



# Submission to the employment white paper

November 2022



UNIVERSITIES  
AUSTRALIA

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# 1. Australia's future depends on a strong university system

Australia is facing a critical skills shortage which, left unaddressed, threatens to hold our nation back – economically, technologically and socially.

Changes in our economy and advances in science and technology are reshaping how Australians work and live. As a nation we must adapt and upskill, or we risk being left behind by our global peers.

Australian universities have a vital role to play in addressing the nation's skill shortages, ensuring businesses – big and small – have the workforce they need to fuel our economy.

Of the almost one million jobs expected to be created over the next five years, more than half will require a university degree. These are jobs in healthcare, teaching, and scientific, technical and professional services - all professions that are critical to Australia's continued prosperity.

Failure to equip workers today with the education and skills they need for the future will hinder our ability to solve challenges and embrace opportunities tomorrow, slowing our economic growth and progress.

We have no time to waste.

This submission outlines Universities Australia's four-pronged approach to ensuring Australia has the pipeline of workers that employers and the economy need to grow and prosper – now and in the future.

The solutions outlined in this submission will:

- make it easier for people to retrain and upskill
- provide incentives for university, industry and research collaborations
- attract and keep international students and knowledge workers, and
- drive more investment in university-trained workers.

This White Paper is a well-timed opportunity for the country to take stock of the demand for skills and to place Australia in the best position for the decade ahead.

## 2. Summary of recommendations

### Addressing workforce shortages

- Ensure that the funding framework for government-subsidised university places is adequate to meet future student demand due to changes in population and the labour market.
- Provide incentives for final-year health students to participate in the workforce through paid internships and remove barriers to participation in existing programs.
- Work with universities and state governments to ensure that there is a sufficient supply of quality practical placements available for teaching and health students to undertake compulsory practical training.
- Include care economy workers within longer term planning of workforce needs, through Jobs and Skills Australia or a dedicated health workforce body.

### Support sovereign capability through investment in research

- Ensure that funding for research is at least equal to the OECD average to build a pipeline of innovative ideas that boost productivity, enhance our society, and contribute to knowledge and its impact globally.
- Shift Research and Development Tax Incentive funds away from indirect funding of industry R&D towards targeted, direct programs that aim to increase innovation, additionality and absorptive capacity in industry.

### Labour force participation

- Remove roadblocks to the supply of graduates in critical areas such as health, teaching and IT. Common roadblocks include overlaps in regulation between state and federal government; and too few practical placements.

### Make it easier for Australians to retrain and upskill

- Extend demand-driven places to all Aboriginal and Torres Strait Islander students, not just those from regional and remote areas.
- Extend eligibility to access the Higher Education Loan Program to Australians undertaking non-award microcredentials.

### Retain more international graduates and knowledge workers

- Provide clearer pathways for international graduates to remain in Australia.
- Remove barriers to recruiting international knowledge workers into universities.
- Remove the genuine temporary entrant visa requirement and replace it with a genuine student visa requirement.

### 3. Universities support full employment and productivity increases

A strong university sector helps build a strong economy, driving prosperity and a higher standard of living for all Australians.

The numbers speak for themselves.

Prior to the pandemic, Australia's universities contributed almost \$41 billion to the economy and supported more than 250,000 jobs.

- For every \$1 invested in research, \$5 is returned to the economy.
- For every \$1 invested in teaching, \$3 is returned to the government.
- For every 1 per cent increase in R&D, Australia's productivity rises by 0.13 per cent points.

This is why many countries in our region and around the world are investing heavily in their higher education and research systems, and just as importantly, ensuring they have the right policy settings in place to drive the sector and, in turn, the nation's growth.

Countries are doing this because of the return-on-investment universities provide.

Initiatives that drive productivity end up paying for themselves over time with the extra economic activity generated, and universities do this in spades.

Australian universities have for generations been inextricably linked to skills and innovation. In 2020, our universities educated almost 1.5 million domestic and international students. Not only are their own lives transformed – they transform the wider community and grow our economy.

At the same time, our universities pursue and promote research, knowledge and innovation. The independent, rigorous enquiry of Australian university researchers produces new ideas, discoveries, innovations and certainty, all built upon evidence.

This knowledge is shared globally, saving lives, creating new opportunities and guiding Australia and our international peers through great and challenging times.

# Universities support the economy and create jobs



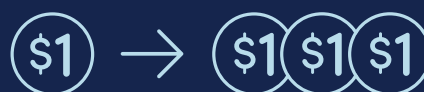
Australia's universities contributed **\$41b** to the economy and supported more than **250,000 jobs**



For every **one per cent** increase in university R&D spending, Australia's productivity rises by **0.13 per cent**



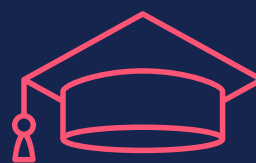
For every **\$1** invested in research, **\$5** is returned to the economy



For every **\$1** invested in teaching, **\$3** is returned to government



The university-qualified workforce makes the Australian economy **\$161b** larger and Australia's **GDP 8.5 per cent** higher



In 2019, international education was Australia's **largest services export** and **third largest export**, generating export revenues of **\$41b**

### 3.1. Employers regard graduates highly

The *Government’s Employer Satisfaction Survey* consistently shows that employers are very satisfied with the new university graduates that they employ. Employers take on graduates – and pay them a premium – because of the value they add to business. This is a clear-eyed and rational business decision.

