655 hectares, SMART Farms offers a living landscape laboratory for researchers to collaborate with industry to solve local and global real-world problems. Its many areas of current research include sheep and cattle genetic and nutrition research, pasture management, and crop variety development.[395]

The social and economic value of the place-based education and research undertaken by regional universities can be easily grasped, although as yet is not officially measured. Attempts have been made to do so. In 2018, RUN estimated its member universities contributed $2.4 billion to real GDP in regional Australia, increased real wages by 1.3% in campus regions, and created 11,300 regional jobs.[396]

Regional universities play a clearly recognisable role in regional and national development, gradually transforming regions into knowledge economies, increasing the capabilities of the local workforce, and developing technologies (in agriculture, mining, remote health services, and energy generation especially) that improve local and national productivity.

The unique contribution made by regional universities should be recognised by the proposed Commission. The mission-based compacts it makes with institutions should include encouraging further community engagement and advancing and valuing the civic functions of regional institutions.

7.4 Delivering a homegrown workforce to address regional skills needs

If Australia is to achieve the necessary attainment of higher education to meet its future economic and social needs, regional higher education attainment rates must increase. Current rates are far too low. The RUN puts it this way:

> …if the one-third of Australians who live outside major cities were ranked as their own country, regional Australia would rank 35 out of 38 OECD countries for bachelor's level attainment amongst 25 to 34-year-olds. Regional Australia would need to almost double its attainment rates just to meet the OECD average, while if metropolitan Australia were to be ranked against the OECD as its own country, it would shoot up to 8th position with a 49.4% attainment rate.[397]

395 University of New England, "Smart Farms," University of New England, accessed 12 December 2023, www.une.edu.au/research/research-centres-institutes/smart-farm.

396 Nous Group, *Economic Impact of the Regional Universities Network*, (September 2020), nousgroup.com/wp-content/uploads/2020/09/RUN-Summary-Report-final-compressed.pdf.

397 Regional Universities Network, *Submission to the Australian Universities Accord Discussion Paper,* 2023, 20, www.education.gov.au/system/files/documents/submission-file/2023-04/AUA_tranche1_Regional%20Universities%20Network.pdf

To address this problem, the Review recommends that the Australian Government adopt a regional, rural and remote higher education student participation target of 24% by 2035, reflecting their proportion of the total Australian population (see Recommendation 10).

Such an increase in participation and attainment could be achieved through several means, including through localised employment-based pathways that allow students to continue earning an income in their local communities while retraining in areas of regional workforce need, such as teaching and early childhood education.

Case study: Harnessing the skills and experience of teacher's aides and school support staff to expand the teaching workforce

Charles Sturt University's Collaborative Teacher's Aide Pathway program helps teacher's aides and other support staff to become qualified teachers to address critical shortages of teaching staff in the regions. The program was originally developed in consultation with regional schools and now provides opportunities for students right across Australia. Charles Sturt University partners with schools to allow teachers' aides to study a Bachelor of Educational Studies/Master of Teaching online, full-time or part-time, while they continue working. The recognition of the teacher aides' prior learning allows them to retrain as teachers in as little as 2 years full-time.[398]

The Batchelor Institute of Indigenous Tertiary Education offers an Advanced Diploma of Education, which can lead students into a teaching qualification. The program is helping to broaden the skills and experience of many Senior Indigenous Educators and, for many, the program offers a chance to be recognised and acknowledged for their long-serving contributions in remote schools.[399]

Regions also face chronic shortages of rural doctors and allied health workers. This is a national[400] and international[401] problem. The Royal Australian College of General Practitioners has found that the more rural a community is, the less access its population has to GPs and health care.[402] This reduced access to care can lead to poorer health outcomes for people living in rural areas.[403] Better access to healthcare in the regions requires an overall increase and better distribution of Australia's health workforce. This will involve getting more graduates from the cities to come to regional areas, as well as supporting regional universities to grow their own health workforce.

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398 Charles Sturt University, *Teacher's aide: Become the teacher you've always wanted to be*, study.csu.edu.au/career-area/education-teaching/teachers-aide, accessed 15 December 2023.

399 Batchelor Institute of Indigenous Tertiary Education, *Advanced Diploma of Education Success*, www.batchelor.edu.au/portfolio/advanced-diploma-of-education-success/, accessed 15 December 2023.

400 Ruth Stewart, "Building a rural and remote health workforce with place-based education," *The Medical Journal of Australia 219*, 3 (7 August 2023), 5, doi.org/10.5694/mja2.52033.

401 World Health Organization (WHO), *WHO guideline on health workforce development, attraction, recruitment and retention in rural and remote areas*, (Geneva: WHO, 2021), www.who.int/publications/i/item/9789240024229.

402 Royal Australian College of General Practitioners, *General Practice: Health of the Nation 2022*, (Melbourne: 2022), www.racgp.org.au/getmedia/80c8bdc9-8886-4055-8a8d-ea793b088e5a/Health-of-the-Nation.pdf.aspx.

403 Stewart, "Building a rural and remote health workforce with place-based education," 10.

Studies have shown that health students from regional areas and those who undertake extensive training in a rural setting are more likely to practice in the regions.[404] Further, students from rural backgrounds are also more likely than metropolitan origin graduates to remain in rural practice.[405]

Case study: James Cook University Medical School

Earlier this year, James Cook University welcomed its first cohort of medical students able to complete their entire 6-year medical degree in Cairns. Prior to this, students based in Cairns needed to travel to Townsville to undertake their early medical training, and then complete their training at clinical schools in either Cairns, Townsville or Mackay.

Keeping students in their local community supports James Cook University's efforts to build a local workforce which understands the community and its specific health challenges.

The full medical course program is expanding the success of James Cook University's medical school. In 2022 half (50%) of James Cook University's 2,153 registered medical graduates were based in regional Australia. By comparison, 1 in 5 (19%) medical graduates from other Australian universities were practising outside of major cities in 2022. James Cook University medical graduates were also 5 times more likely to become specialist General Practitioners (GPs) and 65% of James Cook University GPs were working in regional, rural or remote areas in 2022.[406]

Continued support for regional programs focused on end-to-end regional training is needed to address the healthcare needs of regional communities. Regional medical training that concentrates on rural generalist skills to deliver General Practitioners to the regions should be prioritised. This will help produce the medical workforce who want to work closely with their local communities and are also trained to address the health challenges within their local communities. The Review also addresses the need to increase the number of medical places in areas of greatest need more generally in *Chapter 2 – Meeting our current and future skills needs.*

7.4.1 Barriers to study

Despite the best efforts of regional providers, many communities still have poor access to higher education. This problem was examined by the Halsey and Napthine Reviews, leading to the introduction of the Tertiary Access Payment and an increase in Commonwealth Grant Scheme funding for regional university campuses. The Review heard repeatedly from stakeholders that expanding regional delivery to increase enrolments and completions for regional students requires a collaborative, coordinated and innovative approach.

404 Judi Walker, Dawn Dewitt, Julie Pallant and Chris Cunningham, "Rural origin plus a rural clinical school placement is a significant predictor of medical students' intentions to practice rurally: a multi- university study," *Rural Remote Health* 12, 1 (2012): 1908, doi.org/10.22605/RRH1908; Seal et al, "Influence of rural clinical school experience and rural origin," 572-577.

405 Seal et al, "Influence of rural clinical school experience and rural origin," 572-577.

406 JCU, citing Medical Deans Australian and New Zealand, *Data Dashboard: Doctors Registered in Australia in 2020–2022* [data set], (2023), accessed 13 December 2023, medicaldeans.org.au/.

7.4.1.1 Compounding disadvantage

The barriers facing regional, rural and remote students begin well before they reach tertiary education. Unequal access to early childhood education and primary and secondary schooling makes it more difficult to compete for valued higher education places. At the secondary level, education is affected by problems like chronic teacher shortages and narrow subject choices that prevent students obtaining the necessary prerequisites for courses of their choice. This is particularly so for STEM subjects, principally mathematics. Secondary schools in regional and remote Australia also often lack access to high-quality careers advice, further narrowing opportunities and limiting aspiration.

7.4.1.2 Relocation and the Tertiary Access Payment

Regional and remote students often have to move away from home to undertake their courses. Moving, particularly interstate, is expensive. While several student support programs offer help – Tertiary Access Payment (TAP), Fares Allowance, Relocation Payment and institutional scholarships – this is not always adequate.

The Napthine Review found that the inadequacy of the supports then available (2019) could generate stress and increase drop-out rates. The then government's response, the TAP, has now been operational for 3 years, but the Review understands that it has had limited effectiveness, potentially due to its eligibility criteria and the timing of its payments.

Students currently do not receive the TAP until after the census date (typically 6 weeks after the commencement of each semester), to make sure it is paid to students genuinely intending to study. Consequently, students must finance their relocation up front, and then seek reimbursement. This timing makes it difficult to determine the effectiveness of TAP for its intended purposes of providing financial assistance for relocation. The Review believes that the timing of the TAP should be adjusted to enable students to receive funds when the relocation expenses are incurred, rather than seeking repayment after the census date, thereby increasing the incentive value of the payment.

To be eligible for the TAP, students must undertake a qualifying tertiary education course in the year following completion of Year 12 or equivalent. This prevents them taking a gap year. Some regional, rural and remote students take time out of education after Year 12 in order to demonstrate independence for Youth Allowance (Student) through work. Concessional criteria allow regional and remote students aged 21 or younger, who meet certain parental income and family address requirements and who have worked at least 15 hours a week for a minimum of 2 years or earned 75% or more of wage Level A of the National Training Wage Schedule over a 14-month period, to access Youth Allowance (Student) as independents. This means that their parent's income does not reduce the rate of payment they receive.

The Napthine Review suggested allowing all students (for all tertiary qualifications of one year or more) who relocate from a regional, rural or remote area to automatically qualify as independent for Youth Allowance purposes, in addition to a one-off relocation allowance at the beginning of the student's study, implemented as the TAP.

The timing of payments and the gap year provision under the TAP were a focus of the Review's consultations with regional students. Students questioned the effectiveness of the payment as an incentive and supported measures to deliver immediate financial relief for their relocation expenses. The Review finds the current requirement to commence study the year following school to be eligible for the TAP should be removed, reflecting that some regional students will work for a year to assist with the cost of relocating to study.

In addition, the Review heard from regional students that moving away from family, friends and community affects their overall wellbeing and that living independently in a new town or city without an established support network requires adjustments.

The costs for regional students to relocate for higher education, as well as the broader impacts on wellbeing, should be considered by the proposed Commission. This will help identify the adequacy of existing supports for regional students and determine appropriate policy settings to reduce barriers. The Commission should also examine the additional costs, often driven by relocation, that regional students face, and assess the effectiveness of student payments in reducing this barrier.

7.4.1.3 The financial hardship caused by mandatory placements

Regional students provided strong feedback about the vexed issue of mandatory placements. As discussed in *Chapter 2 – Meeting our current and future skills needs*, mandatory placements and clinical training requirements often lead students to forgo paid work to undertake placements, creating considerable financial hardship. These placements can also require students to move or travel long distances, incurring additional costs.

The Employment White Paper noted these financial barriers to participation, stating "additional upfront costs such as transport, childcare, and forgoing unpaid work during placements can result in students changing courses or withdrawing from study entirely".[407] The Review considers this a crucial issue and has made recommendations in *Chapter 2 – Meeting our current and future skills needs*.

7.5 High cost of delivery and diseconomies of scale in the regions

Regional universities face considerable financial hurdles compared to their metropolitan counterparts. These can be summarised as follows:

- In comparison to their metropolitan counterparts, regional universities often lack high-value investments, valuable infrastructure, established and diverse revenue profiles, and philanthropic support
- They receive little or no external funding for much of their community engagement work.
- Because they need to be geographically spread, they often find themselves maintaining expensive campuses and courses with lower student density

407 Department of the Treasury, *White Paper on Jobs and Opportunities*, 108.

- Regionally headquartered universities receive a low proportion of Australia's competitive research funding – 7%, compared to 93% for metropolitan universities, and 69% for Group of Eight universities (based on 2021 research income).[408] These universities also receive less than a third of research income from the Rural Research and Development Corporations (RDCs), a network of organisations that drive innovation and improvement for rural industries, receiving 27% of income from the RDCs in 2021[409]
- Regional universities operate in thinner student markets and have higher proportions of part-time, First Nations and low SES students, with associated costs of delivery, and more than 84% of students enrolled are in online and multi-modal (combination of online and face-to-face) enrolments[410]
- Their remote locations can cause supply chain issues and additional expenses, making the maintenance and building of infrastructure and facilities more costly than in cities
- Difficulties in building new infrastructure reduce their capacity to compete with metropolitan universities to attract students, particularly international students and those wanting a more contemporary learning environment
- They often find the cost of regulatory compliance more difficult to absorb than their city counterparts, as they operate in reduced-density environments and managing compliance activities can involve a diversion of resources away from core businesses
- The challenge of sustaining their regional footprint within the existing funding policy settings means many regional universities also establish campuses in state capitals to attract international students to achieve economies of scale, and to be financially sustainable in the current system.

These diseconomies of scale – and indeed the full cost of educational delivery in regional Australia – need to be addressed as a matter of urgency.

The Review believes action is needed. Without adequate investment in new, maintained and replacement infrastructure, there will likely be an exacerbation of the existing financial pressures felt by regional universities as well as further erosion of student load in regional areas. To support overall system growth and greater participation of regional and remote students, the specific infrastructure needs of regional universities have to be addressed. The Review considers that this could be managed through the proposed Higher Education Future Fund. The Review has also heard of critical infrastructure needs that warrant consideration of direct and more urgent funding, including significant maintenance backlogs affecting regional universities and their ability to deliver and attract students, staff and research funding.

The Review also heard from regional Vice-Chancellors about the operational challenges of the current funding model, given that Commonwealth supported place funding is based on equivalent full time student load (EFTSL). Vice-Chancellors noted that the cost of supporting part-time students is proportionately greater than for full-time students, as infrastructure and services are effectively driven by headcount, rather than EFTSL.

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408 Department of Education, *Consolidated Time Series Datasets – Research Income Time Series* [data set]; Regional Universities include: Charles Darwin University, Charles Sturt University, Central Queensland University, Federation University Australia, James Cook University, Southern Cross University, University of New England, University of Southern Queensland and University of Tasmania.

409 Department of Education, *Consolidated Time Series Datasets – Research Income Time Series* [data set].

410 2022 Higher Education Student Collection, Table 2: All student enrolments in Table A and B providers by mode of attendance, Department of Education

The University of New England's discussions with, and submission to, the Review noted:

> …many costs for students' supports are incurred per-capita, as are costs associated with built facilities, residential accommodation, resources, placements, and digital licensing. Having a higher proportion of part-time students means having a higher proportion of cost per student within one funded EFTSL (i.e. one funded EFTSL will need to be stretched to support 2–3 students).[411]

Currently, the Australian Government provides a regional loading to recognise the additional cost of providing higher education in regional and remote Australia, through the Regional Loading Program. The level of funding provided is determined by the number of enrolments and remoteness of the campus – the more remote a campus, the more funding is provided. Remoteness categories are defined using the ABS Australian Statistical Geography Standard Remoteness Structure.

Recognising and addressing the costs of educational delivery in regional Australia, including the regional loading, is discussed further below and in *Chapter 8 – A new funding model to underpin growth and quality*.

Finding: Regional

Regional tertiary education providers play a crucial role in Australian society. They deliver local jobs, make significant social and economic contributions to their local communities, provide relevant research and many other tangible benefits.

7.6 A way forward

7.6.1 Needs-based funding for students studying at regional universities

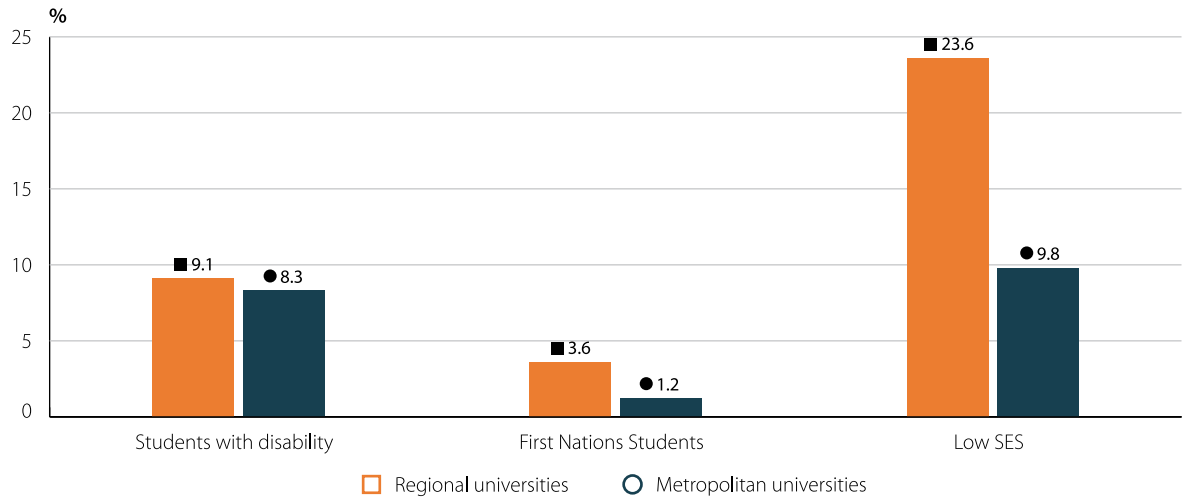
As discussed in *Chapter 3 – Expanding opportunity to all* and *Chapter 8 – A new funding model to underpin growth and quality*, the Review recommends needs-based funding be incorporated into base funding to support the expansion of participation in higher education. As the Review's Interim Report suggested, this could be similar to the equity-based Schooling Resourcing Standard (SRS).

In response to the Interim Report, the Mitchell Institute developed a needs-based higher education funding model, using the SRS as a guide. Under such a scheme, regionally headquartered universities, which tend to have higher proportions of low SES students (23.6% of enrolments on average compared to 9.8% for metropolitan universities) would gain the most.[412] In developing the needs-based funding model, the Government should ensure that regional universities are better off compared to the current system, recognising their essential role in achieving the goals of this Review.

411 University of New England, *Submission to the Australian Universities Accord Interim Report*, 2023, www.education.gov.au/system/files/2023-09/AUA_inter_tranche11_246%20University%20of%20New%20England.pdf.

412 Peter Hurley, Ha Nguyen, Melissa Tham, Maria Prokofieva and Lizzie Knight, *Needs-based funding: Lessons from the school sector*, (Melbourne: Mitchell Institute, 2023), www.vu.edu.au/mitchell-institute/education/tertiary-education/needs-based-funding-lessons-from-the-school-sector.

Figure 36: Share of target cohort student participation at metropolitan and regional universities, 2022.

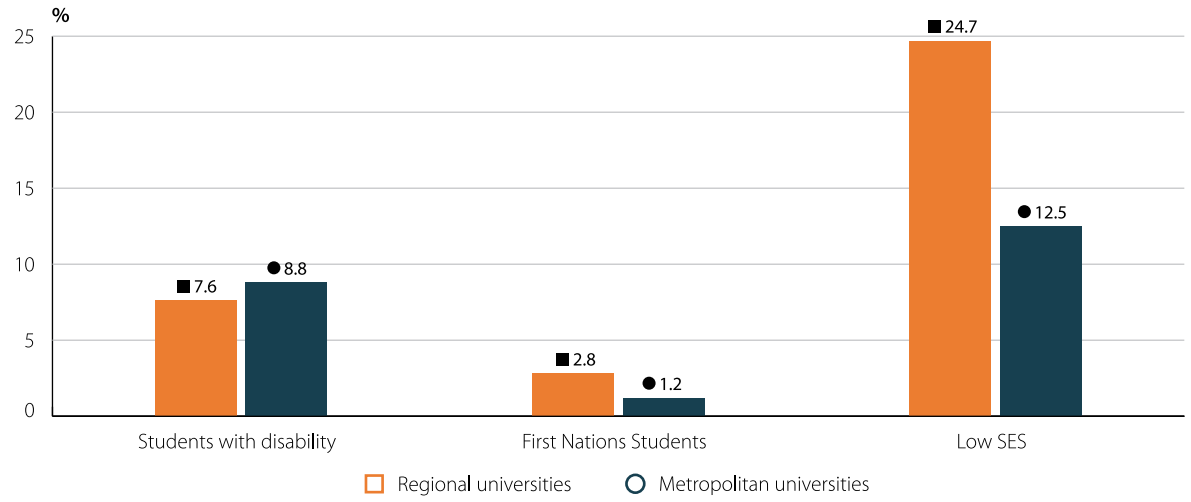


Source: Department of Education, *Selected Higher Education Statistics – 2022 Student data*, (Canberra: 2023), published 18 December 2023, www.education.gov.au/higher-education-statistics/student-data/selected-higher-education-statistics-2022-student-data.

Note: Low SES is defined by first address.

Figure 36 (above) and Figure 37 (below) show that regionally headquartered universities significantly expand access to higher education. In 2022, regional universities almost reached the Review's recommended parity target for low SES students of 25%. Regional universities do a significant amount of heavy lifting for these students, supporting proportionally more low SES students and therefore a proportionally higher share of completions for students from low SES areas (24.7%) compared to metropolitan universities (12.5%). Because regional universities often enrol students who tend to be less well prepared for university, needs-based funding would allow regional universities to provide their students with the additional support they need to be successful.

Figure 37: Share of target cohort student completions at metropolitan and regional universities, 2022.



Source: Department of Education, *Selected Higher Education Statistics – 2022 Student data*, (Canberra 2023), published 18 December 2023, www.education.gov.au/higher-education-statistics/student-data/selected-higher-education-statistics-2022-student-data.

7.6.2 An innovative, flexible and accessible tertiary education system

Lifting tertiary education participation rates amongst regional and remote Australians requires a shift towards more flexible delivery in regional communities. Regional University Study Hubs (formerly Regional University Centres) are a relatively new but popular and steadily expanding addition to the regional tertiary education landscape. Building on models of delivery at the Geraldton Universities Centre and Country Universities Centre in Cooma, the 2018 Hubs pilot program of 16 Hubs has grown to 34 Hubs, with 32 currently operating and 2 to open soon.

Government response to Priority Action 1 from the Interim Report

University Study Hubs

In July 2023, in response to Priority Action 1 of the Interim Report, the Australian Government announced $66.9 million to double the number of University Study Hubs across the country, including expanding the concept to the outer suburbs of major cities for the first time. This will see the establishment of up to 20 additional Regional University Study Hubs (formerly Regional University Centres) and up to 14 new Suburban University Study Hubs.

Regional University Study Hubs

An initial application round to select up to 10 of the new Regional University Study Hubs opened on 28 September 2023 and closed on 15 December 2023. An announcement regarding the successful applicants is expected in early 2024, with Hubs expected to be operational from Semester 2, 2024. An application process to establish up to 10 further Regional University Study Hubs will open at a later date.

Suburban University Study Hubs

A Consultation Paper to inform the design and implementation of the new Suburban University Study Hubs Program was released on 3 September 2023, with submissions due by 2 October 2023. Over 40 submissions were received, with the feedback contributing to program design. Further analysis and research are being undertaken to support the establishment of the program, including to inform the location of the new Hubs, with further details to be provided in due course.

The Review is pleased to see the Australian Government has responded to the recommendation of the Interim Report by committing to establish up to 20 further Regional Hubs and, for the first time, up to 14 new Suburban Hubs in outer suburban areas with low levels of university attainment and limited access to a significant physical university campus.

Regional Hubs are helping to expand local learning opportunities by providing regional students with more options to study at any university throughout Australia without needing to leave their home communities. The Hubs do this by providing the digital infrastructure students need for their online learning, the support services students may need during their studies, and the peer-to-peer interaction important for student motivation and belonging. The Hubs service many under-represented student groups, as well as non-current school leavers, mid-career changers (particularly women), and those juggling family and carer responsibilities. An evaluation of the program in 2022 found they improved regional access to higher education and improved students' ability to study.[413] Evidence also suggests that Hubs improve student completion and retention rates.

The Review supports the continued growth of the program but notes the Hubs' role is not always well understood by those in the sector, including the connections the Hubs can support between providers and industries in their communities. The Review suggests further evaluation to help improve coordination and implementation of the program. This should include examining the funding and options for

413 Cathy Stone, Nicole Crawford, Chris Ronan and Monica Davis, "Improving the Online Regional Student Experience: Findings from the Country University Centre (CUC) Student Evaluation, A Practice Report," *Student Success*, 13, 2 (2022) 32-41, doi.org/10.5204/ssj.2313.

universities' eligibility to host Regional Study Hubs, such as where a university has an existing regional presence, to further improve access and extend support for students in the region to study any course online with any provider. Such an evaluation could also consider how senior secondary students could utilise the Hubs, including the opportunity to access a greater range of subjects to assist them to meet the prerequisites for tertiary course entry. Evaluation will help to ensure the program can further support the broader national priority of increasing regional student access, participation and attainment.

The success of the Regional Hubs (which support university and VET students alike, and often have partnerships with VET providers as well as universities) shows there is demand for a tertiary education system with many pathways and opportunities to make it easier for regional students to study.

Thin markets and low population density mean many regional towns lack their own TAFE. As a result, the overwhelming majority (85.4%) of regional students gain their skills training from independent training providers.[414] This demonstrates the strong role independent RTOs play, and must continue to play, in supporting tertiary education in the regions, alongside provision of online and in-person higher education.

As discussed in *2 – Meeting our current and future skills needs*, the Review supports the provision of seamless pathways for students between VET and higher education and vice versa, noting student pathways are often non-linear and picked up throughout various life stages. The higher proportions of part-time students attending regional universities suggest non-traditional pathways may be even more common for regional people than for those in the big cities.

Models which support integrated pathways enable upskilling and reskilling and, in doing so, support a more dynamic and inclusive workforce capable of meeting community need. These models can enable access for students traditionally under-represented in universities as well as offering a more comprehensive suite of options for students to build their knowledge and skills at all career stages. Importantly, an integrated system in the regions will make it easier for students to access the education and training needed to meet local and national skills needs, while remaining in their communities. The Review also supports the recently announced National Skills Passport development, which would help create a more integrated tertiary education system by improving recognition of previous study or training.

Case study: Central Queensland University's School of Mining

The School of Mining at Central Queensland University, backed by a $30 million investment from the Australian Government, is helping deliver locally trained and highly skilled workers to support the region's mining and resources sector.

The School provides vocational education and training, higher education, and professional short courses to help skill and upskill students for the jobs of the future within the resources sector, including in emerging fields like automation and drone operations.[415]

414 Independent Tertiary Education Council Australia, *2022 ITECA State of the Sector Report*, (Canberra: October 2022), 7, www.iteca.edu.au/state-of-sector.

415 Central Queensland University, *New Rockhampton CQUniversity facility to support future training needs of resources sector*, (15 March 2023), accessed 18 December 2023, www.cqu.edu.au/news/842769/new-rockhampton-cquniversity-facility-to-support-future-training-needs-of-resources-sector.

An aligned tertiary education system will also help the sector to respond more rapidly to skills needs in emerging professions, such as those in the energy sector. The large scale of the clean energy transition will require the combined and coordinated efforts of VET and higher education providers to train new workers and re-skill existing workers. Strong collaboration between regional universities, regional VET providers, industry and unions will be needed to help Australia achieve its target of 82% renewable energy by 2030 and net zero emissions by 2050.[416] Tapping Australia's reserves of critical minerals will also require an economic and social transition, particularly in regional Australia – something that cannot succeed without major skills training.

An integrated tertiary education system must be enabled by more innovative modes of delivery, including online and blended learning opportunities. This will require a significant investment in digital infrastructure across the tertiary education sector.

Regional universities have long been at the forefront of online education, which meant they were well prepared for the learning disruptions caused by the COVID-19 pandemic and can offer examples of good practice online delivery. The University of New England is a leader in this space, supporting approximately 85% of their students to study fully online.[417]

While regional universities have been early adopters of distance learning, greater investment in well-designed and high-quality online education will be an important way to expand access and opportunity in our regions and allow learners to make more personalised education pathways. Recommendations to improve the quality of online learning and digital infrastructure are included in *Chapter 3 – Expanding opportunity to all*.

7.6.3 A national regional university and a more integrated tertiary system in regional Australia

The Accord Interim Report noted the need to consider new approaches to improve delivery of higher education in regional and remote Australia. It also acknowledged the serious sustainability issues faced by some regional universities and (like the Bradley Review) recommended exploring the creation of a second national university – a National Regional University. Although such a National Regional University might take a number of forms, each with a variety of possible governance and funding parameters, it could allow a planned national approach to higher education, training and employment in regional and remote areas.

The Review consulted widely with regional experts and community leaders, regional university Vice-Chancellors and regional students about the National Regional University proposal, receiving mixed feedback. Some stakeholders noted that, while there was potentially a role for a National Regional University, it would need to be well funded to ensure high-quality delivery. Others asked for more detail on how a National Regional University might operate, emphasising the need for highly innovative solutions to the persistent disparity of educational attainment between the cities and the regions. Some questioned how long it might take to establish and wanted to know what positive, negative and unintended consequences there might be for existing institutions and their communities. The Review sees value in further examining the potential creation of a National Regional University.

416 Department of Climate Change, Energy, the Environment and Water, "Powering Australia," revised 3 December 2023, www.energy.gov.au/government-priorities/australias-energy-strategies-and-frameworks/powering-australia.

