



UNIVERSITIES
AUSTRALIA

AN AGENDA FOR AUSTRALIAN HIGHER EDUCATION

2013–2016

a smarter australia



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Preface

Universities make an essential contribution to creating a more diverse, sustainable and vibrant economy with opportunities for better jobs and more fulfilled lives and, through research and innovation, the creation of new products and industries. To guarantee a prosperous and rewarding future for our children we need a smarter Australia.

In 2013 all Australians who are capable of undertaking further study at university have the opportunity to do so. Each year, university campuses around the country welcome thousands more Australians eager to seize this opportunity. The universities they attend are strongly placed to support them to realise their potential and contribute to their communities. Universities are proud to be playing their part in delivering a more equitable and prosperous Australian society.

Australia's universities are internationally recognised for their high-quality teaching and research, and have a distinctly international character in both their student profile and outlook. After decades of engagement, our universities now boast some 2.5 million international alumni. Australia is the world's third most significant destination for international tertiary students, behind the United States and the United Kingdom. This has shaped the character of our university system, and our nation. As an industry, international education generates nearly \$15 billion in exports annually and supports around 127,000 jobs, 88,000 of which are outside the education sector.

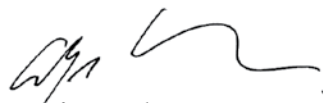
Australians can have confidence in the public investment in their university system. Among OECD countries, Australia was fourth most efficient in producing graduates, and fifth most efficient in research. Even within the Australia economy, productivity growth in Australian universities has outpaced that in other sectors.

Yet despite the sector's contribution to Australia, and its demonstrated efficiency, investment in the sector lags behind that of our competitor nations. Australia's total investment in research and development is below the OECD average, and public investment in universities is around two-thirds of the OECD average.

Building on the achievements of the university sector offers a tremendous opportunity to expand the contribution that universities make to this nation. This is the vision for a smarter Australia. The possibilities are truly exciting.

This statement sets out the principles and actions that can underpin a smarter Australia. It offers a reform agenda for the future.

This agenda will be achieved only with the commitment of universities, government and all of those interested in our nation's future. It promises to be a rewarding journey.



Professor Glyn Davis AC
Chair, Universities Australia

FEBRUARY 2013



Belinda Robinson
Chief Executive, Universities Australia

*the emergence of the digital
economy and **new technology** ...*

*increasing **globalisation** and the
possibilities of the Asian century ...*

*economic and industrial **restructuring**
as the nation responds to the resources
boom ...*

*the need to improve productivity
with universities central to the
national **innovation** effort.*

Summary

To herald a new era in Australian higher education, Universities Australia, the peak body for 39 Australian universities, has developed *A Smarter Australia: An agenda for higher education 2013–2016*. In this statement we outline the reforms required to underpin the nation's higher education system over the next four years, with a view to longer-term changes.

A Smarter Australia responds to four trends that are driving change in Australian higher education: the emergence of the digital economy and new technology; increasing globalisation and the possibilities of the Asian century; economic and industrial restructuring as the nation responds to the resources boom; and the need to improve productivity with universities central to the national innovation effort. This statement sets out principles and actions for responding to these drivers under four themes.

THEME 1 Increase Australians' university participation

To increase Australians' opportunities to attend university, universities will:

- broaden pathways into university degrees
- respond to student demand and national and regional employment demand
- evaluate and adjust partnership programs that support access to university for students from low socio-economic backgrounds
- expand flexible offerings for students
- expand opportunities for regional students to attend university
- adopt a whole-of-institution approach to attract and retain Aboriginal and Torres Strait Islander students and staff.

Universities Australia recommends that the Australian Government:

- maintain income-contingent HELP loans
- maintain a system that enables any Australian who is capable of studying at university to do so
- expand sub-bachelor places
- maintain successful equity programs
- collaborate with universities on employment and graduate skill demand
- increase the stock of affordable student housing.

THEME 2 Develop Australia's globally engaged university sector

To develop Australia's globally engaged university sector, Australian universities will:

- improve international students' welfare and university experience
- improve English language proficiency and opportunities for cultural exchange
- extend student housing services
- expand provision offshore
- continue to globalise their curriculum
- stimulate study abroad
- strengthen international research links.

Universities Australia recommends that the Australian Government:

- further refine its regulation of international education
- broaden advice on international education to include all the industries that are substantially involved in international education
- support international research collaboration
- advance the 2012 APEC leaders' declaration to enhance student mobility by providing incentives for students to complete at least part of their degree overseas and assistance to universities for outbound mobility programs.

THEME 3 A powerful research and innovation system that drives economic and social progress

To develop a powerful research and innovation system that drives economic and social progress, universities will:

- review how best to train PhD graduates for employment in the broader economy and increase the number of international students enrolled in PhDs
- extend and deepen collaboration and connections with the end users of research
- expand research outreach through strategic engagement and wider access to research outputs.

Universities Australia recommends that the Australian Government:

- increase direct investment and incentives for investing in research
- adopt a long-term and sustainable research investment plan
- increase the maximum duration of the major national competitive grants by two to three years
- fund the integrated health research centres discussed by the McKeon review of health and medical research in Australia
- increase support for international research collaboration
- partner with universities to evaluate the impact of research
- establish an efficient and integrated research publications data, records and text access system.

THEME 4 Efficiency, investment and regulation

To further improve efficiency, universities will:

- introduce external peer moderation of standards
- integrate technologies to support teaching and enhance the student experience
- increase philanthropic donations
- further explore and adopt measures to enhance their operational efficiency.

Universities Australia recommends that the Australian Government:

- appoint the Productivity Commission to review the regulatory burden placed on the university sector, with special attention to removing duplication between jurisdictions, and excluding universities from regulatory regimes where a strong public interest rationale and benefit cannot be identified
- leave uncapped the number of undergraduate places it funds at Australian universities
- maintain its current indexation of higher education funding and consider lifting base funding per student by 2.5 per cent each year over a five-year period
- identify a continuing source of funds for university infrastructure
- match philanthropic donations
- negotiate intakes into graduate programs in institutional compacts.

Vision

Universities Australia's vision for the nation is of an optimistic country that knows that its future rests as much on its citizens' education and inventiveness as on what it can grow, make or extract from the ground. Education does not depend specifically on climate, natural resources, commodity prices or economic cycles, and can benefit all Australians, wherever they are and whatever their backgrounds.

This vision for the nation can be realised only by a higher education system that is among the best in the world, and that is intellectually rigorous, accessible, internationally engaged, innovative and efficient, enabling Australia to be a more globalised and productive society with a broader economic and industrial base.

In the coming decades universities — alongside schools and vocational education and training — will be accessible to Australians from all backgrounds. The number of students from a low socio-economic status (SES) background studying in universities will have doubled, and the work undertaken by universities to attract and support low SES students will be complemented by government reforms.

Universities will adopt a whole-of-institution approach to meeting the population parity targets for Aboriginal and Torres Strait Islander peoples in university student participation and staff engagement.

Higher education will be a global enterprise. Universities will contribute to society through contemporary and innovative teaching and research roles, harnessing the advantages of the digital economy and the opportunities offered by national access to high-speed broadband and telecommunications services for all Australians. Students will choose their university globally and Australia will be a preferred destination.

Australia will be recognised internationally for its outstanding research and innovation. Our universities will be at the forefront of Australia's research and development efforts, collaborating with industry, government and the community to translate research and ideas into wealth-generating enterprises and community wellbeing.

Universities will have more autonomy to innovate, lift efficiency, cut costs, improve quality and be productive, contributing to the nation's social and economic capital.

Universities Australia seeks collaborative action by universities, businesses, communities and the government to:

- ensure that the international competitiveness of Australia's university system for teaching, learning, scholarship and research is maintained or enhanced
- pursue vigorously the opportunity for Australians to attend university across the nation
- encourage international students to choose Australian institutions, and Australian students to gain international experience
- invest strategically in research as a national commitment to knowledge and innovation
- ensure university education is funded to support a quality education for every student
- improve productivity by identifying opportunities to increase efficiency and reduce red tape.

an optimistic country that knows that its future rests as much on its citizens' education and inventiveness as on what it can grow, make or extract from the ground.

Policy context

Every leading nation needs universities

Universities are the engine room of every successful nation. Universities are critical pillars that power Australia's economy, productivity, research, innovation, global engagement and industrial transformation.

Universities and their graduates create new products, services and industries that underpin the industrial renewal and economic diversification of Australia. The research undertaken in Australian universities solves global problems, improves the health and wellbeing of the world's citizens and positions us to meet the challenges of the future.

Consciously building on the achievements of the Australian university sector is essential to leverage the opportunities to expand the nation's economic, social and cultural wellbeing.

Drivers

Four pervasive trends are driving change in Australia and in Australian higher education.

The emergence of the digital economy and new technology

The digital economy and technology are transforming higher education, as they have transformed media, retail, entertainment, finance and administration. Australian universities are poised to take advantage of sophisticated digital technologies supported by widespread access to high-speed broadband services to change their teaching, research, structure and business models, as has been urged by both senior Labor¹ and Coalition² frontbenchers.

Globalisation and the Asian century

Australian universities are strongly competitive internationally in research and teaching. More than half of Australia's universities are ranked among the top 500, or top 5 per cent, in the world. A quarter of their students are from overseas, and over a fifth of their students are from Asia. Universities' strong international recruitment and the establishment of substantial campuses in

Asia and other offshore locations place them well to respond to the Asian century. However, Australian universities are facing increased competition as many Asian countries develop their own world-class capacity in higher education and research and other nations seek to expand their international education export businesses.

Maintaining and enhancing Australia's global position as a provider of higher education to both Australian and international students, and as a leading research provider in an increasingly competitive environment, must be the foundation objective of all future governments if the potential of the Australian university sector's contribution to national wellbeing is to be fully realised.

Economic and industrial restructuring

Australia's economic dependence on the resources sector has reshaped its economy and industry. While this has driven Australia's terms of trade to historically high levels, it presents economic challenges, particularly to trade-exposed industries. Universities are responding to the economy's changing need for skilled workers. But Australia needs to do more than respond to changes driven from outside the country. Australia needs to diversify its economy and industry to sustain long-term economic and social progress, and universities are central to this goal.

The need to improve productivity

Australia needs to improve its productivity in response to global competition, increased pressure on resources within Australia and the opportunities provided by technological change. The higher education sector makes an important contribution through its research and teaching programs to national innovation and productivity, but universities themselves must become more productive in the face of tightened government budgets and other fiscal pressures.

Themes

1 Increase Australians' university participation

Increasing and broadening Australians' opportunities to attend university is central to Universities Australia's vision for a smarter Australia. Increasing participation in higher education is not only necessary for restructuring the economy, meeting the need for a more highly educated workforce, and diversifying our industrial base, it also contributes to a fairer society. The digital revolution will make higher education accessible to new groups of students.

2 Develop Australia's globally engaged university sector

Education is Australia's fourth largest export industry behind iron ore, coal and gold, and ahead of tourism, natural gas and crude oil.³ It generates around \$15 billion in export revenue each year. An international education contributes to the development of global citizens, regional leaders and strong global relationships that are so critical for facilitating diplomacy, business and trade. This is the case whether it is overseas students studying in Australia or Australian students completing at least part of their degree overseas.

There is great potential to further expand the international reach of the Australian university sector. With global demand for higher education set to grow significantly in coming decades, even maintaining or marginally increasing Australia's market share could deliver major export growth.

Australian universities need to develop a more global curriculum. They need to improve the support offered to international students in both English language skills and campus safety. Universities should aim to increase the number of Australian students who study overseas for part of their course, making Australian graduates and universities more global in orientation.

Capturing this opportunity requires continued effort from universities and facilitative policy from government. International higher education is at a critical juncture and competition is increasing rapidly. A whole-of-government approach is needed to ensure that all policies—migration, housing, workforce, transport and education—facilitate the growth of this vital sector.

3 A powerful research and innovation system that drives social and economic progress

Research is a fundamental driver of global economic and social progress. It supports economic and industrial restructuring and increases productivity. Australia must support increased access to research, encourage sophisticated interactions between researchers and industry and government end users, and increase and make sustainable long-term public and private sector investment

in research. Universities must make the most of the opportunities presented by the digital revolution to enhance and expand open access to research to foster innovation.

Research is largely international in its orientation, and Australian universities and other research organisations have strong international links and collaborations. However, these institutional, group and individual links would have far greater leverage if they were part of a secure, long-term, national and multilateral research collaboration strategy.