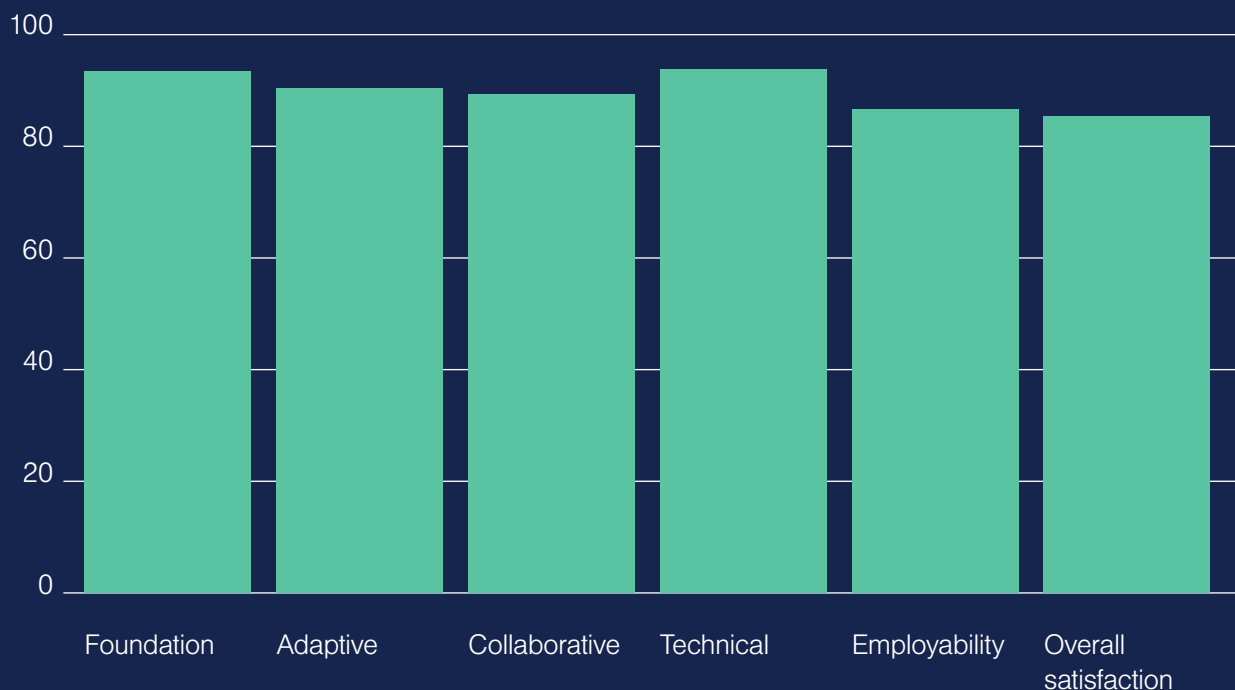
Australian employers have continued to express their satisfaction with the skills of university graduates and their ability to make an immediate impact in the workplace. The *2021 Employer Satisfaction Survey* – which reported the views of 3,450 direct supervisors of recent graduates – found that 85.3 per cent of employers expressed overall satisfaction with their recent graduates in 2020, the highest satisfaction since the survey began in 2016 (see Figure 1). In 2021, more than nine-in-ten supervisors (92.1 per cent) indicated that the graduate’s qualification prepared the graduate “very well” or “well” for their current employment.

The benefits can be even bigger when disadvantaged groups’ participation in higher education grows. Expanding opportunities to participate in higher education is a matter of fairness and social justice. But it is also a matter of economic efficiency, as broader participation at university increases employment, wealth and economic impact for individuals and for the nation.

In particular, supporting Indigenous advancement in universities is a contribution to the nation’s productivity and an overall public good. This can be achieved through measures aimed at increasing student enrolments and success, as well as through staff recruitment and retention to improve equity and draw on diverse talents and abilities.

Moreover, drawing on Indigenous knowledge that is uniquely available to Australian universities (as opposed to universities in other countries) is conducive to increased productivity. These areas are key themes under the new [Universities Australia Indigenous Strategy 2022–25](#).

Figure 1: Employer satisfaction with graduate attributes and overall satisfaction, per cent



Source: Social Research Centre 2022, 2021 Employer Satisfaction Survey: National Report