417 University of New England, *Annual Report 2022*, (Sydney: April 2023), 7, www.une.edu.au/about-une/annual-reports.

7.7 Delivering strong and vibrant regional education

More than a quarter of Australians live and work in regional, rural and remote Australia. Its industries are vital to both domestic use and export income. Yet educational attainment falls as distance from major cities rises, presenting a major equity challenge. This chapter makes recommendations specifically addressing the barriers, including cost and accessibility, that inhibit the development of strong and vibrant regional tertiary education opportunities and skilled local workforces.

Recommendation: Regional tertiary education and communities

39. That to recognise the benefits of access to tertiary education and the challenges to delivery in regional, rural and remote areas, the Australian Government:
    a. include in its new needs-based funding model a specific element based on the location of higher education delivery in regional and remote Australia – to better recognise the important equity issues involved in course delivery in regional Australia, and the additional costs of that delivery
    b. significantly increase the number of Commonwealth supported places dedicated and allocated to universities delivering regionally based end-to-end medical schools, to attract and retain medical graduates in regional areas. These places should be additional to currently allocated Commonwealth supported medical places
    c. consider further expanding the successful Regional University Study Hubs program – following evaluation of its effectiveness in improving regional and remote student participation, retention and completion rates. This expansion could consider:
        i. increased use of existing tertiary education infrastructure like TAFEs
        ii. allowing eligibility for existing universities to host a Regional University Study Hub
        iii. changing the name of the program from *Regional University Study Hubs* to *Regional Study Hubs* to recognise their role across both VET and higher education
    d. adjust the policy settings for the Tertiary Access Payment to remove the requirement to commence an eligible course within the 12 months following completion of Year 12 (or equivalent) and amend the timing of payments to provide timely assistance with the costs of relocation for tertiary study before moving
    e. task the Regional Education Commissioner with examining further opportunities to strengthen regional tertiary education, including the potential creation of a National Regional University, and a more integrated tertiary education system in regional communities, reporting to the Minister for Education by June 2025.

Chapter 8. A new funding model to underpin growth and quality

8.1 University funding

Australian Government funding of higher education is concentrated in Australia's 38 publicly funded universities which, as of 2022, educate 92.5% of students in the higher education system[418] and produce a significant proportion of Australia's R&D, accounting for 33% of gross domestic expenditure on R&D.[419] This chapter begins with a snapshot of current sources of university funding, and then narrows its focus to the Australian Government's contributions to the funding landscape.

A brief history of the Australian Government funding system for learning, teaching and scholarship is followed by proposals for changes to the current funding system, particularly to the Commonwealth Grant Scheme (CGS) and to student contributions, with underpinning principles and details of how this should work. In particular, the Review calls for a new component of needs-based funding in the CGS reflecting the additional costs that can be associated with supporting students through higher education to help increase the proportion of under-represented groups undertaking higher education. An overarching aim of the new funding model is to increase the total number of students in the system to more than 1.8 million by 2050.

This chapter then covers research funding, including a brief history of recent changes. This is followed by proposals to improve research funding settings, which have been covered in greater detail in *Chapter 6 – A dynamic, collaborative and responsive system that serves the national interest*. To improve research funding settings, the Review recommends that a formal, strategic examination of the national R&D environment be undertaken and that a considered R&D strategy be implemented to support an increase in overall investment in research over time. The Review also proposes 4 main changes to Australian Government research funding to universities: a strategic research fund to improve research collaboration and impact, additional investment in fundamental research, a systematic move to full funding of national competitive grants, and an increase in the PhD stipend.

Finally, the chapter sets out the argument for higher education providers and government to make contributions to a new Higher Education Future Fund, and proposes transitional arrangements associated with implementation of the Review's recommendations about the funding system.

418 Department of Education, *Higher Education Statistics – Student data – 2022 Section 2 All students* [data set] (Canberra: 2023), published 18 December 2023. The balance are from private not-for-profit providers, private for-profit providers, and public TAFE institutes.

419 Australian Bureau of Statistics, *Research and Experimental Development, Businesses, Australia 2021–22* [data set].

In its Interim Report, the Review raised a number of proposals for consideration, including the Universal Learning Entitlement (ULE) and the introduction of a levy on international student fee income to provide insurance against future economic, policy or other shocks, or to fund sector priorities.[420] These proposals have led to much debate since the release of the Interim Report, and the Review has carefully considered the consultations and submissions received, both supporting and opposing the proposals. This consideration has led to an evolution in the Review's thinking which is reflected in the recommendations in this chapter.

8.1.1 University finances

In 2021, the overall operating revenue of the university sector was $38.9 billion, and its expenditure was $33.6 billion. Revenue grew by 35.3% in real terms over the previous decade, from $28.8 billion (in 2021 dollars) in 2011.[421]

The increase in overall university sector revenue masks financial difficulties at some institutions. In 2021, the net operating result across the university sector was a surplus of $5.3 billion – 38 universities reported a net surplus, and 3 reported a net deficit. The average net operating margin (net operating results as a share of total operating revenue) across the university sector was 13.6% in 2021. The highest net operating margin reported across the sector was a surplus of 29.7%, and the lowest was a deficit of 7.6%.[422]

Outcomes for 2022 look significantly worse and the recent challenges to the financial positions of universities have been widely reported. Of the 10 publicly funded universities in New South Wales, only one recorded a surplus in 2022, with the remaining 9 recording a collective $416 million deficit.[423] Similarly, all 8 of the publicly funded universities in Victoria recorded deficits in 2022, with a combined deficit of over half a billion dollars.[424]

The differences between 2021 and 2022 are partly due to issues associated with the COVID-19 pandemic.

Universities have a diverse range of revenue sources. The proportion of university revenue sourced from Australian Government grants fell from 44.0% (or $7.1 billion) in 2000 to 36.1% (or $14.1 billion) in 2021. In addition to these grants, revenue sourced from HELP loan advances declined from 16.9% (or $2.7 billion) to 15.9% (or $6.2 billion) over the same period.[425] At the individual university level, the reliance on Australian Government funding (i.e. Australian Government grants and HELP loan advances on behalf of students) ranged from a high of 86.7% to a low of 31.5% in 2021.[426]

Universities also receive revenue from other sources such as international student fees, commissioned research, investments, sale of assets, licences and consultancies. A few universities receive substantial donations and bequests each year. The largest source is international student fees, which rose from

420 Australian Universities Accord, *Interim Report*, (2023), 139.

421 Department of Education, *Higher Education Providers Finance Tables 2004–2021* [data set]. Numbers are in real 2021 dollars.

422 Department of Education, *Higher Education Providers Finance Tables 2021* [data set].

423 Lucy Carroll and Christopher Harris, "All but one of the state's universities are losing money as student numbers shrink," *Sydney Morning Herald*, (31 May 2023), www.smh.com.au/national/nsw/all-but-one-of-the-state-s-universities-are-losing-money-as-student-numbers-shrink-20230531-p5dcto.html.

424 Adam Carey and Madeleine Heffernan, "Victorian universities deep in the red as overseas student numbers stay low," *The Age*, (2 May 2023), www.theage.com.au/national/victoria/victorian-universities-deep-in-the-red-as-overseas-student-numbers-stay-low-20230502-p5d50b.html.

425 Department of Education, *Higher Education Providers Finance Tables* [data set]. Numbers are in real 2021 dollars.

426 Department of Education, *Higher Education Providers Finance Tables* [data set]. Numbers are in real 2021 dollars.

$1.6 billion in 2000 to $10.4 billion in 2019 (prior to the COVID-19 pandemic), before declining to $8.7 billion in 2021. As a share of the sector's total operating revenue, international student fees increased from 10.0% in 2000 to 27.3% in 2019 before declining to 22.4% in 2021.[427] Latest data indicates that revenue from international student fees continued to decline in 2022 and is now 14.0% lower than in 2019.[428]

Just as different universities have different revenue sources, expenditure differs across each university. While they are expected to undertake teaching and research, universities also contribute to civic engagement and local communities, with the emphasis differing according to each university's focus and mission.

Universities have become increasingly sophisticated in using the funds they generate to make targeted investments in activities they wish to emphasise to address their particular missions. This is most evident in supporting research activity, particularly by universities which aim to be research intensive. According to the latest ABS data, Australia's higher education expenditure on R&D (HERD) was $12.7 billion in 2020.[429] Of this total, 30.1% was funded through dedicated research grants from the Australian Government – including research block grants[430] – with the rest of the investment coming from general university funds (mainly derived from sources such as international student fees), business, state and territory governments, overseas sources and philanthropy.

8.2 A new funding model for Commonwealth supported teaching places

8.2.1 Evolution of the current funding system

As described in *Chapter 2 – Meeting our current and future skills needs*, reforms introduced in 1989 by the then Minister for Education, Employment and Training, the Hon John Dawkins AO, have largely defined the structure of Australia's contemporary higher education system. Central to the Dawkins reforms was the introduction of a student contribution scheme (now known as the Higher Education Loan Program – HELP) which ensures there is no upfront cost associated with university fees, by allowing students to defer payment until they earn a minimum specified wage. This has contributed to a major expansion in higher education participation over the last 35 years.

The Commonwealth Grant Scheme (CGS) legislated under the *Higher Education Support Act 2003* (HESA), is the biggest single source of government funding for higher education. This scheme, together with student contributions that are usually deferred under HECS-HELP (also governed by HESA), constitutes the 'base funding' for teaching, learning and scholarly activities.

427 Department of Education, *Higher Education Providers Finance Tables* [data set]. Numbers are in real 2021 dollars.

428 Department of Education internal analysis based on Higher Education Finance Publication [unpublished data], (Canberra: 2003).

429 Australian Bureau of Statistics, *Research and Experimental Development, Businesses, Australia* [data set].

430 Universities Australia, *2022 Higher Education Facts and Figures*, (June 2022), 90, universitiesaustralia.edu.au/wp-content/uploads/2022/09/220207-HE-Facts-and-Figures-2022_2.0.pdf.

Most CGS funding is only available to specific providers designated in HESA,[431] namely the publicly funded universities in Australia. To receive CGS funding, a provider must enter into a funding agreement with the Australian Government. Some other providers, mostly private, are eligible for 'national priorities' funding, predominantly for education and nursing courses. Australia's publicly funded universities are prohibited from offering domestic full fee-paying undergraduate places.[432]

Funding is allocated on the basis of the number of full-time equivalent domestic students in Commonwealth supported places – so called because, for each place, the Australian Government makes a contribution to the cost of teaching and scholarship through the CGS. The amount of the Australian Government's contribution depends on the field of education or 'funding cluster'. Providers – including universities and non-university higher education providers (NUHEPS) – also receive a student contribution, the maximum level of which is legislated under HESA and also varies by field. Students who do not wish to pay the contribution up front can defer it through a government-backed HECS-HELP income-contingent loan. In 2022, 89.4% of equivalent full-time student load (EFTSL) utilised HECS-HELP rather than paying up front.[433]

Before 2009, the number of Commonwealth supported places in each field of study (i.e. the volume and distribution of places) was negotiated at provider level. While there was some flexibility provided for enrolments above the load negotiated with the Australian Government, most of these enrolments were not funded, and this limited the total number of students in the system.

In 2009, following the Bradley Review, the then government implemented a demand driven mechanism for Commonwealth supported bachelor degree places at publicly funded universities (except in medicine) to meet student demand and deliver more graduates. This meant that universities received the full amount of CGS funding for every student they enrolled. Another significant change to university funding introduced in response to the Bradley Review was an improvement in indexation arrangements – the Higher Education Grant Index (HEGI), which was a composite index taking into account changes in the Consumer Price Index (CPI) together with changes in the salaries of professional, scientific and technical service workers.

As designed, the demand driven system was successful in increasing student numbers, including students from historically under-represented backgrounds, and responded effectively to most skills shortages.[434] However, the demand driven funding system was criticised for its cost to taxpayers, encouraging publicly funded universities to admit under-prepared students, and producing too many graduates relative to labour market needs.[435]

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431 *Higher Education Support Act 2003*, Table A.

432 While s.36-30 of HESA states that if a domestic student is enrolled in an undergraduate course of study at a Table A provider, the provider must enrol them as a Commonwealth supported student, there are limited instances where this is not necessary, including when the student: elects not to be Commonwealth supported (s.36-10 (3)); originally enrols in the course as an overseas student (s. 36-30 (d)); is in an employer reserved place (s.36-15 (1)(a)); or is in a summer or winter school unit of study (s.36-10(7)).

433 Department of Education, *Higher Education Statistics – Student Data – 2022 Section 5 Liability status categories*. (Canberra:2023), published 18 December 2023. Calculation does not include students who were exempt from paying a student contribution.

434 The Hon Dr David Kemp and Andrew Norton, "*Review of the Demand Driven Funding System: Final Report*," (Canberra: Department of Education, April 2014), ix, www.education.gov.au/higher-education-reviews-and-consultations/resources/review-demand driven-funding-system-report.

435 Productivity Commission, *The Demand Driven University System*, 17-37.

Between 2013 and 2017, successive governments proposed restraining outlays on higher education by various means including:

- an efficiency dividend announced in 2013
- deregulation of student contributions, combined with a 20% reduction in CGS rates and the introduction of real interest on HELP debt in 2014
- a reduction in CGS funding rates, partly compensated through an increase in student contributions in 2017.[436]

None of these initiatives were supported by the Parliament and therefore none were implemented. While there was emerging evidence of slowing growth in enrolments (in each year between 2015 and 2017, the increase in commencing bachelor-level Commonwealth supported places was less than 0.5%),[437] at the end of 2017 the government froze the demand driven funding system by introducing a cap on CGS funding for non-medical bachelor-level places. The cap was set at 2017 funding levels in 2018 and 2019, before growing by the rate of population growth for 18 to 64-year-olds after this. Due to population growth being lower than CPI, this cap resulted in a real-term decline in CGS funding in 2018 and 2019, and only marginal growth in 2020. As a consequence, the number of fully funded Commonwealth supported students declined in each of those years.

Not all students are in Commonwealth supported places. Some domestic undergraduate students (largely at non-publicly funded universities) and most coursework postgraduate students undertake study on a full fee basis. They are subject to uncapped fees set by their higher education provider, and their places do not attract CGS funding. These students are able to defer their fees via FEE-HELP, which operates under similar arrangements to HECS-HELP. In 2022, 75.5% of domestic fee-paying EFTSL relied on FEE-HELP rather than paying up front.[438]

International students do not attract support through CGS or HELP, and pay fees for their studies set by each higher education provider. As noted above, the fees paid by international students are a vital source of revenue for the higher education sector, representing over 30% of revenue at some universities.[439] Further discussion about international students and the international education sector is in *Chapter 4 – Delivering for students*.

Students undertaking higher degrees by research (such as Masters by Research and PhD) may be supported through the Research Training Program, which is discussed in *Chapter 5 – Producing and using new knowledge*.

436 Higher Education Support Amendment (Savings and Other Measures) Bill 2013; Higher Education and Research Reform Amendment Bill 2014; Higher Education Support Legislation Amendment (A More Sustainable, Responsive and Transparent Higher Education System) Bill 2017.

437 Department of Education, *Higher Education Statistics – Student data – 2022 Section 2 All students* [data set] (Canberra: 2023), published 18 December 2023.

438 Department of Education, *Higher Education Statistics – Student Data – 2022 Section 5 Liability status categories*, (Canberra: 2023), published 18 December 2023. Calculation does not include students who were exempt from paying a tuition fee, including those undertaking Work Experience in Industry.

439 Department of Education, *Higher Education Providers Finance Tables 2004–2021* [data set].

Finding: Growth

The current funding model does not provide for sufficient fully funded growth in enrolments to meet the nation's skills needs, with growth occurring in unplanned and unmanaged ways. The relatively low current demand for places highlights the need for a system that plans for, and delivers, growth in skills with equity.

8.2.1.1 Job-ready Graduates

Partly in recognition of the limited growth in fully funded enrolments caused by the funding freeze, in 2020 the then government announced a major reform of the CGS to commence from 2021 – the Job-ready Graduates (JRG) package.

Significant changes to student contributions and CGS cluster rates were at the core of the JRG package, with the number of funding clusters reduced from 8 to 4. At the aggregate level, this led to an increase in student contributions of around 7% and an aggregate reduction in base funding of 5%. However, this masked a range of larger changes at the discipline level. For example, student contributions for students in humanities, human movement, society and culture, and communications courses were increased by 113%, while base funding (the combination of Australian Government contributions and student contributions) for science and engineering was reduced by 16%.

As outlined in *Chapter 4 – Delivering for students*, the intention of the changes included in the JRG package was to influence students' decision making and incentivise them to study in particular disciplines. Analysis of student demand and enrolment decisions has shown that this experiment failed and student demand was largely unaffected.[440]

The savings achieved through these changes were used to introduce a range of measures, including CPI indexation for total CGS funding, additional Commonwealth supported places, and a new National Priorities and Industry Linkage Fund (NPILF) to facilitate better engagement between publicly funded universities and business.

Finding: Funding

Changes made to funding through the Job-ready Graduates package unfairly affected some students (particularly those studying humanities, human movement, society and culture, and communications) and reduced the amount of funding available to universities to deliver subjects that are critical to future jobs and innovation like science, engineering and mathematics.

440 Productivity Commission, *5-year Productivity Inquiry: From learning to growth*, 69.

8.2.1.2 Enrolment caps and demand

Since the introduction of the funding freeze at the end of 2017, governments have imposed an upper limit on total CGS expenditure but have not capped enrolments. Many publicly funded universities continue to enrol students over their funding cap. For this they receive only the student contributions paid by those additional students. The Department of Education estimates that in 2021, 24 universities were over-enrolled by a total of 22,000 EFTSL over their Maximum Basic Grant Amount (MBGA).

Universities may have made a conscious decision to over-enrol, either to meet student demand or because doing so was seen as beneficial in some way. Universities report quite different levels of expenditure on teaching and have differing capacities to fund teaching from other sources. The Review has noted that, based on 2023 estimates from publicly funded universities, 5 of the 10 universities under-enrolled by over 1,000 EFTSL are regionally headquartered, while all those over-enrolled by more than 100 EFTSL are metropolitan. Continued operation of this system is likely to cause financial difficulties for some universities and could have a significant effect on the overall shape of the higher education sector.

Since the COVID-19 pandemic there has been a marked softening of demand in higher education, driven by a recovering economy, strong labour market and cost of living pressures. This has created financial viability risks for some universities, with many having student enrolment numbers below their funding cap. Enrolment projections suggest that lower or stagnant demand is likely to continue for the next few years, and many universities will continue to have enrolment numbers below their cap[441] until the recommendations of this Review or similar reforms are implemented.

In 2021, the then government introduced the Higher Education Continuity Guarantee (HECG) to assist with recovery from the COVID-19 pandemic, and the current Government has committed to continue it for 2024 and 2025 in response to a recommendation in the Interim Report of this Review. The HECG guarantees that providers receive their full CGS funding allocation, irrespective of enrolment numbers. While this provides certainty and protects providers against a downturn in enrolments, there is a risk that, without further funding changes, some universities may face a significant funding cliff in 2026 if student demand does not increase.

441 Department of Education, *Administrative data* [unpublished].

Government response to Priority Action 4 from the Interim Report

The Government has consulted with a range of higher education providers on implementation arrangements for the Higher Education Continuity Guarantee (HECG). The consultation has focussed on the potential uses of funding that may be permitted under the program. The Government has also been incorporating the new HECG requirements within provider's Commonwealth Grant Scheme funding agreements and mission-based compacts.

Ongoing consultation with providers on HECG implementation will continue into 2024. There will be a particular focus on a new requirement for providers with funding remaining from their Maximum Basic Grant Amounts in 2024 and 2025 to develop Equity Plans detailing how they plan to utilise any HECG funding they receive on new or expanded equity initiatives, including those that aim to build future growth. The Government will develop specific reporting requirements in relation to these plans. The Government will also update legislative guidelines for the extended HECG arrangements.

Under and over-enrolments have also had an impact on per student funding. Universities that are over-enrolled are effectively teaching students with lower per student funding, while those that are under-enrolled, and which receive funding through the HECG, are operating with higher per student funding (compared to the per place amounts outlined in legislation). Given the range of under and over enrolments across the sector, different universities have different teaching resources per student.

Finding: Funding

The current funding system is overly complex, fragmented and difficult to comprehend. It needs to be simplified.

Finding: Funding

The current approach to setting core funding through 'cluster rates' means that some disciplines are likely substantially under-funded, and some potentially over-funded. The lack of fidelity and accuracy in pricing means that small, expensive courses such as veterinary science and the performing arts require significant and unsatisfactory cross-subsidy within universities and reduces the ability of the system overall and individual providers to increase efficiency and effectiveness of course delivery arrangements.

Finding: Funding

The practice of universities enrolling students over their funding cap and receiving only marginal funding for additional students has had adverse flow-on effects for the whole system. Marginal funding has distorted the distribution of students between universities, creating potential long-term viability issues for some universities.

8.2.2 Principles for a new funding model

The success of Australia's higher education system relies on a secure, enduring and sustainable funding system. In light of its findings, the Review proposes a new funding model for learning, teaching and scholarship for the purposes of:

- remedying negative and unanticipated outcomes from the JRG package
- supporting substantial growth in skills quantity and quality and increased participation and attainment from under-represented groups
- evolving over time to meet the needs of the nation.

The Review also notes the essential role education plays in Closing the Gap on First Nations disadvantage. An approach to funding the system which reflects the principles of self-determination for First Nations peoples should be developed with the First Nations Council recommended in *Chapter 6 – A dynamic, collaborative and responsive sector to meet national needs,* with a view to ensuring the funding system is better able to support First Nations students to complete their studies.

The proposed funding model has been based on the following guiding principles:

- **Growth and skills:** The higher education funding model must enable the sector to grow. Growth in provision must be high-quality, and responsive to industry and skills needs and student choices
- **Equity and access:** The funding system should support all Australians who wish to study and who meet entry requirements to higher education, with no upfront cost and additional support tailored to student need and location of delivery ('demand driven equity'). To drive future participation, collaborative initiatives between the Australian Government and providers should be supported outside the funding model to raise aspiration, improve access to higher education and ultimately ensure successful outcomes for students
- **Fairness:** There should be a fair balance of student and Australian Government contributions across the system, recognising both the private and public benefits of higher education
- **Coherence:** There should be one higher education funding model for Australian public universities. It should be simple to navigate and understand; accountable and transparent; and follow an evidence-based logic, where cost, need and policy priorities drive change and 'price' is not used to influence student choices. The balance of public and private investment should be intentional, and public investment across the system should be broadly in line with public value and Australian Government priorities, such as equity, skills and growth

- **Responsible stewardship:** There should be a shared responsibility for higher education between universities, as autonomous institutions, and the Commission as the system steward. The Commission should steward the system towards its objectives through a clear set of funding incentives and regulatory powers, ensuring a stable and transparent funding environment with clear accountabilities. The system stewardship role would include monitoring system dynamics such as competition and collaboration, the balance of public and private contributions, as well as driving efficiency, public value and quality
- **No marginal funding:** Students enrolled in Commonwealth supported places should be fully funded to ensure that the funding available to support students is consistent across providers
- **Mission:** The funding model should support a diverse range of public universities to respond to national knowledge and skills needs and student demand in different ways, whilst driving equity, access, quality and efficiency
- **Quality:** The funding system should appropriately fund high-quality provision of learning, teaching and scholarship, supporting autonomous universities and other higher education providers to deliver strong outcomes for students
- **Teaching that is research-informed:** The funding model should support the delivery of teaching that is informed by research – either research conducted by academics themselves, or through pursuit the latest scholarship in the field.

8.2.3 A new approach to core funding for Commonwealth supported places

The Review is recommending a new approach to core funding for Commonwealth supported places that takes the best elements of the existing system and supplements them with funding mechanisms that drive a focus on equity, deliver national growth, and manage demand at the university level through mission-based compacts (see Recommendations 40 and 41). As outlined above, base funding for Commonwealth supported places includes a government contribution and a student contribution. The Review proposes that this funding mix continue to be available to support students in undergraduate and coursework postgraduate courses. The level of funding should continue to differ by field of study (or 'subject') and be adjusted to reflect the cost of delivery better.

The Review also proposes that this be expanded to include a new 'needs-based' funding component that reflects the fact that some students will require additional support to succeed. The Review describes this full package as 'core funding', all of which should increase in line with CPI to ensure that funding continues to be adequate for the delivery of high-quality education. The Review's recommendation to expand funding for fee-free places for preparatory courses was detailed in *Chapter 3 – Expanding opportunity to all*.

Figure 38 provides a snapshot of the proposed new funding model for enabling, undergraduate, coursework postgraduate and non-Commonwealth supported place (undergraduate and postgraduate) courses – the major categories for which the Australian Government provides funding or access to an income-contingent loan.

Figure 38: Snapshot of the proposed new learning, teaching and scholarship system stewardship model.

			Commonwealth supported places (CSP)			
			Preparation courses	**Undergraduate CSP**	**Postgraduate CSP**	**Non-CSP (UG and PG)**
Core funding	**Subject funding**	**Student contribution**	None	3 bands	3 bands	Full fee (provider Scholarship for some students)
		Australian Government contribution	Fixed contribution	Public Benefit Contribution	Public Benefit Contribution	None
	Needs-based funding		Student-based Delivery-based	Student-based Delivery-based	Student-based Delivery-based	N/A
Supporting ICLs	**Loan Access**		N/A	HECS-HELP		FEE-HELP
	Loan Subsidies		N/A	• Interest-rate subsidies • Non-repayment subsidies		• Interest-rate subsidies reduced by loan fees for some students • Non-repayment subsidies reduced by loan fees for some students
Volume and Distribution	**Tolerance Band**		Moderated Growth Target Funding Floor			N/A N/A
	Courses eligible for Australian Government funding		Determined by the Commission			N/A
System Stewardship	**Australian Tertiary Education Commission**		• As the pricing authority, it will advise the Australian Government on the evidence base for core funding levels at the undergraduate and postgraduate level and make independent pricing decisions, within a policy framework and funding envelope set by Government • Advises the Australian Government on evidence base for core funding levels at undergraduate and postgraduate level. • Manages Tolerance Band: determines Moderated Growth Target and Funding Floor for sector (incl. any tailored arrangements). • Determines eligibility of postgraduate CSP, whilst ensuring maximum flexibility for providers to manage demand. • Monitors and oversees enabling courses. • Determines designated places for medicine.			• System oversight role. • No price or volume controls. • Determine and manage Scholarship contribution. • Advise on loan subsidy contribution level.
	Tertiary Education Quality and Standards Agency (TEQSA)		System regulation and quality assurance			

8.2.3.1 Subject-based funding

Student contributions

Undergraduate courses

As outlined in *Chapter 4 – Delivering for students*, the changes to student contributions introduced through the JRG package were significant and unfair. It has been shown that the experiment to encourage students to study in particular fields has failed because students do not respond to price changes.[442] In particular, the 113% increase in student contributions for Commonwealth supported students studying communications, humanities, other society and culture, and human movement units needs to be corrected as soon as possible.

Allocation of a field of study to a student contribution band should be based on the future earnings potential of that field of study: the higher the future earnings potential, the greater the student contribution. However, teaching, nursing and the care disciplines should be in the lowest band, recognising both the lower lifetime earnings of teachers, nurses and carers compared to other professions and their significant public contributions to society. Income-contingent loans should continue to be available through the HELP system to eligible students to ensure there is no upfront cost.

Postgraduate courses

Similar to the undergraduate Commonwealth supported place approach, the amount that postgraduate Commonwealth supported place students contribute should relate to likely future earnings. Over time, the postgraduate student contribution should increase to be higher than the undergraduate contribution, until it more accurately reflects the higher private rates of return for those who complete postgraduate courses. However, any potential increases would not apply to Commonwealth supported place postgraduate teaching and nursing programs, which would remain at undergraduate Band 1 levels of student contribution.

Fee-free preparatory courses

Preparatory courses should be 'fee-free', like the current enabling programs, for Commonwealth supported students. As recommended in *Chapter 3 – Expanding opportunity to all* and the next subsection of this chapter, those providers offering preparatory places should receive sufficient funding to cover the costs of delivering these courses.

Principles underpinning proposed changes to student contributions

The above changes would remove anomalies created under JRG reforms and provide a framework for an ongoing, scalable funding system for students, government and providers. Students would experience greater simplicity, transparency and fairness by contributing towards the cost of their course on the basis of projected future earnings, with protections in place for low-income earners.

442 Productivity Commission, *5-year Productivity Inquiry: From learning to growth*, 69.

In the future, changes that are made to the funding system should apply the following principles:

- that the costs to students are based on potential future earnings
- that each discipline is fully funded
- that the system is simple, fair and transparent.

As the system evolves and student contributions are more aligned with potential future earnings, there are likely to be occasions where student contributions for some disciplines are increased. If this is to occur, continuing students should not be disadvantaged and they should continue to be subject to the previous contribution arrangements until they complete their degree.

Government contributions

The Australian Government subsidies through the CGS should continue to differ by discipline. The Government should make a contribution based on the estimated cost of teaching, designated by the Review as the Public Benefit Contribution (PBC), because it recognises the public value of higher education across the system as a whole. The PBC ensures that subject funding (student contribution plus government contribution) meets the estimated cost of teaching for that field of education.

The Review heard consistently that changes to funding for providers for the learning, teaching and scholarship of STEM disciplines under the JRG package have left them with inadequate support and are clearly under-funded. Any early Australian Government investment should prioritise the STEM disciplines.

In establishing the Commission, the Australian Government should place a top priority on establishing its role as a pricing authority. It should task the Commission with developing a more sophisticated and detailed methodology to determine the full economic cost of learning, teaching and scholarship in disciplines and courses at a granular level. The Commission should regularly review funding amounts to ensure they are sufficient for the delivery of high-quality education.