4 Efficiency, investment and regulation

A vigorous program of micro-economic reform must be pursued to improve productivity and efficiency and to enable sustainable growth. This will need action from universities, their staff and governments. Australian universities ‘are probably subject to more reporting requirements than any other type of organisational entity’.⁴ Policies should set broad rules and ensure minimum quality and standards, but regulation should be proportionate to risk and support university autonomy. Cutting red tape can free universities to innovate and deliver high-quality teaching and research, while saving millions of dollars for both government and universities.

The following sections elaborate on each of these themes by:

- proposing a set of principles to guide policy making
- summarising the current policy context and challenges
- proposing a series of actions for universities and government.

opportunity not restricted by the
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location, ethnicity, sex, disability or religion ...

increasing *participation* ...

fostering *social responsibility*
and an open, fair, tolerant and
cohesive society ...

Increase Australians' university participation

Policy principles

- Increasing participation in higher education is necessary to ensure that Australia's future skills needs are met, national productivity improves, and a high-income economy is sustained.
- The opportunity to complete a university qualification by Australian citizens is not restricted by the capacity to pay, socio-economic background, location, ethnicity, sex, disability or religion.
- Australian universities foster social responsibility and an open, fair, tolerant and cohesive society.
- Australian universities support mutually beneficial partnerships with business, the professions and the community to build social capital and community cohesion and wellbeing.
- Australian universities provide flexible options for learning, eliminating participation barriers for students who have work, family or other commitments and who live in regional and remote areas.

Context

Total participation

Building on the efforts of schools and the vocational education sector, universities are transforming the lives of millions of Australians. In 1970, only 3 per cent of Australians held bachelor degrees.⁵ Today, almost 37 per cent of young Australians have degrees, and participation is growing strongly towards the national target of 40 per cent by 2025.⁶

Bipartisan support for allowing universities to respond to student demand has been instrumental in increasing participation in higher education in recent years. When governments imposed quotas and capped enrolments, tens of thousands of eligible students were denied the opportunity of a higher education.⁷ Today, under the demand-driven model, the number of people under 34 with at least a bachelor degree is expanding to meet the employment needs of the economy.

Increasing participation in higher education will continue to make a major contribution to national productivity by helping to meet labour market demand. There has been a marked shift in employment towards occupations generally requiring a degree across the OECD since the 1970s.⁸ The biggest employment growth in Australia in the past five years has been in occupations usually requiring a bachelor or higher degree.⁹

Economic modelling predicts this trend will continue. Between 2015 and 2025 Australia will need to add on average between 238,000 to 360,000 more people with bachelor degrees or higher qualifications each year in order to meet the demands of the economy.¹⁰ Higher skilled jobs are predicted to grow at around 1.6 times the rate of low-skilled jobs.¹¹

International competition — particularly the anticipated rise of China's and India's middle classes — means that Australia must look to a future that depends heavily on creating the higher skill levels needed to thrive as a knowledge economy.

Australia's demographic challenge — notably the decline in our labour force participation rate from 65 per cent to 61 per cent in coming decades as the population ages — places a premium on maximising workforce productivity and participation.¹²

Equity

Higher education has been described as 'an escalator of economic and social mobility for the most talented in society'.¹³ For most this escalator starts at school, and more effort will be needed to meet the target of the Council of Australian Governments to lift the proportion of 20- to 24-year-olds with Year 12 or equivalent qualifications to 90 per cent by 2015. This goal is particularly important in regional areas to redress the disadvantage of rural youth and the marked under-representation of people in regional and remote areas studying at university.

Increasingly, students who left school some years earlier enrol in university to enhance their capacity to build a good life for their families, their communities and themselves. These Australians deserve the opportunity to earn a university degree and the Australian economy needs their contribution. Universities have been very responsive to the needs of all students, providing flexible options so they can work and study concurrently.

The Bradley review of Australian higher education proposed that while participation rates for all equity groups should be monitored, attention should be concentrated on the three groups that remain significantly under-represented:

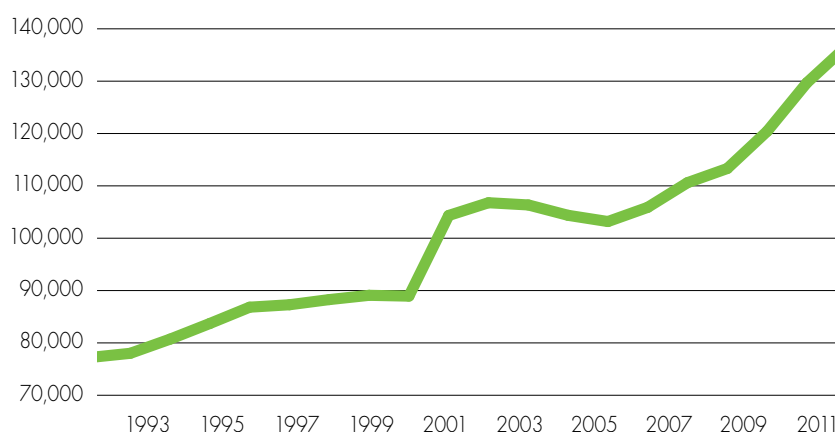
- students from low socio-economic status (SES) backgrounds
- students from regional and remote areas
- Aboriginal and Torres Strait Islander peoples.¹⁴

Students from low SES backgrounds

For participation rates to increase to the levels required to lift productivity and meet future labour market needs, Australia needs to increase the number and proportion of people from low SES backgrounds completing a higher education qualification.

While the number of people from low SES backgrounds studying for a degree has increased since 1970 from only a few thousand to almost 140,000 today,¹⁵ as a proportion of the total student population participation is below parity. The growth over the past two decades is shown in Figure 1.

Figure 1: Increase in low SES domestic students in higher education, 1992 to 2011¹⁶



The proportion of domestic undergraduate students from low SES backgrounds decreased from 2001 to a low in 2008, followed by gradual annual increases and then marked increases in 2010 and 2011. This suggests that both the number and proportion of students from low SES backgrounds increased as universities expanded their intakes when the government relaxed and then removed caps on the number of undergraduate places it supports. If this inference is correct, maintaining and expanding opportunities to enrol in universities is important in broadening access to higher education for students from low SES backgrounds.

Many are the first in their family to consider university and do not have the role models and higher education backgrounds enjoyed by other students. Some students from low SES backgrounds are less well prepared for higher education and require additional support. Improving primary and secondary school education standards will, over time, better prepare students for higher education. In the interim, several studies have shown that with appropriate support low SES students succeed at university as well as students from other backgrounds.¹⁷

The Australian Government currently supports the participation of under-represented groups in higher education by funding enabling and foundation programs. These initiatives help prepare students for higher education study and, through the Higher Education Participation and Partnerships Program, assist universities to support students from low SES backgrounds, often in partnership with schools, vocational education providers, other universities, government, and community groups. In addition, each university has a range of programs to encourage people from under-represented groups to enrol in higher education, alternative entry programs, transition programs and study support programs.

Contribution to regional communities and economies

Universities are an important and prominent feature, and often the focal point, of regional and outer urban communities. They make a substantial contribution to the local economy and in many places the university is the largest employer. They typically provide a comprehensive range of courses to local people including school leavers, mature-age students, Aboriginal and Torres Strait Islander students, and students from low SES backgrounds. Regional universities mitigate the long-term loss of talented young people from the region, and in doing so play a major role in regional development and in securing the economic wellbeing of the communities they serve. Regional universities also attract students from urban areas, many of whom stay on after they complete their studies. Regional universities introduce innovation and thus increased productivity to their local economy, and are the conduits of research benefitting local and regional industries and other enterprises.

In 2007, 25.4 per cent of the total Australian population lived in regional areas, yet only 18.1 per cent of domestic higher education students were from regional areas. People living in remote areas represented 2.5 per cent of the population and 0.44 per cent of higher education parity enrolments.¹⁸ While the presence of a regional university or campus increases the participation rate,¹⁹ and the overall numbers of regional and remote undergraduate students has increased, their participation rate has not improved since 2007.²⁰ In 2012 the Australian Government relaxed workforce participation criteria for students in inner regional areas to enable greater access to income support and increased the value of relocation scholarships for young people from regional Australia who need to move to access higher education.

Students from rural and remote areas nonetheless remain seriously under-represented in higher education. This is due to many factors, including the lower proportion of young people completing Year 12 in regional Australia and buoyant labour market conditions in some regional areas. Meeting the Council of Australian Governments' target of 90 per cent of 20- to 24-year-olds completing Year 12 by 2015 is particularly important in regional Australia. It is too early to tell whether the extra support introduced for regional students in 2012 has increased participation.

Income-contingent loans

The availability of income-contingent loans makes participation in higher education affordable. The Higher Education Contribution Scheme was introduced in 1989 and was later expanded and renamed the Higher Education Loan Program or HELP. Several types of HELP loans are available catering for different circumstances. While HELP loans are a debt or liability for students, they are treated as an asset in the government's accounts since they are deferred revenue.

A crucial issue for government, however, is the proportion of HELP loans that are repaid. Students may not repay all their HELP debt because they do not earn enough income for long enough to repay their whole debt, or because they work overseas and do not pay tax in Australia. In the 2012–13 budget, the Industry, Innovation, Science, Research and Tertiary Education portfolio reported that 16 per cent of new HELP debt was not expected to be repaid in 2010–11. From the average change in new debt not repaid over the previous three years, the department estimates that the proportion of new debt that will be unpaid will be 17 per cent in 2011–12 and 18 per cent in 2012–13.²¹ Although the percentage is increasing—perhaps as HELP is being expanded for vocational students who earn lower incomes than those with a university degree—the department projects that HELP repayment levels will remain high.

By providing an affordable way of supporting higher education opportunity, HELP loans are an essential feature of Australian higher education.

Responding to student and employment demand

The student demand-driven system means that the allocation of places to different fields is determined mostly by students rather than by institutions or governments. Three-quarters of undergraduates study to get a job or to start or develop a business; to get a better job or promotion; to change careers; because it was required by their employment; or because they wanted extra skills for their job.²² It seems likely then that despite a lag effect, student demand and thus enrolments increase in fields where there is high employment demand and fall in fields where employment demand is lower.

A 2013 report by the Grattan Institute noted a shortage of health and engineering graduates, and concluded that both student demand and the supply of undergraduate places are responding to these shortages.²³ While it is reasonable to suppose that universities respond to student demand, which in turn reflects labour market demand, the student demand-driven system has not been operating long enough for this supposition to be tested fully.

Aboriginal and Torres Strait Islander access and outcomes

Australia's Indigenous population is under-represented in its university system. According to the recent review of higher education access and outcomes for Aboriginal and Torres Strait Islander people, they make up 2.2 per cent of the overall population, yet made up only 1.4 per cent of student enrolments in 2010, including only 1.1 per cent of higher degree by research enrolments. Staffing levels are similar, with 0.8 per cent of all full-time equivalent academic staff and 1.2 per cent of general university staff in 2010 being Aboriginal and Torres Strait Islander people.²⁴

A background paper for the review noted the poor recognition given to Aboriginal and Torres Strait Islander studies, the lack of visibility of Aboriginal and Torres Strait Islander cultures and knowledge on many campuses, and the low levels of participation of Aboriginal and Torres Strait Islander people in university governance and management. The most important factors identified as leading to Aboriginal and Torres Strait Islander students' premature withdrawal from studies included financial pressures, social or cultural alienation caused by the academic demands of study, and insufficient academic support.²⁵

The paper also highlighted that education plays a vital role in improving health, education and economic outcomes for Aboriginal and Torres Strait Islander communities. Successful programs that have improved higher education outcomes for Aboriginal and Torres Strait Islander people include preparatory courses in various disciplines ranging from law to medicine, diverse health programs and national support programs.

Universities are currently implementing the key guiding principles established by the Indigenous Cultural Competency in Australian Universities Project. The project was undertaken by Universities Australia and the Indigenous Higher Education Advisory Council with funding provided by the Department of Education, Employment and Workplace Relations. The five key guiding principles are:

- Indigenous people should be actively involved in university governance and management.
- All graduates of Australian universities will have the knowledge and skills necessary to interact in a culturally competent way with Indigenous communities.
- University research will be conducted in a culturally competent way in partnership with Indigenous participants.
- Indigenous staffing will be increased at all appointment levels and, for academic staff, across a wider variety of academic fields.
- Universities will operate in partnership with their Indigenous communities and will help disseminate culturally competent practices to the wider community.²⁶

Student pathways into universities

In 2008 universities admitted 46 per cent of their domestic undergraduate students on the basis of secondary education, 24 per cent on the basis of previous higher education study, 9 per cent on the basis of a vocational education award course, 6.4 per cent on the basis of mature age or special entry provisions, and 15 per cent on some other basis.²⁷ Universities increased the proportion of domestic students they admitted on the basis of a vocational qualification from 6.6 per cent in 2000, but otherwise the bases of admission have been stable.