## 4. The future of work and labour market implications of structural change

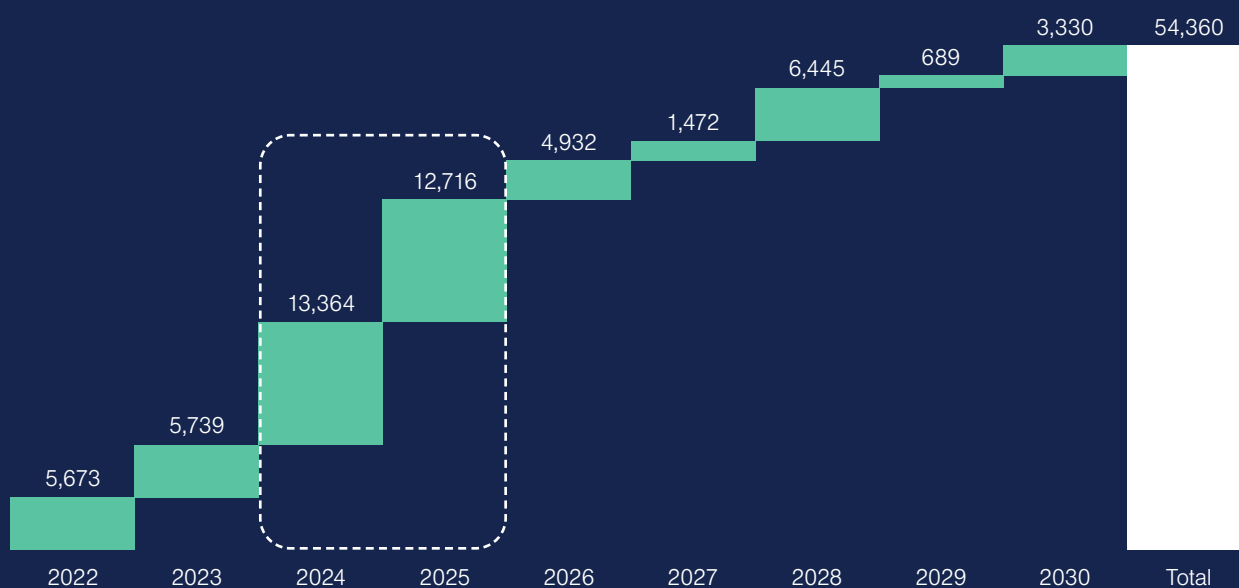
### 4.1. A growing demand for university graduates

A skilled workforce is essential for Australia's economic and social advancement. Without skilled workers to keep pace with evolving technologies and the changing nature of work, we risk falling behind the rest of the world. Our continued prosperity depends on a skilled workforce.

There are two challenges that we face in this area: demographic growth and increased demand from employers.

Demographic growth in the youth population and changes in skills in demand means that more people – both school leavers and others – could want to study in coming years. According to the Australian Bureau of Statistics, there will be 55,000 more 18-year-olds by 2030, compared to 2021.

Figure 2: Projected growth in 18-year-old population to 2030, compared to 2021



Source: Australian Bureau of Statistics 2018, Population Projections, Australia, 2017 (base) to 2066, Series B – medium growth series.

**Over the next five years to 2026, the National Skills Commission estimates one million jobs will be created – more than half of which will require a university degree.**

A university degree sets people up for a fulfilling career with higher pay and greater job security. However, the benefits of higher education go far beyond a graduate's first job. A degree provides a foundation from which a graduate can continue to develop as a learner for the remainder of their working life. Universities equip graduates with fundamental skills and knowledge that set them up to succeed in an ever-changing and globalised workforce.

The additional 20,000 university places, funded in the 2022-23 budget, is a welcome step to ensure our world-class universities can continue to produce the skilled workers our economy needs. What is clear, however, is that we are going to need more university-educated workers, not fewer, in the future and more university places will be required to meet this demand.



## 4.2. Universities support for the defence workforce

At a time when Australia's defence ecosystem is facing some of the most daunting security challenges of the last century – when the need to rapidly increase capability has become critical – it has also become very difficult to find skilled workers.

Universities help to produce personnel across the defence force, defence industries and complementary sectors.

Universities do not just teach skills, and they do not just teach people how to do things. Universities teach people how to think – differently, laterally, innovatively and strategically. Universities produce knowledge workers with the capability to teach themselves skills, because their university education has taught them how to learn and continue learning throughout their lives. These are exactly the kinds of people needed to contribute to the changing defence landscape.

It would be easy to narrowly imagine defence expertise as coming from STEM fields, but in fact, the humanities and social sciences also provide defence with graduates possessing a range of knowledge and abilities.

As a specialist provider, the Australian Defence Force Academy (ADFA) is very well placed to supply defence with the kinds of employees they need. However, ADFA can only graduate a few hundred students per year. That is why the entire university sector is critical in meeting defence's workforce needs – especially considering the plan to boost defence by a minimum of 18,500 new staff over the next 20 years.

Universities Australia expands on this in our submission to the Defence Strategic Review.

## 4.3. Workforce shortages in the care economy and supporting our frontline workers

### 4.3.1. Building a sustainable care economy

Australia's world-class health system is built on a quality workforce of skilled, capable and compassionate health professionals. However, this workforce is at risk.



Some projections show Australia could be facing a shortage of over 200,000 care workers by 2050.

Government, universities and industry must move urgently to ensure Australians can continue to access the care they need. This critical health professional skills shortage spans most of the sector, from doctors and nurses to dentists and a range of allied health professionals.

Many of these shortages can be addressed by removing barriers faced by current and future health students, making it as easy as possible for these students to complete their studies and enter the workforce.

Extra university places will help in part, but we need more clinical placements. Building sufficient, sustainable placement capacity is an urgent need that requires a joined-up approach between universities, government, professions and health services.

Universities will continue to work with government to ensure that the country's short, medium and long-term health care needs are met.

### **4.3.2. Paid roles for final year health students**

Providing incentives for final-year health students, through paid internships or otherwise, to contribute their skills in the professional workplace would provide a boost to our existing health workforce.

