

# STATE OF THE

# SOCIAL SCIENCES



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# Designed to discuss the future

This publication provides a compact guide to the trends, challenges and opportunities impacting Australian social science, to facilitate system-wide planning for a stronger social science ecosystem. The Academy uses it, and now you can too.

# **CROSS-SECTOR**

Snapshots covering all the main sectors of the social sciences ecosystem.

# IN DEPTH

- Stakeholder input and desktop analysis combined to identify pain points and opportunities in the social science ecosystem.
- Synthesis of the findings into sector snapshots and scorecards.
- 'Drill down' sections explore key emerging issues at length.

# CONSULTATIVE

Based on stakeholder input from:

- 14 formal submissions.
- 12 roundtables.
- 5 interviews.
- 390 survey responses.
- 30+ reviewers.

# INTERACTIVE

Available online, with interactive data visualisations, open for comment, and updated periodically.





# www.stateofthesocialsciences.org.au



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# Executive summary

The Australian social science ecosystem is diverse, resilient and strong. It is also facing domestic and global challenges that demand proactive, sector-wide action.

# AN EXPANSIVE ECOSYSTEM

Social sciences are the fields of research on, and knowledge about, society. They are deeply connected and embedded in our social systems and structures, and touch every person at various points in their lives. Within Australia, the social science ecosystem comprises:

- At least 50,000 social science researchers and teaching academics (about 40% of the university teaching workforce, plus many more in private, government and other research organisations).
- Over 150 university-based and independent research centres, and many more formal and informal researcher networks.
- 580,000 undergraduate and 271,000 postgraduate social science students (in 2019), distributed across the 2,500 bachelorlevel programs, 1,700 master-level courses and 400 doctoral programs available across the country.
- At least 500,000 social science graduates working as accountants, psychologists, lawyers and other social science accredited professionals.
- Over 50 research, teaching and professional social science associations and societies.
- 1.2 million students undertaking vocational social science training (in 2020).
- 3.8 million graduates with social science qualifications who use and apply their knowledge and skills in a variety of jobs and contexts, as well as in everyday life.
- Every student studying foundational social science at school.

# WHAT'S GOING WELL

The social sciences have much to celebrate:

- Increasing recognition of the crucial role of social science in informing multidisciplinary responses to major national and global challenges, such as the COVID pandemic and climate change.
- Strong domestic student demand for social science programs in VET and university.
- Positive employment outcomes for social science graduates, including high levels of satisfaction with graduates' collaborative, technical, adaptive and employability skills.
- **High levels of gender equity** in the academic workforce (with some gaps yet to be bridged at the most senior levels).
- Preliminary investments in national infrastructure for social science data management and research.
- Increasing uptake of 'open research' practices, from the disclosure of research data, to the publication of findings in publicly accessible media (or 'open access').
- Evolving attitudes and concrete steps towards Indigenous control over Indigenous data and research.
- Consistently strong research performance of social science disciplines in the Excellence in Research Australia (ERA) assessments.

# **REPORT STRUCTURE**

The report was developed in consultation with hundreds of sector stakeholders.

It examines five key components of the social sciences sector:

- First Nations Australians.
- Primary and secondary education.
- Vocational Education and Training (VET).
- Higher education.
- <u>Research</u>.

There is a high-level scorecard for each component, along with a number of detailed 'drilldown' sections. The report identifies five broad sector challenges (right) and 26 specific priorities for action across the breadth of the social science ecosystem.

# WHERE TO FROM HERE?

Consultations revealed broad consensus on the need for concerted action to improve awareness and understanding of the social sciences, and to facilitate better engagement across the sector.

- 1. This report is presented for consideration: of Academy members, of researchers and teachers, of parents and business people, policy makers and employers. Please share your views.
- 2. In 2022, the Academy will consult further with key stakeholders; identifying opportunities and potential partners to further champion, advance and promote Australian social sciences.

# **GENUINE RECONCILIATION**

Past and ongoing harms from social science to be acknowledged and righted, and under-representation of Indigenous people throughout the social science ecosystem to be addressed.

# A MORE CONNECTED SECTOR

A more integrated social science ecosystem, with strategic alliances between schools, VET, universities, research organisations, business and governments will provide new opportunities for impact and a stronger Australian social science sector.

# **D D EMONSTRATING VALUE**

The disparate nature of the social sciences makes it challenging to demonstrate their collective value. The sector has an important task to craft clear narratives that elevate awareness and understanding about our value to the Australian public, from high-school students and their parents, to industry and government leaders.