As outlined in *Chapter 3 – Expanding opportunity to all*, the JRG changes to CGS cluster rates had a significant negative impact on funding for enabling courses. Most enabling places are in disciplines that had large decreases in CGS cluster rates. For undergraduate and postgraduate courses, these decreases were offset by increasing student contributions. But there was no equivalent offset for enabling students, due to the prohibition on charging contributions for such students. This led to a significant reduction in available funding in enabling courses. To address this, the Review recommends funding all preparatory courses at a standard amount that reflects the cost of delivering a preparatory place, and that the allocation of this funding reflect student demand, not historical allocations (see Recommendation 12).

8.2.3.2 Needs-based funding

Historically, the variation in government contributions to Commonwealth supported places has been based only on their field of study, or 'cluster'. However, the proposed increase in the number of students from the target cohorts described in *Chapter 3 – Expanding opportunity to all* would require the funding system to be more finely tuned. The Review recommends that, for the first time, core funding include needs-based funding for preparatory courses and undergraduate courses to support equity, access and high-cost delivery models. Providing additional support for students who need it to succeed in higher education would generate considerable public value, as more historically under-represented groups would obtain a qualification and help to meet the growth and skills targets of the future (see Recommendation 13).

The Review recommends that any decision to redirect current funding to support the introduction of needs-based funding should not be at the expense of existing projects or activities that align with the goals of this Review, and means of continuing support to these should be considered.

Student loadings

As the system expands, the Australian Government should provide funding to support student success better, including loadings for students in the 3 cohorts discussed in *Chapter 3 – Expanding opportunity to all*:

- students from low SES backgrounds
- First Nations students
- students with disability.

The additional cost of supporting groups historically under-represented in higher education to succeed is well established. These costs include a range of learning support and broader student support needs.

The approach and distribution of student-based loadings should be determined by the Commission, based on the best available evidence on additional cost, and taking account of available funding.

Before the new funding model is implemented, further design work should be undertaken to ensure this additional funding is distributed to universities in a way that genuinely supports students with additional learning and support needs. A key starting point is to consider scaling the funding based on students' preparedness to study, and to consider whether this loading should be on the basis of headcount rather than EFTSL to reflect how broader student support is utilised by these students.

The reasons for the introduction of needs-based student loadings were discussed in detail in *Chapter 3 – Expanding opportunity to all*. The Review is strongly of the view that this measure is necessary to increase enrolments from under-represented cohorts and maximise their opportunities for success.

Delivery-based loading

In addition to loadings based on student characteristics, the Australian Government should also provide a regional delivery loading to support the greater cost of delivering courses to students in the regions. Similar to the current Regional Loading Program, this loading would be based on the point of delivery. This funding is vital to ensure that all students across Australia have access to high-quality provision, no matter where they choose to study.

Analysis of regional providers shows that regional campuses operate with significantly lower student numbers compared to metropolitan campuses, with providers often delivering learning, teaching, scholarship and student support across multiple campuses that are spread over large geographical distances. This results in higher costs of delivery per student as noted in consultations and a commissioned government study.[443] A regional delivery loading should consider campus location, student composition, and enrolments in distributing funding. This should ensure additional funding is distributed based on need and perverse incentives are avoided.

443 Deloitte Economics Australia, *Transparency in Higher Education Expenditure*, (Canberra: Department of Education, Skills and Employment, June 2022), 74, www.education.gov.au/higher-education-publications/resources/2022-transparency-higher-education-expenditure-publication.

The approach and distribution of this delivery-based loading, including how to deal with online delivery, would be determined by the Commission, again factoring in the best evidence available of additional cost and considering available funding.

8.2.4 Delivering growth

Given the need for skilled graduates, the funding system will need to support a substantial growth in enrolments. The recommendations of this Review include a stimulus for further growth in enrolments to ensure that students who want to pursue higher education and can meet admission requirements have access to a fully funded place.

The fully funded places could be in a preparatory or a higher education course, and students should be able to fully transfer between courses and universities. Building on their hard work and achievement, students must be able to move flexibly through the higher education system to gain the qualifications to which they aspire. In the case of a student who is studying at a provider with Commonwealth supported places, fully funded means the student will have access to a place and HECS-HELP arrangements.

The Review proposes a Managed Growth funding system which should have the following features:

- the system provides for freedom within a framework; providers should have freedom to make choices regarding their enrolments and finances, within a framework set out by the funding principles and monitored by the Commission
- there is no 'over-enrolment' of students who only attract partial funding – the enrolment cap would be a hard cap that prevents universities from enrolling students in Commonwealth supported places above that EFTSL cap.

There would be growth in the system, with the Commission taking a central role involving:

- **managing enrolments at the system level**, as the system-wide trajectory of forecast enrolments will have growth built in, with a mechanism to manage sustained and system-wide growth above trajectory demand
- **planning at the university level**, as there will be a university-level safety net and growth trajectory expressed in EFTSL
- **monitoring at the regional level**, to provide flexibility for place-based decisions and manage above-trajectory growth across the region.

While there would be expansion in the system to meet student demand and skills needs, this should not come about through a reduction in quality and admissions standards. Universities would remain accountable for admitting students who are suitable to undertake the course of study for which they have applied. Equally, where there are hard limits to enrolment, extra effort would be needed to ensure that the system becomes less stratified on equity over time, not more.

As part of a Managed Growth system, universities would be required to regularly discuss their plans and ambitions with the Commission and enter into mission-based compacts that establish their plans over the medium term.

While growth in enrolments is an important part of this model, recent economic conditions and a strong labour market have led to a significant softening in demand for higher education in recent years. This has affected the delivery of the Australian Government's commitment to provide 20,000 commencing Commonwealth supported places in 2023 and 2024, which was aimed at tackling skills shortages and giving more students from under-represented backgrounds the chance to go to university.

Given there will need to be growth in the number of Commonwealth supported places needed in the medium-term, the Review recommends the government use any of the additional 20,000 commencing places not used due to soft demand to fund equity growth in the new model, keeping to the intent of the original measure to expand opportunity for students from under-represented backgrounds (see Recommendation 41).

8.2.4.1 Moderated growth target

Every university would have a moderated growth target (MGT), based on EFTSL from the previous year, balancing student demand and the ability of the provider to deliver a quality program. This MGT will cover preparatory, sub-bachelor, bachelor and postgraduate places, giving providers the flexibility to move Commonwealth supported places between different levels, but within the overall cap, to achieve an optimal outcome.

The Commission would determine the approach to MGTs and how these are distributed, noting that for many providers, these should be 'stretch targets' to support overall system growth. For some providers – for example, new higher education providers, those working closely with industry, and those in areas of rapid population growth – the MGT would be much higher to allow for rapid growth.

Providers would not be permitted to go above their MGT without agreement from the Commission. There should be a hard ceiling above which no funding (including student contributions) would be paid. MGTs are intended to be genuine growth targets that support the growth of the system to 2050.

The Commission would be responsible for monitoring the quality and direction of higher education provider growth in broad terms, to ensure that growth is aligned with and captured in any mission-based compacts. This monitoring would apply particularly to the tolerance band and MGT.

8.2.4.2 Funding floor

Every higher education provider would also have a funding floor – the bottom end of their tolerance band (e.g. 5%) – based on EFTSL from the previous year. This would be to support those providers who have to manage higher levels of fluctuation in demand (for example, regional and new higher education providers), and to ensure a stable planning environment for providers to make progress against their mission and public good objectives.

Stability needs to be balanced with the need for funding to follow demand, which a funding floor would achieve over time. Determining the funding floor for each provider, and any exceptions, would be the responsibility of the Commission.

8.2.4.3 Tolerance band

The tolerance band (the range of enrolments between the MGT and funding floor that the Australian Government will fully fund a provider to deliver) should be expressed in terms of EFTSL rather than funding, as is currently the case. All providers should operate within a fully funded tolerance band, normally based on EFTSL from the previous year. Providers would be able to respond to demand within this tolerance band and be assured of full funding.

This tolerance band would include preparatory places, non-medical undergraduate and non-medical postgraduate places. Providers, in broad consultation with the Commission, would be able to use this funding to support students at the levels that best meet the needs of their student cohort, the community, and skills needs.

Introducing a tolerance band for providers would give providers the freedom to grow and to plan in a stable funding environment, whilst still ensuring that funding follows demand over time.

8.2.4.4 Commonwealth supported postgraduate places

There is a strong case for Commonwealth supported postgraduate places in areas of high public value (including teaching and nursing), in national priority skills areas, and for equity reasons. Postgraduate courses will be critical in meeting the future skills needs of the Australian economy. For this reason, Commonwealth supported postgraduate places should continue to be offered and included as part of a provider's MGT within the tolerance band for funding.

The Commission should determine the eligibility of postgraduate courses for Commonwealth supported place funding. Potentially, this could be done on the basis of Australian Standard Classification of Education (ASCED) 'Broad and Narrow' Fields of Education that are in national priority skills areas and required for professional pathways. Providers would have full flexibility to offer postgraduate Commonwealth supported place courses within these fields.

For non-eligible courses, providers would need approval from the Commission to offer these courses as Commonwealth supported places, through their mission-based compact. This would be important for institutions where academic degree structures require postgraduate places across a range of disciplines, such the University of Melbourne and University of Western Australia.

This approach seeks to balance the need to give maximum flexibility to providers to manage fluctuations in demand and local market conditions, alongside the Commission's responsibility to ensure that public investment is directed to areas of highest public value across the system.

8.2.4.5 Extending CGS to TAFEs

Given this Report's recommendations, overall system growth will need to be supported by non-university higher education providers (NUHEPs) – particularly TAFEs. Many TAFEs currently offer higher education degrees in areas of national need, but may have to do so on a full fee basis as they are only allocated a limited number of Commonwealth supported places. As publicly owned tertiary education institutions, they should have access to a greater number of places.

The Review recommends that Commonwealth supported places be allocated to high-performing TAFEs and TAFE Centres of Excellence offering higher education (see Recommendation 41). Eligibility for this additional funding should be determined by the Commission, taking into account the quality of student outcomes and institutional performance. Commonwealth supported places should be offered in areas of national priority and skills needs. Such eligibility could be linked to the proposed ability for TAFEs to self-accredit higher education qualifications, as discussed in *Chapter 6 – A dynamic, collaborative and responsive system that serves the national interest*.

8.2.5 Accountability

This new funding model would support growth, equity and increased diversity as a pathway to the vision for 2050. It includes both universal and tailored elements for government, higher education providers and students. Strong governance and accountability mechanisms through the Commission would ensure that the system develops in line with both this Review's vision and student interests. Annual reporting requirements would include:

- **student outcomes:** including access, attrition, retention, completion, success (benchmarked by student profiles) and employment outcomes
- **needs-based funding expenditure:** reporting (in broad terms) of expenditure of needs-based funding in line with approved areas of spend (e.g. learning support, student support, scholarships and bursaries) with clear attribution of specific benefits to the target cohorts
- **mission-based compacts:** variations to the universal system agreed through mission-based compacts with individual higher education providers.

8.2.6 Recognising the symbiotic relationship between teaching and research

Alongside teaching and scholarly activity, universities undertake world-leading research and actively engage with industry, community and government partners to deliver economic growth, social impact and environmental goals, both in Australia and internationally. Research and discovery across our universities contributes greatly to Australian R&D, driving economic growth and productivity and contributing to the nation's wealth, prosperity and public good.

This research informs teaching, not only by way of the scholarly activity itself, but by the interdependent activities undertaken by academics across research, teaching and business and community engagement.

The funding system for learning and teaching has historically carried a contribution towards research costs,[444] and this should continue. Given the strategic importance of research in Australia – and in achieving the Review's vision for 2050 – over time, the Commission should develop a framework to provide core funding for research to run in parallel with core funding for teaching. To be clear, this would go beyond the existing block grant funding for research in Australia. Additionally, it would require change from an industrial relations perspective to enable greater flexibility regarding the balance of research and teaching in specific roles and faculties. This combination of reforms would remove the need for a contribution to research in the learning and teaching funding system.

444 Andrew Norton, *The cash nexus: how teaching funds research in Australian universities*, (Melbourne: Grattan Institute, November 2015), grattan.edu.au/wp-content/uploads/2015/10/831-Cash-nexus-report.pdf.

The wider funding system should recognise the cost of research in addition to the cost of teaching, based on different measures such as quality, impact and volume. Delivery of high-quality, high impact research – contributing to the broader R&D and innovation agenda – is essential to Australia's economic growth and productivity, alongside the equity and skills goals supported through the teaching funding model. One half of the system cannot deliver on the vision for 2050 without the other half of the system also being adequately funded and supported to do so.

8.2.7 Outcomes

The Review expects that the proposed funding arrangements would produce the following outcomes for the higher education sector and the nation:

- expansion of the system to meet student demand, skills needs and equity without any reduction in quality or admissions standards – universities remain accountable for ensuring students are suitable for the courses to which they have been admitted
- the end of partial funding due to 'over-enrolment' of students, with support for managed growth across the higher education system
- reduction in the number of small funding programs that add to administrative burden for providers
- freedom and flexibility for publicly funded universities to use their allocated funding as they see fit to meet the specific needs of each institution, its students and community – within a framework agreed with the Commission through a mission-based compact, with accountability mechanisms ensuring the appropriate use of public money by the university
- facilitation of a more diverse sector, with institutions driven by their mission and community needs rather than funding
- a planned and managed system, stewarded by the Commission, ensuring the funding levels for different subjects and student cohorts reflect the different costs of teaching different student cohorts
- continued support for higher education research and the skills and capability of Australian university researchers, recognising the major contribution of university research to Australia's productivity and development and translation of new knowledge.

Recommendation: New funding model

40. That to provide a framework for funding higher education that supports achievement of the National Tertiary Education Objective, the Australian Government adopt a new funding model for higher education that is planned and managed by the Australian Tertiary Education Commission through mission-based compacts with publicly funded universities to:
    a. deliver Australia's future skills needs
    b. deliver places to ensure equitable access, participation, and success for equity students in higher education – effectively 'demand driven for equity' but with planned allocation of places to universities
    c. deliver 'demand driven' fee-free preparatory courses
    d. provide sufficient funding to cover the cost of teaching and scholarship from combined government and student contributions based on advice from the Australian Tertiary Education Commission through its pricing authority function
    e. ensure Australia's academic workforce can support the nation's teaching and research ambitions
    f. invest in creating and using new knowledge through research and research training
    g. provide freedom for universities to make choices about their enrolments and finances, within a framework set out by the funding principles and monitored by the Commission
    h. stop the practice of providing only partial funding for additional students when a university is overenrolled.

Recommendation: New funding model

41. That the Australian Government ensure the new funding model supports publicly funded universities to deliver quality learning, teaching and scholarship by:
    a. ensuring places for undergraduate students in publicly funded higher education courses continue to be partially funded by a student contribution (and HELP) and partially funded by the government contribution (the Commonwealth Grants Scheme)
    b. delivering growth for the higher education system through providing a fully funded place for students who want to access higher education and can meet the entry requirements, managed at the system level to ensure that genuine demand is met with supply, and managed at the university level to ensure sustainability of universities
    c. ensuring all students from under-represented backgrounds are eligible for a funded place at a public university as soon as possible by redirecting the unused funding from the Australian Government's commitment to deliver 20,000 commencing Commonwealth supported places in 2023 and 2024

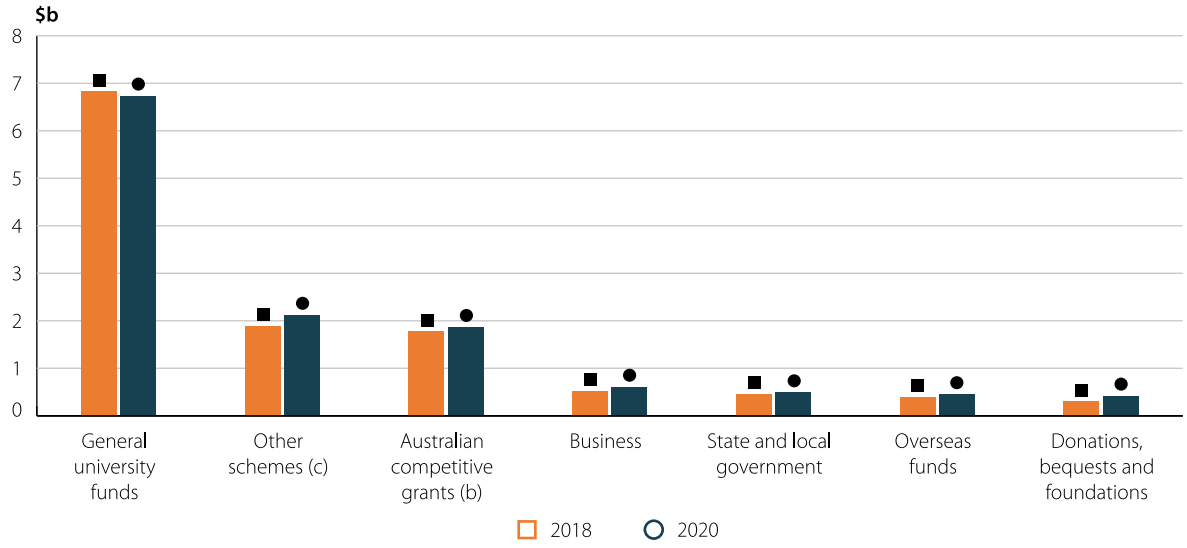
d. increasing government funding to support science, technology, engineering and mathematics courses to reduce the negative impacts of the JRG package
e. providing sufficient funding to cover the costs of learning, teaching and scholarship in each discipline, with increasing fidelity in the pricing system over time
f. ensuring that student contributions reflect future earnings
g. providing needs-based funding to address the cost of teaching students from backgrounds that need additional support and different locations of delivery by:
    i. recognising the additional costs involved in teaching students who need additional support to complete their studies, specifically First Nations students, students from lower quartile SES backgrounds, and students with disability
    ii. increasing the funding for regional delivery to better recognise the important equity issues involved in delivering courses to students in regional Australia, and additional costs of delivering higher education in regional areas
h. significantly increasing the availability of fee-free preparatory places, meeting the need from interested students in high-quality preparatory courses ensuring:
    i. preparatory courses are free for any student in a Commonwealth supported place and this continues to be enshrined in legislation
    ii. funding for preparatory places will reflect the cost of delivery
i. expanding the number of publicly funded higher education places, including at TAFEs, ensuring students are funded to undertake the qualification of their choice, whether that be a funded microcredential, diploma, bachelor degree, postgraduate degree, or other type of accredited qualification. Tertiary education providers should continue to retain the flexibility to allocate places across different types of qualification
j. ensuring funding for efforts to build aspiration and boost the pipeline of students is kept outside the new funding model
k. continuing to provide the Indigenous Student Support Program, with potential future reforms to be guided by the First Nations-led review, but with accountability for the program to shift to the Minister for Education to ensure effective integration with these overall funding arrangements.

8.3 Research funding

8.3.1 Overview and evolution of the research funding system

As noted in previous chapters, university expenditure on research was estimated to be $12.7 billion in 2020. Funding for university research comes from a range of sources. The largest amounts by source are provided in Figure 39 below.

Figure 39: Higher education spending on research and development, by source of funds (a) 2018, 2020.



Source: Australian Bureau of Statistics, *Research and Experimental Development, Higher Education Organisations, Australia 2020* [data set].

Notes: a) Other Australian source of funds data not included, b) Commonwealth and Non-Commonwealth schemes, c) Other Australian Government funding.

As evident from Figure 39, universities' research income comes from a variety of sources, the largest being General University Funds, funds universities invest in research from their own resources. The next largest source is other schemes, which includes targeted research funding from Commonwealth agencies, including research block grants. This is followed by Australian competitive grants, discussed below, followed by business, state and local government funds, overseas funds and then donations, bequests and foundations, which includes research specific donations and bequests from non-profit organisations and Australian individuals.

8.3.1.1 Government funding of university research

The Australian Government operates a dual-funding system for university research: competitive grants and research block grants.

Competitive grant funding is *awarded* to universities and other research institutes to undertake research. Competitive funding is *granted* to successful applicants through merit-based processes, which often involve expert peer review.

- Significant sub-categories with Australian competitive grants include:[445]
- Australian Research Council (ARC) ($743 million in 2021)
- National Health and Medical Research Council (NHMRC) ($665 million in 2021)
- Medical Research Future Fund (MRFF) ($340 million in 2021)
- Rural R&D which includes competitive grants from Rural Research and Development Corporations (RDCs) ($121 million in 2021).

Distinct from Australian Competitive Grants, the Cooperative Research Centres (CRC) Program funds industry-led collaborations between industry, researchers and end users and has a focus towards research application.

The CRC Program offers 2 specific grants:

- Cooperative Research Centres (CRC) grants – supporting medium to long term industry-led collaborations, up to 10 years
- Cooperative Research Centres Projects (CRC-P) grants – supporting short term, industry-led collaborative research, up to 3 years.

In 2021, Australian Table A and B universities received a total of $2.1 billion in competitive research funding and $116 million in CRC funding.[446]

Research block grants are administered by the Australian Government Department of Education and are *allocated* to universities via the Research Support Program (RSP) and the Research Training Program (RTP) to support research and research training. Research block grants are *awarded* based on the relative performance of universities in attracting research income and supporting students to complete higher degrees by research (HDRs). In 2023, the Australian Government provided $2.08 billion in research block grant funding to the 42 Table A and B universities.[447]

General research funding to universities has been provided from the research portion of institutional operating grants then specific research block grants in some form or another since 1990 following the Dawkins reforms, commencing with the Research Quantum Index portion of the institutional Operating Grant.[448] Immediately prior to the implementation of the RSP and RTP in 2017, research block grants consisted of 6 programs. Recommendations of the 2015 *Review of Research Policy and Funding Arrangements* – to simplify research block grants and encourage greater innovation and engagement in

445 Department of Education *Time Series Dataset – Research Income Time Series* [data set].

446 Department of Education *Time Series Dataset – Research Income Time Series* [data set].

447 Department of Education, *Time Series Dataset –Research Block Grant Allocations* [data set].

448 The Hon. Peter Baldwin, *Assessment of the Relative Funding Position of Australia's Higher Education Institutions*, (Canberra: Australian Government Publishing Service, 1990), hdl.voced.edu.au/10707/644479.

research and research training – were the catalyst for this change.[449] The RSP replaced the Joint Research Engagement scheme (for collaborative research activities between universities, industry and end-users), the Research Infrastructure Block Grants (for research infrastructure and excellence), and the Sustainable Research Excellence scheme (for the indirect costs of research not met by competitive grant programs). The RTP replaced the former Australian Postgraduate Awards, International Postgraduate Research Scholarships and the Research Training Scheme.

The RSP now provides a flexible funding stream to support the systemic costs of research by Australian universities, including the indirect costs of competitive grants, the delivery of world class research, and collaboration between universities, industry and other research end-users. Indirect and systemic costs are ongoing and necessary expenses that support research but cannot be attributed to a single research project.

Another funding source is income from university research commercialisation activities which generated $307 million in revenue in 2022 and internal university investment.[450]

8.3.2 Funding system changes

Australia's higher education research institutions, supported by the dual funding system, provide a bedrock of quality research and play a unique and vital role in the national research system. This Review recommends these structures are kept in place. To support the challenges outlined in *Chapter 5 – Producing and using new knowledge*, the Review's recommendations on funding do not significantly alter the dual funding system structure. However, to strengthen this system, the Review is recommending 4 major changes to the research funding arrangements (see Recommendation 42).

8.3.2.1 Driving world-leading and high impact research

To improve the impact of Australian research, a new strategic research fund 'Solving Australian Challenges Strategic Fund' should be implemented. This fund would have an emphasis on government and industry using university research capability and expertise, and universities ensuring their research is deployed and commercialised, with particular emphasis on research in fields covered by national and institutional research priorities. It would reward universities which demonstrate effective use of their quality research capability by a range of end-users, including governments, industry and communities.

Allocation to a university from this fund would be assessed through light-touch portfolio assessment of research capability engagement and research impact.

The creation of this fund would represent a fundamental shift in the intent and approach of government funding for the entire university research sector. The fund would be focused on research and research capability use, instead of more general support of the research system by way of the existing block grant mechanisms. Universities would have the freedom to define their own strategic goals and activities, but would then have an incentive to ensure their research and research capability is attractive to and used by research end users (mainly government and industry). This focus on research use and accountability

449 Ian Watt, *Report of the Review of Research Policy and Funding Arrangements*, (Canberra: Department of Education and Training, 2015), www.education.gov.au/review-research-policy-and-funding-arrangements.

450 Knowledge Commercialisation Australasia, *Survey of Commercialisation Outcomes from Publish Research: Summary report*, (Adelaide: Knowledge Commercialisation Australasia, 11 October 2023), techtransfer.org.au/scopr-2022-public-research-powers-ahead-on-commercialisation/.

would provide an opportunity for a reset of funding approaches for all universities, with the exception of the Australian National University (ANU) which has been able to benefit from a similar approach via the National Institutes Grant.

Additionally, the Solving Australian Challenges Strategic Fund would reform the university research funding system by improving resilience and confidence for universities to undertake significant long-term research agendas reflecting fields of national priorities where business and governments need research assistance solving complex and wicked problems.

8.3.2.2 Increasing investment in Australia's basic research

To protect and foster Australia's university research, the Review recommends additional investment in ARC programs that support fundamental, basic research (see Recommendation 26). Such investment recognises the important role fundamental research plays in producing the big ideas that power the research and innovation pipeline. Basic and strategic basic research is the linchpin of innovation. It increases universities' ability to produce new knowledge, stoking the research pipeline to enable breakthrough discoveries, products and services. Yet, as detailed in *Chapter 5 – Producing and using new knowledge,* the ARC, which plays a pivotal role in financing basic research in universities, has not seen funding grow for many years. This erodes universities' capabilities to do what they do best: basic and strategic basic research.

Increasing investment in the ARC would alter the research funding impact, resulting in more competitive grants as part of the research funding mix within the research funding system. It would ensure that more basic and strategic basic research, which leads to new discoveries and supports the research pipeline, would be supported. This investment would grow the R&D system, an imperative to address emerging national and global challenges and opportunities. Basic research drives productivity and economic growth, safeguarding and improving Australia's ability to maintain our way of life and reposition ourselves as a knowledge economy that can comfortably keep pace and compete with technical and scientific advances in other economies.

8.3.2.3 Creating a pathway towards the full economic cost of research

Creating a pathway to ensure universities receive the full costs of research for national competitive research grants, contract research and consultancies is needed to build resilience and transparency into the university research system.

Doing so would reduce the need for universities to invest their own resources (often from potentially volatile revenue sources) into such research, and free up capability to invest elsewhere, such as their own strategic research endeavours. It may also lead to an increase in income from end-user engagement in the long-term with universities receiving higher fees for their engagement activities as a result of the proposed recommendation regarding pricing for contract research and university consultancies.

Having support for the indirect costs of Australian Competitive Research Grants (ACRG) as the sole purpose of the RSP, with clearly stated indirect support rates, would create multiple changes to the broader university research funding system.

Firstly, universities would have upfront knowledge before applying for national competitive research grants of the total support they will receive for the grant if successful. This would assist universities in determining whether to apply for grants and in broader financial planning for their university research programs.

Secondly, with the indirect cost support rate proposed steadily increasing to its target rate of 50 cents by 2030, the overall support provided for being successful in applying for ACRGs will be materially bolstered. With increased government support for indirect costs there would be reduced need for universities to co-invest to undertake these projects. This could free up substantial university funds for other purposes, which could be teaching, infrastructure or strategic research endeavours.

If the pathway to full economic costs of research for national competitive research grants is funded through additional government investment, it would increase government research investment levels and may increase the funding mix towards block grants. Additionally, if universities repurposed their strategic funds to still undertake research activity, it would lead to an expansion in research activity undertaken by the university research sector. However, if this is not funded through additional government investment but rather a repurposing of existing university research funding, adopting the pathway towards the full economic costs of research could lead to a contraction on the amount of research activity, particularly if universities deploy their now surplus funds on non-research activities.

8.3.2.4 Securing Australia's future research workforce

The Australian university research system's most powerful asset is the research capability and capacity of its research workforce. Australia needs a highly skilled pipeline of researchers in universities and in industry if its research is to be economically competitive and support the nation's transition to a knowledge economy. This requires universities to train enough people with the critical and advanced skills for the university and non-university research sectors.

The number of domestic students commencing and completing PhDs has been static over the past decade, with completions in decline since 2019.[451] This decline needs to be reversed and the domestic HDR cohort needs to grow if the teaching and research needs of the future are to be met. This will require bolstering the support settings for Australian HDR students. Current HDR stipends are a deterrent to HDR study compared to other options available to potential candidates.

Substantially increasing investment in the RTP and raising minimum stipend rates would reform Australian research funding for the better. Increased funding for the RTP would ensure research training remains an attractive prospect for future researchers. The effect of such changes would be amplified if part-time HDR stipends were exempt from tax. Such changes would incentivise students from under-represented backgrounds and those working in business and industry to undertake research training.

The Review recommends additional scholarships for First Nations students to undertake HDR degrees in all fields of education and research, and fellowships for First Nations researchers to grow the pipeline of First Nations researchers at Australian universities (see Recommendation 26). Reducing such barriers to research training will enable a more diverse cohort of students and ensure the higher education sector delivers opportunities for all.

451 Department of Education, *Higher Education Statistics – Student Data* [unpublished data], (Canberra: 2023).

These changes would enable universities to offer more RTP supported places to the best and brightest students from all backgrounds, grow the research training pipeline over time and increase the diversity of the future research cohort. This would secure Australia's research firepower now and into the future.