Sub-bachelor programs, such as associate degrees, higher education diplomas and advanced diplomas, and foundation and bridging programs have proven to be particularly effective pathways for members of equity groups. Some of these programs are tailored to the needs of specific groups and they may be offered in partnership with regional TAFE institutes and other institutions that cater for members of equity groups. Currently government funding for places in these programs is capped.

The Australian Government has legitimate concerns about the possibility of costs and effort being shifted from vocational programs (which are funded mostly by state and territory governments) to higher education programs at the same level (which are financed wholly by the Australian Government). However, if caps are maintained on sub-bachelor programs there is a risk that some students will be directed to uncapped bachelor places despite being more suited to a sub-bachelor program.

Flexible modes of study

Technological developments offer greater flexibility in how students access higher education courses, removing barriers of time and place that may prevent participation for some whose personal or geographic circumstances are not amenable to more traditional forms of on-campus learning. While distance education has been available for many years, the increase in technological capabilities, the advances in pedagogical techniques that are growing alongside the changing technology and broadband capability mean that the online educational experience, especially when blended with other channels, can offer very high quality, and intensively engaged student experiences.

Affordable student housing

Currently universities provide accommodation for approximately 50,000 students, or 4 per cent of the nation's domestic and international students.²⁸ It is often difficult for students to find affordable housing within a reasonable distance of university campuses, in both inner cities and regional areas. Lack of affordable housing makes entering or remaining at university a financial challenge, and can also lead to academic problems by restricting the amount of time students have to study. Living a great distance away from university can also lead to social isolation.²⁹

One way the government could address the lack of affordable student housing is by encouraging the building of new stock. At present, the National Rental Affordability Scheme (NRAS) provides incentives—around \$6,000 a year per dwelling for 10 years from the Commonwealth and \$2,000 a year for 10 years from the states and territories—to the private and community sectors to build and rent affordable rental housing (20 per cent below market rates).

The NRAS model could be adapted to build a stock of affordable student housing around Australia's university campuses. The scheme is cost-effective, involving significantly smaller capital outlays than if government were to build and manage accommodation itself. The scheme could be designed to ensure ownership reverted to universities after a period of payments to developers, paving the way for an enduring stock of affordable student housing. A full NRAS round would make affordable student housing available to an additional 50,000 students.

University actions

Broaden pathways into university degrees

Universities will continue to increase intakes of eligible students to meet the national degree attainment target and will continue to increase the number and proportion of students from low socio-economic status backgrounds and in regional and remote locations to meet the national equity target.

Universities will expand alternatives to the Australian Tertiary Admission Rank for entry to university, including university colleges and pathway programs from vocational education and other colleges.

Respond to student and employment demand

In determining their student intakes, universities will take into account the Australian Workforce and Productivity Agency's national specialised occupation list of occupations in short supply or over-supply.³⁰ Universities will also take into account regional employment demand by consulting regional employers and professional associations in their program and faculty advisory committees.

Evaluate and adjust partnership programs

Universities will maintain and strengthen their partnerships with schools, vocational institutions and communities supported by the Higher Education Participation and Partnerships Program. These are long-term initiatives, and while it is still too early to judge their effectiveness, they have received much support from both universities and schools. Universities will conduct rigorous evaluations of progress to determine whether they are meeting milestones and will adjust or redirect programs as necessary.

Expand flexible offerings

Australian universities are using new information and communication technologies to make higher education more flexible, more accessible and more productive. Many universities are offering programs online, with or without entry requirements, through their own platforms, some by participation in Open Universities Australia or through massive open online courses. As online learning expands it will transform higher education by developing new pedagogies, by making study accessible anywhere at any time, and by introducing new business models. Universities will expand their online and other flexible offerings and will establish more paths for students to move from open and flexible courses to degree courses that can be completed either fully online or in combination with distance and/or campus study.

Expand opportunities for regional students

Universities will expand their offerings to regional and remote students through face-to-face, flexible and online learning. This expansion will engage employers, regional TAFE institutes and other higher education providers. Universities will target partnerships with regional and remote employers, schools and vocational institutions to increase the attainment, aspiration and access of regional and remote students.

A whole-of-institution approach for Aboriginal and Torres Strait Islander students and staff

Universities will implement the key guiding principles established by the Indigenous Cultural Competency in Australian Universities Project.

Universities will adopt a whole-of-institution approach to meeting the population parity targets for Aboriginal and Torres Strait Islander peoples, as recommended by the review of higher education access and outcomes for Aboriginal and Torres Strait Islander people.³¹ Universities Australia will consult the Aboriginal and Torres Strait Islander Higher Education Advisory Council on what may be a feasible timeframe for achieving degree completion and employment parity for the sector. Each university will consult its Aboriginal and Torres Strait Islander communities on appropriate dates for achieving degree completion and employment parity for its region.

Universities will collaborate with the Australian Government, vocational education and training institutions, employers and professional associations to implement the review's other recommendations.

Government actions

Maintain income-contingent HELP loans

Universities Australia recommends that the Australian Government maintain its landmark income-contingent Higher Education Loan Program.

Maintain a system that enables any Australian who is capable of studying at university to do so

Universities Australia recommends that the Australian Government retain the demand-driven system to increase participation to levels necessary to meet future economic and labour market needs, maintain choice and increase opportunities for students to attend Australian universities.

Expand sub-bachelor places

Universities Australia recommends the targeted expansion of places supported by the Australian Government in sub-bachelor programs directed at members of equity groups with strong opportunities for progression either to employment or to bachelor programs and in areas that have low participation or skills shortages.

Maintain successful equity programs

Universities Australia recommends that the government maintains real funding per student for currently successful programs: the Higher Education Participation and Partnerships Program, enabling loading, the Indigenous Support Program and the Higher Education Disability Support Program. Universities Australia recommends that the next generation of the Higher Education Participation and Partnerships Program concentrate on people who are not school leavers, possibly by supporting partnerships between universities and employers and employment agencies.

Collaborate with universities on employment and graduate skill demand

Universities Australia recommends that the Australian Government work collaboratively with state and territory governments and universities to ensure that the Australian Workforce and Productivity Agency's national specialised list of occupations and local employment needs are adequately addressed in university intakes. Equally important are the broader skills that graduates bring to their employment.

Increase the stock of affordable student housing

Universities Australia recommends that:

- the Australian Government work with universities to provide affordable student housing, with a particular focus on those students most in need
- the National Rental Affordability Scheme be adapted to address the shortage in supply of affordable student accommodation.

Benefits

Adopting these actions would:

- increase higher education participation
- increase national productivity
- meet the economy's increasing needs for a greater number of highly qualified graduates
- increase opportunities and choice for Australians
- contribute to a fairer Australia.

*foster informed, engaged
global citizens...*

leaders in international scholarship...

quality-assured and sustainable...

*research excellence and depth of international
research collaboration*

2

Develop Australia's globally engaged university sector

Policy principles

- Australian universities foster informed, engaged global citizens.
- Australian universities are leaders in international scholarship.
- International student enrolment growth occurs in a quality-assured environment and is sustainable.
- International students have access to work, safe and affordable accommodation, and adequate support services.
- Australia is highly regarded for its research excellence and depth of international research collaboration.
- Improved policy coherence between federal and state and territory agencies supports international education quality and growth.

Context

Increased competition

Australia's universities have built a robust international education industry and their genuine and whole-of-institution approach to internationalisation is a key differentiator in a competitive marketplace. Yet Australia is facing increased competition in international education from:

- other countries recognising the centrality of education to productivity and wealth generation
- an expansion of the international education industries of countries such as the United States and the United Kingdom in response to the global economic downturn
- the emerging interest in international education in our own region as nations such as Singapore and Malaysia seek to establish themselves as regional hubs for higher education
- the heavy investment by Asian countries such as China and India in their own higher education systems. Countries that have traditionally been Australia's market for international students are increasingly becoming competitors
- the sustained relative strength of the Australian dollar.

The globalisation of Australian higher education

Australia's universities have strong international expertise, reputations and ties. Australian researchers contribute to the international knowledge base, they transmit research findings from abroad to Australia, they collaborate and publish jointly with leading researchers overseas, and they train new researchers from overseas as international higher degree by research candidates.

Alongside the impact of the digital economy, globalisation is transforming higher education. Just 25 years ago, an international sector scarcely existed. In 1986, universities were granted the autonomy to determine the number of international students they enrolled and the fees they would charge. As a result, the number of international students studying at Australian universities increased more than 18-fold, from just over 18,000 in 1988 to 332,000 students from more than 180 countries today.³²

Australian universities started to enrol substantial numbers of international students in the late 1990s, when international students were 10 per cent of all students. International students now comprise 29 per cent of the total higher education student load. International students enrolled in coursework masters programs at Australian universities increased from 21 per cent of all international students in 2000 to 24 per cent in 2011. International higher degree by research candidates increased more modestly, from 4.7 per cent of all international students in 2000, to 5.0 per cent in 2011.³³

Australia has developed a global competitive advantage in higher education. Australia is the world's third most significant destination for foreign tertiary students, attracting 6.6 per cent of all foreign tertiary students in 2010 after the United States (16.6 per cent) and the United Kingdom (13.0 per cent).³⁴ Australia had the second highest proportion of international students enrolled in tertiary education in 2010 (21.8 per cent). This is higher than the United Kingdom (17.6 per cent) and much higher than the OECD average (7.8 per cent) and the United States (3.3 per cent).

The offshore campuses and partnerships of Australian universities are important and growing features of international education: 22 universities now operate campuses or programs in Asia. Thousands of agreements have been struck between Australian and Asian universities, spanning student and teacher exchange, staff shadowing programs and research collaboration.

Australia's success in international education is built on quality, which depends on how well it is funded and regulated, and the robustness of its quality assurance. These factors in turn contribute to Australia's international reputation in higher education, which is crucial to attracting international students.

Australian universities need to internationalise their curriculum further to prepare Australian students for careers in an increasingly globalised world. An internationalised curriculum is one 'with an international orientation in content and/or form, aimed at preparing students for performing (professionally/socially) in an international and multicultural context and designed for domestic and/or foreign students'.³⁵ The *Australia in the Asian century* white paper recognises the value of a globalised curriculum, and specifically one that prepares our students for the challenges and opportunities of the Asian century.

The expectations and experience of international students

International students have long sought more and closer interaction with Australian students and society,³⁶ and this remains a challenge for Australia. It is vital that Australia understands and meets the expectations of international students, and that they develop their cultural competence and proficiency in Australian society. While most international students succeed very well in their studies, many employers report that graduates' English proficiency is not suitable for immediate employment in professional jobs. This detracts from one of the benefits many international students hope to gain from studying in Australia.

Australian universities work diligently to protect international students' rights and welfare. Universities Australia believes that international students should not be vulnerable or exposed to any risks greater than those that exist for the Australian population. Safe and affordable accommodation served by safe and affordable transport creates a better international student experience. The recent decision by the New South Wales Government to trial the extension of public transport student concession fares for international students is an important recognition of this issue. This decision aligns the main metropolitan areas of New South Wales with all other states and territories except Victoria, which, with parts of regional New South Wales, is the only jurisdiction that discriminates against international students in public transport fares.

Results from the International Student Barometer indicate that students are overwhelmingly satisfied with their experience while in Australia.³⁷ However, one area of concern is their ability to find work related to their studies both during their study and after graduating. Work experience and career support reported the lowest levels of satisfaction for both Australian and international benchmark universities. Work readiness is extremely important to international students, given they are most often studying at an international university to increase and improve their job prospects. Currently Australia is perceived as a leader in international graduate employment opportunities,³⁸ but there is room to improve if Australia is to maintain its competitive advantage as a destination of choice for international students.

Australian universities and the Australian economy will be well served by collaboration with industry to increase opportunities for international students to gain both work experience and employment in Australia on graduation. Industry, particularly export-focused or global companies, would benefit from offering internships and work experience opportunities to international students and graduates. Not only would such programs deliver long-term economic benefits to Australia and industry, they would also extend our competitive advantage.

Alumni

Australian universities have graduated more than 2.5 million international alumni, most of whom are from our region. Many now occupy leadership positions in government, education and industry in their home countries. Most have a high regard for their study experience in Australia and carry with them an understanding of our society, economy and culture. They also promote Australian education in their own nations to ensure employers and others properly value their experience and qualifications. While Australian universities operate alumni networks and some countries have strong alumni networks (often supported by universities), Australia does not leverage its alumni as well as it could.

