

THE ROLE OF A MODERN AUSTRALIAN UNIVERSITY SYSTEM IN THE 21ST CENTURY

BACKGROUND

Australia is embarking on what Government rightly claims is the most all-encompassing opportunity for university sector reform in more than four decades.

It is long overdue, and therefore the Group of Eight (Go8) actively supports it. It is meant to set us up for the next three decades; as it should.

At such a vital time for the sector's global and national structural advancement – it is timely to step back and reflect on just what the role of a university is – in particular the role of the nation's globally competitive research-intensive universities; namely the Go8.

For example, many Australians, including politicians, may not even realise the amazing quantum of research that is undertaken in our universities on behalf of Australia, and indeed why that research matters to Australia's economic health and global standing as a nation.

They may not think about how much universities are a foundation of future economic growth.

INTRODUCTION

Australian universities are key drivers of national prosperity, societal and environmental well-being and they ensure the strength of the vital global connections that establish Australia's place in the world.

Currently, Australian universities educate more than one million Australian students. They prepare them to thrive in the type of future workforce that is now required for a successful technology and information economy.

Also, and importantly, these graduates throughout their careers will contribute to productivity growth and increased living standards.

INTRODUCTION CONTINUED

Australian universities make amongst the largest contribution to national research of any country in the OECD at 36 per cent of Australia's total R&D effort. This research drives life-saving health discoveries, business and technology innovation, our nation's defence capability, and improved societal well-being.

Internationally, Australian universities build global connections and educate over 389,000 quality international students from over 150 different countries, many of whom have stayed loyal to Australia during the pandemic years **because** of the quality education and research opportunities offered within our universities.

It is hoped that they may now go on to become highly skilled and highly valued citizens. These person-to-person international connections underpin Australia's diplomatic efforts and remain resilient even when traditional diplomacy falters.

(This point became obvious just pre-COVID when no Australian government official or Minister was welcomed by China, but the Go8 was able to continue to support both its Chinese students and research with welcomed in-country visits. These visits

enabled our Embassy to join us. This is one high profile example of the power of education and research in keeping diplomatic channels open).

As we look to an aspirational future Australia, the Go8 recognise that universities must increase performance in all these areas as part of a national mission. This includes ensuring the benefits of university education are in no way determined by a potential student's postcode, their parents, or the colour of their skin.

What the Go8 specifically seeks is quality students whom we can ensure (through all assistance they require) can become quality graduates. Quality is key. The Go8 has always had the ethos that its students graduate to deliver their quality into ensuring economic growth.

The challenge of the 2023 Universities Accord will be to determine how the sector must be structured to best deliver this expanded national mission, and with a 30-year horizon.

The Go8 does not downplay the complexity of this in a time of fast-paced economic change and geo-political unrest. But it must be done and done successfully.

NATIONAL PRODUCTIVITY – INNOVATION IS KEY

National prosperity depends on achieving and maintaining productivity growth. Productivity growth is the driver of not only living standards (gross domestic product per person), but it is also the means to tackle broader challenges such as national security requirements, an aging population and climate policy.

Achieving secure and well-paid employment also requires a productive, dynamic, and innovative economy.

All of the above are why what the Go8 delivers is critical. After all, as every economist can attest, the rate of long-term productivity growth ultimately relies on innovation. Innovation means the creation and use of knowledge and ideas combined with people with skills (human capital) to improve production

of goods and services in the economy.

Knowledge and human capital creation and dissemination are precisely what universities exist to deliver and this fundamentally defines their role.

Specifically, globally recognised high-quality research-intensive universities such as the Go8 hold the innovation key that unlocks growth in Australia's productivity and contributes to our prosperity.

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KNOWLEDGE CREATION AND ITS DIFFUSION

The very nature of knowledge is that it is 'non-rival' (that is, its use by one person does not preclude its use by another person). When combined with people with skills, it is the basis for increasing returns to scale.

This is a feature other traditional inputs such as physical equipment do not exhibit. A critical source of knowledge creation is research and development (R&D), both basic and applied, that is then diffused throughout the economy.

Research is conducted and diffused in a systematic way by universities and associated research institutes. University R&D outcomes add to the stock of deliverables that increase productivity 'spillovers'. These increase the productivity growth rate.