Recommendation: New funding model

42. That to support and strengthen universities' capacity to conduct research and research training, the Australian Government make changes to the university research funding model through:
    a. establishing a Solving Australian Challenges Strategic Fund to drive effective use of universities' research and research capability
    b. increasing funding to the Australian Research Council
    c. creating a pathway towards funding more of the full economic cost of research
    d. substantially increasing investment in the Research Training Program and raising the minimum stipend rate.

8.4 A Higher Education Future Fund

In 2019, the government closed the Education Investment Fund (EIF), transferring the uncommitted funds to the Emergency Response Fund.[452] First established in 2009, the EIF had provided $4.2 billion of dedicated ongoing capital funding for education and research infrastructure. Its closure meant there was no longer dedicated government funding for general teaching and research infrastructure projects.

The Review considers that establishment of a Higher Education Future Fund (HEFF), initially co-funded by the sector and government, would provide significant benefits to the higher education sector, particularly as it would provide an ongoing source of infrastructure funding.

The HEFF should initially be established as a joint project between the higher education sector and the Australian Government, with both co-contributing to the fund as it builds. University contributions could be based on a proportion of their untied own source, non-government revenue, with contributions matched by government. Co-contributions should be required until the independent board considers the HEFF's annual returns are sufficient to fund the intended projects. A Fund with $10 billion in assets should be sufficient to provide returns of the scale needed to achieve the HEFF's objectives.

452 *Emergency Response Fund Bill 2019*, Explanatory Memorandum, 4, parlinfo.aph.gov.au/parlInfo/download/legislation/ems/r6392_ems_768209c5-81ea-421c-b80d-6533b5c78c3d/upload_pdf/716913.pdf;fileType=application%2Fpdf#search=%22legislation/ems/r6392_ems_768209c5-81ea-421c-b80d-6533b5c78c3d%22.

Importantly, the design of the sector contribution should account for universities' capacity to contribute – those universities with the financial means to pay a higher proportion should be expected to do so. As noted by expert commentators,[453] Australia's oldest universities enjoy the benefits of many decades of taxpayer support and the best geographical locations, leading to greater prestige and reputation, and hence more ability to raise revenue from diverse sources. Those institutions have much greater capacity to contribute to such a fund than do smaller and newer institutions.

The HEFF should be managed by the Future Fund Board of Guardians, with the distribution of returns to be invested in projects informed by advice of an independent board with deep knowledge of the sector and its needs. Funds could be invested for the construction and maintenance of learning and teaching infrastructure such as learning spaces and libraries, as well as affordable accommodation for domestic students to alleviate housing shortages. The distribution of the returns should take into account a project's alignment with the priorities of the HEFF and whether the project leverages other funding sources.

Given the ambition of the new funding model, the HEFF should only be established once the new model is fully implemented to ensure that institutional finances are not adversely affected.

8.4.1 Infrastructure

The lack of Australian Government funding for higher education infrastructure over the last decade has led to a degrading of institutional infrastructure and a backlog of maintenance. Since the proposed HEFF would take time to mature and achieve sufficient investment returns to fund sector infrastructure needs, the government may need to invest in a temporary infrastructure fund to address the immediate infrastructure maintenance backlog and to support an immediate uplift in the digital capability required to maintain the integrity and cyber-security of university online offerings.

This could be informed by a Structural Adjustment Fund similar to that announced in response to the Bradley Review.[454] Such a fund would assist universities to adjust to the new higher education environment, prioritising those institutions with the most need, including those operating in regional areas.

453 Bruce Chapman and Rabee Tourky, "Universities should pay levy on 'foreign student industry,'" *The Australian*, (15 Nov 2023), www.theaustralian.com.au/commentary/universities-should-pay-levy-on-foreign-student-industry/news-story/57c14ca00cd248774e24b51f1c8ad80d.

454 Department of Education, Employment and Workplace relations, *Bradey Review*, 40–41.

Recommendation: Higher Education Future Fund

43. That to provide support for the built and digital infrastructure, including student housing, that will be needed to cope with projected future enrolment growth, the Australian Government establish a Higher Education Future Fund (HEFF) managed by the Future Fund, with co-contributions from public universities and Government with the aim of reaching $10 billion in assets.
    a. Co-contributions should be made according to the following principles:
        i. come from universities' untied own source revenue
        ii. be matched by funding from the Commonwealth
        iii. control the adverse impact on universities with limited capacity to contribute
        iv. be time limited based on reaching a stable equity base in the Fund
        v. begin only when the new funding model is in place to ensure stability for universities through transition arrangements
    b. Returns from the Fund be used by Government and contributing universities working together to make investments in the higher education sector:
        i. on advice from an independent board
        ii. that contribute to solving key issues such as built and digital infrastructure and provision of affordable student housing
        iii. that leverage other funding sources
        iv. that recognise universities' capacity to pay.

8.5 Transitional arrangements

8.5.1 Funding for teaching and scholarship

The move to a new funding model must be introduced through a transition phase. The HECG, which funds institutions irrespective of enrolments, will terminate at the end of 2025. From 2026, this change could affect some institutions which were previously supported by the HECG but will then need to adapt to a more direct relationship between enrolments and funding.

During the transition phase, institutions should be supported through a 'glidepath' to full policy implementation as the sector transitions from the current funding system based on a capped dollar amount (i.e. MBGA) to the new funding model based on EFTSL (i.e. MGT).

From 2026, any reduction in overall funding for individual institutions (e.g. those that are experiencing soft demand) should be in a moderated and controlled manner. In other words, the funding floor should be progressively reduced through a phased approach so that in time it reflects actual demand for enrolments at a given university.

Given some universities currently have enrolments well above their funding cap, the Commission – working in consultation with institutions – should gradually phase-out 'over-enrolments' that attract marginal funding, with all universities eventually operating within their tolerance band.

The length of the transition phase should differ for institutions. Those institutions that are currently operating relatively close to their MBGA may be able to transition quite quickly to the new system, while those that are either substantially over or under their MBGA may take a number of years. The Commission should ensure the 'glidepath' to full implementation for each institution takes account of its individual circumstances.

8.6 Funding arrangements now and for the future

To facilitate expansion in participation and attainment, incentivise equity and restore fairness in the higher education system, this chapter proposes a new core funding model. Its major new elements are a needs-based funding component, full funding of learning and teaching by discipline, a commitment to managing the system for growth, and ending the practice of marginally funding places when universities are over-enrolled. The chapter also recommends changes to the higher education research funding model, and the establishment of a Higher Education Future Fund.

Chapter 9. In closing

The Review is indebted to stakeholders for their extensive and insightful input throughout the time of the Review. The higher education system has many strengths, but its human capability stands out. In a system such as this, stakeholders span a wide range of interests and influences. It is the Review's hope that this Report honours each contribution, large or small.

A review of this nature is, by necessity, tasked with looking long and critically at a subject to uncover its deficits and identify areas that would benefit from change. The findings contained in previous chapters provide an unblinkered assessment of the fault lines in Australia's systems of tertiary education and research. They should not be taken as an indictment of these systems, which generally are in good shape.

Nevertheless, the Review found that Australia's current higher education system has neither the capacity nor capability to deliver what the nation needs. This Report offers a vision for the future that builds on the system's existing strengths while emphasising effort where it has failed before – improving equity by increasing participation and attainment among under-represented groups.

The Review's recommendations are far reaching in line with the Terms of Reference. What happens next is the responsibility of the Australian Government, with the challenge of weighing up competing priorities amid future uncertainty.

This is one of 3 major reviews across the Education portfolio that span the learning life course. A person's experiences in early childhood and in the school years help determine the learning pathways they take – or do not take – after compulsory education is over. It will be vital to consider the relationships between them.

In completing its work, the Review sets out a vision that has immense promise and potential for this nation and its people. The recommendations of this Review aspire to meeting Australia's current and future skills needs, expanding opportunity for all, delivering a quality and affordable tertiary education system and excelling at knowledge production and use. Together, they promise a wealth of skills and knowledge and a nation of greater equity and prosperity.

9.1 Ensuring a smooth transition

In announcing this Review, the Minister called for a long-term plan. The Review notes that the tertiary education system has weathered considerable disruption in recent years.

This is why the Review is recommending the transition period be staged to help stakeholders navigate change (see Recommendation 47). This includes allowing time for further deep policy thinking to avoid unintended consequences, like those arising from the Job-ready Graduates package or those that could arise from future changes to it. The transition should also provide for transitional funding arrangements where necessary to ensure the sustainability of higher education providers. The transition phase should take heed of economic conditions and their effect on demand for tertiary education and provide a 'glidepath' to full policy implementation. To provide certainty, current grants to higher education providers should continue until the end of the grant period.

Turning to the mechanics of transition, the Review recommends the Australian Government establish a time-limited Implementation Advisory Committee to bridge the gap between this Review and new permanent arrangements (see Recommendation 44). Such a committee will provide practical advice on maintaining the momentum of reform and provide a sounding board for Government on the recommendations of this Review. The Committee could help devise an implementation roadmap once the scale of reform becomes clear and advise on immediate actions.

As discussed earlier in *Chapter 6 – A dynamic, collaborative and responsive system that serves the national interest,* following the establishment of the Australian Tertiary Education Commission, the Committee can be replaced by the Advisory Board to the Commission.

9.1.1 Delivering reform in stages

The scope and implications of the recommendations of this Review call for a staged approach that is transparent to stakeholders.

The first phase of reform commenced with the priority actions recommended in the Review's Interim Report. Each of the 5 priority actions was accepted by the Australian Government. The recent passage of legislation means that First Nations students throughout Australia will be eligible for guaranteed full funding when offered a university place.[455] It also requires higher education providers to increase support for students to complete their units of study successfully. Both measures commence from 2024.

There are other actions arising from the Interim Report that are underway. The Australian Government has commenced planning for new regional and suburban study hubs. It has released a draft Action Plan addressing gender-based violence in higher education that proposes the establishment of a National Student Ombudsman to help eliminate assault and harm on campus.

These are positive steps in transition.

With the priority actions underway, attention turns to the recommendations in this Report.

455 *Higher Education Support Amendment (Response to the Australian Universities Accord Interim Report) Act 2023* (Cth).

The Review does not propose a detailed timetable for reform. Implementation is the responsibility of the Australian Government, taking into consideration what is achievable by when, by whom and how. Nevertheless, the recommendations in this Report offer immediate, short-medium term and long-term opportunities for change that are achievable and can be staged sensibly. Particular recommendations need to be supported by appropriate legislative and regulatory changes (see Recommendation 45).

Finally, there are some issues considered in this Report that remain unresolved and require ongoing work. The Review leaves these in the safe hands of tertiary education system stakeholders.

9.2 Achieving lasting reform

The Australian Government committed to an Australian Universities Accord Review "to drive lasting reform in Australia's higher education system". Submissions and consultations throughout the Review process have reinforced support for ongoing practical mechanisms to build trust through genuine engagement and collaboration, and to enable lasting, sector-wide change through greater system intelligence and evidence-based planning and evaluation.

In closing, the Review's Interim Report called for First Nations people to be at the heart of Australia's higher education system. It is the Review's hope that First Nations people, their voices and lived experiences be strongly present in the higher education sector and enrich Australia's learning and research in an enduring way.

Finding: Leadership – stakeholders

Stakeholders across the tertiary education system need a seat at the table alongside government to discuss the system's future needs and share responsibility for solutions. There is currently insufficient shared understanding of the policy and reform priorities needed to build solutions and plan for the years ahead.

Recommendation: Transition

44. That as a priority, the work to build a stewardship role in the tertiary education sector begin immediately with the Minister for Education establishing an Implementation Advisory Committee to provide advice to him on the implementation of the recommendations from this Review.

Recommendation: Transition

45. That implementation and transition planning should include a staged and managed approach to updating legislation that governs the sector:
    a. starting with those measures with most urgent impact that arise from the Review's recommendations and most immediate implementation timelines
    b. continuing to identify other features in legislation which require update and modernisation. In doing so, priorities should be:
        i. ensuring that the higher education sector is supporting students, carrying out research, and delivering the best outcomes for Australia, with legislative and regulatory settings that are modern and fit for purpose
        ii. identifying areas that are not adequately currently covered by legislation and developing strategies to work with the higher education sector to address these regulatory gaps
        iii. addressing issues of fragmentation, duplication or unnecessary regulatory burden
        iv. recognising the interlinkages between the higher education and vocational education and training sectors
        v. encouraging continuous quality improvement in the higher education sector.

Recommendation: Transition

46. That during the transition phase to a new funding model, universities be supported through a 'glidepath' to full policy implementation as they transition from the current funding system based on a fixed dollar amount (i.e. Maximum Basic Grant Amount – MBGA) to the new funding model built on EFTSL, discipline-based and needs-based funding.

    Where current funding programs change, care should be taken to avoid affecting quality activities that are being delivered under current arrangements.

Recommendation: Transition

47. That to provide transparency and predictability for the tertiary education sector in recognition of the Review's ambition for lasting reform, the Australian Government outline a staged approach to implementation of the Review's recommendations.

Appendix A – Terms of Reference

Purpose of the review

The Australian Government has committed to establish an Australian Universities Accord to drive lasting reform in Australia's higher education system. The Accord is a review (the Review) of Australia's higher education system, led by the Minister for Education with advice from a panel of eminent Australians (the Panel).

The Panel will make recommendations for government, the sector and other relevant stakeholders to deliver a higher education system that meets the current and future needs of the nation, and targets to achieve this. The Panel will report to the Minister for Education, providing an interim report on priority actions by June 2023, with a final report to be delivered by December 2023.

Key areas for review

1. Meeting Australia's knowledge and skills needs, now and in the future

Enhance the delivery of quality education that meets the needs of students across all stages of lifelong learning and develops the skills needed now, and in the future. This will include recommendations for new targets and reforms recognising that more than 9 in 10 new jobs will require post-school qualifications, and fifty per cent of new jobs are expected to require a bachelor degree or higher.

2. Access and opportunity

Improve access to higher education, across teaching, learning and research. This will include recommendations for new targets and reforms to support greater access and participation for students from under-represented backgrounds (including First Nations Australians, those from low socio-economic backgrounds, people with disability, and regional and rural Australians).

3. Investment and affordability

Explore funding and contribution arrangements that deliver equity, access, quality and longer-term investments to meet priorities in teaching, research, workforce and infrastructure. This will include a review of the Job-ready Graduates Package.

4. Governance, accountability and community

Enhance regulatory and workplace relations settings to support universities to meet their obligations to both staff and students.

Explore the contribution that higher education makes to the Australian community, national security, and sovereign capability.

5. The connection between the vocational education and training and higher education systems

Explore possible opportunities to support greater engagement and alignment between the vocational education and training (VET) and higher education systems. In particular, the panel will have regard to the experience of students in navigating these systems and ensuring a cohesive and connected tertiary education system.

6. Quality and sustainability

Examine the challenges faced by domestic and international students and staff due to the COVID-19 pandemic and the temporary and permanent impacts on the way the higher education sector works.

Support a competitive and resilient international education sector, reflecting the important role international students play in our society and economy, and Australia's interest in deepening partnerships abroad.

7. Delivering new knowledge, innovation and capability

Support a system of university research that delivers for Australia, securing the future of the Australian research pipeline, from basic and translational research to commercialisation. In doing so, the Accord will explore relevant initiatives and other opportunities and to further boost collaboration between universities and industry to drive greater commercial returns.

The review will synchronise with the ARC review and consider issues raised through that review and other areas of government that impact on the capacity of the higher education system to meet the nation's current and future needs.

Consultation

The Panel will engage across all sectors and groups affected by higher education policy. This will include but is not limited to universities, higher education and VET providers, educators and researchers, students, parents, unions, business, state and territory governments and groups who have been under-represented in higher education. A key aim of the consultation process will be to ensure the voices of First Nations Australians and people from under-represented groups are heard and reflected in the interim and final report.

Appendix B – Australian Universities Accord Panel members

Professor Mary O'Kane AC (Chair)

Professor Mary O'Kane AC is a company director and Executive Chairman of O'Kane Associates, a Sydney-based consulting practice specialising in government reviews. She has been Chair of the NSW Independent Planning Commission since 2018. She was NSW Chief Scientist & Engineer from 2008–2018; Vice-Chancellor of the University of Adelaide from 1996–2001; Deputy Vice-Chancellor (Research) at Adelaide from 1994–1996; and Dean of the Faculty of Information Sciences & Engineering at the University of Canberra from 1990–94.

Professor O'Kane has served on several boards and committees in the public and private sectors, especially related to innovation, education, energy, engineering, health, Antarctica, ICT and research. She is currently Chair of the Boards of Aurora Energy, Museums of History NSW, the Institute of Marine and Antarctic Studies at the University of Tasmania, the Australian Centre for Excellence in Antarctic Science, and Sydney Health Partners, and is a member of the boards of AEMO Services Ltd and the SilverChain Group.

Distinguished Professor Larissa Behrendt AO (Member)

Distinguished Professor Larissa Behrendt AO is a Eualayai/Gamillaroi woman and Laureate Fellow at the Jumbunna Institute of Indigenous Education and Research at the University of Technology, Sydney. She is a graduate of the UNSW Law School and has a Masters and Doctor of Juridical Science from Harvard Law School. She is a Fellow of the Academy of Social Sciences in Australia, a Fellow of the Australian Academy of Humanities and a founding member of the Australian Academy of Law and has published numerous textbooks on First Nations legal issues.

Professor Behrendt won the 2002 David Uniapon Award and a 2005 Commonwealth Writer's Prize for her novel *Home*. Her second novel, *Legacy*, won a Victorian Premiers Literary Award. Her most recent novel is *After Story* (2016, UQP). Professor Behrendt is an award-winning filmmaker. She won the 2018 Australian Directors Guild Award for best Direction of a Documentary Film for *After the Apology* and the 2020 AACTA for Best Direction in Factual Television for her documentary, *Maralinga Tjarutja*.

Professor Behrendt is a trustee of the Australian Museum, Chair of the Cathy Freeman Foundation, now Community Spirit Foundation, Chair of Creative Australia's First Nations Arts and Culture Strategy Panel, a board member of the National Justice Project and a Director of Sydney Dance Company. She is a former Chair and Board Member of the Bangarra Dance Theatre and has previously held board positions on the Museum of Contemporary Art, Sydney Festival, Sydney Writers Festival and the Sydney Community Fund. With Lindon Coombes, Professor Behrendt co-authored the *Do Better* report for the Collingwood Football Club. She chaired the 2011 review of Indigenous Higher Education. Distinguished Professor Behrendt was awarded the 2009 NAIDOC Person of the Year award and 2011 NSW Australian of the Year. She was

awarded an Order of Australia for her work in First Nations education, the law and the arts. Professor Behrendt received the Human Rights Medal 2021 from the Australian Human Rights Commission. She is the host of Speaking Out on ABC Radio.

Mr Tony Cook PSM (Member ex-officio – December 2022 to April 2023)

Mr Tony Cook PSM was appointed in December 2022 as an ex-officio member as Deputy Secretary, Higher Education, International and Research, Australian Government Department of Education.

Mr Cook served in this role as member ex-officio until he was appointed as Secretary of the Australian Government Department of Education in April 2023.

Professor Barney Glover AO (Member)

Professor Barney Glover AO is the fourth Vice-Chancellor and President of Western Sydney University. He assumed this position in January 2014.

Professor Glover is currently the Australian Government representative on the University of the South Pacific Grants Committee, Chair of the Quality Indicators for Learning and Teaching Working Group, and the Australia-based Patron of the Association for Tertiary Education Management (ATEM). He is a Board member of AARNet, the Association of Commonwealth Universities, Westpac Scholars Ltd, the Study NSW International Education Advisory Board, Bradfield Board of Governors, and the NUW Alliance.

In addition, he is a member of the Australian Government's University Foreign Interference Taskforce Steering Group.

Professor Glover is an Officer of the Order of Australia (AO), a Fellow of the Academy of Technological Sciences and Engineering (ATSE), a Fellow of the Royal Society of NSW (FRSN), and a Member of the Australian Institute of Company Directors (MAICD).

The Hon Jenny Macklin AC (Member)

The Hon Jenny Macklin AC is a Vice-Chancellor's Fellow at the University of Melbourne. Prior to this, she served 23 years as the Federal Member for Jagajaga.

Ms Macklin was the first woman to become the Deputy Leader of a major Australian political party. She was the Deputy Leader of the Federal Parliamentary Labor Party from 2001–2006. She served as the Minister for Families, Housing, Community Services and Indigenous Affairs and the Minister for Disability Reform in the Rudd and Gillard Labor Governments. As Minister, she oversaw the Apology to the Stolen Generations and development of the Closing the Gap framework, the introduction of Australia's first National Paid Parental Leave Scheme, delivered the largest increase to the Pension in the history of the payment, was responsible for the introduction of the National Disability Insurance Scheme and was an integral part of the establishment of the Royal Commission into Institutional Responses to Child Sexual Abuse.

Ms Macklin chairs the Economic Inclusion Advisory Committee and was a member of the Women's Economic Equality Taskforce. Ms Macklin chairs 2 not-for-profit boards, Odyssey House Victoria and the Machado Joseph Disease Foundation. Ms Macklin is a strategic advisor on early childhood development to the Centre for Policy Development. She led an inquiry into vocational education and training for the Victorian Government. The report, *Skills for Victoria's Growing Economy,* was released in February 2021.

The Hon Fiona Nash (Member)

The Hon Fiona Nash grew up in Sydney and has spent the last three decades living and working in regional Australia. For many years she was involved in a family farming enterprise in the central west of NSW, which her sons Will and Henry are now running. She spent 12 years in the federal parliament as a Senator for NSW and also held ministerial positions including Rural Health, and in Cabinet the positions of Regional Development, Regional Communications and Local Government and Territories. She also held the position of Deputy Leader of the Nationals. From 2018 to 2021, Ms Nash was the Strategic Adviser, Regional Engagement and Government Relations for Charles Sturt University.

Ms Nash was appointed by the Australian Government as the Regional Education Commissioner in December 2021.

Mr Ben Rimmer (Member ex-officio – April to December 2023)

Mr Ben Rimmer was appointed in April 2023 as an ex-officio member upon his commencement as Deputy Secretary, Higher Education, Research and International at the Australian Government Department of Education.

Ms Shemara Wikramanayake (Member)

Ms Shemara Wikramanayake has been Macquarie Group's CEO since 2018. Macquarie's ~21,000 staff operate in 34 markets with approximately $A892 billion in assets under management.

Since joining in 1987, Ms Wikramanayake has worked in 6 countries, establishing corporate advisory offices in New Zealand, Hong Kong and Malaysia, and the infrastructure funds management business in the Americas.

Ms Wikramanayake previously led Macquarie Asset Management as it became a leading global manager of real assets and she has also served as Chair of the Macquarie Group Foundation.

Ms Wikramanayake sits on the World Bank's Global Commission on Adaptation and was a founding CEO of the United Nations Climate Finance Leadership Initiative (CFLI). She currently leads emerging markets workstreams for CFLI and the Glasgow Financial Alliance for Net Zero (GFANZ) and is a member of the Global Investors for Sustainable Development (GISD) Alliance.

Appendix C – Australian Universities Accord Panel meetings

The Australian Universities Accord Panel met on the following dates:

1. 17 November 2022
2. 13 December 2022
3. 21 December 2022
4. 24 January 2023
5. 7 February 2023
6. 21 February 2023
7. 28 February 2023
8. 7 March 2023
9. 14 March 2023
10. 21 March 2023
11. 28 March 2023
12. 4 April 2023
13. 11 April 2023
14. 18 April 2023
15. 2 May 2023
16. 9 May 2023
17. 16 May 2023
18. 23 May 2023
19. 30 May 2023
20. 6 June 2023
21. 9 June 2023
22. 13 June 2023
23. 15 June 2023
24. 20 June 2023
25. 27 June 2023
26. 11 July 2023
27. 19 July 2023
28. 25 July 2023
29. 8 August 2023
30. 22 August 2023
31. 29 August 2023
32. 5 September 2023
33. 6 September 2023
34. 12 September 2023
35. 19 September 2023
36. 20 September 2023
37. 26 September 2023
38. 3 October 2023
39. 10 October 2023
40. 17 October 2023
41. 20 October 2023
42. 24 October 2023
43. 31 October 2023
44. 7 November 2023
45. 9 November 2023
46. 21 November 2023
47. 23 November 2023
48. 24 November 2023
49. 28 November 2023
50. 5 December 2023
51. 12 December 2023
52. 19 December 2023
53. 22 December 2023

Appendix D – Submissions overview

The Australian Universities Accord Review undertook consultation and submissions rounds in relation to key phases of the Review. These are documented in Table 7 below.

Table 7: Australian Universities Accord consultation phase.

Consultation phase	Date opened	Date closed
Survey on priorities of the Accord Terms of Reference	24 November 2022	20 December 2022
Consultation on the Accord Terms of Reference	24 November 2022	19 December 2022
Consultation on the Accord Discussion Paper	22 February 2023	11 April 2023
Consultation on the Accord Interim Report	19 July 2023	1 September 2023

To support the Review, the online survey and subsequent analysis was undertaken by the Department of Education. Nous Group was commissioned to undertake analysis of submissions received, including the key respondents, themes and recommendations. Similarly, League of Scholars was commissioned to undertake quantitative analysis of submissions in response to the Discussion Paper.

Survey on priorities of the Accord Terms of Reference

In November 2022, stakeholders were invited to participate in an online quantitative survey regarding their priorities for the Accord in the context of the Terms of Reference. Over the 27-day survey period, 1,954 surveys were submitted by a broad range of stakeholders and considered by the Review. Departmental analysis of the survey results showed that the majority of respondents were students (824), and university academic and professional staff (713).[456]

Analysis of the survey results found that the key themes were:

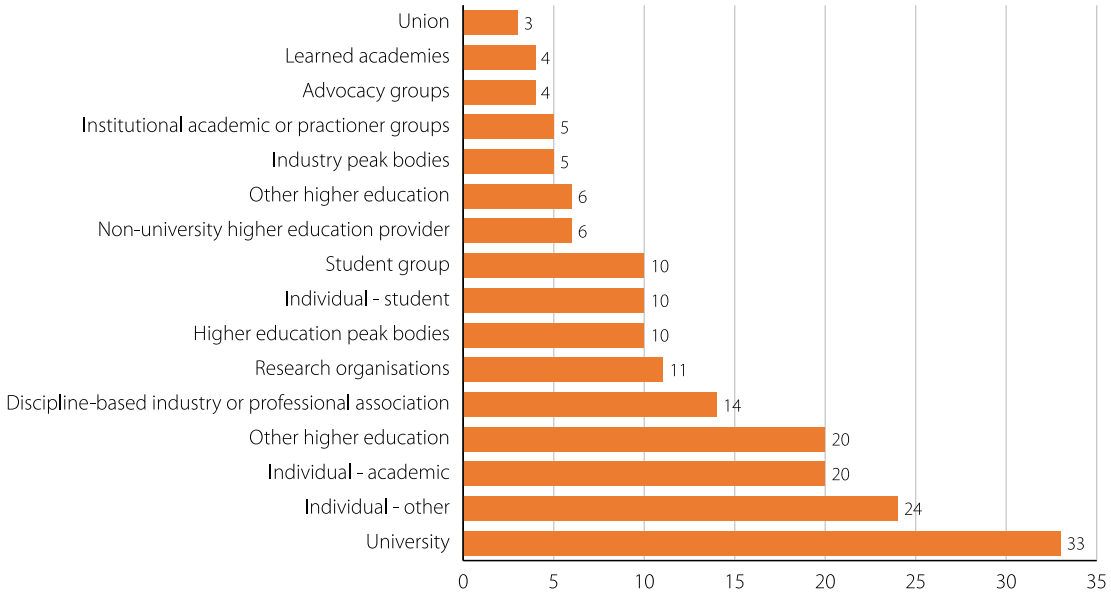
- skills development, including work-relevant skills and industry engagement (13%)
- funding for learning and teaching (13%)
- student equity and access (12%)
- student fees (10%)
- funding for research (10%).

456 Department of Education, [unpublished data], (Canberra: 2023).

Consultation on the Accord Terms of Reference

In November 2022, stakeholders were also invited to make an initial submission outlining their priorities for the Accord in the context of the Terms of Reference. Over the 25-day submission period, 185 written submissions were received from a broad range of stakeholders and considered by the Review. Figure 40 shows the distribution of submissions by respondent category.

Figure 40: Distribution of submissions by respondent category – Consultation on the Accord Terms of Reference.



Source: Nous Group, Submissions on priorities for the Australian Universities Accord, (2023), www.education.gov.au/australian-universities-accord/resources/nous-group-consultation-report.