We have seen the contribution they make to the workforce through the pandemic. When they were needed most, many stepped up to support the vaccine roll-out and fill other roles during the pandemic.

Models like the Registered Undergraduate Student of Nursing and Medical Assistants already exist, and could be replicated to harness the skills of final-year health students. These roles enable students who are in the final year of their degrees to make valuable contributions to the delivery of care, beyond the clinical placements they must complete as a requirement of their course.

Removing barriers to participation in these programs would drive uptake and ensure we have a stronger health workforce to care for Australians.

### **4.3.3. Remove roadblocks to qualifying as a health worker**

Providing more placements to meet the demand of students in the system would make it easier for students across all disciplines to gain the practical experience they need to graduate on time, ready to join the workforce.

Often, there is a backlog of health students trying to complete their practical training with too few placements available in the health system. This roadblock is delaying their entry to the workforce.

One solution is to fund partnerships between universities and community-based health services to ensure that more students can complete their practical training on time and this training is completed in locations where workforce shortages are most acute, particularly our regions.

Not only do we need more sustainable placement capacity overall, we need it in expanded settings – such as in aged care, primary care, mental health care, Indigenous health and disability services.

Another solution is to offer degree apprenticeships for emerging or existing roles, as a mechanism for guaranteeing clinical experience and workforce input. Similar models have been successfully trialled in the United Kingdom. These models work as three-way partnerships between education providers, employers and apprentices, with students spending 80 per cent of their time in the workplace and the remainder at university.

Demand is not an issue, and there is no shortage of students who want to enter the workforce. Health is one of the most popular fields of education offered by Australian universities.

Universities are willing to educate increased numbers of health students to grow our health workforce, but this can only happen if more clinical placements are made available in health and care services. Without these, the ability to grow our own health workforce supply will be constrained.

### **4.3.4. Maintaining a long-term outlook**

There are critical areas of Australia's health and care workforce that require urgent attention, and universities are working with government to address these issues.

However, medium to long-term planning is also needed to build a sufficient, sustainable and adaptive workforce. We also need to look at how existing technology, skills mix and new models of care can maximise the workforce we already have.

Universities Australia welcomes the government's recent budget commitments to support the health workforce. However, greater recognition of the role of educators in workforce growth, skills acquisition and distribution is also needed. Too often, workforce policies overlook the need to include teaching and training as a key part of workforce growth and development. Yet, without recognition of the critical influence of - and support for, the education years in health professional development, opportunities to influence future workforce formation, distribution and skills is limited.

A multi-stakeholder collaborative forum that includes educators, led by government, is needed to guide longer term sustainable planning. This forum should meet regularly to determine actions in workforce formation across the whole health spectrum.

Given the multitude of portfolios, departments, regulators, professional agencies and disciplines involved in Australia's health professional workforce development, a joined-up approach is the most effective mechanism for developing the best policy outcomes.

An initial first step towards this could be the development of a Health Workforce Cooperative Research Centre (CRC). Work done by the CRC would enable us to be better prepared for future epidemics/global disasters while also supporting evidence-based approaches to workforce growth and distribution to meet current identified health workforce needs. A primary goal of the CRC could be to look at:

- health workforce need and sustainability under current, probable and potential future disease burden/population demographic scenarios, and
- the volume and types of clinical education and training required to support this over short, medium and longer terms.

This centre would look at new models of care for viable, affordable and accessible health care delivery. This could include the impact of new technology and different scopes of practice on workforce need and the education requirements around this. The centre could also:

- gather data on clinical education experiences and map these to health workforce outcomes
- examine methods for rapid upskilling while still assuring quality, and
- develop options for fast health workforce mobilisation and growth under national or international emergency situations.

## 4.4. The energy transition and tackling climate change

Australia's universities play a major role informing and equipping us to confront the great global challenge of climate change and adaption to it.

Universities are essential to an effective response to climate change, and to the development of clean energy and sustainable industries through the training of skilled workers and cutting-edge research.

University-led research and development will be key to harnessing the full power of renewable energy, including increasing rates of efficiency, using new and cheaper materials, and dealing with end-of-life issues. As more renewable energy comes into the system, further issues could arise, in balancing the system through battery technologies and grid integration. The use of hydrogen, and new hydrogen research will open up new use cases, such as vehicles and industrial processes. This will create new opportunities, both domestically and for export.

Universities remain the core provider of basic and applied research, which generates ideas and technologies that can then be commercialised and developed, including through partnerships or arrangements with publicly-funded agencies and industry.



## Case studies

- In the 1980s researchers at the University of New South Wales developed the PERC solar cell, which today is the technology used in more than 80 per cent of the world's solar panels.
- SunDrive – a startup founded by former UNSW students and now based in Sydney – created the world's most efficient solar cell.
- Western Sydney University has been named the world's best for its efforts to tackle environmental and social challenges through research, teaching and local engagement. The university placed first in the 2022 Times Higher Education Impact Rankings which measures universities' contributions to the 17 United Nations sustainable development goals. Seventeen Australian universities were ranked in the top 100.
- The University of Tasmania has also been recognised as the top ranked university for climate action, having been certified carbon-neutral since 2016.