A government–university partnership to establish a global Australian alumni network would maintain and extend graduates’ connections with Australia and with each other through events, social media and by establishing regular communication channels.

Student mobility

The *Australia in the Asian century* white paper outlines the goal to have more Australian university students studying overseas, with a greater proportion of them undertaking part of their degree in Asia. The proportion of Australian students with an international study experience increased from 8.8 per cent of domestic bachelor graduates in 2008 to 12.3 per cent in 2011. This is still below the 14 per cent of US bachelor students who study abroad.³⁹ The increase in Australian students’ international study experiences was achieved with increased financial support, mostly from universities supplemented by OS-HELP, the Australian Government’s loan of up to \$5,824 for eligible undergraduate students. OS-HELP loans are repaid by students on the same conditions as other HELP loans.

The Australian Government currently invests more than \$200 million each year in international scholarships that, at any time, support around 5000 international students, researchers and professionals to study in Australia and for Australians to study, research and undertake professional development overseas.⁴⁰ The awards have two streams: an achievement stream to support the most able students, researchers and professionals to come to Australia and for Australians to study offshore; and a development stream that builds capacity in developing countries.

In January 2014 eligibility for OS-HELP will be expanded to include postgraduate students and students involved in clinical placement or work experience programs. The maximum loan amount will be increased to \$7,500 for those students choosing an Asian destination for their overseas study experience. The Australian Government has also announced the AsiaBound grants program, which will provide 10,000 additional grants over three years for Australian students to take up approved short-term study and exchange opportunities in Asia. The Coalition has signalled an intention to promote a 'reverse Colombo' scheme to encourage Australians to study abroad.⁴¹

The Vladivostok declaration of the APEC forum in September 2012 supported efforts to enhance the mobility of students, researchers and education institutions within APEC by increasing cooperation in higher education. This is elaborated in the declaration's Annex D—promoting cross-border education cooperation. It proposes that the mobility of students be enhanced by:

- identifying, comparing and implementing best practices among APEC economies for course accreditation and quality assurance systems, as well as targeted capacity-building projects
- developing models to guide reform and implementation of good regulatory practices, drawing on case studies of domestic education providers
- exploring ways to increase the transparency of student visa requirements.⁴²

The gains for Australia

Many international alumni are now leaders in their fields. Engaging with these alumni creates opportunities to further our mutual economic, social and security interests. International education has been described as 'the most significant thing we do to embed ourselves in the good regard of nations and people in the regions around us',⁴³ and as 'the most powerful instrument for transforming relationships between nations'.⁴⁴

International students enrich and broaden the university experience of Australian students: they help Australians to understand the world, particularly our Asian neighbours who will play the leading role in shaping the world in the 21st century; they enhance Australian students' capacity to learn by discussing solutions to problems taken from their own cultures and experiences; and they give Australians the opportunity to build global friendships and professional ties.

Education generates nearly \$15 billion a year in export income. For each dollar spent on education, international students spend at least two dollars elsewhere in the economy, each contributing on average \$29,000 a year.⁴⁵ This economic activity is estimated to support around 127,000 jobs in Australia, 88,000 of which are outside the education sector.⁴⁶

Full-fee-paying international students are a major source of revenue for Australian universities, contributing close to \$3.8 billion to the sector in 2011.⁴⁷ These fees are around 75 per cent of the amount the government provides to universities through the Commonwealth Grant Scheme. They contribute to the quality and development of Australia's universities.

Australia's participation in future growth in international education

The long-term prospects for international education in Australia are exciting, despite the fact that it is facing some immediate challenges such as the high Australian dollar and increasing international competition. Predicting the future of any sector in a world of fierce global competition and rapid technological change is challenging. However, it is worth examining the broad drivers of international education to demonstrate the remarkable opportunity Australia has to build prosperity by expanding the global reach of its higher education system.

The World Bank estimates that East Asia's middle class will triple between 2000 and 2030, while South Asia's will grow by a factor of 13. Together they are predicted to be home to more than 17 per cent of the world's middle class. The global middle class is set to grow by more than two billion people in the coming decades.⁴⁸ Rapid development affecting the billions of people in our region will lift demand for higher education substantially. Calderon estimates that by 2030 the number of students enrolled in higher education worldwide will increase to 414 million, from 99 million in 2000.⁴⁹ This growth is a continuation of an existing trend—between 1970 and 2000 the number of students enrolled in higher education worldwide increased by 248 per cent.⁵⁰

Just as global demand for higher education is expected to expand rapidly, so too is the number of students who will travel abroad to study. This will be driven by continuing demand from emerging economies, fostered by a major cultural change and encouraged by improved transport and communications. Increasingly, students, including both Australian and overseas students, will choose their university globally rather than nationally. Past growth patterns suggest that the number of students studying abroad could increase from 4.1 million in 2010 to between 7.3 million and 10.5 million in 2030.⁵¹ If Australia's international higher education sector grows at the same rate as the global tertiary sector, international enrolments (both onshore and offshore) would increase to between 436,000 and 614,000 by 2030. If they can outpace projected global growth by one percentage point each year, Australian universities would welcome between 525,000 and 735,000 international students in 2030—an additional 88,000 to 121,000 international students beyond what might otherwise occur. This would present a number of logistical and capacity challenges that need to be explored and addressed.

Advice on international education

In 2011 the Australian Government established the International Education Advisory Council to inform the development of a five-year national strategy to support the sustainability and quality of the international education system. The council is chaired by Mr Michael Chaney AO and comprises distinguished members from business and education. In April 2012 the council released a discussion paper on the development of an international education strategy for Australia.⁵²

International education is supported not only by universities and other educational institutions but also by a range of providers of other services and goods including transport, housing and food. Employers are also important in providing part-time work for international students during their studies, and full-time professional work for international graduates. These service providers and employers should also be involved in providing advice on the impact of international education.

University actions

Improve welfare and the university experience

Universities Australia will consult widely to consolidate support for the safety and welfare of international students and enhance their experience while studying in Australia.⁵³ Universities will continue to provide and review comprehensive and appropriate pre-departure and arrival information for students, expand student 'buddy' systems, and provide better access to volunteering opportunities and job-readiness programs. Universities will work with stakeholders to develop a national strategy for the welfare of international students.

Improve English language proficiency and opportunities for cultural exchange

Universities will continue to embed English language skills in the curriculum and develop them continuously and systematically throughout a student's course of study.⁵⁴ University student clubs and societies are being re-established with funds from university budgets and from student services and amenities fees. This allows an expansion of extracurricular activities where international and domestic students can mix informally. Universities will continue to work with state and local governments to include international students in existing cultural, sporting and social activities and organisations.

Extend student housing services

The measures to increase the stock of affordable student housing outlined in section 1 would also support international students. In addition, universities will expand their student housing services for international students by publishing information on localities and providers that are suitable for student rental accommodation, taking account of quality, safety, location and public transport availability; by maintaining registers of landlords, agents and premises suitable for international students; and by offering mediation between student tenants and landlords when misunderstandings arise.

Expand provision offshore

Universities will continue to expand education delivery offshore, including in partnership with other institutions by using new technologies and study modes; and, where appropriate and feasible, through new campuses and centres.

Continue to globalise the curriculum

Universities will continue to globalise their curriculum to increase students' understanding of other cultures. Universities will also continue to increase opportunities for students to interact with other cultures at home and through study abroad.

Stimulate study abroad

Universities will further stimulate interest in study abroad through the globalised curriculum, by expanding work-integrated learning opportunities overseas, and increasing scholarships to support study abroad. Universities Australia will lead an information and communications campaign to promote take-up of international education opportunities.

Strengthen international research links

Australian universities will strengthen their international research links, increase joint research projects with overseas collaborators and increase their number of publications with international co-authors. Australian universities will increase their research engagement with Asian neighbours and help build the academic capacity of developing neighbours, partly by increasing the number of international higher degree by research candidates.

Government actions

Refine the regulatory regime

Universities Australia recommends that the Australian Government align its policies and further simplify its processes for educational service provision for overseas students, tuition protection and immigration. The Australian Government should establish regulations that are stable, transparent and attractive to prospective students and researchers. Australia should remain competitive in its entry and migration policies and in its final policy on post-study work visas.

Broaden advice on international education

Universities Australia recommends that the Australian Government establish a mechanism for obtaining advice on international education from all the industries that are substantially involved in international education. One possibility may be for the International Education Advisory Council to establish an international education service providers' forum.

Support international research collaboration

Universities Australia recommends that the Australian Government establish a national, secure and long-term funded international research collaboration strategy that operates beyond bilateral engagement or the traditional researcher-to-researcher partnerships. Universities Australia emphasises the strategic importance of this proposal, which is discussed further in section 3.

Enhance student mobility

Universities Australia looks forward to the Australian Government progressing the 2012 APEC leaders' declaration to enhance the mobility of students, researchers and education providers within APEC economies.

Benefits

Adopting these actions will:

- further expand Australia's international higher education and research activities while ensuring their excellence
- improve the range and quality of advice to government on international education
- improve international students' welfare and experience
- increase student mobility
- internationalise Australian graduates and contribute to internationalising Australian society.

international excellence in **research**
and **scholarship**...

promoting, attracting and fostering national
and international **collaboration**...

core *funding framework*...

enables *drives and sustains*
collaborative engagement...

A powerful research and innovation system that drives economic and social progress

Policy principles

- International excellence in research and scholarship in universities contributes substantially to Australians' prosperity, productivity and quality of life.
- A national research and innovation system that enables, drives and sustains collaborative engagement and generates positive returns for industry, society and government requires long-term investment that aligns with our national aspirations.
- Australia's place among research and innovation leaders internationally is secured by promoting, attracting and fostering national and international collaboration.
- Long-term, sustainable research capacity and capability requires a core funding framework.
- Resources are allocated to balance support for research excellence wherever it exists, and to build the nation's research capability where it is needed, both within and beyond the university sector.

Context

Research drives productivity, economic growth and social development

A strong university research system is crucial for the future prosperity and wellbeing of Australians. Research stimulates innovation and delivers solutions to the economic, social and demographic challenges facing the nation. Active and sustainably supported research programs improve the health and wellbeing of the world's population and will produce the new products, industries and services that underpin the industrial transformation of the economy.

Research develops our understanding of the world and helps Australians understand and manage social, cultural, physical and economic change. It supports constructive engagement with other peoples and nations and the opportunities this affords. A broad research agenda encompassing humanities and sciences is essential to understand and engage with others globally, and to inform how we comprehend and address the challenges of everyday life.

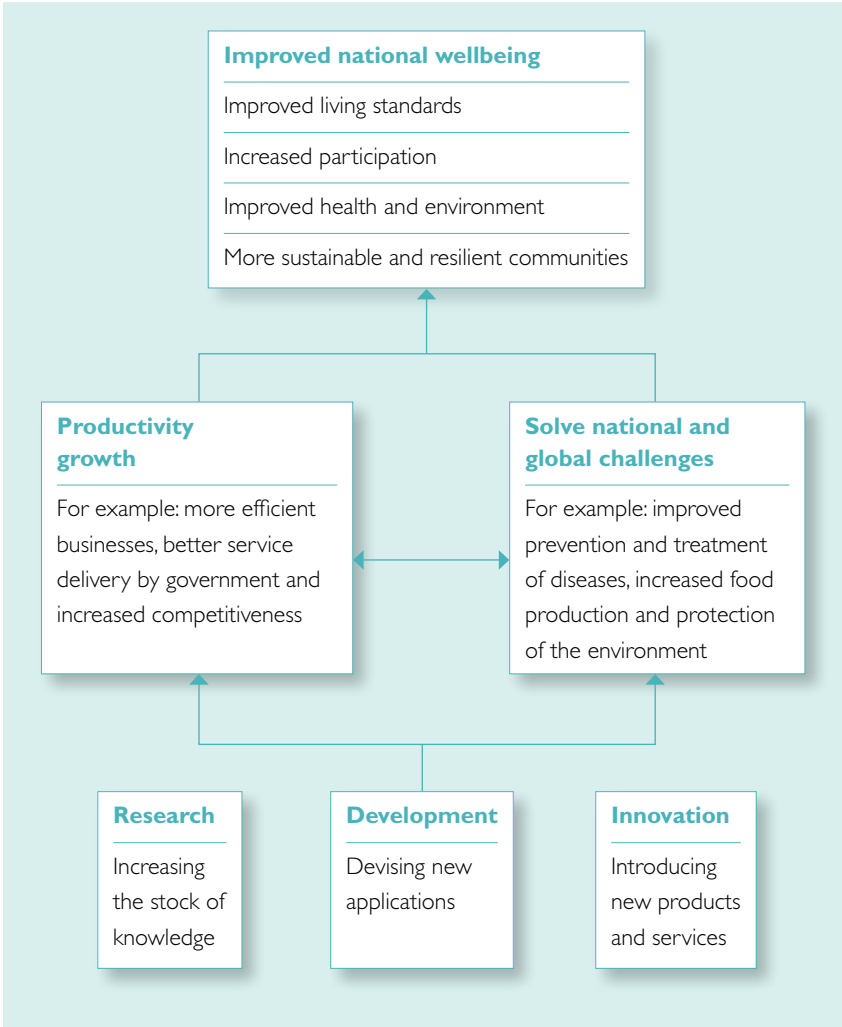
There is strong evidence that the nation's investment in research and innovation already delivers substantial returns. A meta-analysis across many studies estimates that the rate of return on publicly funded research is significant — generally between 20 and 60 per cent.⁵⁵ The Productivity Commission report *Public support for science and innovation* concluded that:

There are widespread and important economic, social and environmental benefits generated by Australia's \$6 billion public funding support of science and innovation ... Multiple strands of evidence establish that the benefits of public spending exceed its costs.⁵⁶

Health is one of many examples of the benefits that research brings to Australian industry and society. Already health is estimated to account for two-thirds of the growth in Australian Government spending to 2050 — improvement in efficiency and outcomes is an imperative.⁵⁷ Investing in research to reduce the burden of disease can deliver significant improvements to the wellbeing of our population. Investment can also deliver substantial economic returns in reduced costs to the health system, productivity improvements in health care, and benefits from commercialising research. The benefit–cost ratio of investments in health research in Australia has been estimated at up to 6:1, with one dollar invested in health research delivering on average six dollars in health benefits.⁵⁸

The contribution of research, development and innovation to our national wellbeing is complex and multifaceted. Figure 2, adapted from the 2012 *national research investment plan*, illustrates how research contributes to this interdependent relationship.