Analysis of the submissions found the following key themes:

- improving access to the higher education system, particularly for under-represented cohorts, and identifying programs to improve student outcomes were referenced in 84 submissions (45%)
- responsiveness to future skills needs was referenced in 67 submissions (37%)
- improving outcomes for equity cohorts was referenced in 65 submissions (36%)
- funding for research was referenced in 57 submissions (31%)
- funding for learning and teaching was referenced in 57 submissions (31%)
- regulatory and legislative frameworks were referenced in 57 submissions (31%)
- regulatory, funding and legislative arrangements were referenced in 57 submissions (31%).[457]

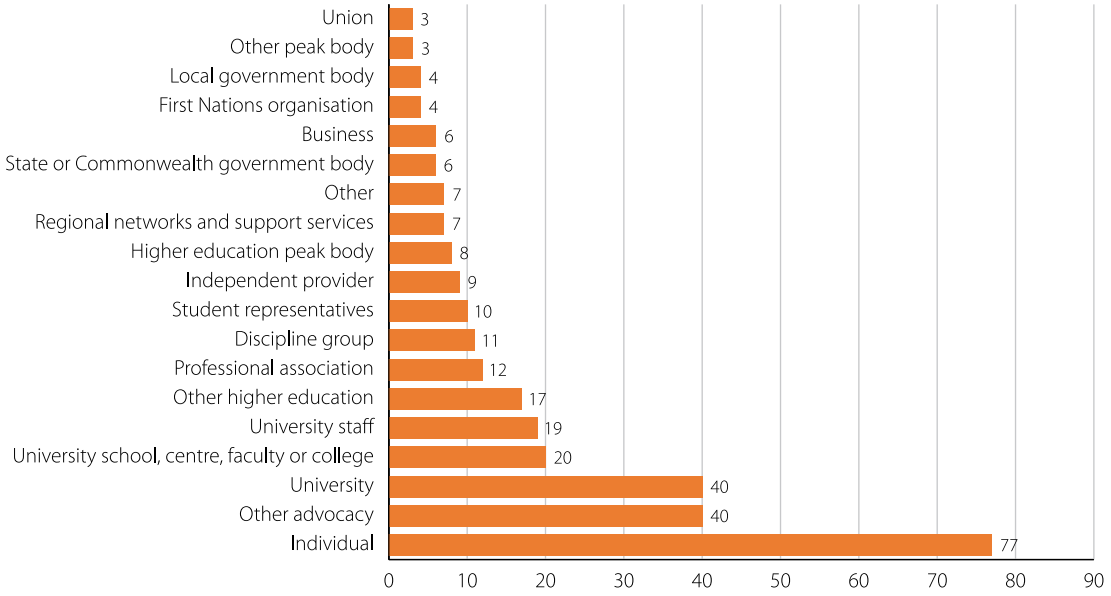
457 Nous Group, Submissions on priorities for the Australian Universities Accord, (August 2023), 7, www.education.gov.au/australian-universities-accord/resources/nous-group-consultation-report.

Submissions in response to the Accord Terms of Reference that elected to be made public, as well as an analysis and summary of views expressed in the submissions process, are available on the Department of Education website.[458]

Consultation on the Accord Discussion Paper

In February 2023, stakeholders were invited to make a submission in response to the Accord Discussion Paper which outlined the fundamental challenges and opportunities facing the Australian tertiary education sector. Over 300 written submissions were received. More than half of submissions were received from individuals, advocacy groups or universities. Figure 41 shows the distribution of submissions by respondent category.

Figure 41: Distribution of submissions by respondent category – Consultation on the Accord Discussion Paper.



Source: Australian Universities Accord Discussion Paper submission analysis, Nous Group, (2023), www.education.gov.au/australian-universities-accord/resources/australian-universities-accord-discussion-paper-submission-analysis.

458 Department of Education, *Consultation on the Accord Terms of Reference*, 2023, www.education.gov.au/australian-universities-accord/consultations/higher-education-review.

Submissions provided input, recommendations and insight into what the future of the tertiary education system should look like in Australia, as well as the enablers to achieve this future. As noted, submissions were received from key stakeholders, including individuals, universities and advocacy groups.

Analysis of the submissions found that key themes included:

- governance, accountability and community – referenced in 140 submissions (46%)
- quality and sustainability – referenced in 137 submissions (45%)
- connection between the vocational education and training and higher education systems – referenced in 130 submissions (43%)
- the role of international education – referenced in 123 submissions (41%)
- regulation and governance – referenced in 111 submissions (37%).[459]

Submissions in response to the Accord Discussion Paper that elected to be made public, as well as an analysis and summary of views expressed in the submissions process, are available on the Department of Education website.[460]

Consultation on the Accord Interim Report

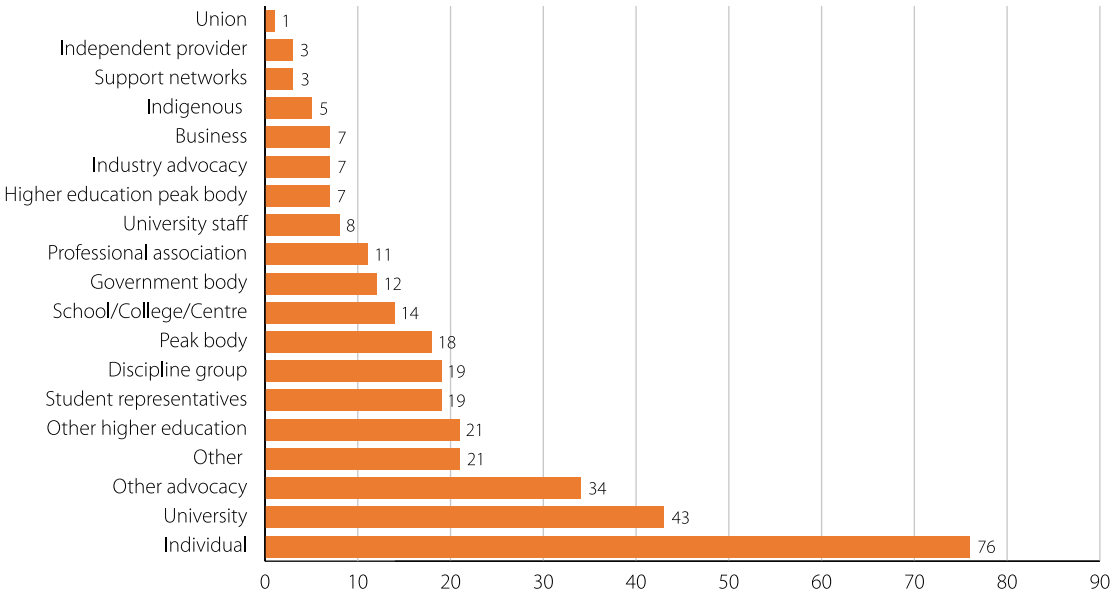
In July 2023, stakeholders were invited to make a submission in response to the Interim Report. Stakeholders were asked to provide feedback in support of, or to challenge, the ideas put forward in the Interim Report, and to identify additional recommendations and points of view. Over 300 written submissions were received.

Key respondents in the Interim Report submission process were individuals, advocacy groups and universities. Figure 42 shows the distribution of submissions by respondent category.

459 Nous Group, *Australian Universities Accord Discussion Paper submission analysis*, (August 2023), 71-80, www.education.gov.au/australian-universities-accord/resources/australian-universities-accord-discussion-paper-submission-analysis.

460 Department of Education, *Consultation on the Accord Discussion Paper*, (February 2023), www.education.gov.au/australian-universities-accord/consultations/consultation-discussion-paper.

Figure 42: Distribution of submissions by respondent category – Consultation on the Accord Interim Report.



Source: Australian Universities Accord Interim Report – submission analysis draft, Nous Group, October 2023.

Analysis of the submissions found that key themes included:

- equity in participation, access and opportunity – referenced in 155 submissions (47%)
- meeting Australia's future skills needs – referenced in 127 submissions (39%)
- a larger, fairer system – referenced in 107 submissions (33%)
- national governance towards a coherent tertiary system – referenced in 107 submissions (33%)
- sustainable funding and financing – referenced in 106 submissions (32%).[461]

Submissions in response to the Accord Interim Report that elected to be made public, as well as an analysis and summary of views expressed in the submissions process, are available on the Department of Education website.[462]

The Review also noted the significant media comment on its Discussion Paper and Interim Report.

461 Nous Group, *Australian Universities Accord Interim Report – submission analysis*, (2023).

462 Department of Education, *Consultation on the Accord Interim Report* (2023), www.education.gov.au/australian-universities-accord/consultations/consultation-interim-report.

Appendix E – Consultations and Attendance

Ministerial Reference Group

The Ministerial Reference Group met on:

- 21 February 2023, at Australian Parliament House, ACT
- 26 May 2023, at Western Sydney University, NSW
- 2 November 2023, at Central Queensland University in Rockhampton, QLD.

Member	Title	Organisation
The Hon Jason Clare MP (Chair)	Minister for Education	Australian Government
Senator the Hon Anthony Chisholm	Assistant Minister for Education	Australian Government
Professor Mary O'Kane AC (Observer)	Chair	Australian Universities Accord Panel
Mr Ben Rimmer (Observer)	Deputy Secretary[463]	Australian Government Department of Education
Mr Matthew Addison	Chair	Council of Small Business Organisations Australia
Mr Kevin Bates	Federal Secretary	Australian Education Union
Dr Alison Barnes	President	National Tertiary Education Union
Mr Bran Black	Chief Executive[464]	Business Council of Australia
Emeritus Professor Peter Coaldrake AO	Chief Commissioner	Tertiary Education Quality and Standards Agency
Professor Peter Dawkins AO[465]	Director	Jobs and Skills Australia
Ms Jenny Dodd	Chief Executive Officer	TAFE Directors Australia

463 Mr Ben Rimmer commenced in his role as Deputy Secretary, Department of Education in April 2023.

464 Mr Bran Black commenced his role as Chief Executive of the Business Council of Australia on 12 September 2023.

465 Professor Dawkins was appointed Director of Jobs and Skills Australia in November 2022, and acting Commissioner in August 2023. Professor Dawkins' appointment ended on 6 October 2023.

Member	Title	Organisation
The Hon Professor Verity Firth AM	Pro Vice-Chancellor, Social Justice and Inclusion	University of Technology Sydney
Dr Cathy Foley AO PSM	Chief Scientist of Australia	Chief Scientist of Australia
Ms Patricia Forward	(Former) Federal TAFE Secretary	(Former) Australian Education Union
Associate Professor Paul Harpur	Future Fellow	University of Queensland
Mr Paul Harris	Executive Director	Innovative Research Universities
Associate Professor Sadie Heckenberg	President	National Aboriginal and Torres Strait Islander Higher Education Consortium
The Hon Dr Peter Hendy	Chief Executive Officer	Independent Higher Education Australia
The Hon Phil Honeywood	Chief Executive Officer	International Education Association of Australia
Ms Catriona Jackson	Chief Executive	Universities Australia
Mr Andrew McKellar	Chief Executive Officer	Australian Chamber of Commerce and Industry
Professor Andrew Norton	Professor in the Practice of Higher Education Policy	Australian National University
Ms Bailey Riley	President	National Union of Students
Professor Lester-Irabinna Rigney AM	Professor of Education	University of South Australia
Ms Tayla Roberts	2020 Rural Youth Ambassador	2020 Rural Youth Ambassador
Professor Shamit Saggar CBE[466]	Executive Director	National Centre for Student Equity in Higher Education
Ms Misha Schubert	Chief Executive Officer	Science and Technology Australia
Mr Luke Sheehy	Executive Director	Australian Technology Network of Universities
Ms Yeganeh Soltanpour	President[467]	Council of International Students Australia

466 Professor Saggar commenced in the Ministerial Reference Group in May 2023.

467 Ms Soltanpour commenced in the Ministerial Reference Group in May 2023.

Member	Title	Organisation
Mr John Stanhope AM	Convenor, Deakin Chancellor	University Chancellors Council
Ms Vicki Thomson	Chief Executive and Director	Group of Eight
Mr Alec Webb	Executive Director	Regional Universities Network
Mr Troy Williams	Chief Executive Officer	Independent Tertiary Education Council Australia
Mr Innes Willox AM	Chief Executive	Australian Industry Group
Professor Michael Wesley	Deputy Vice-Chancellor, Global, Culture and Engagement	University of Melbourne

Roundtables

The Panel held and/or attended the following roundtables.

Roundtable	Date
University Peak Bodies Roundtable, including representatives from: • The Group of Eight • Australian Technology Network • Innovative Research Universities • Regional Universities Network • Universities Australia	1 December 2022
Business and Industry Peak Bodies Roundtable, including representatives from: • Business Council of Australia • Australian Industry Group • Australian Chamber of Commerce and Industry • Tech Council of Australia • Council of Small Business Organisations Australia	1 December 2022
Independent and Tertiary Peak Bodies Roundtable, including representatives from: • Independent Tertiary Education Council Australia • Independent Higher Education Australia • TAFE Directors Australia • International Education Association of Australia	2 December 2022
Student and Staff Representatives Roundtable, including representatives from: • National Tertiary Education Union • National Union of Students • Council of Australian Postgraduate Associations • National Aboriginal & Torres Strait Islander Postgraduate Association • Council of International Students Association	2 December 2022
Sector Experts and Think Tank Representatives Roundtable, including representatives from: • University of Melbourne Centre for the Study of Higher Education • Mitchell Institute, Victoria University • Tertiary Education Analysis • James Martin Institute for Public Policy • Australian National University	2 December 2022

Roundtable	Date
University Chancellors Roundtable, including representatives from: • University Chancellors Council • Deakin University • University of Western Australia • University of Melbourne • La Trobe University • Edith Cowan University	2 December 2022
Skills Roundtable, including representatives from: • Business Council of Australia • Ai Group • Australian Chamber of Commerce and Industry • Microsoft • SEEK • Accenture • Atlassian • KPMG • Fujitsu • BNP Paribas • Telstra • Boston Consulting Group • University of New South Wales • Western Sydney University • University of South Australia • University of Technology Sydney • University of Sydney	27 March 2023
TAFE Directors and Institutes Roundtable 1, including representatives from: • TAFE Directors Australia • Holmesglen Institute • Melbourne Polytechnic • Chisholm Institute • Box Hill Institute • William Angliss Institute	4 April 2023

Roundtable	Date
Research Roundtable, including representatives from: • Business Council of Australia • Ai Group • Australian Chamber of Commerce and Industry • Microsoft • SEEK • Accenture • Atlassian • KPMG • Fujitsu • BNP Paribas • Telstra • Boston Consulting Group • University of New South Wales • Western Sydney University • University of South Australia • University of Technology Sydney • University of Sydney • Department of Employment and Work Relations	14 April 2023
University of New England Students Roundtable	20 April 2023

Roundtable	Date
Regional Industry and Skills Roundtable, including representatives from: • University of New England • Everingham Solomons Solicitors • INVETUS • COSTA Tomatoes • Australian Veterinary Association • Equine Veterinarians Australia • New South Wales Department of Education and Communities • McGregor Gourlay Agricultural Services • Regional Health Services • Hanlons Consulting • New England Regional Arts Museum • FarmLab • Minerals Council of Australia • Herefords Society • Regional Development Australia • Meat and Livestock Australia	20 April 2023
Regional Vice-Chancellors Roundtable 1, including representatives from: • University of New England • Central Queensland University • Southern Cross University • Charles Sturt University • University of Southern Queensland • University of Tasmania • University of the Sunshine Coast • Charles Darwin University • Federation University • Regional Universities Network	20 April 2023

Roundtable	Date
TAFE Directors and Institutes Roundtable 2, including representatives from: • TAFE Directors Australia • Holmesglen Institute • TAFE South Australia • TAFE New South Wales • TAFE Tasmania • TAFE Queensland • Canberra Institute of Technology • Central Queensland University	5 May 2023
Students Roundtable, including representatives from: • National Union of Students • Council of Australian Postgraduate Associations • National Aboriginal & Torres Strait Islander Postgraduate Association • Fair Agenda • End Rape on Campus • National Association of Australian University Colleges • Students Against Placement Poverty • Australia Parents Council • National Association of Graduate Career Advisory Services • Australian Youth Steering Committee Members • Australian Centre for Career Education • Shelter NSW • With Ms Tayla Roberts, 2020 Rural Youth Ambassador and various students	4 September 2023
Future Disruptions Roundtable, including representatives from: • Australian National University • University of South Australia • The University of Queensland • OpenLearning • Western Sydney University • CSIRO • Australian Chamber of Commerce and Industry • Boston Consulting Group • KPMG	19 September 2023

Roundtable	Date
First Nations Roundtable, including representatives from: • Western Sydney University • University of Adelaide • National Aboriginal and Torres Strait Islander Higher Education Consortium • Batchelor Institute of Indigenous Tertiary Education • National Indigenous Australians Agency • National Union of Students • University of New South Wales • James Cook University • Flinders University • Pindi Pindi Pty Ltd - Centre for Research Excellence in Aboriginal Wellbeing • Curtin University • University of Technology Sydney • Curtin University • National Centre for Student Equity in Higher Education • National Tertiary Education Union • Congress of Aboriginal and Torres Strait Islander Nurses and Midwives • Tasmanian Institute of Learning and Teaching	22 September 2023
National Regional University Roundtable, including representatives from: • Australian Local Government Association • New South Wales Country Mayors Association • Dr Joe McGirr MP, New South Wales Parliamentarian • Geraldton University Centre • Duncan Taylor, Founder, Country Universities Centre • Business Council of Australia • Emeritus Professor Richard Heller • Armidale Regional Council • Rick Wilmott	26 September 2023

Roundtable	Date
Regional Vice-Chancellors Roundtable 2, including representatives from: • University of the Sunshine Coast • Federation University • Charles Darwin University • Southern Cross University • Central Queensland University • Charles Sturt University • University of Southern Queensland • University of New England • Regional Universities Network • James Cook University	27 September 2023
Regional Students Roundtable, including representatives from: • National Union of Students • Isolated Children's Parent's Association of Australia • Country Education Partnership • Federations of Parents and Citizens Association New South Wales • Regional Education Support Network • Remote Indigenous Parents Association • With Ms Tayla Roberts, 2020 Rural Youth Ambassador and various students	28 September 2023

Roundtable	Date
Disability in Higher Education Roundtable, including various students and representatives from: • Australian Law Students Association • Western Sydney University • Vision Australia • Australian Tertiary Education Network on Disability • Australian Disability Clearinghouse for Education and Training • National Centre for Student Equity in Higher Education • University of Technology Sydney • Centre for Research in Equity and Advancement of Teaching and Education • Autism CRC • Centre for Research in Assessment and Digital Learning • National Union of Students • Department of social Services • University of Queensland • University of Tasmania • Centre for Disability Studies • University of Queensland • Autism Centre of Excellence • Children and Young People with a Disability • Speak My Language	19 October 2023
Skills and Research Roundtable, including representatives from: • Business Council of Australia • Infosys Ltd • Fujitsu • Atlassian • Microsoft • Xero	31 October 2023

Presentations to the Panel

The following stakeholders were invited to attend Panel meetings for the purpose of addressing the Panel and providing expert advice and information. The below does not include suppliers commissioned by the Department of Education on behalf of the Panel to inform and support work across the Review. These are included at Appendix F.

Stakeholder/s	Panel meeting date
Emeritus Professor Alan Pettigrew, Senate Fellow, University of Sydney	21 December 2022
Professor Glyn Davis AC, Secretary, Prime Minister & Cabinet	7 February 2023
Jobs and Skills Australia	7 February 2023
Department of Employment and Workplace Relations	7 February 2023
Mr Mark Warburton, Honorary Senior Fellow, Centre for the Study of Higher Education, University of Melbourne	7 March 2023
Emeritus Professor Bruce Chapman AO, Australian National University College of Business and Economics	7 March 2023
Professor Simon Marginson, Professor of Higher Education, University of Oxford; Associate Professor Gwilym Croucher, Centre for the Study of Higher Education, University of Melbourne; and Mr Tom Bentley, Executive Director for Policy, Strategy and Impact, RMIT University	14 March 2023
Australian Council of Learned Academies	21 March 2023
The Hon Professor Verity Firth AM, Pro Vice-Chancellor (Social Justice & Inclusion), University of Technology Sydney	28 March 2023
Mr Mark Warburton, Honorary Senior Fellow, Centre for the Study of Higher Education. University of Melbourne	28 March 2023
Department of Employment and Workplace Relations	4 April 2023
Professor Mats Benner, Dean, School of Economics and Professor in Science Policy Studies, Lund University	11 April 2023
Emeritus Professor Bruce Chapman AO, Australian National University College of Business and Economics	18 April 2023
Department of Social Services	18 April 2023
Department of Employment and Workplace Relations	9 May 2023
Department of Employment and Workplace Relations	16 May 2023
Jobs and Skills Australia	16 May 2023

Stakeholder/s	Panel meeting date
Professor Julia Horne, Professor of History and University Historian, and Professor Stephen Garton, Principal Advisor to the Vice-Chancellor and Professor of History, University of Sydney	16 May 2023
Tertiary Education Quality and Standards Agency	23 May 2023
ORIMA Research; Professor John Phillimore, National Centre for Student Equity in Higher Education; Associate Professor Ryan Naylor, University of Sydney; and Dr Cathy Stone, University of Newcastle	30 May 2023
Science and Technology Australia	25 July 2023
Emeritus Professor Bruce Chapman AO, Australian National University College of Business and Economics	8 August 2023
Department of Social Services	22 August 2023
Emeritus Professor Bruce Chapman AO, Australian National University College of Business and Economics	29 August 2023
Dr Stephen Duckett, Honorary Enterprise Professor, RMIT University	5-6 September 2023
Department of Social Services	19-20 September 2023
Tertiary Education Quality and Standards Agency	19-20 September 2023
Professor Peter Whiteford, Professor in the Crawford School of Public Policy, Australian National University	19 September 2023
Professor Anthony Dooley, Australian Committee of Chairs of Academic Boards and Senates and Chair of the Academic Board, University of Technology Sydney	19 September 2023
Skills Senior Officials' Network	20 September 2023
Department of Social Services	17 October 2023
Professor Kerri-Lee Krause, Vice-Chancellor, Avondale University	7 November 2023
Department of Social Services	7 November 2023

Meetings with universities, university groups and other providers

The Panel held and/or attended the following meetings with higher education providers and groups, including meetings of university Vice-Chancellors, Deputy Vice-Chancellors and Pro Vice-Chancellors.

Consultation	Date
Professor Rufus Black, Vice-Chancellor, University of Tasmania, and Mr Terry Bailey, Executive Dean, College of Sciences and Engineering, University of Tasmania	25 November 2022
Professor Brian Schmidt AC, Vice-Chancellor, Australian National University	1 December 2022
Professor Alec Cameron, Vice-Chancellor, RMIT University	2 December 2022
Western Australian Vice-Chancellors and university senior executives	9 December 2022
The Hon Professor Verity Firth AM, Pro Vice-Chancellor (Social Justice & Inclusion), University of Technology Sydney	6 January 2023
The South Australia Vice-Chancellors' Committee (SAVCC)	17 January 2023
The Victorian Vice-Chancellors Committee (VVCC)	20 January 2023
Professor Margaret Gardner AC, Vice-Chancellor, Monash University	20 January 2023
Professor Scott Bowman AO, Vice Chancellor and President, and Deputy Vice-Chancellors of Charles Darwin University	3 February 2023
Universities Australia Board	6 February 2023
Batchelor Institute of Indigenous Tertiary Education	8 February 2023
Professor Attila Brungs, Vice-Chancellor and President, University of New South Wales	9 February 2023
New South Wales Vice-Chancellors Committee (NSWVCC)	9 February 2023
Professor Robyn Ward, Executive Dean and Pro Vice-Chancellor Medicine and Health, University of Sydney	14 February 2023
Universities Australia Deputy Vice-Chancellors (Academic) Group Executive	20 February 2023
Professor Margaret Sheil AO, Vice-Chancellor, Queensland University of Technology	28 February 2023
Queensland Vice-Chancellors Committee (QVCC)	28 February 2023
Universities Australia Deputy Vice-Chancellors (Research) Executive Team	14 March 2023
University of Melbourne Vice-Chancellor's Executive Team	14 March 2023
Professor Pascale Quester, Vice-Chancellor, Swinburne University of Technology	31 March 2023

Consultation	Date
Professor Deborah Terry AO, Vice-Chancellor, University of Queensland	14 April 2023
Davd Gonski AC, Chancellor, University of New South Wales and Catherine Livingstone AO, Chancellor, University of Technology Sydney, Professor Andrew Parfitt, Vice-Chancellor, University of Technology Sydney	17 April 2023
Regional Vice-Chancellors Roundtable dinner, hosted by James Harris, Chancellor, University of New England	19 April 2023
Independent Higher Education Australia, including representatives of: • Academic Alphacrucis College • International College of Management Sydney • Bond University • Torrens University • Navitas • Kaplan Business School	27 April 2023
Medical Deans Australia and New Zealand	28 April 2023
Professor Scott Bowman AO, Vice-Chancellor and President, and other senior representatives of Charles Darwin University	28 April 2023
Country Universities Centre Study Tour	3 May 2023
Universities Australia Deputy Vice-Chancellors (Research)	9 May 2023
Professor Scott Bowman AO, Vice-Chancellor and President, Charles Darwin University	19 May 2023
Universities Australia Deputy Vice-Chancellors (International)	23 May 2023
Group of Eight	1 June 2023
Australian Technology Network of Universities	2 June 2023
Innovative Research Universities	2 June 2023
Regional Universities Network	2 June 2023

Consultation	Date
Australian Universities Accord Interim Report briefing, including representatives from: • Independent Higher Education Australia • Regional Universities Network • Group of Eight • Universities Australia • Innovative Research Universities • Australian Technology Network • Independent Tertiary Education Council Australia	18 July 2023
Deputy Vice-Chancellor and Pro Vice-Chancellor (Indigenous) Committee	1 August 2023
• **NSWVCC dinner,** including: • the Hon Prue Car MP, Deputy Premier, Minister for Education and Early Learning, Minister for Western Sydney, and Minister for Skills, TAFE and Tertiary Education • the Hon Anoulack Chanthivong MP, Minister for Better Regulation and Fair Trading, Minister for Industry and Trade, Minister for Innovation, Science and Technology, Minister for Building, and Minister for Corrections	22 August 2023

Other consultations

Throughout the Review process, the Review met with many stakeholders including federal, state and territory ministers, students, business and industry. In some cases, the Review met stakeholders more than once.

The below list of consultations reflects Department of Education records. Meetings organised directly by the Chair and/or other Panel members, and events run by third parties where there was open registration, are not included below.