# ACCELERATING IMPACT

Concerted efforts to connect with other disciplines and key decision makers on major social challenges is critical. From climate change, to emerging threats to democratic systems, to pandemics, social science perspectives are vital to Australia's future.

# SUSTAINING UNIVERSITIES

05

The COVID-related loss of international students coupled with the Job-Ready Graduates Package left numerous casualties in the university sector, with some social science areas hit particularly hard. As institutions recover and adapt, the future scope, structure and funding of university social science education and research are being decided today.

# THE SOCIAL SCIENCES

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# THE SOCIAL SCIENCES

#### FIGURE 2. The social sciences and adjacent disciplines

# What is social science?

Social science is research on and knowledge about society: its institutions and structures, its histories and its people. There are a broad range of social science disciplines that use systematic methods to understand, describe, educate, predict and influence the social world (**Figure 1**). Their defining feature is a focus on the *social*.

# WHAT IS 'SOCIAL'?

*Social* in this context refers to events, objects, rules, patterns and other things that emerge spontaneously or by design when humans interact in groups (**Figure 2**).

Think friendship, families, religion, language, politics, schools and hospitals, legislation, markets, armed forces and elections. Or traffic rules, slavery, poverty, crime, corruption, cooperation, justice, homelessness, activism, social media, consumerism, and so on.

Social scientists define social systems as comprising biological, political, economic *and* 

cultural components. A social system can be as small as a family or a football team, and as big as a group of nations.

# THE SOCIAL SCIENCE ECOSYSTEM

Social science is taught, learnt, used and expanded by millions of people operating in a diverse and connected ecosystem. The main components of the system include:

- Schools, teaching society and culture, civics and more focused secondary subjects.
- Vocational education and training (VET) from childcare to business administration.
- Universities and non-university highereducation providers.
- Research institutions, such as universities and research centres, think tanks and NGOs.
- The broader economy, where millions of social science professionals and graduates are employed in business, government and community organisations.

#### FIGURE 1. Select social science disciplines

	Social sciences aim to understand and explain	Social technologies aim to modify and improve
At the intersection between social sciences and humanities	Philosophy   History Cultural Studies   Linguistics	Urban Planning   Design
Squarely 'social'	Economics   Sociology   Political Science   Criminology Anthropology	Public Policy   Education International Development Social Work
Business and professionally-oriented	Pedagogy   Management Accounting   Law	Marketing   Management Law
At the intersection between social science, STEM and health and medical sciences	Public Health   Human Geography Demography   Psychology   Statistics	Public Health Psychology

the arts and humanities



Individual achievement and expression



Human products collectively produced or with collective impact

the social sciences



The way humans organise around economic, political and cultural systems



Human populations

the natural sciences

The natural world, the universe, and all forms of life

our world

# THE SOCIAL SCIENCES

# WHY SOCIAL MATTERS

Social matters a lot. Consider:

- Social systems shape our lives. Our education and health, our happiness and our grief, our families and freedoms, our beliefs and expressions. Who we love and how we die, how we can contribute and what gives our lives meaning. How our children are born and how they are raised. Almost everything we do and experience is inherently social.
- Social can make or break our world. The biggest challenges facing our world are fundamentally social: climate change or pandemics: our ability to adapt to and limit further change, to develop and adopt new science and technology, and to ensure a sustainable future for millions of species, including our own. Each of these are fundamentally *social*.

### WHY SOCIAL SCIENCE MATTERS

Understanding social systems allows us to act deliberately to improve the lives of current and future generations (**Figure 3**). Social science training and approaches equip graduates, professionals, researchers and socially-minded Australians with the knowledge and understanding to:

- 1. Protect and uphold democracy.
- 2. Prevent or correct misuse of technology, and " ensure equitable use and distribution of its benefits.
- 3. Develop effective strategies to preserve the natural environment.
- 4. Improve the fairness, effectiveness, efficiency, equity and accountability of public institutions, policies and programs.
- 5. Identify and address inequality, discrimination, harassment and abuse.
- 6. Continuously improve our education systems.
- 7. Understand and deal with public health problems, including mental health.
- 8. Improve our chances at individual and collective prosperity and happiness.



Maternity allowance introduced

#### 1902

Women of European heritage given the right to vote 7

# SOCIAL IMPACT THROUGH CONNECTION

One of the main purposes of social science is to enable a vibrant and equitable society. It does this through knowledge, education and research, and by informing decision-making and action. Some of the social challenges we face lie squarely in the social sciences domain – educational and economic inequality, for example. Others are inherently multidisciplinary and require joint effort with other disciplines – technology and engineering, the physical and natural sciences, humanities and the arts – as well as close connections and engagement with people in the broader political and economic system.