University researchers – in partnership with government and industry – generate the new ideas we need and identify how to apply them. Universities Australia is eager to work with the government across climate change, environment and energy portfolios to enhance Australia's efforts to minimise the impact of climate change.

### 4.5. Investment in research supports new and unique sovereign capability

As our experience with the COVID-19 pandemic has shown, Australia's university researchers are proud to assist the nation through times of crisis. Our universities house Australian capability in every field: economics, agriculture, manufacturing, medicine, health, languages, information technology, as well as social, cultural and communication expertise that help governments deliver their messages to the community.

For a thriving ecosystem of research translation, it is necessary to find the right balance across the research pipeline – from basic research through to commercialisation.

Basic research provides the new knowledge that leads to all the other results. It does not always fit easily into accepted short-term incentive frameworks, yet history has repeatedly reinforced the central role that basic, curiosity-driven research plays in driving prosperity and progress. Breakthroughs in basic research can have unpredictable impacts over time.

Universities Australia supports a balanced approach to research funding which also supports the critical role of discovery research, and the role that only government can play in providing the funding that such research requires.

This approach gives Australia the best chance of developing new and unique sovereign capability across priority fields of research, and across the basic, applied and translation pipeline.

## 4.6. Australia's university research system contributes to productivity

Australia's university system has evolved to fulfil a range of functions, which individually and collectively help to drive positive outcomes and national prosperity. Research is a vital national activity. Research is also fundamental to what a university is. This was demonstrated by the recommendations of the *2019 Review of the Higher Education Provider Category Standards*.

The four research-related functions highlighted below identify key aspects of how universities interact with the community and society to ensure that Australia is resilient, prepared and internationally competitive.

They also articulate the broader functions of research – not just innovation and commercialisation – such as serving the community, helping Australia to be a global citizen and, critically, contributing to the education of university graduates who are increasingly responsible for our productivity performance.



### Resilience and preparedness – helping the nation and communities

Universities boost Australia's ability to rapidly deploy capabilities to mitigate the effects of external and internal shocks – economic, environmental, social or otherwise.

Universities are also a central part of their local and regional communities, helping them to cope with change and seize opportunities through research.



### World-leading teaching informed by research

The quality of the education in Australia's universities is one of the best in the world due to students being taught by some of the best researchers in the world.



### Growth and competitiveness

Research is an inexhaustible source of economic growth and competitiveness.

Australia's universities are deeply engaged with industry and undertake the majority of research from basic to applied.



### Global engagement

Australia's universities are deeply integrated into global knowledge flows, allowing it to both benefit from and contribute to the global knowledge base.

Australia's role as a prominent global citizen is reinforced by the level of international research engagement and collaboration.

# 5. Labour force participation

## 5.1. Remove roadblocks to the supply of qualified people in teaching, health, IT and STEM

Regulation should support our universities to build Australia's productivity through innovation and safeguard our global reputation for high-quality education and research.

It should be as easy as possible for students to get the practical experience they need to graduate on time and be ready to join the workforce.

We can unlock the productivity potential of Australian universities and graduates by removing overlap and duplication in regulations, and by cutting red tape.

Universities are also committed to working with government to establish a taskforce that identifies ways to streamline degree accreditation, especially in critical areas such as health and tech.



### Health workers

Universities can provide more places, but unless clinical placements increase accordingly this will not translate into an increase in skills supply.



### Tech jobs

The government wants to create 1.2 million tech jobs by 2030, and so do we. Universities are ready to work with the government on ideas like Startup Year which will provide funding for students to participate in accelerator programs and put their innovative ideas into practice.



### Teaching

We need more teachers in classrooms today. That means ensuring that trainee teachers are ready to do the job the day they graduate. By strengthening practicums and developing work-based and work-integrated models of initial teacher education we can get students doing more of their training in schools and make it easier for graduates to find jobs and employers to find qualified graduates.

## 5.2. Make it easier for Australians to retrain and upskill

### 5.2.1. Reduce barriers for Aboriginal and Torres Strait Islander people

Government should expand guaranteed Commonwealth Supported Places to all Indigenous students, not just those from regional and remote areas, to help ensure that any Indigenous student who wants a place at a university gets one.

Aboriginal and Torres Strait Islander peoples are still under-represented in the student population (1.9 per cent in 2019) compared to their share of the total population (3.1 per cent). This needs to change, they offer so much.

In 2021, 76.8 per cent of Indigenous undergraduates were in full-time employment four months after completion, outperforming non-Indigenous undergraduates (68.8 per cent).

Currently, Indigenous students living in regional or remote areas are guaranteed Commonwealth Supported Places to study at university. However, most Indigenous students live in metropolitan areas and do not qualify for an uncapped place. According to ABS data, 75 per cent of Aboriginal and Torres Strait Islander people live in major cities.

While Indigenous people in major cities are more likely to have a degree than those from regional areas, they are much less likely to have a degree than non-Indigenous people in the cities. The attainment rate for Indigenous people aged 20–64 in urban areas is only 11 per cent – one third of the figure for the non-Indigenous population (33 per cent).