Consultation	Date
Tertiary Education Quality and Standards Agency	1 December 2022
Australian Research Council	2 December 2022
National Centre for Student Equity in Higher Education, Curtin University	9 December 2022
The Hon Jason Clare MP, Minister for Education	12 December 2022
Higher Education Standards Panel	9 January 2023
Fair Work Ombudsman	12 January 2023
The Hon Alister Henskens SC MP, New South Wales Minister for Skills and Training	13 January 2023
The Hon John Dawkins AO, former Treasurer and former Minister for Employment, Education and Training	17 January 2023
Professor Caroline McMillen AO, Chief Scientist for South Australia	17 January 2023
The Hon Dr Susan Close MP, Deputy Premier and Minister for Industry, Innovation and Science (South Australia)	17 January 2023
Dr Alison Barnes, National President of the National Tertiary Education Union	25 January 2023
Heads of related reviews, including: • Dr Cathy Foley AO PSM, Chair, National Science and Research Priorities • Ms Sally-Ann Williams, Chair, Pathway to Diversity in STEM Review • Professor Margaret Sheil AO, Chair, Australian Research Council Act Review	8 February 2023
Business Council of Australia	9 February 2023
Ms Bailey Riley, President, National Union of Students	9 February 2023
Research and development innovation meeting, including representatives from: • Professor Bruce Chapman and Professor Glen Withers from the Australian National University • Australian Research Council • Department of Industry, Science and Resources • Business Council of Australia	16 February 2023
The Hon Jason Clare MP, Minister for Education	16 February 2023

Consultation	Date
Professor Ian Chubb AC, former Chief Scientist for Australia	16 February 2023
Dr Alison Barnes, National President of the National Tertiary Education Union	25 February 2023
Queensland Department of Education	28 February 2023
Professor Tanya Monro AC, Chief Defence Scientist, Department of Defence	1 March 2023
Professor Peter Klinken AC, Western Australia Chief Scientist	7 March 2023
Senator Mehreen Faruqi, Greens Senator for NSW	7 March 2023
Senator David Pocock, Independent Senator for the ACT	7 March 2023
The Hon Brendan O'Connor MP, Minister for Skills and Training	8 March 2023
Dr Cathy Foley AO PSM, Chief Scientist of Australia	8 March 2023
The Hon Gayle Tierney MP, Minister for Training and Skills, Minister for Higher Education (Victoria), and representatives from the Victorian Government Department of Jobs, Skills, Industry and Regions	14 March 2023
Meeting with sector experts including Professor Simon Marginson, Professor of Higher Education, University of Oxford; Associate Professor Gwilym Croucher, Centre for the Study of Higher Education, University of Melbourne; and Professor Andrew Norton, Professor in the Practice of Higher Education Policy, Australian National University	14 March 2023
Australian Council of Learned Academies, including: • Australian Academy of Health and Medical Sciences • Australian Academy of the Humanities • Australian Academy of Science • Academy of the Social Sciences in Australia • Australian Academy of Science • Australian Academy of Technological Sciences and Engineering	21 March 2023
Australian Council of Engineering Deans	24 March 2023
Senator the Hon Sarah Henderson	28 March 2023
Equity in Higher Education Panel	30 March 2023
TAFE Directors Australia	4 April 2023
Dr Cathy Foley AO PSM, Chief Scientist of Australia and Mr Andrew Stevens, Chair, Industry Innovation and Science Australia	6 April 2023
The Hon Dr Jim Chalmers MP, Treasurer	6 April 2023
The Hon Amanda Rishworth MP, Minister for Social Services	6 April 2023
Australia Skills and Qualifications Authority	11 April 2023
Australian Council of Deans of Nursing and Midwifery	11 April 2023

Consultation	Date
The Hon Jason Clare MP, Minister for Education	12 April 2023
Organisation for Economic Cooperation and Development	14 April 2023
Engineers Australia	14 April 2023
Australian Academy of Technological Sciences and Engineering Assembly	18 April 2023
Health Professions Education Standing Group	19 April 2023
Productivity Commission	28 April 2023
The Hon Jason Clare MP, Minister for Education	1 May 2023
Forum of Australia's Chief Scientists, including: • Dr Cathy Foley AO PSM, Chair, Australia's Chief Scientist • Professor Bronwyn Harch, Interim Queensland Chief Scientist • Dr Amanda Caples, Victoria's Lead Scientist • Professor Caroline McMillen AO, Chief Scientist for South Australia • Ms Hala Batainah, Chair, Canberra Innovation Network • Dr Darren Saunders, NSW Deputy Chief Scientist & Engineer	3 May 2023
The Hon Ed Husic MP, Minister for Industry and Science	4 May 2023
TAFE Directors Australia	5 May 2023
Professor Anne Kelso AO, Chief Executive Officer, National Health and Medical Research Council	9 May 2023
Senator the Hon Anthony Chisholm, Assistant Minister for Education, Assistant Minister for Regional Development	10 May 2023
Australian Research Council	10 May 2023
The Hon Jason Clare MP, Minister for Education	10 May 2023
Jobs and Skills Australia, including representatives from the Australian Government Department of Employment and Workplace Relations	16 May 2023
Fair Agenda and End Rape on Campus	16 May 2023

Consultation	Date
Skills and Workforce Ministerial Council Meeting, including: • The Hon Brendan O'Connor MP, Federal Minister for Skills and Training • The Hon Tim Crakanthorp MP, NSW Minister for Skills, TAFE and Tertiary Education • The Hon Gayle Tierney MLC, Victorian Minister for Training and Skills and Minister for Higher Education • The Hon Dianne Farmer MP, Queensland Minister for Training and Skills Development • The Hon Blair Boyer MP, South Australian Minister for Education, Training and Skills • The Hon Simone McGurk MLA, Western Australian Minister for Training and Youth • The Hon Felix Ellis MP, Tasmanian Minister for Skills, Training and Workforce Growth • Mr Chris Steel MLA, ACT Minister for Tertiary Education • The Hon Paul Kirby MLA, Northern Territory Minister for Business, Jobs and Training • And representatives from their Departments.	19 May 2023
The Hon Eva Lawler, Minister for Education (Northern Territory)	19 May 2023
The Hon Tim Crakanthorp MP, Minister for Skills, TAFE and Tertiary Education (NSW)	19 May 2023
The Hon Jason Clare MP, Minister for Education	13 June 2023
Indigenous Education Consultative Meeting	14 June 2023
The Hon Brendan O'Connor MP, Minister for Skills and Training	22 June 2023
MPs and Senators from the Government	22 June 2023
MPs and Senators from the Australian Greens	22 June 2023
MPs and Senators from the Coalition	22 June 2023
MPs and Senators from the Crossbench	22 June 2023
The Hon Dr Anne Aly MP, Minister for Early Childhood Education, Minister for Youth	22 June 2023
The Department of Health and Aged Care	22 June 2023
Australia and New Zealand Chief Scientists, including: • Dr Cathy Foley AO PSM, Chief Scientist of Australia • Professor Dame Juliet Gerrard DNZM, New Zealand Chief Scientific Advisor • representatives from the Office of the New Zealand Prime Minister's Chief Science Advisor	27 June 2023

Consultation	Date
WA University Sector Review, including: • Professor Sandra Harding AO, Panel Chair • Professor Peter Shergold AC, Panel member • Mr Ian Watt AC, Panel member • Professor John Williams AM, Panel member	27 June 2023
Australasian Council of Auditors-General, including: • Mr Andrew Greaves, Convenor & Auditor-General, Victoria • Mr Grant Hehir, Auditor-General, Australia • Ms Margaret Crawford, Auditor-General, New South Wales • Ms Julie Crisp, Auditor-General, Northern Territory • Mr Michael Harris, Auditor-General, Australian Capital Territory • Ms Caroline Spencer, Auditor-General, Western Australia • Mr Rod Whitehead, Auditor-General, Tasmania • Mr Brendan Worrall, Auditor-General, Queensland • Mr Andrew Richardson, Auditor-General, South Australia • Mr Gordon Kega, Auditor-General, Papua New Guinea • Mr Sairusi Dukuno, Acting Auditor-General, Fiji • Mr John Ryan, Auditor-General and Secretary-General of Pacific Association of Supreme Audit Institutions, New Zealand	30 June 2023
The Hon Paul Scully MP, Minister for Planning and Public Spaces (NSW), and Paul Levins, Chief of Staff and start-up venture expert	3 July 2023
The Hon Dr Tony Buti MLA, Minister for Education, Aboriginal Affairs, Citizenship and Multicultural Interests (Western Australia)	3 July 2023
The Hon Grace Grace MP, Minister for Education, Minister for Industrial Relations and Minister for Racing (Queensland)	4 July 2023
The Hon Clare O'Neil MP, Minister for Home Affairs, Minister for Cyber Security	4 July 2023
Higher Education Standards Panel	5 July 2023
The Hon Jason Clare MP, Minister for Education	17 July 2023
Review Chairs, including: • Professor Deborah Brennan AM, Chair, Productivity Commission Early Childhood Education and Care Inquiry • Dr Lisa O'Brien AM, Chair, Expert Panel to Inform a Better and Fairer Education System	20 July 2023
Science and Technology Australia	25 July 2023
Equity in Higher Education Panel	3 August 2023

Consultation	Date
Labor Caucus	8 August 2023
The Hon Jason Clare MP, Minister for Education	8 August 2023
Central Agency Deputy Secretaries	8 August 2023
Australian Disability Clearinghouse for Education and Training and STEPS Group Australia	8 August 2023
Students Against Placement Poverty	8 August 2023
MPs and Senators from the Cross Bench	9 August 2023
Australian Research Council	15 August 2023
Ms Bailey Riley, President, National Union of Students	25 August 2023
Fair Agenda and End Rape on Campus	29 August 2023
Professor Mary O'Kane appearance at Senate Education and Employment Committee	1 September 2023
Learned Academies workshop	1 September 2023
Professor Mary O'Kane appearance at South Australian Joint Committees on the Establishment of Adelaide University	4 September 2023
Dr Frances Foster-Thorpe, Executive Director, Shaping Futures and Data Insights, the NSW Cabinet Office	8 September 2023
Her Excellency Professor the Hon Margret Gardner AC, Governor of Victoria	8 September 2023
Australian Services Union and Student Against Placement Poverty	28 September 2023
The Hon Jason Clare MP, Minister for Education	9 October 2023
Ms Camille Schloeffel, Founder and Director, The STOP Campaign	13 October 2023
Professor Vin Massaro, Professorial Fellow, Melbourne Centre for the Study of Higher Education at the University of Melbourne	16 October 2023
National Party Room Briefing	17 October 2023
The Hon Jason Clare, Minister for Education	24 November 2023
The Hon Jason Clare, Minister for Education	5 December 2023
The Hon Jason Clare, Minister for Education	13 December 2023

Conferences, summits and speaking events

Panel members spoke at the following events.

Event	Panel member(s)	Date
TEQSA Conference 2022	Jenny Macklin	24 November 2022
Universities Australia Conference	Mary O'Kane	22 February 2023
Innovative Research Universities and Engagement Australia Event	Mary O'Kane	24 February 2023
HEDx Podcast, Ep 66, Bringing bold big ideas into the University Accord	Mary O'Kane	1 March 2023
Equity in Higher Education Forum	Mary O'Kane Larissa Behrendt Barney Glover Jenny Macklin Fiona Nash	27 March 2023
'Australian Universities: A Conversation About Public Good', Professor Julia Horne and Dr Matthew AM Thomas - University of Sydney, book launch	Mary O'Kane	3 April 2023
University Chancellors Council Plenary	Mary O'Kane Barney Glover Fiona Nash	20 April 2023
Equity Practitioners in Higher Education Australasia Annual General Meeting	Mary O'Kane	27 April 2023
Australian Council of Graduate Research Conference	Mary O'Kane Barney Glover	27 April 2023
Planning Institute of Australia (NSW Branch) Leaders Lunch	Mary O'Kane	5 May 2023
National Union of Students Conference	Mary O'Kane	26 June 2023
Higher Education Research & Development Society of Australasia (HERDSA) Conference	Mary O'Kane	7 July 2023
UniSTARS and Equity Practitioners in Higher Education Australasia Webinar	Mary O'Kane	20 July 2023
Interview with Patricia Karvelas – ABC Radio National	Mary O'Kane	20 July 2023
Interview with Disrupt Radio	Mary O'Kane	20 July 2023

Event	Panel member(s)	Date
Group of Eight Podcast	Mary O'Kane	1 August 2023
Universities Australia Summit	Mary O'Kane Barney Glover Ben Rimmer	10 August 2023
Australian Industry Group Webinar	Mary O'Kane	21 August 2023
Australian Financial Review (AFR) Higher Education Summit	Mary O'Kane	22 August 2023
Academy of Technological Sciences and Engineering - Engineering Education Symposium	Mary O'Kane	29-30 August 2023
Association for Tertiary Education Management, Association Programs, Bold Conversations: Universities Accord	Barney Glover	7 September 2023
The World Academic Summit – Presidents Forum	Mary O'Kane	25 September 2023
Jobs and Skills Australia Symposium	Mary O'Kane Jenny Macklin	3-4 October 2023
University Chancellors Council Plenary	Mary O'Kane Fiona Nash Ben Rimmer	18 October 2023
European Australian Business Council and Group of Eight Annual Joint Board Event	Mary O'Kane	18 October 2023
TAFE Directors Australia National Conference	Jenny Macklin	18 October 2023
The Best Australian Science Writing – hosted by UNSW Press, book launch	Mary O'Kane	9 November 2023
Engagement Australia Conference 2023	Barney Glover Fiona Nash	21 November 2023
TEQSA Conference 2023	Mary O'Kane	23 November 2023

Appendix F – Commissioned works

To support the Review, the Department of Education on behalf of the Accord Panel commissioned a range of reports to inform, and services to support, the Accord Panel's deliberations and work across the Review.

Name	Description of services/deliverables	Supplier
Tertiary targets	A further extension of previous work to extend modelling to the future demand for tertiary education qualifications in Australia over a 30-year period. *Supporting Chapter 2 – Meeting our current and future skills needs*	Oxford Economics Australia
Disruption in the higher education system	Advise the Accord Panel on disruptive influences on Australia's higher education system over the next 10–20 years and what those disruptions mean for the Accord and the future of higher education. *Supporting Introduction and context*	Australian National University
System governance and stewardship	Co-design services with the Department of Education to inform the Accord Panel's consideration of issues relating to system governance and stewardship of Australia's higher education system. *Supporting Chapter 6 – A dynamic, collaborative and responsive system that serves the national interest*	Nous Group
A more responsive tertiary education sector to better meet skills needs	Co-design services with the Department of Education to inform the Accord Panel's consideration of tertiary integration, a responsive tertiary sector skills and needs of Australia's future workforce. *Supporting Chapter 2 – Meeting our current and future skills needs*	RMIT University

Name	Description of services/deliverables	Supplier
Teaching quality	Co-design services with the Department of Education to inform the Accord Panel's consideration of enhancing learning and teaching outcomes in Australian higher education. *Supporting Chapter 4 – Delivering for students; Chapter 6 – A dynamic, collaborative and responsive system that serves the national interest*	University of Melbourne
Funding system design for higher education learning and teaching	Co-design services with the Department of Education to inform the Accord Panel's consideration of the need for a coherent, secure, equitable and enduring funding system. *Supporting Chapter 8 – A new funding model to underpin growth and quality*	James Martin Institute (through the University of Technology, Sydney)
Policy design process for higher education research settings	Co-design services with the Department of Education to inform the Accord Panel's consideration of Australia's higher education research system. Supported by a Research Working Group. *Supporting Chapter 5 – Producing and using new knowledge*	University of Canberra
Interim Report Submissions Analysis	Collate stakeholders' feedback on the Australian Universities Accord Interim Report. This will include summarising sentiment towards specific recommendations or ideas, as well as thematic analysis on broad themes. The analysis delivered in this project will be used to inform the Accord Panel's Final Report to Government.	Nous Group
Strategic research and advice services	Strategic research, advice and narrative services to support the Australian Universities Accord and the Department of Education's broader education reform narrative.	RMIT University
Discussion Paper submissions analysis	Qualitative and quantitative analysis of the spread of responses and key themes contained within submissions to the Discussion Paper including a report.	Nous Group
Terms of Reference submissions analysis	Analysis of key themes of first round of submissions on priorities for the review including report.	Nous Group

Name	Description of services/deliverables	Supplier
Rapid quantitative analysis of Accord Discussion Paper submissions	Quantitative analysis of submissions to the Discussion Paper including a report.	League of Scholars
Case studies of innovative tertiary education models	A report documenting case studies of innovative tertiary education models, summarising key research on regulatory, policy and legislative settings that support Australian higher education.	Mr Robert Griew
Workshops with students with disabilities	Workshops and a survey exploring the perspectives of staff and students with disability in higher education, and summary report.	University of Queensland
University cost efficiency research	A research report detailing the efficient cost of teaching and research and the cost differences, if any, between institutions based on their characteristics.	Emeritus Professor Bruce Chapman AO and Professor Keith Houghton
Establishing Future Demand for Higher Education	A report modelling the future demand for tertiary qualifications in Australia over a 30-year period.	Oxford Economics Australia (formerly BIS Oxford Economics)
International Education Research	An analysis of international tertiary education systems and how they compare to Australia.	Australian Council for Educational Research (ACER)
Literature review of belonging	A literature review of what is belonging, the impact belonging has on student wellbeing and academic outcomes, factors that can impact students' sense of belonging, including whether there is any specific evidence on equity students and what might foster or improve belonging for higher education students. Additionally, literature regarding students belonging to universities as it applies to different groups of students (e.g. part-time, mature age, and online).	University of Tasmania
Student contributions analysis	A report outlining policy options regarding the setting of student contributions for Commonwealth supported students and whether this pricing system should vary by level of study. It also outlines principles for reforms to the Higher Education Loan Program, principally around the use of marginal versus total income collection for repayments.	Emeritus Professor Bruce Chapman AO

Acronyms

ABS	Australian Bureau of Statistics
ABSTUDY	Aboriginal and Torres Strait Islander Study Assistance Scheme
ACEN	Australian Collaborative Education Network
ACRG	Australian Competitive Research Grants
AEA	Australia's Economic Accelerator
AI	Artificial intelligence
APRA	Australian Prudential Regulation Authority
AQF	Australian Qualifications Framework
ARC	Australian Research Council
ARIC	Australian Research Integrity Committee
ASC	Australian Skills Classification
ASCED	Australian Standard Classification of Education
ASQA	Australian Skills Quality Authority
ATAR	Australian Tertiary Admission Rank
ATN	Australian Technology Network of Universities
ATO	Australian Taxation Office
BERD	Business expenditure on research and development
CAE	Colleges of Advanced Education
CEO	Chief Executive Officer
CGS	Commonwealth Grant Scheme
CICA	Career Industry Council of Australia
CPI	Consumer Price Index
CRC	Cooperative Research Centres
CRTS	Commonwealth Reconstruction Training Scheme

CSCs	Cooperative Skills Centres
CSP	Commonwealth supported place (see Glossary)
DFAT	Department of Foreign Affairs and Trade
DNER	Debt not expected to be repaid
DSP	Higher Education Disability Support Program
ECEC	Early childhood education and care
ECR	Early Career Researcher
EFTSL	Equivalent Full-time Student Load
EI	Engagement and Impact Assessment
EIF	Education Investment Fund
ELP	English language proficiency
EMTR	Effective marginal tax rate
ERA	Excellence in Research for Australia
ESENDA	Education, Skills and Employment National Data Asset
ESOS Act	Education Services for Overseas Students Act 2000 (Cth)
FTE	Full-time equivalent
FWO	Fair Work Ombudsman
G20	Group of Twenty
GDP	Gross Domestic Product
GERD	Gross expenditure on research and development
Go8	Group of Eight
GOS	Graduate Outcomes Survey
GUF	General university funds
HASS	Humanities and Social Sciences

HDR	Higher degree by research
HECG	Higher Education Continuity Guarantee
HECS	Higher Education Contribution Scheme
HEFF	Higher Education Future Fund
HELP	Higher Education Loan Program
HEP	Higher education provider
HERD	Higher education expenditure on research and development
HERDC	Higher Education Research Data Collection
HESA	Higher Education Support Act 2003 (Cth)
HESC	Higher Education Statistics Collection
HESP	Higher Education Standards Panel
High SES	High socio-economic status
IAT	Institute of Applied Technology
ICL	Income contingent loan
ICT	Information and Communications Technology
IRLSAF	Indigenous, Regional and Low SES Attainment Fund
IRU	Innovative Research Universities
ISSP	Indigenous Student Success Program
ISSR	Institute for Social Science Research
IT	Information technology
ITTC	Industrial Transformation Training Centres
JD	Juris doctor
JRG	Job-ready Graduates
JSA	Jobs and Skills Australia
Low SES	Low socio-economic status
LSAY	Longitudinal Survey of Australian Youth
MADIP	Multi-Agency Data Integration Project
MBA	Master of Business Administration

MBGA	Maximum Basic Grant Amount
MGT	Moderated Growth Target
MOOCs	Massive Open Online Courses
MRFF	Medical Research Future Fund
mRNA	Messenger ribonucleic acid
NAPLAN	National Assessment Program – Literacy and Numeracy
NCGP	National Competitive Grants Program
NCI	National Careers Institute
NCP	National Credentials Platform
NCRIS	National Collaborative Research Infrastructure Strategy
NCSEHE	National Centre for Student Equity in Higher Education
NETM	New Education and Training Model
NHMRC	National Health and Medical Research Council
NMF	National Microcredentials Framework
NPILF	National Priorities and Industry Linkage Fund
NRI	National research infrastructure
NSA	National Skills Agreement
NSRA	National School Reform Agreement
NSRP	National Science and Research Priorities
NUHEPs	Non-university higher education providers
OE	Oxford Economics Australia
OECD	Organisation for Economic Co-operation and Development
OLT	Office for Learning and Teaching
PBC	Public Benefit Contribution
PBSA	Purpose Built Student Accommodation
PCS	Provider Category Standards
PFRA	Public Funded Research Agency
PhD	Doctor of Philosophy

PISA	Programme for International Student Assessment
PSWR	Post-study work rights
QILT	Quality Indicators for Learning and Teaching
R&D	Research and development
RDCs	Research and Development Corporations
RDTI	Research and Development Tax Incentive
RFM	Relative Funding Model
RMIT	Royal Melbourne Institute of Technology
RPL	Recognition of prior learning
RSP	Research Support Program
RTG	Research Training Group
RTO	Registered Training Organisation
RTP	Research Training Program
RUCs	Regional University Centres (now called Regional University Study Hubs)
RUN	Regional Universities Network
SEHEEF	Student Equity in Higher Education Evaluation Framework
SES	Socio-economic status
SES	Student Experience Survey
SME	Small and medium-sized enterprises
SRI	Science, research and innovation
SRS	Schooling Resource Standard
SSAF	Student Services and Amenities Fee
SSCE	Senior Secondary Certificate of Education
STEM	Science, technology, engineering and mathematics
SWMC	Skills and Workforce Ministerial Council
TAFE	Technical and Further Education
TAP	Tertiary Access Payment
TEQSA	Tertiary Education Quality and Standards Agency

THE	Times Higher Education
TVA	Total VET Activity
UNESCO	United Nations Educational, Scientific and Cultural Organization
USI	Unique Student Identifier
VET	Vocational education and training
WIL	Work-Integrated Learning
WPI	Wage Price Index

Glossary

Accreditation	Accreditation by an accreditation body means that an Australian university meets the government's high standards for academic excellence and student experience.
Attainment	Attainment of completion of a higher education qualification.
Attrition	Attrition rate is a measure of the proportion of students leaving the higher education system after their first year.
AUKUS	The trilateral security partnership between Australia, the United Kingdom and the United States.
Australian Qualifications Framework (AQF)	AQF defines the essential characteristics, including the required learning outcomes, of the different types of qualifications issued across the senior secondary education, vocational education and training (VET) and higher education systems in Australia.
Austudy	Income support payment for students above the age of 25.
Basic research	Basic or pure basic research is experimental and theoretical work undertaken to acquire new knowledge without looking for long term benefits other than the advancement of knowledge.
Commonwealth supported place	A Commonwealth supported place (CSP) is a higher education place subsidised by the Australian Government and for which the student contribution is regulated by the Government.
Enabling course	A course of instruction that enables a person to undertake a course leading to a higher education award.
Equivalent Full Time Student Load	Equivalent Full-Time Student Load (EFTSL) is a measure of a full-time student's annual study load.
Future Fund	The Future Fund is Australia's sovereign wealth fund. A sovereign wealth fund manages money on behalf of the Federal Government.
Generic skills	Such as analytical, social, written and verbal communication, creativity and learning skills.

Low SES	Low socio-economic status. In the Higher Education Data Collection, students from low SES backgrounds refers to students whose address is in an area in the bottom 25% of the SEIFA Education and Occupation Index for 15 to 64-year-olds, by postcode or SA1. Unless otherwise specified, students from low SES backgrounds in this Report refers to First Address Low SES SA1 measures (based on a student's permanent home address at the commencement of study).
Mature-aged students	Students over the age of 25.
Microcredential	Microcredentials are small courses in a specific area of study, with a focus on upskilling and reskilling in short timeframes.
Mission-based compacts	Mission-based compacts provide a strategic framework for the relationship between the Commonwealth and each higher education provider. It sets out how each provider's mission aligns with the Commonwealth's goals for higher education, innovation, teaching and learning, research and research training, and equity.
Needs-based funding	Component of the proposed new funding model for higher education that recognises the additional support for students in target cohorts and for courses delivered in regional areas.
Participation	The stage of the student life course where people are enrolled in a higher education institution and engaged in study in any given year. Participation is often used to describe the level of representation of students from identified equity cohorts in undergraduate, postgraduate or all student enrolments at a higher education institution or nationally. Participation is usually measured through a participation rate (students in identified equity group/domestic onshore students).
Preparatory course	Currently called enabling courses, a preparatory course is a university course that enables a person to meet the entry requirements for a higher education course. The preparatory course requirements may vary depending on the type of preparation required to meet the entry standards of a university.

Population parity	Achieved where representation of the target cohort in the student population is equal to that of their share of the Australian population aged 15 to 64 years. In this Report, the chosen student population is domestic onshore undergraduate enrolments at Table A institutions.
Pricing authority	A pricing authority sets pricing within a broad framework and funding envelope set by government.
Recognition of prior learning	The process that assesses competency acquired through formal and informal learning to determine if the requirements for a unit of study have been met. This includes Credit Transfer for credentialled learning (AQF level) and granting credit for uncredentialled learning (from work experience, life experience, or non-AQF recognised study).
Regional, rural and remote students	In this Report, the description 'regional, rural and remote' is used as an umbrella term to refer to students from non-metropolitan areas across Australia. When used in relation to data, references can be taken to mean 'regional and remote' for the purposes of the Australian Statistical Geography Standard system of classification, which attaches specific meanings to these terms. Under this classification system, regional and remote students are identified by the postcode of their permanent home residence.
Regional University Study Hubs	Regional University Study Hubs help students in regional and remote areas access higher education without having to leave their community. They provide student support and campus-style facilities for students who study online.
Research Support Program	The Research Support Program provides block grants, on a calendar year basis, to higher education providers (HEPs) to support the systemic costs of research not supported directly through competitive and other grants, such as libraries, laboratories, consumables, computing centres and the salaries of support and technical staff.
Retention rate	The proportion of students who continue their studies from the previous year.
Strategic basic research	Strategic basic research is experimental and theoretical work undertaken to acquire new knowledge directed into specified broad areas in the expectation of useful discoveries. It provides the broad base of knowledge necessary for the solution of recognised practical problems.

Student Services and Amenities Fee	Higher education providers are able to charge a Student Services and Amenities Fee (SSAF). The fee may be spent by providers on items such as sporting and recreational activities, employment and career advice, child care, financial advice and food services.
Students with disability	Those who self-identify upon enrolment via a positive response when asked if they have disability, impairment or (a) long term medical condition/s.
Success	Academic performance by comparing the effective full-time student load (EFTSL) of units passed to the EFTSL of units attempted.
Tertiary Access Payment	The Tertiary Access Payment is a non-indexed, means-tested payment to school-leavers from regional or remote areas who need to relocate for full-time, higher-level tertiary education (Certificate IV and above) at an education provider located at least 90 minutes by public transport from their family home.
Youth Allowance	Financial help for students and apprentices 24 or younger, or looking for work and 21 or younger.

List of Tables and Figures

Reference List

ACIL Allen Consulting, *Evaluation of the HEPPP: Higher Education Participation and Partnerships Program* (Melbourne: ACIL Allen Consulting, 2017) www.education.gov.au/heppp/heppp-evaluation.

Advance HE, "Professional Standards Framework for teaching and supporting learning in higher education 2023," Advance HE, published 31 January 2023, advance-he.ac.uk/knowledge-hub/professional-standards-framework-teaching-and-supporting-learning-higher-education-0.

AlphaBeta, *Australian Business Investment in Innovation: Levels, Trends, and Drivers*, (Department of Industry, Science and Resources, January 2020) www.industry.gov.au/sites/default/files/2020-02/australian-business-investment-in-innovation-levels-trends-and-drivers.pdf.

Austin, Kylie; O'Shea, Sarah; Groves, Olivia and Lamanna, Jodi. *Best-practice career education for students from low socioeconomic status backgrounds*, (Perth, Curtin University: National Centre for Student Equity in Higher Education, 2022), www.ncsehe.edu.au/wp-content/uploads/2022/11/2022-NCSEHE-Austin-Final.pdf.

Austin, Kylie; O'Shea, Sarah; Groves, Olivia and Lamanna, Jodi. *Career development learning for students from low socioeconomic status (LSES) backgrounds: Literature review*, (University of Wollongong and National Centre for Student Equity in Higher Education, May 2020), documents.uow.edu.au/content/groups/public/@web/@dvce/@in2uni/documents/doc/uow264921.pdf.

Australian Bureau of Statistics. *Australia's Population by Country of Birth 2022* [data set], (Canberra: 2023), accessed 3 December 2023, www.abs.gov.au/statistics/people/population/australias-population-country-birth/latest-release.

Australian Bureau of Statistics, *Australian National Accounts: National Income, Expenditure and Product (June 2023)* [data set], (Canberra), published 6 September 2023, www.abs.gov.au/statistics/economy/national-accounts/australian-national-accounts-national-income-expenditure-and-product/jun-2023.

Australian Bureau of Statistics. *Australian National Accounts: National Income, Expenditure and Product (September 2023)* [data set], Table 36 (Canberra), published 6 December 2023, www.abs.gov.au/statistics/economy/national-accounts/australian-national-accounts-national-income-expenditure-and-product/latest-release.

Australian Bureau of Statistics. *Balance of Payments and International Investment Position* [data set], (Canberra: September 2023), accessed 12 December 2023, www.abs.gov.au/statistics/economy/international-trade/balance-payments-and-international-investment-position-australia/latest-release.

Australian Bureau of Statistics. *Barriers and Incentives to Workforce Participation, Australia 2022–23* [data set], (Canberra: 2023), published 27 November 2023, www.abs.gov.au/statistics/labour/employment-and-unemployment/barriers-and-incentives-labour-force-participation-australia/latest-release.

Australian Bureau of Statistics. *Census All Persons, 2021 Tasmania* [data set], (Canberra), accessed 14 December 2023, www.abs.gov.au/census/find-census-data/quickstats/2021/6.

Australian Bureau of Statistics. *Census of Population and Housing, 2021* [data set], (Canberra: 2023).

Australian Bureau of Statistics. *Census TableBuilder*, National Remoteness Areas and level of highest qualification, (Canberra, 2023), accessed 19 December 2023.

Australian Bureau of Statistics. *Consumer Price Index, Australia* [data set], September Quarter 2023 (Canberra: October 2023), accessed 11 December 2023 www.abs.gov.au/statistics/economy/price-indexes-and-inflation/consumer-price-index-australia/latest-release.

Australian Bureau of Statistics. *Education and Work, Australia May 2023* [data set], (Canberra) accessed 8 December 2023, www.abs.gov.au/statistics/people/education/education-and-work-australia/may-2023/.

Australian Bureau of Statistics. *Regional Population* [data set], (Canberra: 2023), www.abs.gov.au/statistics/people/population/regional-population/2021-22.

Australian Bureau of Statistics. *Research and Experimental Development, All Sector Summary, Australia, 2008-09* [data set], Cat. No. 8112.0, (Canberra), www.abs.gov.au/AUSSTATS/abs@.nsf/Lookup/8112.0Main+Features12008-09?OpenDocument.

Australian Bureau of Statistics. *Research and Experimental Development, Businesses, Australia, 2021-22* [data set], (Canberra), published 25 August 2023, www.abs.gov.au/statistics/industry/technology-and-innovation/research-and-experimental-development-businesses-australia/latest-release.

Australian Bureau of Statistics. *Research and Experimental Development, Government and Private Non-Profit Organisations, Australia, 2020-21* [data set], (Canberra: 2022), accessed 8 December 2023, www.abs.gov.au/statistics/industry/technology-and-innovation/research-and-experimental-development-government-and-private-non-profit-organisations-australia/2020-21.

Australian Bureau of Statistics. *Research and Experimental Development, Higher Education Organisations, Australia* [data set], (Canberra: 2022), published 25 August 2023 www.abs.gov.au/statistics/industry/technology-and-innovation/research-and-experimental-development-higher-education-organisations-australia/latest-release.

Australian Chamber of Commerce and Industry. *Submission to the Accord Interim Report*, 2023, www.education.gov.au/system/files/2023-09/AUA_inter_tranche9a_192%20Australian%20Chamber%20of%20Commerce%20and%20Industry.pdf.