Figure 2: Australia's benefits from research⁵⁹



Universities are unique contributors to advancing Australia's national interest. Universities are the only institutions with the remit and capacity to build and link all elements of advanced scholarship, innovation and development—through teaching, research, research training, industry engagement, translation of the results of research into tangible outcomes and commercialisation. Through universities, Australia is able to access, adapt and adopt research from the leading researchers, industries and economies around the world. Australia secures access to important international research and development only by conducting high-level research itself and being recognised as a valued contributor to debate, collaboration, development and success.

Investment in research and development

In 2008–09, the latest year for which all-sector ABS data is available, Australia spent \$27.7 billion on research and experimental development. Just over 60 per cent of this expenditure was by business, 24 per cent by higher education institutions and 12 per cent by governments (Table 1).

Table 1: Gross expenditure on research and experimental development by sector, 2008–09⁶⁰

Sector	\$ million	%
Business	16,858	60.8
Government	3,420	12.3
<i>Australian Government</i>	2,252	8.1
<i>State/territory governments</i>	1,169	4.2
Higher education	6,717	24.2
Private non-profit	744	2.7
Total	27,740	100.0

In 2010, the latest year for which OECD figures are published, Australia's gross expenditure on research and development was 2.20 per cent of its GDP, less than the 2.38 per cent for the OECD as a whole. The Australian Government invests at a higher rate than the average of its OECD counterparts, but not at a level sufficient to make up for the relative shortfall in Australian business expenditure on research and experimental development, which is less than the OECD average (Table 2).⁶¹

Table 2: Expenditure on research and development as a proportion of GDP, Australia and the OECD, 2008⁶²

Sector	Australia	OECD
Government	0.78	0.69
Business	1.40	1.48
Total	2.26	2.36

Note: OECD data on total Research and Development investment is available to 2010, however, at time of publishing the latest available data disaggregating government and business investment was 2008.

The most innovative economies with strong export earnings and positive current account balances based on innovation have research intensities (measured by the ratio of gross expenditure on research and development to GDP) well in excess of Australia's and that of the OECD average.⁶³ Of primary importance is investment in scientists, researchers, engineers and skilled production workers. The 2013 *global manufacturing competitiveness index* reports that:

talent-driven innovation is deemed the most critical driver of a nation's competitiveness among the 10 major categories of drivers. Within talent-driven innovation, the quality and availability of scientists, researchers and engineers and the quality and availability of skilled production workers are ranked as the first and second most important of the 40 individual sub-components of competitiveness drivers.⁶⁴

Australia must develop its knowledge capital to diversify its economy and industrial base. Increased research capability is necessary to develop new products and services to underpin new and renewed industries, solve the nation's more intractable problems and extend the boundaries of knowledge. If Australia is to sustain its position as an innovative nation at the forefront of discovery with a strong economy, it cannot afford to underinvest in research. This risk was signalled by Dr Terry Cutler in his 2008 review of the national innovation system.⁶⁵

The 2009 Australian Government report *Powering ideas: an innovation agenda for the 21st century* noted that:

Commonwealth spending on science and innovation has fallen 22 per cent as a share of GDP since 1993–94 ... Business spending on research and development collapsed in the late 1990s, and while it has grown since then, we still lag behind many of the countries we compete with.⁶⁶

According to the report, as a nation, Australia spends just over 2 per cent of its GDP on research and development — behind Denmark, Germany, Iceland, Switzerland, Taiwan and the United States (which spends more than 2.5 per cent); Finland, Japan, South Korea and Sweden (which spend more than 3 per cent); and Israel (more than 4 per cent).

If Australia is to remain competitive and improve its global standing, there is an urgent need to stimulate Australia's public funding of research and development and lift private, especially business, investment to match that made by the leading OECD economies. The total amount invested in research must consider the indirect costs of research. The Commonwealth should therefore consider lifting its funding to cover at least 50 per cent of the operational costs associated with research funded through its competitive project funding schemes. Failure to adequately cover these costs has clear and direct consequences for the overall university budget. For example:

- it limits the funds available for activity in other areas including teaching, and industry and partner engagement
- it means that facilities cannot be used to their full potential because funding does not provide for the ongoing costs of maintenance.

Associated and necessary investment includes a robust and reliable mechanism for funding for Australia's research fellowship schemes.

Funding schemes

It is critical for beneficiaries and end users that the public investment in research is predictable and long term. Research programs work on long lead times and the existing stop–start, fragmented approach to elements of the research funding program is inefficient, reduces the potential return on research investment and creates an uncertain environment for researchers, end users and institutions.

Universities Australia supports the competitive grants system. Investment can be directed at excellence wherever it is found, and towards research capacity building and areas of national competitive advantage. Maintaining high standards in research requires that decisions on competing demands for funding be made by well-informed peers. The great successes of research funded by the Australian Research Council and the National Health and Medical Research Council over the past three decades are testament to the value of decision making by peers. The outcomes of the Excellence in Research for Australia exercise, as well as the rapid rise of the Australian university sector on international rankings, is strong evidence of our successes to date. According to the Academic Ranking of World Universities there are now 19 Australian universities in the top 500, and Australian universities rank similarly highly in all leading ranking systems irrespective of the methodology.

Research funding can be prone to short-sightedness and overzealous targeting. While research investment should be disciplined, planned and subject to review, it needs to be done in a way that reflects the true nature and value of the research process. The great discoveries in health care, industrial development and transformation, food quality and yield, and social and behavioural sciences were built on decades of enquiry, understanding and collaborative discovery. The necessary precursors to great innovations and the value they generate for society are not easily captured in short-term financial cycles, but are nonetheless the basis on which much of scientific, social and economic development are built.

An overly targeted approach to research risks the best research being overlooked and the results undiscovered and unaccounted for. All of the major successes of Australian research have stemmed from basic peer-review-funded projects. For example, Australia's two large medical device companies—ResMed and Cochlear—evolved from investing in basic research. The investment supported specific projects and, crucially, provided for a critical mass of world-class researchers to develop and advance them. Policy makers do not have the specialist expertise necessary to allocate funds that optimise outcomes, but they can ensure that Australia has a well-resourced, competitive system of research funding through which world-class projects are established, sustained and promoted to the benefit of the nation.

Since funding schemes, regulation and policy should reflect long-term, productive enquiry rather than have a short-term, finite, program-focused orientation, bipartisan support is needed to avoid a three-year cycle.

Interaction between research institutions and business

Australia needs to improve the interaction between research institutions and business. In 2008–09 some 40 per cent of all Australian businesses were classified as ‘innovative’, but only 2.6 per cent of them sourced ideas or information for innovation from higher education institutions and only 4.1 per cent from public research agencies. In contrast, 61 per cent sourced ideas from within their own business or a related company, 39 per cent from clients, customers and buyers, 30 per cent from competitors or others in their industry and 30 per cent from suppliers.⁶⁷

The 2013 *global manufacturing competitiveness index* is relevant to the Australian context. It states that ‘Countries that lead in developing public–private collaborations not only bring together the skills required to spur innovation, but also create an ecosystem that thrives on innovation through collaboration’.⁶⁸

Australia has a number of schemes to encourage university and business interactions in research. These include the Australian Research Council’s Linkage program, the Cooperative Research Centres program and the Australian Research Council’s Industrial Transformation Research Program. The Australian Government established the Industrial Transformation Research Program in its 2012–13 budget with \$236 million invested over five years. The program fosters partnerships between business and universities by supporting industrial PhD students and researchers to work on research problems in areas critical to Australia’s future economic prosperity. The Industry Innovation Precincts initiative and extending the Cooperative Research Centres program have the potential to promote greater university, business and industry research collaboration. It is important to continue to broaden such initiatives considerably in size and disciplinary scope if they are to prove transformative.

Research training

The standard form of research training in Australia and elsewhere consists of a research project of three years’ duration supervised by an expert researcher or supervisory panel. Assessment typically takes the form of a major thesis examined by international researchers. Universities are increasingly including coursework and informal training in entrepreneurship, project management, non-technical writing, leadership and other applied skills in research training programs. Some universities are restructuring their honours programs as masters degrees to include coursework covering key skills, some include short courses within doctoral programs, and some offer graduate certificates jointly with doctoral programs. To support research training there is merit in considering varying the duration of Australian Postgraduate Awards.

Around half of Australian PhD graduates work in government and industry. The number of researchers in the manufacturing and service sectors in Australia in 2009 (3.1 per 1000 employed in industry) was less than a third of the average figure for the four Scandinavian countries (10.0) and the United States (10.5). These figures reveal a critical lack of investment in, and a significant disadvantage for, innovation in Australia's industry sectors.⁶⁹ Australia should strive to at least double the number of PhD graduates employed in the broader economy to catch up with the proportion of PhD graduates per 1000 in the strongest innovation-based export economies.

Innovative suggestions for career pathways for PhD graduates should also be considered, such as the Australian Academy of Science's proposal to recruit science PhD graduates into teaching. This would provide an alternative and viable career choice for graduates, while simultaneously furnishing our schools with passionate and engaged teachers skilled in experiential approaches to learning that improve student performance.

Increasing the number of international higher degree by research candidates studying at Australian universities can foster strong international research collaborations as well as contribute to Australia's research output.

Research evaluation

The Australian Government has robust processes for evaluating the quality of research projects funded through the major Commonwealth research grant schemes. The main measures are international assessments of research performance and peer evaluation of researchers' records and potential. However, these processes are very resource-intensive for the country's top researchers and for the research granting bodies, as Australian Nobel Laureate Brian Schmidt AC has argued.⁷⁰

In 2010 the Australian Government established an evaluation of research in universities, Excellence in Research for Australia (ERA). It found that Australian university research is already very selective. On average universities reported research outputs above the reporting threshold in only 27 per cent of the 157 fields of research assessed. Of the units assessed, 36 per cent were found to be above or well above world standard. In 2012 ERA showed a considerable increase in Australian universities' research quality. Of the units assessed, the proportion above or well above world standard increased to 45.5 per cent in 2012. Of all units, the proportion assessed as being below or well below world standard fell from 8.6 per cent in 2010 to 5.1 per cent in 2012.

The impact of research, however, is not currently assessed in either the Australian Government's main competitive research grants schemes or as part of the ERA. Australia therefore lacks data to evaluate the changing impact of university research and how benefits might be more efficiently and effectively transmitted to end users. Evaluation of research impact also provides the opportunity to highlight the usefulness of university research to end users

and therefore further encourages the formation of productive links. In 2012 the Australian Technology Network and the Group of Eight universities, with the support of the Department of Industry, Innovation, Science, Research and Tertiary Education, trialled assessing the impact of research using a case study approach. The trial demonstrated considerable potential for identifying various research impacts and using those assessments to inform and improve the research process for the benefit of business, the public and the academic community.⁷¹

Funding for major research infrastructure

Universities Australia understands that a collaborative model and approach to research infrastructure provides excellent value for money and develops a culture of academic–business collaboration that is fundamental to a powerful research and innovation system. When many researchers can access shared, modern facilities it provides a cost-effective approach that delivers value to both investors and the beneficiaries of research outcomes. Initiatives like the Major National Research Facilities scheme (2002–06), the National Collaborative Research Infrastructure Strategy (2006–11) and Super Science (2010–12) funded major national facilities that provided access for multiple researchers. Grants made from these programs typically included multiple universities in partnership with other public research organisations. For many projects, state governments and other partners increased the total investment through matched funding.