### 5.2.2. Extend eligibility to FEE-HELP to Australians undertaking non-award microcredentials

To help drive productivity, policy settings could be changed to support upskilling and reskilling. Existing financial incentives do not support workers who face time constraints pursuing formal qualifications or workers transitioning to new occupations. Prospective students currently have to pay up front for non-award microcredentials. If they have enrolled in microcredentials that do not relate to their current occupations, they are not able to claim the course fees as self-education expense tax deductions.

Recent ABS data has shown that people in the lowest two quintiles of weekly household income were more than twice as likely to report financial reasons as their main barrier to participate in non-formal learning as those in the income highest quintile – 24.2 per cent and 28.5 per cent respectively, compared with 10 per cent.

A key advantage of the income-contingent loan system is that it does not discriminate based on age or employment status. Eligibility is extended to the employed and unemployed, inactive workers, and the self-employed.

The *Review of University-Industry Collaboration in Teaching and Learning* by Professors Martin Bean and Peter Dawkins recommended that students participating in industry-focussed microcredentials should be able to access the higher education loan program through FEE-HELP. Universities Australia supports this proposal, noting however that there has been no costing of this recommendation undertaken as far as we are aware.

Universities Australia would also support a model of FEE-HELP covering microcredentials targeted at areas of key skills shortages. We welcome the government's pilot of FEE-HELP for microcredentials. The pilot will help to build the case for microcredentials and will trial practical initiatives to strengthen government support and participation by students and universities.

### 5.2.3. Ensure that microcredentials are 'portable' and recognised across institutions by developing national guidelines

To boost the effectiveness of microcredentials as a tool for upskilling and retraining workers, these qualifications should be easily portable and recognised across providers.

Currently, these qualifications are unregulated and sit outside the Australian Qualifications Framework, meaning that they are not easily recognised by institutions other than the issuer.

Universities Australia has developed guidance for the portability of microcredentials designed to assist our members in the design and recognition of these qualifications. This guidance could serve as a national model. The portability of microcredentials will be enhanced by the adoption of a set of minimum or baseline standards that enable easy evaluation of a credential by parties other than the issuer.

### 5.2.4. Increasing women's participation in the workforce

While we know that women have traditionally faced barriers to workforce participation, women's enrolment and participation rates at university are high. Women represent 59.5 per cent of domestic students enrolled in universities or other institutions, an increase from 57.9 per cent in 2012. A higher percentage of women complete their degrees than men. Overall, women's representation has increased across fields of study, including in the traditionally male dominated industries of IT and engineering.

Universities Australia is also working on supporting executive women within universities through our UA Women program. Recently, UA Women funded research on gender-inclusive practices and work/life balance in Australian Universities, with an interest in building the evidence base, while creating tools and resources for leaders.

The project aims to:

- contribute to the evidence base on the nature and drivers of gender inequalities
- identify examples of leading gender-inclusive practice in universities and other knowledge-based industries, and
- produce a report and a practical toolkit on gender-inclusive practice for university leaders.

The research report and toolkit developed out of this program are currently being finalised and are expected to be published in 2023.

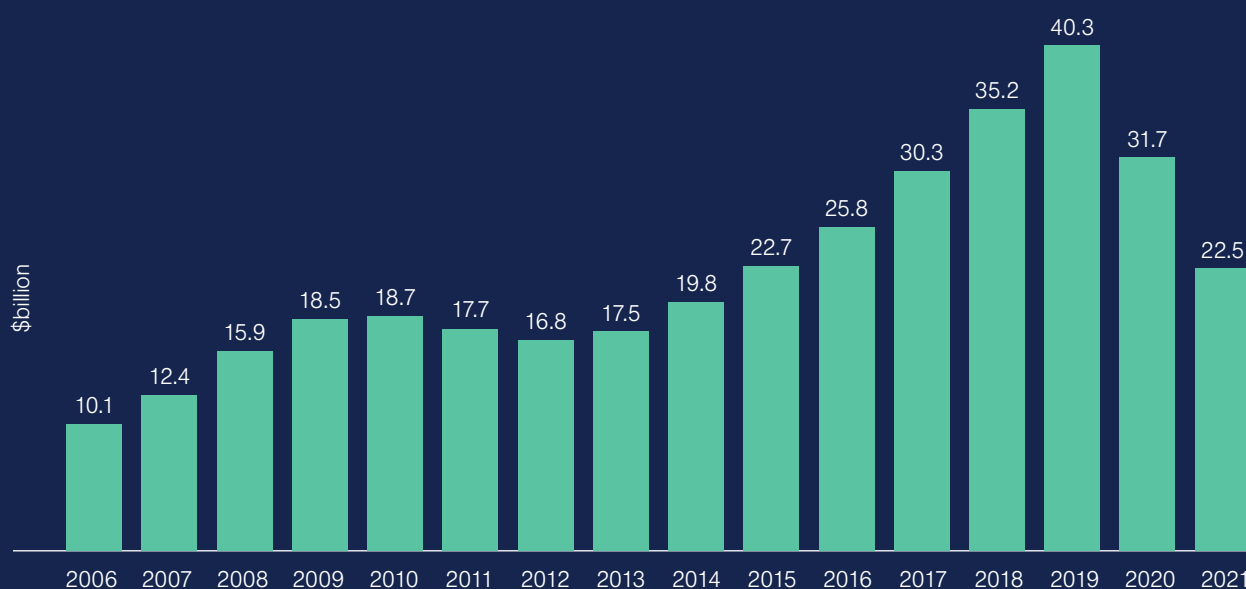


# 6. Attract and keep international students and knowledge workers

## 6.1. Provide clearer pathways for international students to remain in Australia

Prior to the pandemic, international education was Australia's third largest export and largest services export industry, generating \$40.3 billion in export income in 2019. We must find ways to encourage more of these students to stay in Australia after they graduate when and where there is a clear need for their skills.