Australian Children's Education & Care Quality Authority (ACECQA). "National Quality Framework," ACECQA, accessed 12 December 2023, www.acecqa.gov.au/national-quality-framework.

Australian Computer Society. "ACS microCredentials, accessed 10 December 2023, www.acs.org.au/professionalrecognition/microcredentials-home.html.

Australian Council of Engineering Deans. *Position Statement: Mathematics Requirements for Engineering Education*, (February 2019) 1, www.aced.edu.au/downloads/POSITION%20STATEMENT%20No%205%20Mathematics%20Requirements%20for%20Engineering%20Degrees.pdf.

Australian Industry Group. *Submission to the Accord Interim Report*, 2023, www.education.gov.au/system/files/2023-09/AUA_inter_tranche7_157%20Australian%20Industry%20Group.pdf.

Australian Industry Group. *Submission to the Australian Universities Accord Interim Report*, 2023, 14, www.education.gov.au/australian-universities-accord/consultations/consultation-accord-interim-report/submission/16952.

Australian Institute for Teaching and School Leadership. *Australian Teacher Workforce Data National Trends: Teacher Workforce*, (Melbourne: June 2023), www.aitsl.edu.au/research/australian-teacher-workforce-data/atwdreports/national-trends-teacher-workforce.

Australian Partnership for Preparedness Research on Infectious Disease Emergencies (APPRISE). "First Nations-led projects funded for COVID-19 research," APPRISE website, accessed 11 November 2023, www.apprise.org.au/project/first-nations-led-projects-funded-for-covid-19-research/.

Australian Qualifications Framework. "What is the AQF," accessed 10 November 2023, www.aqf.edu.au/about/what-aqf.

Australian Research Council. *ARC at a Glance,* (Canberra: Australian Research Council, June 2023), 2, www.arc.gov.au/sites/default/files/2023-06/ARC%20at%20a%20Glance%20-%20June%202023%20v4_double-page.pdf.

Australian Research Council. *ERA EI Review: Final Report 2020–2021* (Canberra: Australian Research Council, 2021), www.arc.gov.au/sites/default/files/era_ei_ac_report.pdf.

Australian Research Council. *Evaluation of the Discovery Projects Scheme: Final Report* (Canberra: Australian Research Council, 2020) www.arc.gov.au/sites/default/files/2022-06/Evaluation%20of%20the%20Discovery%20Projects%20scheme%20%28PDF%29.pdf.

Australian Research Council. *Industrial Transformation Training Centres Selection Report for Funding Commencing in 2023* (Table 2), (Canberra: 2023), accessed December 15, 2023, www.arc.gov.au/sites/default/files/2022-06/Evaluation%20of%20the%20Discovery%20Projects%20scheme%20%28PDF%29.pdf.

Australian Research Council. *Standard: Excellence in Research for Australia (ERA) and Engagement and Impact (EI) 2018 Outcomes*, Australian Research Council, accessed 15 December 2023, www.arc.gov.au/standard-excellence-research-australia-era-and-engagement-and-impact-ei-2018-outcomes.

Australian Research Council. *State of Australian University Research 2018–19: ERA National Report*, (Canberra: 2019), dataportal.arc.gov.au/ERA/NationalReport/2018/.

Australian Research Council. *State of University Research 2018–19* [data set], (Canberra, 2019), accessed 10 November 2023, dataportal.arc.gov.au/ERA/NationalReport/2018/.

Australian Technology Network of Universities (ATN) and Nous Group. *Enhancing the Value of PhDs to Australian Industry*, (Melbourne: ATN, 2017), accessed 16 May 2023, atn.edu.au/wp-content/uploads/2021/12/atn01-phd-report-web-single.pdf.

Australian Veterinary Association. *AVA Federal Government Pre-Budget Submission (May 2023 Budget)*, (Canberra: 8 February 2023), www.ava.com.au/news/ava-federal-government-pre-budget--submission-may-2023-budget/.

Australia's Chief Scientist. *Trust in Science: Clarifying the Distinctions between Research Integrity, Research Quality, Excellence, and Impact* (Canberra: Office of the Chief Scientist, 2023), 3, www.chiefscientist.gov.au/sites/default/files/2023-08/Clarifying%20the%20distinctions%20between%20research%20integrity%2C%20research%20quality%2C%20excellence%2C%20and%20impact.pdf.

Baldwin, Peter. *Assessment of the Relative Funding Position of Australia's Higher Education Institutions*, (Canberra: Australian Government Publishing Service, 1990), hdl.voced.edu.au/10707/644479.

Barrett, Philip; Hansen, Niels-Jakob; Natal, Jean-Marc and Noureldin, Diaa. "Why Basic Science Matters for Economic Growth: Public Investment in Basic Research will Pay for Itself," IMF Blog, 6 October 2021, www.imf.org/en/Blogs/Articles/2021/10/06/blog-ch3-weo-why-basic-science-matters-for-economic-growth.

Batchelor Institute of Indigenous Tertiary Education. "Advanced Diploma of Education Success," accessed 15 December 2023, www.batchelor.edu.au/portfolio/advanced-diploma-of-education-success/.

Bean, Martin and Dawkins, Peter. *Review of university-industry collaboration in teaching and learning*, (Canberra: Department of Education, Skills and Employment, 2021).

Benner, Mats. *Asia's Rising Research Dominance: Universities and State Building* (Cheltenham: Edward Elgar Publishing, 2017).

Benner, Mats; Grant, Jonathan and O'Kane, Mary. *Crisis Response in Higher Education: How the Pandemic Challenged University Operations and Organisation* (2022), doi.org/10.1007/978-3-030-97837-2.

Bennett, Anna; Naylor, Ryan; Mellor, Kate; Brett, Matt; Gore, Jenny; Harvey, Andrew; James, Richard; Munn, Belinda; Smith, Max and Whitty, Geoff. *The critical interventions framework part 2: Equity initiatives in Australian higher education: a review of evidence and impact* (University of Newcastle, 2015), hdl.handle.net/1959.13/1389888.

Bennett, Dawn; Coffey, Jane; Bawa, Sherry; Carney, David; Dockery; Alfred; Franklyn, Kathleen; Koshy, Paul; Li, Ian W.; Parida, Subhadarsini and Unwin, Siobhan. *Ameliorating Disadvantage: creating accessible, effective and equitable careers and study information for low SES students*, (Perth: National Centre for Student Equity in Higher Education, 2022), www.ncsehe.edu.au/publications/careers-study-information-low-ses-students/.

Bexley, Emmaline; James, Richard and Arkoudis, Sophie. *The Australian Academic Profession in Transition: Addressing the Challenge of Reconceptualising Academic Work and Regenerating the Academic Workforce* (Department of Education, Employment and Workplace Relations and University of Melbourne Centre for the Study of Higher Education, University of Melbourne, September 2011), 4, melbourne-cshe.unimelb.edu.au/__data/assets/pdf_file/0010/1490923/The_Academic_Profession_in_Transition_Sept2011.pdf.

Biddle, Nicholas. *Attitudes towards education in Australia*, (Canberra: ANU Centre for Social Research and Methods, 2023), 13, csrm.cass.anu.edu.au/sites/default/files/docs/2023/8/Attitudes_towards_education_in_Australia_-_For_web.pdf.

Brooks, James. "Leiden rankings to add open-source version in 2024," Research Professional News, published 15 September 2023, www.researchprofessionalnews.com/rr-news-europe-universities-2023-9-leiden-rankings-to-add-open-source-version-in-2024/.

Business Council of Australia. *Submission to the Accord Interim Report*, 2023, www.education.gov.au/system/files/2023-09/AUA_inter_tranche8_168%20Business%20Council%20of%20Australia.pdf.

Cahill, Mildred and Furey, Edith. *The Early Years: Career Development for Young Children*, (Toronto: CERIC and Memorial University, 2017) accessed 10 December 2023, Toronto cica.org.au/wp-content/uploads/The-Early-Years-Career-Development-for-Young-Children-Educators-Guide-October-2017.pdf.

Caltech. "ENVision 2030," California Institute of Technology, 2023, accessed 4 December 2023, www.eas.caltech.edu/about/strategic-plan.

Cardak, Buly; Bowden, Mark and Bahtsevanoglou, John. *Are Low SES students disadvantaged in the university application process?* (Perth, Curtin University: National Centre for Student Equity in Higher Education, 2015), www.ncsehe.edu.au/wp-content/uploads/2015/11/Are-Low-SES-Students-Disadvantaged-in-the-University-Application-Process-November-2015.pdf.

Carey, Adam and Heffernan, Madeleine. "Victorian universities deep in the red as overseas student numbers stay low," The Age, (2 May 2023), www.theage.com.au/national/victoria/victorian-universities-deep-in-the-red-as-overseas-student-numbers-stay-low-20230502-p5d50b.html.

Carroll, Lucy and Harris, Christopher. "All but one of the state's universities are losing money as student numbers shrink," Sydney Morning Herald, (31 May 2023), www.smh.com.au/national/nsw/all-but-one-of-the-state-s-universities-are-losing-money-as-student-numbers-shrink-20230531-p5dcto.html.

CBRE. *Accommodating the growth in students: Demand, supply and pricing for Australian PBSA market*, (CBRE Research, August 2023), mktgdocs.cbre.com/2299/c5166330-37d3-4674-8cda-dce518da0b37-1392467054.pdf.

Centre for Population. *Budget 2023-24: population projections, Australia, 2022-23 to 2033-34* [data set], (Canberra), published 17 May 2023, population.gov.au/data-and-forecasts/projections/budget-2023-24-population-projections-australia-2022-23-2033-34.

Chapman, Bruce and Leigh, Andrew. "Do Very High Tax Rates Induce Bunching? Implications for the Design of Income Contingent Loan Schemes," *The Economic Record* 85, 270 (The Economic Society of Australia, 2009), 276–289, doi.org/10.1111/j.1475-4932.2009.00554.x.

Chapman, Bruce and Tourky, Rabee. "Universities should pay levy on 'foreign student industry,'" The Australian, (15 Nov 2023), www.theaustralian.com.au/commentary/universities-should-pay-levy-on-foreign-student-industry/news-story/57c14ca00cd248774e24b51f1c8ad80d.

Chapman, Bruce. "The rationale for the Higher Education Contribution Scheme", Australian Universities Review, (1996): brucejchapman.com/wp-content/uploads/2018/12/The-rationale-for-the-HECS.pdf.

Charles Sturt University. "Teacher's aide: Become the teacher you've always wanted to be," accessed 15 December 2023 study.csu.edu.au/career-area/education-teaching/teachers-aide.

Chingos, Matthew and Dynarski, Susan. "The International Final Four: Which Country Handles Student Debt Best?" *The New York Times*, (2 April 2018), www.nytimes.com/2018/04/02/upshot/an-international-final-four-which-country-handles-student-debt-best.html.

Chun-Kai, Karl; Neylon, Cameron; Montgomery, Lucy; Hosking, Richard; Diprose, James P.; Handcock, Rebecca N. and Wilson, Katie. *Open Access Research Outputs Receive More Diverse Citations*, version 3 (Zenodo, September 2023), doi.org/10.5281/zenodo.8362576.

Clarivate Plc. "Clarivate Reveals World's Influential Researchers in Highly Cited Researchers 2023 List," Australian Associate Press (APA), 15 November 2023, www.aap.com.au/aapreleases/cision20231115ae68209/.

Clarivate Plc. *Web of Science Documents* [data set], (2022), accessed 24 November 2023, incites.clarivate.com/#/analysis/0/organization.

Clark, Greg; Moonen, Tim and Nunley, Jake. (Sydney: Innovation and Productivity Council, NSW Government, August, 2018), 53, www.investment.nsw.gov.au/innovation/nsw-innovation-and-productivity-council/our-publications/the-innovation-economy-implications-and-imperatives-for-states-and-regions/.

Closing the Gap. "National Agreement on Closing the Gap," July 2020, accessed 13 December 2023, www.closingthegap.gov.au/national-agreement/national-agreement-closing-the-gap.

Coates, Brendan; Wiltshire, Trent and Reysenbach, Tyler. *Australia's Migration Opportunity: How Rethinking Skilled Migration Can Solve Some of Our Biggest Problems,* (Melbourne: Grattan Institute, December 2022), grattan.edu.au/wp-content/uploads/2022/12/Australias-migration-opportunity-how-rethinking-skilled-migration-can-solve-some-of-our-biggest-problems.pdf.

Committee on Australian Universities. *Report of the Committee on Australian Universities (Murray report)* (Canberra: Government Printer, 1957), hdl.voced.edu.au/10707/228224.

Committee on Financing of Universities, *Report of the Committee on Financing of Universities* (1950), Australian Dictionary of Biography, Volume 10, 1986, adb.anu.edu.au/biography/mills-richard-charles-7593.

Committee on the Future of Tertiary Education in Australia. *Tertiary Education in Australia (Martin report)* (Canberra: Government Printer, 1964), hdl.voced.edu.au/10707/228215.

Commonwealth Bureau of Census and Statistics. *Official Year Book of the Commonwealth of Australia: No. 37 – 1946 and 1947* (Canberra), www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/1301.01946-47?OpenDocument.

Croucher, Gwilym and Massaro, Vin. *Submission in response to the Australian Universities Accord Discussion Paper*, 2023, www.education.gov.au/system/files/documents/submission-file/2023-04/AUA_tranche3_Gwilym%20Croucher%20%26amp%3B%20%20Vin%20Massaro.pdf.

Croucher, Gwilym and Woelert, Peter. "Administrative transformation and managerial growth: a longitudinal analysis of changes in the non-academic workforce at Australian universities," *Higher Education* (August 2021): doi.org/10.1007/s10734-021-00759-8.

Croucher, Gwilym. "Three Decades of Change in Australia's University Workforce," (Melbourne Centre for the Study of Higher Education, September 2023): www.doi.org/10.26188/23995704.

Curtin Student Guild. *Submission to the Australian Universities Accord Priorities*, 2023, www.education.gov.au/system/files/documents/submission-file/2023-02/AUA_priorities_Curtin%20Student%20Guild_0.pdf.

Cutler, Terry. *Alliances for Innovation and Economic Development: the Australian Experience* (Melbourne: United Nations Economic Commission for Latin America and the Caribbean [ECLAC], and Culter and Company, 2008).

Davis, Glyn. "Why are Australian Universities so large?" *Australian Universities: A Conversation About Public Good*, edited by Julia Horne and Matthew A.M. Thomas, (Sydney: Sydney University Press, 2022).

Davis, Glyn. *The Australian Idea of a University* (Melbourne: Melbourne University Press, 2017).

Dawkins, John S. *Higher Education: a policy statement*, (Canberra: Department of Employment, Education and Training, 1988), accessed 20 November 2023, hdl.voced.edu.au/10707/162333.

De Bortoli, Lisa; Underwood, Catherine and Thomson, Sue. *PISA 2022: Reporting Australia's results: Volume I Student performance and equity in education*, (Australian Council for Educational Research, 2023), accessed 5 December 2023, research.acer.edu.au/cgi/viewcontent.cgi?article=1056&context=ozpisa.

DeakinCo and Deloitte Access Economics. *Soft skills for business success*, (May 2017), accessed 5 October 2023, www.deloitte.com/au/en/services/economics/perspectives/soft-skills-business-success.html.

Dean, Jenny; Downes, Natalie and Roberts, Philip. "Access to and equity in the curriculum in the Australian government secondary school system," *SN Social Sciences*, 3, 64 (2023), doi.org/10.1007/s43545-023-00641-7.

Dell'Acqua, Fabrizio; McFowland, Edward; Mollick, Ethan R.; Lifshitz-Assaf, Hila; Kellogg, Katherine; Rajendran, Saran; Krayer, Lisa; Candelon, Francois and Lakhani, Karim R. *Navigating the Jagged Technological Frontier: Field Experimental Evidence of the Effects of AI on Knowledge Worker Productivity and Quality*, Harvard Business School Technology & Operations Mgt. Unit Working Paper No. 24-013 (September 15, 2023), dx.doi.org/10.2139/ssrn.4573321.

Deloitte Economics Australia. Transparency in Higher Education Expenditure, (Canberra: Department of Education, Skills and Employment, June 2022), 74, www.education.gov.au/system/files/documents/submission-file/2023-02/AUA_priorities_Curtin%20Student%20Guild_0.pdf.

Department of Climate Change, Energy, the Environment and Water. "Powering Australia," revised 3 December 2023, www.energy.gov.au/government-priorities/australias-energy-strategies-and-frameworks/powering-australia.

Department of Education and the Tertiary Admissions Centres. "CourseSeeker," accessed 10 December 2023, www.courseseeker.edu.au/.

Department of Education and the Universities Admissions Centre. "What is a Microcredential," accessed 10 December 2023, www.microcredseeker.edu.au/about.

Department of Education and Training. *Review of the Australian Qualifications Framework: Final Report 2019,* (Canberra: 2019), www.education.gov.au/higher-education-reviews-and-consultations/resources/review-australian-qualifications-framework-final-report-2019.

Department of Education, Employment and Workplace Relations. *Review of Australian Higher Education: Final Report* (Bradley Review) (Canberra: December 2008), hdl.voced.edu.au/10707/44384.

Department of Education, *Higher Education Statistics Collection – Staff Data* [data set], Table 2, (Canberra: 2022), accessed 20 November 2023, www.education.gov.au/higher-education-statistics/staff-data/selected-higher-education-statistics-2022-staff-data.

Department of Education, Skills and Employment. *Factors affecting higher education completions,* (Canberra: Department of Education, Skills and Employment, 2020)

Department of Education, Skills and Employment. *Research Commercialisation Action Plan* (Canberra: February, 2022), www.education.gov.au/research-translation-and-commercialisation-agenda.

Department of Education. "Funding Outcomes," Department of Education, revised 30 November 2023, www.education.gov.au/national-industry-phd-program/funding-outcomes.

Department of Education. "Research Translation and Commercialisation Agenda," Department of Education, published 23 November 2023, www.education.gov.au/research-translation-and-commercialisation-agenda.

Department of Education. "Student Testimonials," Regional University Study Hubs, published 20 October 2023, www.education.gov.au/regional-university-study-hubs/student-testimonials.

Department of Education. *Administrative data* [unpublished], (Canberra: Department of Education, 2023).

Department of Education. *Analysis of Person Level Integrated Data Asset (using higher education data, Data Over Multiple Individual Occurrences (DOMINO) and taxation data from Education, Skills and Employment National Data Asset (ESENDA)* [unpublished data], (Canberra: 2023).

Department of Education. *Consolidated Time Series Datasets – Research Income Time Series and Research Block Grant Allocations* [data set], www.education.gov.au/research-block-grants/resources/research-block-grant-allocations-time-series.

Department of Education. Domestic PhD Student Enrolments (by Equity Group) 2022 [unpublished data], (Canberra: 2023).

Department of Education. *Draft Proposal: Addressing gender-based violence in higher education*, (Canberra: 2023), www.education.gov.au/australian-universities-accord/resources/draft-action-plan-addressing-genderbased-violence-higher-education.

Department of Education. *Higher Education Loan Program Data* [unpublished data], (Canberra: 2023).

Department of Education. Higher Education Providers Finance Tables 2004–2021 [data set], (Canberra, March 2023) accessed 8 June 2023, www.education.gov.au/higher-education-publications/resources/2021-higher-education-providers-finance-tables.

Department of Education. *Higher Education Statistics – Student Data – 2022 Section 16 Equity Performance Data* [data set], (Canberra: 2023), published 18 December 2023, www.education.gov.au/higher-education-statistics/resources/2022-section-16-equity-performance-data.

Department of Education. *Higher Education Statistics – Student data – 2022 Section 2 All students* [data set], (Canberra: 2023), accessed 18 December 2023, www.education.gov.au/higher-education-statistics/resources/2022-section-2-all-students.

Department of Education. *Higher Education Statistics – Student Data – 2022 Section 5 Liability Status* [data set], (Canberra: 2023), accessed 18 December 2023, www.education.gov.au/higher-education-statistics/resources/2022-section-5-liability-status-categories.

Department of Education. *Higher Education Statistics – Student Data – 4 year cohort completion rates 2019–2022* [unpublished data], (Canberra: 2023).

Department of Education. *Higher Education Statistics – Student Data – Age group of full-time and part-time domestic Bachelor's students in 2022* [unpublished data], (Canberra: 2023).

Department of Education. *Higher Education Statistics - Student Data* [unpublished data], (Canberra: 2022).

Department of Education. *Higher Education Statistics –Staff data* – [data set], (Canberra: 2022), accessed 8 December 2023, www.education.gov.au/higher-education-statistics/staff-data/selected-higher-education-statistics-2022-staff-data.

Department of Education. *Indigenous Students in Higher Degrees by Research: Statistical Report, August 2019*, (Canberra: 2020), 13, www.education.gov.au/higher-education-statistics/resources/indigenous-students-higher-degrees-research.

Department of Education. *International Student Data for the year-to-date (YTD) September 2023* [data set], (Canberra), accessed 8 December 2023, www.education.gov.au/international-education-data-and-research/international-student-monthly-summary-and-data-tables#:~:text=In%20the%20year%2Dto%2Ddate,the%20COVID%2D19%20pandemic).

Department of Education. *International Student Monthly Summary and Data Tables December 2022* [data set], (Canberra: 2022), accessed 29 November 2023, www.education.gov.au/international-education-data-and-research/international-student-monthly-summary-and-data-tables.

Department of Education. *National Microcredentials Framework*, (Canberra: 2022), 3, www.education.gov.au/higher-education-publications/resources/national-microcredentials-framework.

Department of Education. *Provider Registration and International Student Management System (PRISMS)* [unpublished data], (Canberra: 2023).

Department of Education. *Student Enrolments Pivot Table 2022* [data set] (Canberra: 2023), published 18 December 2023, www.education.gov.au/higher-education-statistics/resources/student-enrolments-pivot-table-2022.

Department of Education. *University Revenue and Expenses* [unpublished data], (Canberra: 2023).

Department of Education. *Higher Education Statistics – Student Data – 2022 Section 11 Equity groups* [data set], (Canberra: 2023), published 18 December 2023, www.education.gov.au/higher-education-statistics/resources/2022-section-11-equity-groups.

Department of Employment and Workplace Relations. "My Skills is now part of Your Career," 2023, accessed 10 December 2023, www.yourcareer.gov.au/learn-and-train/myskills.

Department of Employment and Workplace Relations. "Partnership Grants program," revised 7 July 2023, www.dewr.gov.au/nci/partnership-grants-program.

Department of Foreign Affairs and Trade. *Trade and Investment at a Glance 2021*, (Canberra: 2021), www.dfat.gov.au/sites/default/files/trade-and-investment-glance-2021.pdf.

Department of Health and Aged Care. *National Medical Workforce Strategy 2021–2031*, (Canberra: 2023) revised 12 December 2023, www.health.gov.au/our-work/national-medical-workforce-strategy-2021-2031.

Department of Home Affairs. *Migration Strategy: Getting Migration Working for the Nation*, (Canberra: 2023), accessed 13 December 2023, immi.homeaffairs.gov.au/programs-subsite/migration-strategy/Documents/migration-strategy.pdf.

Department of Home Affairs. *Review of the Migration System*, (Canberra: 2023), www.homeaffairs.gov.au/reports-and-publications/reviews-and-inquiries/departmental-reviews/migration-system-for-australias-future.

Department of Home Affairs. *The Migration Strategy*, (Canberra: 2023), accessed 11 November 2023, immi.homeaffairs.gov.au/programs-subsite/migration-strategy/Documents/migration-strategy.pdf.

Department of Industry, Science and Resources. *Science, Research and Innovation Budget Tables 2022-23* [data set], published 28 April 2023, www.industry.gov.au/publications/science-research-and-innovation-sri-budget-tables-2022-23.

Department of Industry, Science, Energy and Resources. "About Skill Finder," Skills Finder, accessed 10 December 2023, www.skillfinder.com.au/page/about.

Department of Premier and Cabinet. S*tate of Tasmania and University of Tasmania - Making the Future Partnership* (Hobart: Department of Premier and Cabinet, Tasmanian Government, 2015), www.dpac.tas.gov.au/divisions/policy/partnership_with_the_university_of_tasmania.

Department of Prime Minister and Cabinet. *Strengthening Skills: Expert Review of Australia's Vocational Education and Training System*, (Canberra: 2019), www.pmc.gov.au/publications/strengthening-skills-expert-review-australias-vocational-education-and-training-system.

Department of Social Services. *Interim Economic Inclusion Advisory Committee 2023-24 Report* (Canberra, 2023), www.dss.gov.au/groups-councils-and-committees-economic-inclusion-advisory-committee/interim-economic-inclusion-advisory-committee-2023-24-report.

Department of Social Services. *Student Income Bank Usage* [unpublished data], (Canberra: 2023).

Department of the Treasury. *Intergenerational Report 2023: Australia's future to 2063,* (Canberra: Department of the Treasury, 2023), treasury.gov.au/sites/default/files/2023-08/p2023-435150.pdf.

Department of the Treasury. *Profile of Australia's population*, (Canberra: Australian Institute for Health and Welfare (AIHW), 2023), www.aihw.gov.au/reports/australias-health/profile-of-australias-population.

Department of the Treasury. *Working Future: The Australian Government's White Paper on Jobs and Opportunities,* (Canberra: 2023), treasury.gov.au/employment-whitepaper/final-report.

Dollinger, Mollie; Harvey, Andrew; Naylor, Ryan; Mahat, Marian and D'Angelo, Belinda. *A student-centred approach: Understanding higher education pathways through co-design* (Perth: National Centre for Student Equity in Higher Education, 2022), www.ncsehe.edu.au/wp-content/uploads/2022/11/2022-Dollinger-Final.pdf.

Droegemeier, Kelvin K. "Written testimony submitted to the Appropriations Sub-Committee on Labor, Health and Human Services, Education and Related Agencies, United States House of Representatives" for the hearing titled The Role of Facilities and Administrative Costs in Supporting NIH-Funded Research, (October 2017).

Duckett, Stephen. *Submission to the Australian Universities Accord Interim Report,* 2023.

Dymock, Daryll and Billett, Stephen. "Skilling Australians: Lessons from World War II National Workforce Development Programs," *Australian Journal of Adult Learning* 50, no. 3 (November 2010), research-repository.griffith.edu.au/bitstream/handle/10072/38922/65824_1.pdf?sequence=1.

Education Ministers Meeting. *Education Ministers Meeting Communique: October 2023*, (Canberra: Department of Education, 2023), www.education.gov.au/collections/communiques-education-ministers-meeting-2023.

Emergency Response Fund Bill 2019, Explanatory Memorandum, parlinfo.aph.gov.au/parlInfo/download/legislation/ems/r6390_ems_53e96fa8-8d78-471d-b6b5-266e4e93871a/upload_pdf/716910.pdf;fileType=application%2Fpdf.

Eurostat. *Community innovation survey 2020 (CIS2020)*, European Union: 2020), accessed 14 December 2023, ec.europa.eu/eurostat/cache/metadata/en/inn_cis12_esms.htm#annex1678715583437.

Explanatory Memorandum, Higher Education Support Amendment (Job-Ready Graduates and Supporting Regional and Remote Students) Bill 2020, (Cth), parlinfo.aph.gov.au/parlInfo/download/legislation/ems/r6584_ems_79c2b067-a1b7-4c5d-949a-73e246023baa/upload_pdf/746432.pdf;fileType=application%2Fpdf.

Flodin, Charles and Vidovich, Nicole. "Innovations and insights for higher education aspiration and outreach programs," *Innovations in Higher Education Teaching and Learning*, 17 (2019), doi:10.1108/S2055-364120190000017012.

Group of Eight Australia. *Basic Research: The Foundation of Progress, Productivity, and a More Sovereign Nation* (Canberra, ACT: Group of Eight Australia, September, 2023), go8.edu.au/wp-content/uploads/2023/09/Go8-Policy-Brief-Basic-Research.pdf.

Halsey, John. *Independent Review into Regional, Rural and Remote Education*, (Canberra: Department of Education, 2018), www.education.gov.au/quality-schools-package/resources/independent-review-regional-rural-and-remote-education-final-report.

Harvard Growth Lab. Country and Product Complexity Rankings [data set], (Massachusetts: 2022), accessed 31 October 2023, atlas.cid.harvard.edu/rankings.

Harvey, Andrew; McNamara, Patricia; Andrewartha, Lisa and Luckman, Michael. *Out of care, into university: Raising higher education access and achievement of care leavers* (Melbourne: La Trobe University, March 2015), www.ncsehe.edu.au/wp-content/uploads/2015/03/Out-of-Care-Into-University.pdf.

Harvey, Andrew; McDermid, Lucy and Wren, Rebecca. *Policy Paper #1: The impact of school streaming on growth and equity in Australian higher education: evidence from Queensland*, (Logan, Griffith University: Pathways in Place, 2023), doi.org/10.25904/1912/4989.

Higher Education and Research Reform Amendment Bill 2014.

Higher Education Standards Framework (Threshold Standards) 2021 (Cth), B1.2–B1.3, www.legislation.gov.au/Details/F2022C00105.

Higher Education Standards Panel. *Submission to the Australian Universities Accord Discussion Paper*, 2023, www.education.gov.au/system/files/documents/submission-file/2023-07/Higher%20Education%20Standards%20Panel%20%28HESP%29.pdf.

Higher Education Support Act 2003 (Cth), Division 2, www.legislation.gov.au/Details/C2022C00005.

Higher Education Support Amendment (Response to the Australian Universities Accord Interim Report) Act 2023 (Cth), www.aph.gov.au/Parliamentary_Business/Bills_Legislation/Bills_Search_Results/Result?bId=r7060.