With the most recent of these programs ending in 2012, it is unclear how substantial, nationally significant research infrastructure projects are to be funded in the future. Filling the need for a long-term, sustainable model for funding major research infrastructure projects is one of the most pressing issues to be addressed by government to support and grow a powerful research and innovation system for Australia.

International collaboration

Internationalisation is increasing in all major sectors of the economy, including education and industry. Engagement in international research collaboration has been a significant focus of Australian institutions that feature in the global university rankings. Increased international research collaboration is essential if Australia wishes to raise the number and ensure the consistency of institutions recognised in global rankings. Increasing participation in research partnerships worldwide will enhance Australia's national capacity to increase research output, such as co-authored research publications, and enable our researchers to collaborate on frontier research projects and translate the findings into localised solutions for Australians. International research collaborations also give Australian universities increased leverage to engage with industry, both domestically and overseas, by providing incentives for key international firms to invest in Australia.

To increase the capacity for international research collaboration, Universities Australia supports partnerships that:

- expand opportunities like visiting fellowships that allow Australian researchers to work overseas and return to Australia with new knowledge and skills
- increase government involvement in brokering formal international collaborations, including bilateral research agreements in areas of common research capacity and need
- increase the funds available to undertake international collaborative projects that will enable local solutions to problems, or promote Australia's contribution to addressing global challenges
- increase flexibility within current government funding schemes to undertake components of research projects overseas or match funding provided by other countries
- increase access to government-level negotiation to make it easier to participate in international frameworks.

In addition, Universities Australia believes that Australia should contribute to the major international funding schemes as a full partner to enable Australian researchers to compete for funds alongside their international counterparts.

Increased support for international research collaboration is essential if the Australian research sector is to create and maintain global alliances that drive national innovation at home and produce novel, transformational research outcomes for the benefit of all Australians.

Open access to research

Universities Australia believes that mechanisms that allow exposure, sharing, comparison and critique of research are fundamental to the research process, and are an important component of a powerful research and innovation system for Australia. Open access protocols will allow the wide distribution and take-up of Australian research, adding to the quality of research outputs and providing the widest access for local and international beneficiaries.

Australian universities have repositories of their research publications that are open to any person in the world with access to the internet; however, only about 30 per cent of publications are recorded in institutions' digital repositories and full text is currently available for many fewer publications. The National Health and Medical Research Council and the Australian Research Council now require any publication arising from research to which they contribute funding to be freely accessible to the public within 12 months of publication.

Universities Australia believes that there is enormous public benefit in increasing access to the outcomes of all research, especially research that has been publicly funded. There are a number of logistical, practical and commercial issues that need to be addressed to achieve this goal and Universities Australia, with the support of government, is committed to making Australia's high-quality research output freely accessible to all.

Major research challenges still to be met

Australia needs to conduct more research to address some of the nation's most crucial and intractable problems, such as transforming water efficiency and agricultural production in the Murray–Darling Basin, disaster recovery, responding to climate change, developing alternative energy industries, managing the diseases of ageing and managing social and economic change. Researchers at Australian universities are determined to deliver solutions to these and the many other problems facing Australia. Meeting these challenges requires renewed investment from government, following a difficult period of funding reductions and program cessations, for example the delayed introduction of \$499 million in foreshadowed new funding for the Sustainable Research Excellence program and the abolition of both the Future Fellowship and the National Collaborative Research Infrastructure Strategy programs.

University actions

Review research degree training and increase the number of international students enrolled in PhD programs

Universities will, with input from prospective employers, review how best to train PhD graduates for employment in the broader economy and in the expanding higher education systems of neighbouring countries.

Extend connections with end users of research

Universities will extend and deepen their collaboration and connections with the end users of research. Some of this will be through research students located in industry and some will be through researchers engaging end users in research programs including through staff exchange and joint use of facilities. The broadening of research training will enhance the attractiveness of PhD graduates as employees in industry, which in turn will facilitate connections with the end users of research.

Expand research outreach

Universities are keen to collaborate with research institutions internationally and locally and will do so by developing strong engagement plans and investing strategically in them.

To increase the visibility of university outputs and make them more useful for the broader community universities will include metadata on research publications in their institutional repositories and will expand the proportion of full text publications available to 50 per cent by 2030. Universities will also restructure their publications reporting process to comply with an integrated publications data, records and text access system.

Government actions

Increase direct investment and incentives for investing in research

Universities Australia recommends that the Australian Government increase national public investment and provide incentives to increase the level of industry investment in research and development to place Australia in the top quartile of OECD countries for gross expenditure on research and development.

Adopt a research investment plan

Universities Australia recommends that the Australian Government embrace a long-term and sustainable research investment regime by adopting, funding and implementing the 2012 National Research Investment Plan, which reflects national research priorities and encourages increased impact while acknowledging the value of pure research.

Increase the duration of the major national competitive research grants

Universities Australia recommends that the Australian Government increase the maximum duration of the major national competitive grant schemes so that councils have the flexibility to increase the length of grants by two to three years. This would allow councils to award especially meritorious proposals funding for longer periods, thus reducing the frequency with which top researchers need to apply for grants. Longer grants could be phased in so success rates are not cut heavily in a single year. This would not require additional funding; it would save resources for Commonwealth competitive research granting bodies by requiring them to review fewer applications, allocate fewer grants and review fewer final reports.

Universities Australia also recommends that the Australian Government invest in updating and upgrading information technology systems for the granting bodies to increase internal efficiency and improve their ability to interact with applicants, referees and research institutions.

Fund integrated health research centres

Universities Australia recommends that the Australian Government improve the translation of health research into better health outcomes as discussed by the McKeon review.⁷² Initiatives including but not limited to integrated health research centres would combine hospital networks, universities and medical research institutes to integrate research excellence with healthcare services delivery and facilitate the translation of research directly into healthcare delivery.

Increase support for international research collaboration

Universities Australia recommends that the Australian Government increase funding and support for international research collaboration, including introducing a mechanism to match funding from international research partners.

Evaluate the impact of research

Universities Australia recommends that the Australian Government partner with universities in the development and resourcing of an assessment of the impact of research.

Establish an integrated publications data, records and text access system

Universities Australia recommends that the Australian Government and its research granting bodies collect all data on publications from institutions' digital repositories to reduce administrative burden. This would include gathering data for the higher education research data collection, assessing applications for competitive peer-evaluated research grants, conducting assessments for Excellence in Research for Australia and assessing the impact of research when these measures are established. Universities would assist by placing on their institutional repositories metadata for all publications and full text for most journal articles and conference papers and for many other publications.

Benefits

Adopting these actions would:

- ensure that the full potential of Australian research is used to power Australia's economic and industrial renewal and diversification
- increase Australia's innovation and improve productivity
- help Australians understand and manage social, cultural and economic change and help Australians and Australia build relationships with other peoples and nations
- improve the capacity of the Australian research effort to address national and global challenges across all disciplines.

*increased institutional autonomy
increases **flexibility**...*

*academic **quality** is best
maintained by academic experts...*

*increase **productivity** and
operational efficiency...*

***funded** to meet access, quality
and efficiency expectations...*

Efficiency, investment and regulation

Policy principles

- Increased institutional autonomy increases flexibility, which in turn increases productivity and efficiency.
- Government regulation is most effective and most efficient when it is coordinated across portfolios for institutions as a whole.
- Academic quality and standards are best maintained by academic experts, and external peer review is an appropriate method for assuring the public that appropriate standards are maintained.
- Universities need to continue to look for new ways to increase productivity and operational efficiency, including external benchmarking and innovative use of new technologies.
- Higher education should be funded to meet the access, quality and efficiency expectations of the Australian and international community.

Context

External governance of universities

Universities are accustomed to considering and experienced in operating their own internal systems of governance. There is a wide understanding within universities of the roles of such officers as chancellors and vice-chancellors, and such bodies as senates and councils.

Less well understood is the role and operation of ‘external’ governance of universities. This comprises the envelope of law and regulation within which universities are required to operate, particularly at Commonwealth but also at state and territory level. The most prominent issue in external governance is that of ‘over-regulation’. However, more fundamental issues of external governance arise.

There is general support for the ‘independence’ of universities as repositories of ideas and free thought that are not excessively controlled by government. Universities are an indispensable component of civil society. In framing the *Tertiary Education Quality and Standards Agency Act 2011* these considerations

were conveyed by the ‘self-accrediting’ nature of universities, which was ultimately recognised in that legislation.

Few, however, have sought to articulate clearly the principles underlying the degree of independence to be accorded to universities, or their practical application. Universities Australia believes that the time has come for such articulation, and for these principles to be explicitly reflected in the external governance regime of universities.

Essentially, the independence of universities involves four things:

- Freedom of teaching—the capacity of universities to determine what they teach, both in the degrees and qualifications they offer and in the content of those degrees and qualifications. This is the aspect that relates most closely with universities’ ‘self-accrediting’ status.
- Freedom of research—the capacity of universities to determine what they research, including the freedom of individual academics to pursue their research appropriately.
- Freedom of appointment—the capacity of universities to appoint academic staff on merit and without interference.
- Freedom of selection—the capacity of universities to select their students based on their judgement of students’ capacity to pursue their chosen discipline.

Of course, these four fundamental considerations must coexist with a matrix of legal, regulatory and financial reality. Adherence to them does not mean that quality should not be monitored in teaching, for example, or that the government is financially bound to provide any particular amount of support to any particular discipline or research topic. But within the bounds of these practical realities, the external governance landscape within which universities are required to operate by government should be one in which these principles are firmly reflected.

Respect for these four principles of external governance necessarily involves a commitment to a university system that is deeply diverse, as institutions vigorously pursue their distinct missions in their teaching, research, appointment and selection.

Regrettably, the four principles enunciated above are not, in the view of Universities Australia, currently embodied adequately in the external governance arrangements for universities. Universities are concerned that relevant legislation, such the Tertiary Education Quality and Standards Agency Act, does not comprehensively acknowledge the four essential freedoms, and associated administrative and policy practice reflect this. Universities are mindful of the potential to be seen increasingly as mere extensions of the departmental and administrative apparatus that surrounds them.

Universities Australia invites government to enter into a conversation on the legislative, policy and administrative means by which the proper place of universities in society may be recognised appropriately. Such a discussion would have legal, policy and structural elements. Structurally, for example, possibilities may be presented by the creation of a body in the nature of a Universities Commission, ensuring an appropriate separation between universities and government, but also supervision of universities by government. Alternatively, it might be easier to vary the existing system of legislation, policy and administration.

The sector and policy coherence

Australia's universities have different histories, characteristics, missions and ambitions. Universities are part of a higher education sector that also includes a university of specialisation (MCD University of Divinity), two overseas universities (Carnegie Mellon University and University College London), four self-accrediting higher education institutions and 127 non-self-accrediting higher education institutions.

The quality, efficiency and outcomes of Australia's higher education sector depend on policy coherence across government. Adjustments to policy in one area—such as migration—can have significant effects in another area—such as international student revenue—which affects the funding that maintains the quality of research and teaching. Currently there is no single body responsible for monitoring the policies affecting higher education that is able to understand the consequences of reforms in linked areas, and therefore mitigate risks or seize opportunities.

In 2011, for example, universities responded to more than 150 requests for information from the Department of Education, Employment and Workplace Relations alone. Lack of coordination of data and reporting is expensive for government and the sector. De-bureaucratisation of the higher education sector could be achieved by establishing a single and consistent set of national data requirements across government, or by requiring that all data requests to universities be channelled through one body and coordinating the schedule of reporting requirements across government to minimise the burden on the sector.

Quality and standards

The expansion of enrolments following the government's removal of caps on enrolments has led some to question the quality and standards of the expanded system. Previous expansions of higher education systems have raised similar issues in Australia and overseas. The Tertiary Education Quality and Standards Agency Act requires higher education institutions to comply with teaching and learning standards, which are being developed by the Higher Education Standards Panel reporting to the Minister for Tertiary Education,

Skills, Science and Research. The Higher Education Standards Framework (Threshold Standards) 2011 requires higher education institutions to demonstrate that:

- 5.5 The academic standards intended to be achieved by students and the standards actually achieved by students in the course of study are benchmarked against similar accredited courses of study offered by other higher education providers.