To achieve meaningful and relevant impact, the social sciences generally need to operate effectively across disciplines and across sectors. Why?

- Because societal problems have multiple roots. As an example, the erosion of trust in expertise and institutions has led to a world in which facts can be dismissed as opinion and untruths used to influence our society and our lives. The root causes are complex: the rise of authoritarianism, totalitarianism and populism; the growth of online communities; increasing educational, technological and economic inequity and the social and political disenchantment that comes from people being excluded, marginalised and left behind in a rapidly-changing world, On top of these, academic evidence and expertise is also often incomplete or partial.
- Because solutions require multidisciplinary input and system-wide action. The world's response to COVID-19 was unprecedented: closed borders, new testing and tracing tools and protocols; expansive economic support for businesses and individuals, the rapid global development and rollout of vaccines. At every stage, whether consciously or otherwise, decision makers in government and business have relied on input from experts across the disciplines, including the humanities, social sciences, health and medical sciences and STEM.

The social sciences' distinctive contribution is the ability to understand and explain how personal troubles like health, unemployment, or being poor, are public issues based in our social systems, cultures and ways of living together.

Social science teaches us that because of humanity's global connectedness and interdependence we also share interconnected fates and futures, albeit unequally distributed by geography and circumstance.

This in turn means that the social scientific project relies inherently on strong democratic principles built on robust and well-functioning social institutions in the economy, political and social spheres.



Senior researcher, Sociology, Group of Eight university.

# Sector overview

Australia's social science sector is diverse and expansive. It connects with and impacts every person in different ways at different times of their lives, and is fundamental to the operation of our businesses, our governments and our economy.

#### FIGURE 4. The Australian social science ecosystem



# Grand challenges for social science

The social sciences have a vital role to play in addressing the defining social challenges of our times. But they cannot do so alone. Effective research and solutions require expertise from across the disciplines (social sciences, STEM, health and medical, and the humanities), and from all parts of society. These seven interconnected issues have been identified through our consultations as a top-level challenge agenda for the social sciences.

# THE DEMOCRATIC DEFICIT

The steady erosion of democratic principles and processes impedes social scientific and democratic deliberation and coordinated action in the collective interest of our common humanity. How we overcome obstacles to act collectively when different actors' short-term interests don't align is a defining core issue that sits at the heart of our inability to solve many problems, large and small. Understanding how the "democratic deficit" comes about, and how to prevent or overcome its effects is one of the world's most pressing challenges, and one that sits squarely in the province of the social sciences.

# **DIGITAL TRANSITIONS**

The accelerating development, uptake and incorporation of digital, connected and autonomous technologies is accompanied by enormous social transformation. How we work, learn and engage with others, as well as the scope and nature of services and information collected by governments and businesses are all in flux to varying degrees. Social sciences are centrally placed to understand, advise and forecast these social changes through traditional knowledge and methods, and through the new techniques and technologies being enabled by linked data and digital technologies themselves. The converse–a failure to proactively engage with the digital transition–will see the capabilities and relevance of social science steadily fade.

# GENUINE RECONCILIATION

Australia's First Nations have suffered 233 years of colonisation, oppression, discrimination and racism. The social sciences own part of this legacy. As such, they have a moral obligation to right wrongs and work actively for genuine reconciliation. This requires involvement and inclusion, direct action (entailing cost and effort) and critical research and scholarship aimed at progressing the reconciliation movement on a national scale.

# CLIMATE AND SUSTAINABILITY

Science and technology have shown us the causes, consequences and risks of climate change, and they have a critical role in developing needed technologies to reduce emissions and manage harms in the future. The key challenges at present, however, are social: How di we overcome the failings of planetary governance and the domestic political impasse of capital and will? How do we mobilise grassroots social change? How do we cost-effectively incentivise change in business behaviours? And how do we best distribute the burdens associated with adaptation across varying communities? These are all questions that social scientists must answer.



### **POST-COVID RECOVERY**

In the decades following WWII, Australia benefited from unprecedented economic growth and improvements in wellbeing. These resulted directly from a raft of reconstruction policies and programs designed and guided in large part by the leading social scientists of the day. The post-COVID recovery presents the same opportunity: society has broken with its norm, our governments have demonstrated to themselves and to their constituents the viability and benefits of sweeping social and economic policies, and Australia has fared better than just about any country as a consequence. As was the case 70 years ago, social sciences once again have the opportunity to inform and guide the post-COVID reconstruction of a more resilient, equitable and prosperous society.