Higher Education Support Amendment (Savings and Other Measures) Bill 2013.

Higher Education Support Legislation Amendment (A More Sustainable, Responsive and Transparent Higher Education System) Bill 2017.

Hurley, Peter; Nguyen, Ha; Tham, Melissa; Prokofieva, Maria and Knight, Lizzie. *Needs-based funding: Lessons from the school sector*, (Melbourne: Mitchell Institute, 2023), www.vu.edu.au/mitchell-institute/education/tertiary-education/needs-based-funding-lessons-from-the-school-sector.

IMF. *Australia: Selected Issues*, Report No. 21/256, (December 2021), www.imf.org/en/Publications/CR/Issues/2021/12/02/Australia-Selected-Issues-510757.

Independent Tertiary Education Council Australia. *2022 ITECA State of the Sector Report*, (Canberra: October 2022), www.iteca.edu.au/state-of-sector.

Independent Tertiary Education Council Australia. *Submission to the Australian Universities Accord Discussion Paper*, 2023, www.education.gov.au/australian-universities-accord/consultations/consultation-discussion-paper.

Institute for Social Science Research. *Final Report: Targeted Review of Student Equity in Higher Education Programs and System Level Policy Levers* [unpublished report], (Brisbane: University of Queensland).

Institute for Social Science Research. *Review of identified equity groups*, (Brisbane: The University of Queensland, November 2018), espace.library.uq.edu.au/view/UQ:bd8a044/Review_of_Equity_Groups_Final_Report.pdf?dsi_version=b288c45b247e4dbcd7bf879e09724b9c.

Interface. *Interface Annual Review 22–23*, (Interface, 2023), accessed 10 Nov 2023, interface-online.org.uk/.

JCU, citing Medical Deans Australian and New Zealand. *Data Dashboard: Doctors Registered in Australia in 2020-2022* [data set], (2023), accessed 13 December 2023, medicaldeans.org.au/.

Jobs and Skills Australia (JSA), *2023 Skills Priority List: Key Findings Report,* (September 2023), www.jobsandskills.gov.au/data/skills-shortages-analysis.

Jobs and Skills Australia. "Skills Priority List," *Jobs and Skills Australia*, accessed 5 December 2023, www.jobsandskills.gov.au/data/skills-priority-list.

Jobs and Skills Australia. *Employment outlook: industry and occupation trends over the five years to November 2026* (Canberra, 2022), accessed 26 November 2023, labourmarketinsights.gov.au/media/l2ueqd0e/employment-outlook-industry-and-occupation-trends.pdf.

Jobs and Skills Australia. *Employment Projections – May 2023 to May 2033* [data set], (Canberra: 2023), accessed 20 November 2023, www.jobsandskills.gov.au/data/employment-projections.

Jobs and Skills Australia. *The Clean Energy Generation: Workforce needs for a net zero economy*, (Canberra: 2023), www.jobsandskills.gov.au/studies/clean-energy-capacity-study#finalreport.

Jobs and Skills Australia. *Towards a National Jobs and Skills Roadmap: Annual Jobs and Skills Report 2023* (October 2023), www.jobsandskills.gov.au/publications/towards-national-jobs-and-skills-roadmap.

Joint Standing Committee on Foreign Affairs, Defence and Trade. *Quality and Integrity - the Quest for Sustainable Growth: Interim Report into International Education*, Inquiry into Australia's tourism and international education sectors, (Canberra: Parliament of Australia, October 2023), 1, accessed 15 November 2023.

Joint Standing Committee on Migration. *Final Report of the Inquiry into Australia's Skilled Migration Program*, (Canberra: Parliament of Australia, 2021), accessed 13 December 2023, parlinfo.aph.gov.au/parlInfo/download/committees/reportjnt/024680/toc_pdf/FinalReportoftheInquiryintoAustralia'sSkilledMigrationProgram.pdf;fileType=application%2Fpdf.

Kemp, David and Norton, Andrew. *Review of the Demand Driven Funding System: Final Report*, (Canberra: Department of Education, April 2014), www.education.gov.au/higher-education-reviews-and-consultations/resources/review-demand-driven-funding-system-report.

Kift, Sally. *Submission to the Universities Accord Discussion Paper,* 2023, www.education.gov.au/australian-universities-accord/consultations/australian-universities-accord-panel-discussion-paper-consultation/submission/16326.

Knowledge Commercialisation Australasia. *Survey of Commercialisation Outcomes from Publish Research: Summary report*, (Adelaide: Knowledge Commercialisation Australasia, 11 October 2023), techtransfer.org.au/scopr-2022-public-research-powers-ahead-on-commercialisation/.

La Trobe University. "Take time out in The Lounge," My La Trobe, published 17 February 2023, www.latrobe.edu.au/mylatrobe/take-time-out-in-the-lounge/.

Loble, Leslie and Hawcroft, Auroura. *Shaping AI and edtech to tackle Australia's learning divide*, (Sydney: University of Technology Sydney, 2022), doi.org/10.57956/kxye-qd93.

McKay, Jade and Devlin, Marcia. "'Low income doesn't mean stupid and destined for failure': challenging the deficit discourse around students from low SES backgrounds in higher education," *International Journal of Inclusive Education 20, 4* (Routledge: Taylor & Francis Group, September 2015), dx.doi.org/10.1080/13603116.2015.1079273.

Meek, Vincent L. "The Transformation of Australian Higher Education from Binary to Unitary System," *Higher Education* 21, no. 4 (1991). www.jstor.org/stable/3447236.

Mewburn, Inger; Suominen, Hanna and Grant, Will. *Tracking Trends in Industry Demand for Australia's Advanced Research Workforce* (Canberra: Australian National University and CSIRO, August 2017), openresearch-repository.anu.edu.au/handle/1885/209175.

Moggridge, Bradley; Thompson, Ross and Radoll, Peter. "Indigenous research methodologies in water management: learning from Australia and New Zealand for application on Kamilaroi country," *Wetlands Ecology and Management*, 30, (2022), link.springer.com/article/10.1007/s11273-022-09866-4.

Monash University. "Support," Monash Online, accessed 12 December 2023, online.monash.edu/support/.

Moodie, Nikki; Ewen, Shaun; McLeod, Julie and Platania-Phung, Chris. "Indigenous graduate research students in Australia: a critical review of the research," *Higher Education Research & Development* 37, 4, (February 2018), doi.org/10.1080/07294360.2018.1440536.

Napthine, Denis; Graham, Caroline; Lee, Peter and Wills, Meredith. *National Regional, Rural and Remote Education Strategy: Napthine Review*, (Department of Education, 2019), www.education.gov.au/access-and-participation/resources/national-regional-rural-and-remote-tertiary-education-strategy-final-report.

National Association of Enabling Educators of Australia. *Submission to the Universities Accord Discussion Paper*, 2023, www.education.gov.au/australian-universities-accord/consultations/australian-universities-accord-panel-discussion-paper-consultation/submission/15916.

National Association of Graduate Career Advisory Services. *Submission to the Australian Universities Accord Interim Report,* 2023, www.education.gov.au/system/files/2023-09/AUA_inter_tranche6a_139%20National%20Association%20of%20Graduate%20Careers%20Advisory%20Services%20%28NAGCAS%29.pdf.

National Careers Institute and Jobs and Skills Australia. *Australian Jobs 2023*, (Canberra: 2023), www.yourcareer.gov.au/resources/australian-jobs-report#download-the-full-publication-2.

National Centre for Vocational Education Research (NCVER). *Total VET students and courses 2022*, (Adelaide: 2023), hdl.voced.edu.au/10707/659556.

National Union of Students. *Submission to the Australian Universities Accord Priorities*, 2023, www.education.gov.au/system/files/documents/submission-file/2023-02/AUA_priorities_National%20Union%20of%20Students.pdf.

Navitas. *International global student flows: scenarios for the next 10 years*, Presentation, Australian International Education Conference 2023.

NCSEHE. *Centring the voices of harder to reach under-represented and disadvantaged cohorts* [unpublished report], (Perth: Curtin University NSCEHE, 2023).

NCSEHE. *Equity Policy Options* [unpublished report], (Canberra: Department of Education, 2023).

NCVER. *Generation Z: Life at 22* (Adelaide: September 2023), accessed 5 December 2023, www.lsay.edu.au/publications/search-for-lsay-publications/generation-z-life-at-22.

New Zealand Qualifications Authority (NZQA). "Micro-credential approval, accreditation and listing," 2023, accessed 10 December 2023, www2.nzqa.govt.nz/tertiary/approval-accreditation-and-registration/micro-credentials/.

North Metropolitan TAFE. "Joining forces to tackle the ongoing cyber security challenge," *TAFE WA*, 15 February 2023, accessed 12 December 2023, www.northmetrotafe.wa.edu.au/news-and-events/joining-forces-tackle-ongoing-cyber-security-challenge.

Norton, Andrew and Cherastidtham, Ittima. *Shared Interest: A Universal Loan Fee for HELP*, (Grattan Institute, 2016), grattan.edu.au/wp-content/uploads/2016/12/883-Shared-interest-A-universal-loan-fee-for-HELP.pdf.

Norton, Andrew. *Mapping Australian Higher Education 2023* (Canberra: ANU Centre for Social Research and Methods, 2023), csrm.cass.anu.edu.au/research/publications/mapping-australian-higher-education-2023.

Norton, Andrew. *The cash nexus: how teaching funds research in Australian universities*, (Melbourne: Grattan Institute, November 2015), grattan.edu.au/wp-content/uploads/2015/10/831-Cash-nexus-report.pdf.

Nous Group. *Australian Universities Accord Discussion Paper submission analysis*, 2023, , www.education.gov.au/australian-universities-accord/resources/australian-universities-accord-discussion-paper-submission-analysis.

Nous Group. *Economic Impact of the Regional Universities Network*, (September 2020), nousgroup.com/wp-content/uploads/2020/09/RUN-Summary-Report-final-compressed.pdf.

Nous Group. *Submissions on priorities for the Australian Universities Accord*, 2023, www.education.gov.au/australian-universities-accord/resources/nous-group-consultation-report.

NZQA. "The Code for learners," NZQA, accessed 19 October 2023, www2.nzqa.govt.nz/tertiary/the-code/the-code-for-learners/.

O'Brien, Lisa; Paul, Lisa; Anderson, Dyonne; Hunter, Jordana; Lamb, Stephen and Sahlberg, Pasi. *Improving Outcomes for All, The Report of the Independent Expert Panel's Review to Inform a Better and Fairer Education System*, (2023), www.education.gov.au/review-inform-better-and-fairer-education-system/resources/expert-panels-report.

O'Kane, Mary. *Collaborating to a purpose: Review of the Cooperative Research Centres Program*, apo.org.au/sites/default/files/resource-files/2008-08/apo-nid3465.pdf, (Canberra: 2008).

OECD. *Education at a Glance 2023: OECD Indicators*, (Paris: OECD Publishing, 2023), www.oecd-ilibrary.org/docserver/e13bef63-en.pdf?expires=1702424845&id=id&accname=guest&checksum=91113B459B049A3E39F8C1D230A37A21.

OECD. *Education at glance: Educational attainment and labour-force status* [data set], (2023), accessed 1 December 2023, www.oecd-ilibrary.org/education/data/education-at-a-glance/educational-attainment-and-labour-force-status_889e8641-en.

OECD. *Enhancing Research Performance through Evaluation, Impact Assessment and Priority Setting*, (OECD, 2015) accessed 21 November 2023, www.oecd.org/sti/inno/Enhancing-Public-Research-Performance.pdf.

OECD. *Gross Domestic Spending on R&D 2023* [data set], accessed 29 November 2023, data.oecd.org/rd/gross-domestic-spending-on-r-d.htm.

OECD. *OECD Business Innovation Indicators 2023 edition*, (Paris: 2023), accessed 14 December 2023, www.oecd.org/sti/inno/innovation-indicators-2023-highlights.pdf.

OECD. *Strengthening Career Guidance for Mid-Career Adults in Australia: Getting Skills Right*, (Paris: OECD Publishing, 2022, doi.org/10.1787/e08803ce-en.

Office for Students. "Higher education short course trial," 2023, accessed 7 June 2023, www.officeforstudents.org.uk/advice-and-guidance/skills-and-employment/higher-education-short-course-trial.

Office for Students. "The TEF," Office for Students, accessed 12 December 2023, www.officeforstudents.org.uk/advice-and-guidance/the-tef/.

Office of the Chief Scientist and Australian Mathematical Sciences Institute (AMSI). *Mapping University Prerequisites in Australia* (Office of the Chief Scientist, September 2020), www.chiefscientist.gov.au/sites/default/files/2020-09/mapping_university_prerequisites_in_australia.pdf. *Mapping University Prerequisites in Australia* (Office of the Chief Scientist, September 2020), www.chiefscientist.gov.au/sites/default/files/2020-09/mapping_university_prerequisites_in_australia.pdf.

Olsen, Alan. *Education as an Export for Australia: Education as an Export 2022* (Bowral: Strategy Policy and Research in Education, 2023), www.spre.com.au/download/ExportsAustraliaStates2022.pdf.

Oxford Economics Australia. *Tertiary Education Qualification Demand: Preliminary Report* [unpublished report], (Sydney: Department of Education, November 2023.

Parkinson, Martin; Howe, Joanna and Azarias, John. *Review of the Migration System*, (Canberra: Department of Home Affairs, March 2023), www.homeaffairs.gov.au/reports-and-pubs/files/review-migration-system-final-report.pdf.

Parliament of Australia. *Budget Review 2020-21*, (Canberra: Parliament of Australia, October 2020), 41, parlinfo.aph.gov.au/parlInfo/download/library/prspub/7622081/upload_binary/7622081.pdf.

Penfield, Teresa; Baker, Matthew J.; Scoble, Rosa and Wykes, Michael C. "Assessment, Evaluations, and Definitions of Research Impact: A Review," *Research Evaluation* (8 October 2013), doi.org/10.1093/reseval/rvt021.

Pitman, Tim; Trinidad, Sue; Devlin, Marcia; Harvey, Andrew; Brett, Matt and McKay, Jade. "Pathways to Higher Education: The Efficacy of Enabling and Sub-Bachelor Pathways for Disadvantaged Students" (Perth: Curtin University NCSEHE, 2016), www.ncsehe.edu.au/wp-content/uploads/2016/07/Final-Pathways-to-Higher-Education-The-Efficacy-of-Enabling-and-Sub-Bachelor-Pathways-for-Disadvantaged-Students.pdf.

Productivity Commission, *Shifting the Dial: 5 Year Productivity Review*, Supporting Paper No. 7, (2017) www.pc.gov.au/inquiries/completed/productivity-review/report/productivity-review.pdf.

Productivity Commission. *5-year Productivity Inquiry: Advancing Prosperity*, (Canberra: March 2023), www.pc.gov.au/inquiries/completed/productivity/report/productivity-advancing-prosperity-all-volumes.pdf.

Productivity Commission. *5-year Productivity Inquiry: From learning to growth*, (Canberra: 7 February 2023), www.pc.gov.au/inquiries/completed/productivity/report/productivity-volume8-education-skills.pdf.

Productivity Commission. *5-year Productivity Inquiry: Innovation for the 98%*, 5, 100 (Canberra: 7 February 2023), www.pc.gov.au/inquiries/completed/productivity/report/productivity-volume5-innovation-diffusion.pdf.

Productivity Commission. *A path to universal early childhood education and care: Draft report (ECEC Draft Report)*, (Canberra: November 2023), www.pc.gov.au/inquiries/current/childhood/draft/childhood-draft.pdf.

Productivity Commission. *Review of the National School Reform Agreement: Study report,* (Canberra: December 2022), www.pc.gov.au/inquiries/completed/school-agreement/report.

Productivity Commission. *The Demand Driven University System: A Mixed Report Card* (Canberra: Productivity Commission, 2019), www.pc.gov.au/research/completed/university-report-card/university-report-card.pdf.

Quality Indicators for Learning and Teaching (QILT). *2022 Student Experience Survey* [data set], (Canberra: 2022), accessed 5 December 2023, www.qilt.edu.au/surveys/student-experience-survey-(ses).

Quality Indicators for Learning and Teaching (QILT). *2022 Student Experience Survey National Report* [unpublished data], (Canberra: QILT, 2023).

Quality Indicators for Learning and Teaching (QILT). *2022 Student Experience Survey National Report*, (Canberra: QILT, 2023), www.qilt.edu.au/surveys/student-experience-survey-(ses).

Quality Indicators for Learning and Teaching (QILT). *2022 Student Experience Survey: The International Student Experience,* (Canberra: June 2023), accessed 4 December 2023, www.qilt.edu.au/.

Quality Indicators for Learning and Teaching (QILT). *Graduate Outcomes Survey – Longitudinal 2022* [data set], (Canberra: 2023), www.qilt.edu.au/surveys/graduate-outcomes-survey---longitudinal-(gos-l).

Quality Indicators for Learning and Teaching (QILT). *Graduate Outcomes Survey 2022* [data set], (Canberra: 2023), www.qilt.edu.au/surveys/graduate-outcomes-survey-(gos).

Raciti, Maria and Dale, Joshua. "Are university widening participation activities just-in-time or just-out-of-time? Exploring the (mis)alignment between the timing of widening participation activities and university decision-making among students from low socioeconomic backgrounds," *Student Success*, 10, 1, (2019) 56, doi.org/10.5204/ssj.v10i1.923.

Regional Universities Network. "Statistics," Regional Universities Network, 2020, accessed 12 December 2023, www.run.edu.au/about-us/statistics/.

Regional Universities Network. *Submission to the Australian Universities Accord Discussion Paper*, 2023, 20, www.education.gov.au/system/files/documents/submission-file/2023-04/AUA_tranche1_Regional%20Universities%20Network.pdf.

Reserve Bank of Australia. "Measures of Consumer Price Inflation", Reserve Bank of Australia, revised 29 November 2023, www.rba.gov.au/inflation/measures-cpi.html.

Reserve Bank of Australia. *Composition of the Australian Economy Snapshot*, (December 2023), www.rba.gov.au/education/resources/snapshots/economy-composition-snapshot/.

Rigney, Lester-Irabinna. "A First Perspective of Indigenous Australian Participation in Science: Framing Indigenous Research Towards Indigenous Australian Intellectual Sovereignty," Kaurna Higher Education Journal, 7 (2001).

RMIT University. *A more responsive tertiary education sector to better meet skills needs* [unpublished report], (Melbourne: Department of Education, 2023).

Rosetta, Federica. "The Growing Importance of Research Infrastructures," Connect, 9 March 2023, www.elsevier.com/connect/the-growing-importance-of-research-infrastructures.

Ross, John. "Australian R&D Investment hits 17-year low," *Times Higher Education*, 26 August 2023, www.timeshighereducation.com/news/australian-rd-investment-hits-17-year-low.

Ross, John. "Australian Universities cap international student numbers," *Times Higher Education*, 6 June 2019, www.timeshighereducation.com/news/australian-universities-cap-international-student-numbers.

Ross, John. "Back to black: Australian universities brace for bushfire season," *Times Higher Education*, (28 November 2023), accessed 6 December 2023, www.timeshighereducation.com/news/back-black-australian-universities-brace-bushfire-season.

Royal Australian College of General Practitioners. *General Practice: Health of the Nation 2022*, (Melbourne: 2022), www.racgp.org.au/getmedia/80c8bdc9-8886-4055-8a8d-ea793b088e5a/Health-of-the-Nation.pdf.aspx.

Stewart, Ruth. "Building a rural and remote health workforce with place-based education," *The Medical Journal of Australia* 219, 3 (7 August 2023) doi.org/10.5694/mja2.52033.

Salt, Bernard. "The great skills shift: everyone's an expert now," *The Australian*, 24 December 2022, www.theaustralian.com.au/inquirer/the-great-skills-shift-everyones-an-expert-now/news-story/8ffef73878c4f308dde2457837e6c5de.

SciVal. *Benchmarking – The World University Rankings* [data set], (Elsevier, 2023), www.scival.com/benchmarking/ranking/the/worldUniversityRankings.

SciVal. *Collaboration by Australia* [data set], (2023) accessed 19 December 2023, www.scival.com/collaboration/collabMetrics?uri=Country/36.

Seal, Alexa N.; Playford, Denese; McGrail, Matthew R.; Fuller, Lara; Allen, Penny L.; Burrows, Julie M.; Wright, Julian R.; Bain-Donohue, Suzanne; Garne, David; Major, Laura G. and Luscombe, Georgina M. "Influence of rural clinical school experience and rural origin on practising in rural communities five and eight years after graduation," *Medical Journal of Australia* 206, 11, (11 April 2022), doi.org/10.5694/mja2.51476.

Services Australia. "Income Bank," revised 10 December 2021, www.servicesaustralia.gov.au/income-bank.

Services Australia. "Income test for JobSeeker Payment," revised 28 September 2023, www.servicesaustralia.gov.au/income-test-for-jobseeker-payment.

Sheil, Margaret; Dodds, Susan and Hutchinson, Mark. *Trusting Australia's Ability: Review of the Australian Research Council Act 2001 Final Report* (Canberra: Department of Education, March 2023), www.education.gov.au/higher-education-reviews-and-consultations/resources/trusting-australias-ability-review-australian-research-council-act-2001.

Shergold, Peter and Gonski, David. I*n the same sentence: Bringing higher and vocational education together*, (NSW: NSW Government, 2021), education.nsw.gov.au/about-us/strategies-and-reports/our-reports-and-reviews/review-on-the-nsw-vocational-education-and-training-sector.

Shergold, Peter; Calma, Tom; Russo, Sarina; Walton, Patrea; Westacott, Jennifer; Zoellner, Don and O'Reilly, Patrick. *Looking to the future: Report of the Review of senior secondary pathways into work, further education and training*, (Canberra: Education Council Australia, June 2020), www.education.gov.au/quality-schools-package/resources/looking-future-report-review-senior-secondary-pathways-work-further-education-and-training.

Southgate, Erica. "Submission to The House Standing Committee on Employment, Education and Training Inquiry into the use of generative artificial intelligence in the Australian education system," (2023).

Stone, Cathy; Crawford, Nicole; Ronan, Chris and Davis, Monica. "Improving the Online Regional Student Experience: Findings from the Country University Centre (CUC) Student Evaluation, A Practice Report," *Student Success*, 13, 2 (2022) doi.org/10.5204/ssj.2313.

Study Gold Coast. "Host for the Coast," 2023, accessed 13 December 2023, www.studygoldcoast.org.au/host-for-the-coast/.

Syme, Suzi; Roche, Thomas; Goode, Elizabeth and Crandon, Erin. "Transforming lives: the power of an Australian enabling education," *Higher Education Research & Development*, 41, 7 (2022), 2426-2440, doi.org/10.1080/07294360.2021.1990222.

TAFE Queensland. "The Queensland Future Skills Partnership," accessed 20 November 2023, tafeqld.edu.au/campaigns/queensland-future-skills-partnership.

TEQSA. "Guidance note: Nested courses of study," accessed 10 December 2023, www.teqsa.gov.au/guides-resources/resources/guidance-notes/guidance-note-nested-courses-study.

TEQSA. "National Register," Tertiary Education Quality and Standards Agency, accessed 7 November 2023, www.teqsa.gov.au/national-register.

The Lismore App. "Lismore's SCU Temporary HoMe site now open for flood-impacted residents," *The Lismore App*, (Lismore: 30 November 2023), accessed 6 December 2023, lismoreapp.com.au/news-sport/news/lismores-scu-temporary-home-site-now-open-for-flood-impacted-residents?id=63866b690ea5fe0150859a85.

The Senate Legal and Constitutional Affairs References Committee. *Current and proposed sexual consent laws in Australia*, (Canberra: Senate Printing Unit, September 2023), www.aph.gov.au/Parliamentary_Business/Committees/Senate/Legal_and_Constitutional_Affairs/sexualcontentlaws/Report.

The World Bank. *Population, total* [data set], accessed 24 November 2023, data.worldbank.org/indicator/SP.POP.TOTL.

Think, Change, Resolve. *Tertiary Education Innovation – two case studies offer possible ways forward: Final Report*, (Canberra: June 2023), www.education.gov.au/australian-universities-accord/resources/think-change-resolve-tertiary-education-innovation-report.

Times Higher Education. *World University Rankings 2023* [data set], accessed 29 November 2023, www.timeshighereducation.com/world-university-rankings/2023/world-ranking#!/length/25/locations/CHN/sort_by/rank/sort_order/asc/cols/stats.

Universities Australia. *2022 Higher Education Facts and Figures*, (June 2022), universitiesaustralia.edu.au/wp-content/uploads/2022/09/220207-HE-Facts-and-Figures-2022_2.0.pdf.

Universities Australia. *Submission to the 5 Year Productivity Inquiry Interim Reports 2022* (Deakin, ACT: Universities Australia, November, 2022), universitiesaustralia.edu.au/wp-content/uploads/2022/11/UA-submission-to-the-Prodcutivity-Commission-5-Year-Inquiry-Interim-Report-1.pdf.

Universities Australia. *Submission to the Australian Universities Accord Priorities*, 2022, universitiesaustralia.edu.au/wp-content/uploads/2022/12/UA22005-Accord-Submission-FA.pdf.

Universities Australia. *Work Integrated Learning in Universities: Final Report*, (Canberra: 2019), universitiesaustralia.edu.au/wp-content/uploads/2022/03/WIL-in-universities-final-report-April-2019.pdf.

University of Canberra. "Food Pantry", UCX, accessed 12 December 2023, ucx.canberra.edu.au/initiatives/ucx-food-pantry.html.

University of New England. "Smart Farms," University of New England, accessed 12 December 2023, www.une.edu.au/research/research-centres-institutes/smart-farm.

University of New England. *Annual Report 2022*, (Sydney: April 2023), www.une.edu.au/about-une/annual-reports.

University of New England. *Submission to the Australian Universities Accord Interim Report*, 2023, www.education.gov.au/system/files/2023-09/AUA_inter_tranche11_246%20University%20of%20New%20England.pdf.

University of Newcastle. *Submission to the Australian Universities Accord Discussion Paper*, 2023, www.education.gov.au/australian-universities-accord/consultations/consultation-accord-interim-report/submission/17093.

Vernon, Lynette; Watson, Stuart and Taggart, Andrew. "University Aspirational Pathways for Metropolitan and Regional Students," *Australian and International Journal of Rural Education* 28, 1 (2018): doi.org/10.47381/aijre.v28i1.167.

Victorian Government. *A framework for place-based approaches: the start of a conversation about working differently for better outcomes* (Melbourne: Victorian Government, 2020), content.vic.gov.au/sites/default/files/2020-03/Working-%20together-in%20place-Policy%20Framework.pdf.

Walker, Judi; Dewitt, Dawn; Pallant, Julie and Cunningham, Chris. "Rural origin plus a rural clinical school placement is a significant predictor of medical students' intentions to practice rurally: a multi- university study," Rural Remote Health 12, 1 (2012): 1908, doi.org/10.22605/RRH1908.

Warren, Diana and Haisken-DeNew, John P. *Early Bird Catches the Worm: The Causal Impact of Pre-school Participation and Teacher Qualifications on Year 3 National NAPLAN Cognitive Tests*, Working Paper No. 34/13 (Melbourne: Melbourne Institute of Applied Economic and Social Research, October 2013), melbourneinstitute.unimelb.edu.au/downloads/working-paper-series/wp2013n34.pdf.

Watt, Ian. *Report of the Review of Research Policy and Funding Arrangements*, (Canberra: Department of Education and Training, 2015), www.education.gov.au/review-research-policy-and-funding-arrangements.

Western Sydney University Indigenous Professoriate. *Submission to the Australian Universities Accord Discussion Paper*, 2023, www.education.gov.au/australian-universities-accord/consultations/australian-universities-accord-panel-discussion-paper-consultation/submission/16041.

White, Frederick. "Robert Gordon Menzies. 20 December 1894–15 May 1978," *Biographical Memoirs of Fellows of the Royal Society* 25 (November 1979).

Williams, Bruce. "The rise and fall of binary systems in two countries and the consequence for universities," *Studies in Higher Education* 17, 3 (1992): 281–293, doi.org/10.1080/03075079212331382547.

Wilson, Rachel and Morieson, Lucy. "Belonging as a responsive strategy in times of supercomplexity and change," *Journal of University Teaching & Learning Practice* 19, 4 (2022), ro.uow.edu.au/jutlp/vol19/iss4/03.

World Health Organization (WHO). WHO guideline on health workforce development, attraction, recruitment and retention in rural and remote areas, (Geneva: WHO, 2021), www.who.int/publications/i/item/9789240024229.

World Intellectual Property Organisation. "Global Innovation Index," *WIPO*, September 2023, accessed 10 November 2023, www.wipo.int/global_innovation_index/en/.

Yong, Maxwell; Coelli, Michael and Kabatek, Jan. *University fees, subsidies and field of study*, Working Paper No. 11, 23, (Melbourne: Melbourne Institute of Applied Economic and Social Research, September 2023), melbourneinstitute.unimelb.edu.au/__data/assets/pdf_file/0011/4751741/wp2023n11.pdf.

Young, Ryan. *Future Disruptions for Australian Universities* [unpublished report], (Canberra: The Australian National University National Security College, November 2023).

Your Career. "School Leavers Information Kit," accessed 24 November 2023, www.yourcareer.gov.au/school-leavers-support/school-leavers-information-kit.

Zacharias, Nadine and Mitchell, Geoffrey. "The Importance of Highly Engaged School-University Partnerships in Widening Participation Outreach," *Student Success* 11, 1 (2020), doi.org/10.5204/ssj.v11i1.1458.

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