Figure 3: Value of education-related personal travel exports, in nominal dollars



While temporary visa holders should not have an automatic right to permanent residence, it is in Australia's interests to facilitate permanent residence should they wish to stay.

Universities Australia has been pleased to work with government on establishing clearer and more immediate pathways for students towards permanent residency, including extending post-study work rights for international students and providing additional permanent residency points for students who work in identified areas of skill shortages.

Government could also offer scholarships or funding for refugees or other migrants with qualifications who need bridging courses to become accredited in Australia.

## 6.2. Remove barriers to recruiting international knowledge workers into universities

Universities operate within a highly competitive environment to attract global talent to Australia. Addressing national research priorities and tackling both domestic and global challenges is becoming increasingly dependent upon international collaboration.

Such collaboration is underpinned by the ability of students and staff to move between institutions in different countries at various stages of their careers. It is best supported by a visa system that facilitates, rather than hinders, this mobility.

Many countries with high-ranking and highly competitive university sectors, including the United Kingdom, Canada, the Netherlands, Germany and France, have streamlined visa classes to facilitate the entry of researchers and academics for short- and long-term stays. Many of these specialised visas may offer clear pathways to permanent residency.

The specialised visas of the countries mentioned above regularly offer identifiable pathways to permanent residency. The prospect of a straightforward transition to permanent resident status can be a deciding factor for highly sought-after knowledge workers considering a role in an Australian university. Furthermore, the desire to obtain such status reinforces a candidates' commitment to the nation's economy and prosperity.

The international standards for attracting global talent continue to shift. To remain competitive, Australia must keep pace with visa policies in countries with leading university sectors.

Maintaining robust yet competitive visa settings, comparable to our competitor countries, are important in maintaining Australia's reputation as a destination of choice for both international students and skilled migrants.

The requirements for universities to conduct labour market testing prior to appointing an international applicant fails to account for the global nature of university recruitment. The comprehensive and non-discriminatory nature of university recruitment processes are a de-facto form of the labour market testing process.

Academic staff are also required to undertake a skills assessment as a condition of their visa. However, the appointment of academic staff already follows a rigorous process of assessing applicants' qualifications and abilities. This process far exceeds the skills assessment via the VETASSESS process. The elimination of the skills assessment process would reduce costs and red tape and expedite the recruitment process.

## 6.3. Remove the genuine temporary entrant visa requirement

The Genuine Temporary Entrant Visa rules require potential students to prove that they don't intend to remain in Australia permanently after their study.

Government should instead implement a Genuine Student visa requirement, to ensure that the student visa was not used by non-genuine students to enter the country, without putting any emphasis on what they intend to do once they graduate.

# 7. Universities drive collaborative partnerships with government and industry

## 7.1. Direct incentives for industry-research collaboration will stimulate commercialisation

Australia's university research and development capability is a national asset, supporting our economic development, improving living standards, and making our culture and communities richer. When the research system is at its best, the key research performing entities of industry, government, higher education and the private non-profit sectors both complement and mutually reinforce each other.

Universities perform 87 per cent of discovery or basic research in Australia, and a higher proportion of Australia's applied research than industry – 45 per cent in universities, compared with 39 per cent in industry.

Formal collaborations between Australian businesses and universities generate \$12.8 billion a year in revenue directly for the firms which partner with universities.

Modelling by Deloitte Access Economics estimated the total economic return on investment at \$5 in gross domestic product for every dollar invested in higher education research.

However, while universities have increased their investment in research and development over the past decade, investment from business and industry has declined to well below the OECD average – 0.92 per cent of GDP (2019) for Australia versus 1.92 per cent of gross domestic product (2020) for the OECD average.

At these rates of business research intensity, it is difficult to see how Australian industry can remain competitive relative to its OECD counterparts. The current reliance on the indirect support (including the research and development tax incentive) is not enough. We need a better balance between direct and indirect incentives for business.

Government should stimulate commercialisation of research with direct incentives for business to back university ideas.

Universities Australia welcomes the National Reconstruction Fund initiative and stands ready to discuss how universities can work with industry to maximise the impact of research through targeted policy (e.g. the critical technologies fund).

**87%**

of discovery or basic research in Aus is conducted by unis

**45%**

of applied research expenditure = unis

**39%**

of applied research expenditure = industry

# Examples of direct incentives

## Innovation or technology transfer vouchers

In our submission to the previous government's university research commercialisation taskforce, we outlined several direct measures of government research and development assistance that help to connect industry demand with the university supply of research. These include some domestic and long tested international programs.

Innovation or technology transfer vouchers could encourage collaboration between small and medium-sized enterprises (SMEs) and universities, thereby providing them with a greater opportunity to commercialise its products or services through access to skills and infrastructure they would not otherwise be able to afford. They address a well-known gap in the university-industry engagement space.