Universities are taking different approaches to meeting this requirement. A team from eight universities funded by the Office for Learning and Teaching is producing resources to guide inter-institutional moderation of final-year subject and program achievement standards.⁷³ The Group of Eight universities are implementing a quality verification system in which senior discipline experts from outside each university review assessments in a sample of final-year subjects in undergraduate programs. The reviews compare and benchmark grades awarded in similar programs across the Group of Eight universities.⁷⁴ The seven Innovative Research Universities are piloting an academic calibration project in which external peers will review the appropriateness and comparative quality of the learning outcomes, assessment tasks, assessment criteria and assessment processes set for a sample of final-year subjects at each member university and report on the appropriateness of the grades awarded to samples of student work.⁷⁵

Digital technology is changing teaching, learning and access

The digital economy and technology are transforming higher education, just as they have transformed media, retail, entertainment, finance and administration. Australian universities are increasingly using sophisticated digital technologies supported by widespread access to high-speed broadband services to deliver new and innovative content. New institutional and publisher alliances that offer more study choices at competitive rates—or for free—have changed the landscape for higher education in Australia and internationally, overcoming previous barriers, opening new markets and creating and enabling new competitors.

The digital shift includes social media tools that deliver instant communication, keeping communities and interest groups better connected. Videotelephony makes interacting in a virtual face-to-face environment possible for everyday exchanges over distances and time zones. These changing practices and cultures bring challenges and opportunities that change university teaching, research, structure and business models, and responding to them has been urged by both senior Labor and Coalition frontbenchers.

The impact of the digital revolution will be enormous. However, the public conversation to date about the digital age and higher education is characterised by a narrow debate about how it will cheaply replace traditional face-to-face teaching. In fact the costs of course development, delivery and assessment will be high.

Graduate programs

Graduate education is increasing in many Australian universities in response to changing employer skills requirements and the more advanced learning outcomes from postgraduate study. Graduate-level training is often intense and attracts highly motivated students who have the benefit of a previous degree or significant work experience. More advanced learning outcomes mean students enter professions better prepared. This can have important benefits for social inclusion, productivity and participation.

There is considerable diversity in the preparation of students for their first professional employment. Ways of preparing students for first professional employment are treated differently for the purposes of allocating places and setting fees, mostly for historical reasons. The Australian Government removed caps on enrolments from all undergraduate programs except medicine but retained caps on fees. Graduate entry programs may be subsidised by the government if they are required for admission to a recognised profession, in which case both places and fees are capped. But universities may offer the same graduate entry program as a full-fee-paying place, in which case neither places nor fees are capped.

The different treatment of different graduate programs, and the different treatment of graduate and undergraduate programs in the same or cognate fields that lead to the same or similar occupational outcomes, are distorting institutional and student behaviour.

There are problems with resolving these differences by treating all coursework programs the same. For example, having all graduate programs supported by the Australian Government with uncapped places would add too much in additional uncapped costs to government expenditure. But having all graduate programs as full-fee-paying would probably exclude too many students preparing for occupations such as teaching and specialised nursing on whom large parts of state services depend.

Ensuring that graduate policy settings support national priorities, while also responding to the increasing numbers of students pursuing graduate studies, is vital. Universities should be able to individually negotiate an appropriate mix and range of graduate programs to be subsidised by the Australian Government.

Productivity returns to people and the nation

A university education benefits those who participate as well as providing returns to the economy. Across the OECD, according to its most recent data, 83 per cent of university graduates are employed, compared to 73 per cent for secondary school completers and 55 per cent for those failing to complete secondary school. The respective numbers for Australia are 84 per cent for university graduates, 80 per cent for secondary school completers, and 65 per cent for those failing to complete school. Thus, university graduates are between 30 per cent and 50 per cent more likely to be employed than non-school completers in Australia and across the OECD.⁷⁶

Workforce participation rates are also significantly higher for university graduates than for secondary school completers and those failing to complete school: participation rates across the OECD are 88 per cent for university graduates, 81 per cent for secondary school completers, and 68 per cent for those failing to complete school. People who do not complete university are therefore between 50 per cent and 200 per cent more likely to not be participating in the workforce (either not working or not actively looking for work).⁷⁷

University graduates have a 2.8 per cent unemployment rate in Australia; the rate is 3.6 per cent for secondary school completers and 6.2 per cent for those failing to finish school. Non-university-educated people are therefore between 30 per cent and 120 per cent more likely to be unemployed than university graduates. Across the OECD the disparity in unemployment by educational attainment is even wider: 12.5 per cent of people who fail to finish school are unemployed—165 per cent higher than the 4.7 per cent unemployment rate for tertiary graduates.⁷⁸

University graduates are also more productive when in work. In Australia and across the OECD, university graduates on average earn 45 per cent more than secondary school completers, and between 66 per cent and 101 per cent more than those who fail to complete school.⁷⁹ Researchers have estimated that a university postgraduate in Australia will on average earn \$3.17 million over their lifetime, compared to \$2.90 million for a university graduate, \$2.07 million for a Year 12 completer, and \$1.74 million for those completing Year 11 or less.⁸⁰ University graduates are therefore typically 45 per cent more productive than less educated people, and, at the extreme, a postgraduate is 82 per cent more productive than an early school leaver.

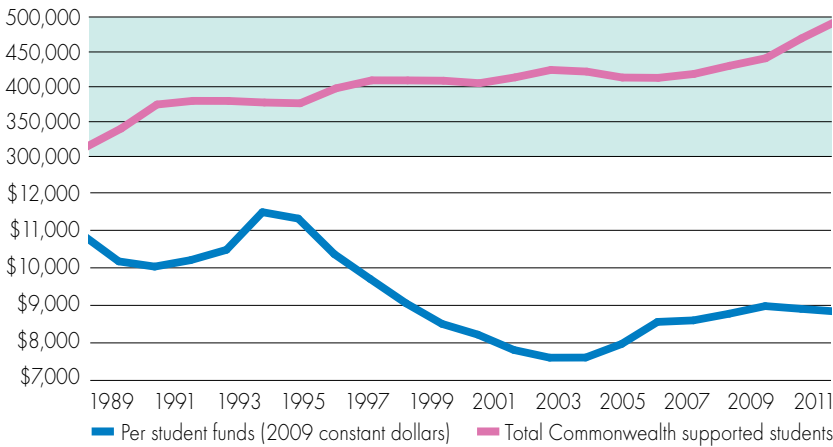
ABS education and work statistics indicate that university graduates comprise one-quarter of the working age population, but account for nearly one-third of total wage income, producing \$171 billion worth of output annually, or 11 per cent of Australia's GDP. They pay over \$50 billion each year in income taxes. With university completion rates now at 37 per cent of 25- to 34-year-olds, as completion rates rise in the total population graduates will account for 47 per cent or nearly half of all wage income, and produce \$266 billion worth of output annually, or 18 per cent per cent of Australia's GDP. They will pay over 53 per cent of the annual income tax bill. As Australia meets attainment targets of 40 per cent of 25- to 34-year-olds holding bachelor degrees the contribution will increase even further.

Revenue and indexation

Public investment in education delivers major shared benefits, including higher productivity and economic growth, higher rates of labour force participation, higher tax revenues, lower unemployment rates, better health, stronger democracy and increased opportunity. Investment in education also creates a more civic and civil society, with higher levels of citizen participation, stronger interpersonal trust and more social cohesion.

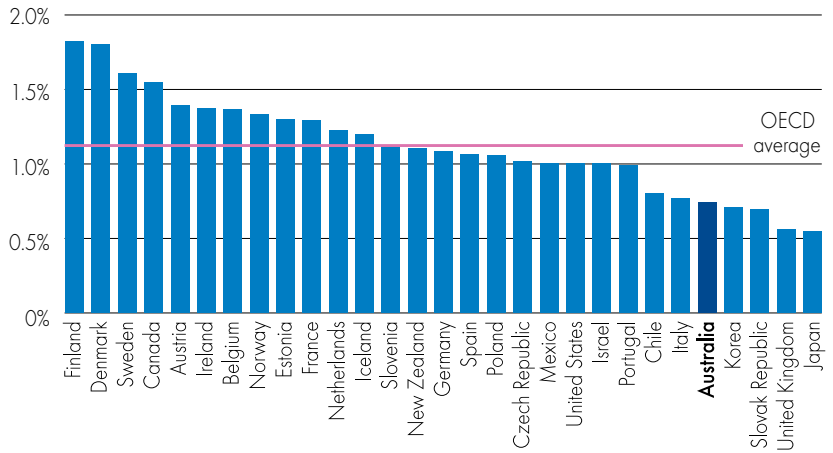
Public investment in universities increased over the last few years from improved indexation and the removal of undergraduate enrolment caps (see Figure 3). However, such investment came after a period of very low growth compared to other countries. OECD countries on average grew their public investment in tertiary education by 62 per cent over the 1995 to 2009 period. By contrast, Australia grew its investment by 17 per cent, 73 per cent below the OECD average.⁸¹ Australia ranked 24th out of 26 OECD countries for growth in investment in tertiary education over the period.

Figure 3: Commonwealth per student funding, 1989 to 2010⁸²



Lack of investment has seen Australia fall to lower rungs for public expenditure on university education. Australia invested 0.7 per cent of its GDP on university education in 2009, compared with the OECD average of 1.1 per cent (see Figure 4).⁸³ Australia ranked 25th out of 29 countries for public investment in tertiary education in 2009. Public expenditure per student was US\$7,836 in Australian public universities, compared to an average of US\$10,906 across the OECD.⁸⁴

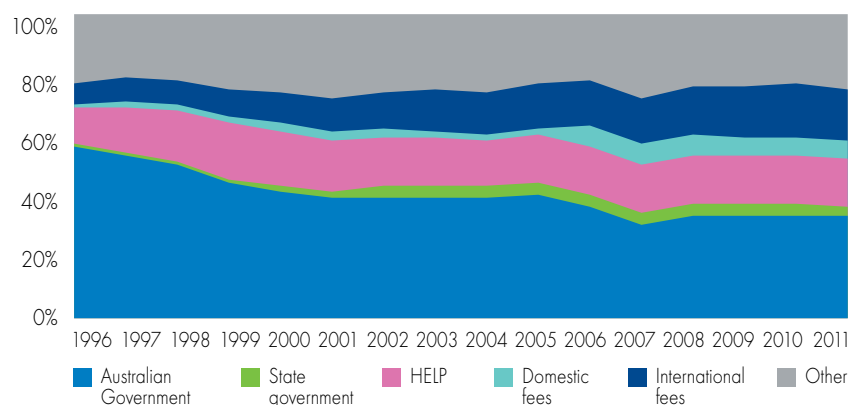
Figure 4: Public investment in tertiary education as a percentage of GDP⁸⁵



The quality of research and education provided to Australian students depends heavily on subsidies from international student revenue, which has declined from peak levels. International students have underpinned the sector's growth over the past 15 years, with international revenue increasing from \$500 million in 1995 to \$4.1 billion in 2011 — which is almost as much as universities received under the Commonwealth Grant Scheme (\$4.2 billion).⁸⁶ At its peak, international student revenue accounted for around 17 per cent of university revenue and contributed to research and the education of domestic students.

Since the mid-1990s, there has been a sharp reduction in federal government support—from almost 60 per cent of funding to around 43 per cent currently—and there is now much greater reliance on international fees, HELP and, to a lesser extent, domestic fees (Figure 5).

Figure 5: Higher education revenue proportion by source⁸⁷



The 2008 Bradley review noted that ‘Australia is the only OECD country where the public contribution to higher education remained at the same level in 2005 as it had been in 1995’. The review found that ‘a significant increase in public investment and funding for higher education is warranted’. It recommended a 10 per cent increase in per student funding to improve the quality of teaching and lower student–staff ratios.⁸⁸

In 2010 the base funding review found that Commonwealth operating grants per student had fallen by 23 per cent in real terms from 1995 to 2010, from \$11,400 per student to \$8,800 per student.⁸⁹ The review recommended that the average level of base funding per place be increased to improve the quality of higher education teaching and to maximise productivity.⁹⁰ The review also recommended that the Australian Government address underfunding in a range of disciplines,⁹¹ and fund teaching infrastructure through an additional 2 per cent in base funding.⁹²

Higher funding per student is essential to ensuring the benefits outlined in this policy statement—higher participation, access, social equity and

productivity — and maintaining a quality system to attract the world's best talent and expand export income. Universities Australia is therefore disappointed that the Australian Government has rejected the well-founded recommendations of the Bradley review and the base funding review to increase funding per student to universities. Net funding per student has fallen in real terms by 1.6 per cent since 2008 and remains more than 11 per cent below the levels recommended by the Bradley review.