# SOCIAL INEQUALITY

Never before in Australia's history have there been greater differences in opportunity, health, wealth and wellbeing between the millions of educated and prosperous Australians, and the <u>almost one</u> <u>million experiencing long-term poverty and</u> <u>disadvantage</u>. Social science has a pivotal role to play in understanding, addressing and guiding us towards a narrowing of a two-tier society; although, as a sector of educated professionals, the social sciences themselves have to overcome the bias of privilege to do so.

#### THE FUTURE OF WORK

Technology-enabled change in services and consumption is likely to accelerate the existing changes in employment. Freelance and gig-based economies will become pervasive; scale and efficiencies in robotics, machine learning and Artificial Intelligence will transform many occupations and industries; and continued globalisation will transform others. Understanding, forecasting and helping to guide and prepare our society for the adaptations that will be required is a grand challenge for the social sciences, and one which will shape the future of the social sciences themselves.

# SECTOR SNAPSHOTS

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# First Nations

The historical impact of the social sciences on Australia's First Nations peoples has been damaging, with harm continuing even to this day. The social sciences have:

- Contributed to the marginalisation of Indigenous individuals and communities, as much of the research about Aboriginal and Torres Strait Islander peoples has and continues to be focused disproportionately on deficits over capabilities.
- Created barriers to Indigenous involvement in mainstream education and research, resulting in inappropriate recognition, understanding and incorporation of traditional and contemporary First Nations knowledges. Western knowledge systems and structures have dominated mainstream teaching and inquiry, including the very study of First Nations peoples and communities.
- Separated communities and individuals from stewardship of their data.
- Placed an enormous weight of expectation on the few First Nations researchers and teachers in leadership positions in social science institutions.

This section looks at the state of First Nations peoples, organisations and knowledges within the social science ecosystem, from the perspective of how much the sector has progressed towards genuine reconciliation and inclusion, and identifies six priorities for action. There's a danger of us being distracted and missing the living indigenous Academy on this continent, which is passing away with every passing language. We're still losing languages, we're still losing elders [...]. There are senior knowledge holders scattered across this continent, who should be our absolute priority, if we're going to do more than just pay lip service and have sexy conversations about [Indigenous engagement].

Senior Indigenous researcher, University of Tasmania.

FIRST NATIONS SCORECARD + PERFORMING ✓ PRIORITIES LAGGING CRITICAL \_ ) X • More and better-quality Indigenous content in schools, VET and university; and staff appropriately Appreciation and Building capability in both Indigenous and trained to teach it. Formal recognition of Indigenous issues Incorporating First Nations content in VALUE dissemination of non-Indigenous academic workforce, to as a Field of Research. schools, VET and university curricula. Nation-wide data infrastructure and protocols that teach Indigenous content. Indigenous knowledge give Indigenous Australians control over Indigenous data collection, access and use. • New and enhanced infrastructure and programs to preserve First Nations peoples' knowledges. Lack of scale and infrastructure to Programs and support for First Nations Australians Unsustainable mechanisms for Institutional support to Efforts to enhance Indigenous capability, preserve Indigenous culture means CAPABILITY Indigenous capability building leading to to pursue social science study and careers. enable inclusion such as the establishment of AIATSIS. Indigenous languages and culture are staff and elder burnout. being lost every day. Increased recognition of Indigenous social scientists through proactive nomination for relevant awards and election to the Academy. Practical improvements to the wellbeing and careers Poor awareness of persisting racism and High individual costs (time, career) for Accessibility, diversity EQUITY disadvantage in the education and Indigenous staff who seek to increase of Indigenous Australians in the education and and fairness academic sectors. institutional capability. research sectors.

"

# VALUE

First Nations and non-Indigenous stakeholder consultations showed a clear consensus on the need to improve the representation and involvement of Indigenous Australians at all levels of education, research and leadership in the social sciences.

There was also agreement about the significant and inherent value in the recognition, expansion, inclusion, celebration and dissemination of traditional and contemporary First Nations knowledge within and across the disciplines.

This is the unique and irreplaceable knowledge and understanding of people and society that has been developed and passed down over millennia, as well as the knowledge developed by First Nations people living in and interacting with the complex cultural and social structures of the modern world.

# CAPABILITY

Stakeholders agreed that there has been some progress, albeit insufficient, towards improving First Nations capability at individual and organisational levels in the social science sector.