An example is the New South Wales TechVouchers scheme which awards up to \$15,000 to small and medium-sized enterprises (matched by the enterprise) and connects them with an expert in the relevant fields of research, as well as providing access to high tech instruments and facilities that would otherwise be prohibitive.

A Commonwealth vouchers scheme would provide a national basis for fostering collaboration between small and medium-sized enterprises and universities, and driving productivity at a national scale. Universities Australia notes the use of innovation vouchers in the Industry Growth Centres Initiative.

## US programs SBIR and STTR

A standout example of government facilitating innovation in small businesses are the two complementary US programs—the Small Business Innovation Research (SBIR) program and the Small Business Technology Transfer (STTR) program.

These programs encourage domestic small businesses to engage in federal research and development with the potential for commercialisation. Through a competitive awards-based program, SBIR and STTR enable small businesses to explore their technological potential and provide the incentive to profit from its commercialisation.

The small business is always the applicant and the awardee of the grant. Whilst the SBIR program allows the business to partner with any entity, central to the STTR program is the partnership between small businesses and non-profit research institutions, including universities. STTR's most important role is to bridge the gap between the performance of basic science and commercialisation of resulting innovations.

These programs have been running since 1982 (SBIR) and 1992 (STTR). We have a small-scale version of the SBIR but no equivalent to the STTR.

These programs have produced companies such as 23andMe, the genetic testing startup that provides customers with insight into their ancestry, as well as a genetic health assessment. It is valued at USD\$3.5 billion (2021)<sup>1</sup> and became a success through a series of grants from 2010 onwards, valued at USD\$4.4 million from the United States Department of Human and Health Services.<sup>2</sup>

The Australian Government has a micro version of the SBIR, called BRII – Business Research and Innovation Initiative. This requires scaling. We have no equivalent to the STTR.

1. <https://fortune.com/2021/02/04/23andme-going-public-spac-richard-branson-valuation-dna-testing/>

2. <https://www.sbir.gov/sbc/23andme-inc>

## 8. Current and future workforce needs

### 8.1. Supporting ongoing efforts to identify current and future workforce needs

Universities applaud and support the recent announcement of the creation of Jobs and Skills Australia (JSA) as a centralised and professional national body for labour market analysis. We also welcome the explicit inclusion of universities within the scope of JSA.

The current skills crisis has been decades in the making. The impact of COVID and geopolitical shifts underscore the need for Australia to build its own capacity. Those skills sought by the business community through migration are also in high demand in other countries.

JSA should be a central point to bring all current and future demands for skills, including major infrastructure projects at all levels of government, mining and resources, defence and defence industry, and service industries including banking and finance, IT and cyber.

JSA's role will act as encouragement to industries with major workforce requirements to undertake comprehensive workforce planning, so that they may better understand the costs and impediments to their future projects.

JSA would also be placed to provide critical policy advice and public information on the future workforce requirement, allowing the higher education sector to be structured and incentivised to meet those future requirements.

### 8.2. Investments in education are needed to take advantage of these opportunities

Government must ensure that there are enough university places to meet increasing student demand as a result of population growth, especially in workforce growth areas such as health and teaching.

It is also important to make it as easy as possible for workers to retrain and upskill – both university graduates and those who have undertaken vocational training.

If there is a shortage of university places, the economy will lack the graduate skills it needs. Young Australians will miss out on the opportunities a university education brings, and not enough older Australians will have the chance to retrain for jobs in demand. When demand for university places significantly exceeds supply, it is students from non-traditional backgrounds that are most likely to miss out.

We therefore urge government to maintain a sufficient level of funding to ensure adequate supply of places over the rest of the decade, as demand increases due to demographic growth and continuously evolving labour market demand.

Universities Australia acknowledges some measures that have been taken to meet the increase in demand for higher education places through the Job-ready Graduates package, which passed through Parliament in October 2020. However, funding levels were reduced to achieve this, creating flow-on problems.

The National Skills Commission has predicted Australia's total employment will increase by 9.1 per cent or more than one million jobs over the next five years. The Health Care and Social Assistance industry is expected to experience the largest employment growth (301,000 jobs), followed by Professional, Scientific and Technical Services (206,600 jobs) and Education and Training (149,600 jobs). The top five growth industries collectively represent over 70 per cent of the total projected employment growth over the next five years.

According to these projections, 52.6 per cent of the additional million jobs over the next five years will require a Bachelor degree or higher. The number of jobs requiring a university degree will increase by 13.5 per cent (or 618,400 jobs), from 4.59 million jobs in November 2021 to 5.21 million jobs in November 2026. This is 4.4 percentage points higher than projected jobs growth overall (9.1 per cent). A further 39.1 per cent (or 460,000 jobs) will require other post-school qualifications. Altogether, nearly all (91.7 per cent) new jobs will require a post-secondary qualification.

To help drive productivity, policy settings could do more to support upskilling and reskilling. Australia's existing financial incentives do not support workers who face time constraints pursuing formal qualifications or workers transitioning to new occupations.

Prospective students currently have to pay upfront for non-award microcredentials. If they have enrolled in microcredentials that do not relate to their current occupations, they are not able to claim the course fees as self-education expense tax deductions.

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