Universities Australia has argued that in the 2013–14 budget the government should consider enhancing the current indexing arrangements for funding student places at university by an additional 2.5 per cent a year over a five-year period. This funding increase would lead to higher quality teaching; more engaged students with higher completion rates; higher participation rates and more university graduates producing more output; and increased exports of university education and higher quality research. GDP would grow long term by an extra 2.5 per cent or \$36 billion, and the short-term budget costs would be minimal, estimated at \$310 million in 2014. Longer term, the proposed reform would be self-financing because of the higher taxes paid by more productive university graduates.⁹³

Enhancing current indexation by an additional 2.5 per cent would allow Australia to begin catching up to OECD average investment levels. By 2018, Australia will be less than 20 per cent below OECD average investment levels under the proposal, whereas Australia will remain 30 per cent below OECD averages if there are no changes to current funding.

A plan should be in place to address the current deficit in funding relative to other OECD nations and to consider the mix of public versus private contributions needed to address the situation.

Over the longer term, the government should increase funding per student towards the upper band of OECD nations, with public funding per student as a percentage of GDP increased to at least the OECD average.

Capital facilities for the expanding system

Despite the expansion of the student population in recent years, there is no continuing public funding for buildings, technology and other infrastructure to accommodate the additional students beyond the 'capital roll-in' to recurrent funding. While additional students can sometimes be accommodated within existing infrastructure, the size of the expansion requires additional infrastructure. The Australian Government has provided additional funding for infrastructure through discrete one-off programs, but a continuing source for infrastructure spending has not been identified.

Philanthropy

In 2011 Australian universities attracted \$365.7 million in donations and bequests. While this was a modest 1.5 per cent of universities' total revenue, it was more than double the \$171 million universities attracted in donations and bequests in 2005, when they were 1.3 per cent of total university revenue.

Governments in the United Kingdom, the United States and Hong Kong have all introduced matched funding programs to encourage new private donations to universities. The United Kingdom's program increased the number of new donors to universities by 25 per cent, and is recognised as having changed the culture of giving to universities. A program in Kentucky achieved its target of raising \$1 billion nine months ahead of its scheduled conclusion.⁹⁴

Increasing government support for philanthropy towards universities has been recommended by several recent reviews. In 2007, the Business, Industry and Higher Education Collaboration Council investigated how Australia could change philanthropic attitudes and practices towards its universities. The council found that universities must build their internal fundraising capacity and, at the same time, government can play a role in supporting a culture of giving to universities through matched funding programs. This view was affirmed in the Bradley review, which recommended that the government introduce matched funding.⁹⁵

Benchmarking

Australian universities have benchmarked key support services for several years.

The Council of Australian University Librarians has collected statistics on university libraries since 1953. Statistics are collected on all Australian and New Zealand/Aotearoa university libraries on collections, staffing, expenditures, library services and library and university characteristics. The statistics are published on a website that allows anyone to review library data for each institution and by region, generate ranks of institutions by selected criteria, create graphs from the data, generate summary statistics for all libraries and download the data by year in spreadsheet format.⁹⁶

The Australasian Tertiary Education Facilities Management Association has conducted a comprehensive benchmarking survey of facilities and related services since the 1990s. The survey includes space management, strategic asset management, environmentally sustainable development, customer satisfaction surveys and expenditure on refurbishment, maintenance, cleaning, energy, building operations and security. Universities are able to calculate from the survey their relative backlog liability and efficiency in space use, service costs and resource consumption.

The benchmarking of Australian universities' international operations was started in 2002 and now involves all 39 members of Universities Australia. It

covers the structure and costs of universities' international offices; staffing of international marketing, enquiries, admissions and compliance; international admissions policies, procedures and quotas; international student services; international student mobility; costs of recruiting international students from key source countries; conversion rates from applications to offers to commencements; scholarships provided by universities to international students; and accommodation provided by universities for international students.

The Universities' HR Benchmarking Program was established in 2003 and now comprises 45 members from Australia, New Zealand/Aotearoa, South Africa and Fiji. Members collate and submit information about their university, which is analysed and reported across a number of measures, drawing comparisons with universities as a whole and across defined sub-groups. Reports analyse 39 measures of staff profiles, academic workforce profiles, turnover, absence, recruitment efficiency and effectiveness, age, length of service, occupational health and safety, and employment costs.

Efficiency

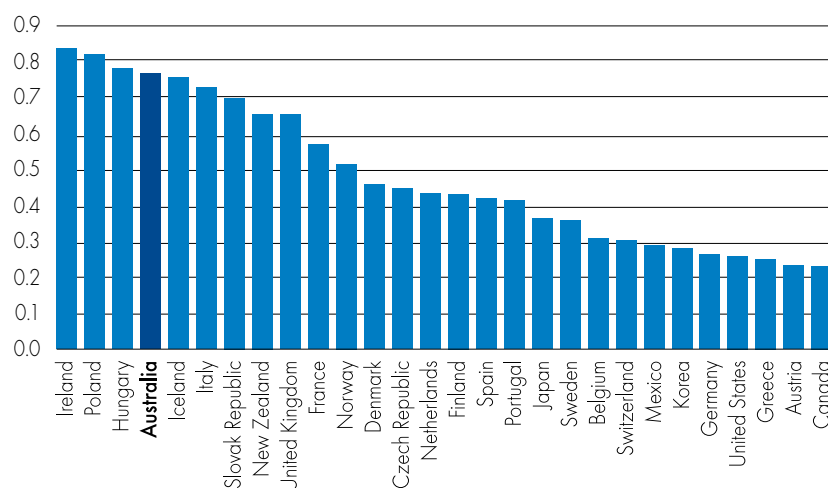
Universities have made significant progress in recent years to ensure efficient operations and optimal use of resources to support their core activities. The report of the base funding review noted, correctly, that universities have highly complex goals and operations. It also noted that the evidence available to the panel demonstrated that Australian universities were 'well managed and had adapted to changing circumstances to become more efficient and productive, such that it is now able to use any additional funding effectively' and stated that 'The trust of the community and government investment over many decades has been, and continues to be justified.'⁹⁷

In the past 15 years in particular, universities have diversified their sources of revenue, modernised their governance and management structures, improved their financial management to implement healthy budgeting practices, adopted new technologies for undertaking research and teaching, used infrastructure and assets more efficiently by improving the layout of new and existing buildings, and offered summer programs and academic years based on trimesters.

Studies show that Australian universities have increased their productivity faster than other sectors of the economy. For example, Carrington, Coelli and Rao found that Australian universities are efficient and that their productivity increased at an average rate of 1.8 per cent a year between 1996 and 2000, which was faster than the rate of growth in most other sectors of the economy.⁹⁸ Similarly, Worthington and Lee found that the productivity of Australian universities increased at an average annual rate of 3.3 per cent between 1998 and 2003. The productivity growth was mainly attributable to improvements in the technology used to undertake research.⁹⁹

More recent OECD and other research data shows that Australia universities are performing well against their peers in producing the two core outputs: education and research. Figure 6 shows Australia's efficiency ranking against OECD countries in producing tertiary-educated graduates. For every 1 per cent of GDP spent on higher education, 0.77 per cent of Australia's population graduates from university each year, the fourth highest proportion of 28 OECD countries. The highest-ranking country, Ireland, produces 0.84 per cent of its population as graduates per 1 per cent of GDP expenditure. Australia's efficiency in producing university graduates compares favourably to peers such as Canada, the United States and Germany, each of which produces less than 0.3 per cent of the population as graduates per 1 per cent of GDP expenditure—or less than half of Australia's production efficiency.

Figure 6: Productivity efficiency of tertiary education among OECD countries¹⁰⁰



Australia also ranks highly on research efficiency. The Academic Ranking of World Universities is the principal international benchmarking system measuring research efficiency across countries. It calculates the proportion of each country's universities ranked in the world's top 500 universities, adjusted for differences in GDP across countries. Australia ranks fifth out of 39 countries on this measure of university research efficiency—it has 3.8 per cent of the world's top 500 universities, but only accounts for around 1.2 per cent of world GDP. Nearly half of Australia's universities rank in the world's top 5 per cent for research.

University actions

Introduce external peer moderation of assessment standards

Universities Australia will adopt for all member universities external peer moderation of final-year undergraduate assessment, building on the schemes currently being developed and implemented by a number of universities.

Integrate technologies to support teaching and enhance the student experience

Australian universities are among the global leaders in integrating digital, online and more familiar teaching and learning methods to enrich the overall student experience. Australian universities will expand digital learning to increase students' choice and flexibility in their time and place of study. Digital technologies will also enable universities to expand programs while responding to students' individual study and social behaviours and create new efficiencies in teaching and learning.

Increase philanthropic donations

Australian universities will expand their advancement programs to seek philanthropic donations to improve teaching, learning and research and deepen links with their communities.

Review operational efficiency

Universities are committed to improving their strong record in increasing productivity and operational efficiency. To this end, universities will conduct a study into the operational efficiency of universities in delivering services. The study will examine the costing of university services; infrastructure use, including analysis of the studies of university infrastructure by the Australasian Tertiary Education Facilities Management Association and the Group of Eight; and the efficiency of staffing to achieve university outcomes.

Government actions

Achieve greater policy coherence and reduce red tape for Australian universities

Universities Australia recommends that the Australian Government explore appropriate mechanisms to de-bureaucratise higher education and increase policy coherence, which in turn will reduce reporting requirements.

To achieve this Universities Australia recommends that the Australian Government appoint the Productivity Commission to review the regulatory

burden placed on the university sector, with special attention to removing duplication between jurisdictions, and excluding universities from regulatory regimes where a strong public interest rationale and benefit cannot be identified. This could build upon work recently completed to identify regulatory reporting burdens and set out opportunities to streamline reporting.

Leave uncapped the number of undergraduate places it funds at Australian universities

Universities Australia recommends that the Australian Government maintain choice and increase opportunities for students to study at university by leaving uncapped the number of undergraduate places it funds at Australian universities.

Funding per student

Universities Australia recommends that the Australian Government at least maintain its current indexation of higher education funding and, over the longer term, increase funding per student towards the upper band of OECD nations, with public funding per student as a percentage of GDP increased to at least the OECD average.

To achieve this, Universities Australia recommends that the government in the 2013–14 budget consider enhancing the current indexing arrangements for funding student places at university by an additional 2.5 per cent a year over a five-year period.

Capital facilities for the expanding system

Universities Australia recommends that the Australian Government identify a continuing source of funds to expand space, technology and other infrastructure to accommodate an expanding student population.

Match philanthropic donations

Universities Australia recommends that the Australian Government match philanthropic donations to Australia's universities. A total funding envelope and timeframe could be set (say, \$200 million over three years), with the scheme designed to ensure benefits are broadly shared (such as through a maximum funding limit per institution). Those institutions without a history of strong philanthropic support would be the focus of the program.

Introducing fixed-term matched funding for giving to universities would foster a culture of philanthropy, positioning Australia's universities as a legitimate and worthwhile avenue for altruism for prospective donors. By increasing incentives to prospective donors, matched funding could establish a significant additional funding stream to complement investments by government and students in higher education.

Graduate programs

Universities Australia recommends that the Australian Government permit each university to negotiate in its institutional compact an appropriate mix and range of graduate programs to be subsidised by the government.

Benefits

Adopting these actions would:

- maintain and enhance the quality of Australian higher education
- maintain choice and opportunities for students to attend university
- increase flexible options for study and the quality of the study experience
- increase the public's confidence in the quality and standards of university degrees
- increase philanthropic donations
- increase universities' efficiency
- achieve greater policy coherence and reduce red tape for universities.

Appendix *Development and consultation process*

In developing *A Smarter Australia*, Universities Australia canvassed the views of its 39 member universities through individual consultations with vice-chancellors and their policy advisers, as well as with other university groups. Universities Australia also facilitated five workshops on key policy issues covering university fees and investment; research; university productivity and efficiency; equity and participation; and internationalisation.

A Smarter Australia draws extensively on the workshops, although ideas have not been attributed directly to individuals or organisations. The Universities Australia plenary discussed this document at each of its four meetings during 2012. This process has been integral to understanding areas of shared and differing viewpoints, and to applying the policy expertise that exists in the sector. A subgroup of the Universities Australia Board of Directors has guided this process.

A Smarter Australia has been endorsed by both the Universities Australia plenary and board. During 2013 Universities Australia will release a series of more expansive policy documents exploring many of the key issues.

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