Go8 universities, for example, carry out 70 per cent of Australia's university-based research and they also invest almost \$7.7 billion in research each year. Economic estimates suggest that for every \$1 billion invested in Go8 university research, the additional in-year economic output generated across the rest of the Australian economy is of

the order of \$9.2 billion.

That is an ROI of over 9:1.

In a highly competitive global economy, Australian university research must also be of the highest quality to be useful, valuable, and importantly, globally recognised as invaluable.

More than half of research conducted by Go8 universities is independently rated as "world leading" while almost 100 per cent is independently rated as "world class".

Australian university researchers are also adept at partnering with industry and international collaborators to achieve knowledge exchange and, importantly, broaden opportunities for Australia.

For example, the Go8 universities have a 70 per cent share of research funding from industry and other non-government sources.



HUMAN CAPITAL

We are all aware that education is critical to enable people to participate in society. From an economic perspective, the value of education accrues not only to an individual but to their employer, industry, and the economy more generally because of positive human capital 'externalities' or spillovers.

The Go8 has always stated that you don't have to go to university to benefit from one – think how everyone in society benefits from the skills of (as a small sample) a paramedic, accountant, engineer, architect, doctor, lawyer, scientist or cyber-expert.

As well as those societal benefits, education and training are critical to the accumulation and sharing of knowledge and ideas, and because of that also can make other (less educated) workers in the economy more productive.

Australia, along with most of the global economy, has been subject to rapid technological change over the past 50 years. Technologies (broadly defined to include any means by which inputs are used to produce outputs) have become far more sophisticated very quickly, whether they are physical machinery and equipment, or increasingly 'intangible' equipment (such as intellectual property, software, and research).

As newer technologies such as quantum computing and artificial intelligence emerge, these require people to have more formal and advanced skills to understand, use and master them for productive ends. Hence ongoing skill biased technological change will necessitate Australia to further invest in human capital, especially via university education.

The role of Australian universities is to provide people with the skills

needed to meet their full potential and to grasp the opportunities posed by these new 21st century technologies.

It is simply an indisputable fact that the more successful Australian universities are at teaching students, the greater the stock of human capital available across the economy, including for business, to advance ideas and knowledge into innovative and productive changes to the production of goods and services.

Australia's research-intensive universities are crucial to human capital development in Australia and by achieving such international prominence and expertise as they have, help attract strong/prominent researchers from around the globe to Australia, plus also a strong student base.

For example, Go8 universities educate 440,000 students – more than a quarter of all higher education students in Australia. This includes over 166,000 international students, who are one of Australia's leading value-add services exports.

Go8 universities are the heavy lifters in education. They educate more than half of Australia's doctors, dentists and vets and provide some 55 per cent of Australia's science graduates and more than 42 per cent of Australia's engineering graduates.

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CRITICAL THINKING AND INTELLECTUAL GROWTH

Universities provide the opportunity for growth from an intellectual and social perspective. University students gain intellectually, and their horizons expand. They engage with leading research and development and this experience positions them to contribute more to society in many ways.

Intellectual growth and critical thinking skills taught at universities lead to innovative people who are more productive and more civic-minded and engaged both domestically and globally.

Nationally, having world leading research-intensive universities available in Australia broadens our attractiveness as both a destination and partner and also undoubtedly assists with our nation's soft diplomacy.

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CONCLUSION

Australia's status as a small open economy and a net importer of knowledge and technologies overlooks that Australia's research-intensive universities are recognised knowledge creators at the global technological frontier.

Our universities can be leaders in Australia's productivity revival that is key to future prosperity and a more sovereign nation to the benefit of society. This is not to diminish the scale and benefits of industry linkages with overseas knowledge creation and technologies. Rather, and importantly, it is a recognition that Australia is not solely reliant on international developments for its productivity revival.

Fundamentally, Australia should invest more in knowledge creation and innovation and human capital

to lift the productivity growth rate that underpins prosperity.

This is the only sustainable way for Australia to concurrently have profitable and innovative businesses, secure high-wage employment in dynamic and emerging sectors and occupations.

Enhanced productivity is also the means to address challenges such as national security needs, an aging population and climate policy.

It can be done. It simply needs resolve.