In part, the lack of current capability is related to the small number of First Nations people in the social sciences (**Figure 5**) and the often overwhelming demands on those few in senior and leadership positions (**Figure 6**).

It also relates to the lack of capacity of traditional institutions to effectively incorporate and work with alternative education and research paradigms that incorporate First Nations knowledge and practices, despite good intentions and goodwill on the part of many individuals.

Finally, the lack of coordinated national infrastructure and frameworks to support and enhance participation of First Nations people and knowledge is a barrier to more effective engagement and inclusion, although this is changing over time.

# FIGURE 5. Indigenous Australians in the social science sector

Based on data from the NCVER (2020), DESE (2019) and ARC (2020)

VET	UNIVERSITY	RESEARCH
<ul> <li>54,000 Indigenous students were enrolled in social science programs in VET in 2020, roughly 5% of total enrolments in</li> </ul>	• Over 12,000 Indigenous students were enrolled in social sciences degrees in 2019 (nearly 50% of all Indigenous university enrolments).	<ul> <li>In 2020, there were 529 FTE Indigenous Australians employed as academics in universities, or 1% of total academic workforce.</li> </ul>
social science VET programs.	<ul> <li>Society and Culture fields have the most Indigenous enrolments across all disciplines (33%), followed by Health (22%)</li> </ul>	<ul> <li>64 Discovery Indigenous Grants awarded in HASS fields between 2011-21, totalling \$28 million.</li> </ul>
	ficanti (2270).	• Five Indigenous Discovery Grants in HASS fields awarded in 2021, totalling \$2.7 million.
		The share of Indigonous students out of all

The share of Indigenous students out of all doctoral program enrolments (all field of study) was 1% in 2019.

# EQUITY

Active and passive discrimination and racism against First Nations people and communities have had a profound and continuing impact on equity of opportunity and involvement in the social sciences. Alongside underrepresentation of First Nations peoples across the social science ecosystem (**Figure 5**), manifestations of this inequity include:

• Deficit focus. Social science teaching, research and policy often emphasise the lower average status or outcomes of Indigenous compared to non-Indigenous peoples on a range of social measures. While important and necessary in some cases—the Closing The Gap targets an example—such aggregated data hides the enormous diversity among Indigenous people and communities, and portrays First Nations people as being generally disadvantaged.

Without appropriate context, such data can even imply First Nations peoples as complicit in 'their problems', and glosses over the fact that there is the potential for completely different standards of progress from an Indigenous viewpoint. A balanced approach is important: acknowledging and measuring differences, as well as the diversity of Indigenous language and cultural groups, and the role of the colonial process in creating a sense of competition.

Lack of recognition of Indigenous expertise in non-Indigenous matters. The expertise of Indigenous academics in non-Indigenous research areas gets little attention among academic staff at universities. Indigenous scholars get consulted frequently on Indigenous matters but are rarely invited to join academic projects in their capacity as experts in other fields. Stakeholders with personal experience of this phenomenon reported that this leads to feelings of isolation and under-recognition, limited career opportunities, and ultimately undermines opportunities for true diversity, and the potential benefits this has for Australian research (Figure 6).

• Colonial institutions and curricula. Education and research spaces have been largely shaped by Western influences, without regard to First Nations cultures and values. Identifying practical ways to transform education and research institutions into welcoming spaces for Indigenous Australians is our shared responsibility (see **Reconciliation and the social sciences**).

# **PRIORITIES FOR ACTION**

There are ample opportunities to improve understanding, capacity and involvement of and for First Nations Australians and Indigenous knowledges in the social science ecosystem:

- Enhancing the quality and availability of Indigenous content in schools, VET and university; and improving academic staff skills to teach Indigenous content appropriately.
- National-scale Indigenous data infrastructure and protocols that guarantee Indigenous Australians can determine what data is collected about them, how it is collected, and oversee its access and use. Incorporate these into new and existing data collections and regulation, with training and compliance mechanisms for all involved in collecting, storing, disseminating or utilising Indigenous data.
- Preserving First Nations knowledges, through new and existing programs and infrastructure, designed and governed by and with First Nations peoples.
- Measuring, supporting and advocating for increased participation of Indigenous Australians in social science education and research. This requires additional supports, alternative entry and progression pathways, culturally-safe systems and environments, institutional and individual commitments to reconciliation, and a focus on ensuring critical mass for First Nations students and employees.
- Increased recognition of Indigenous social scientists, through proactive nomination for relevant awards and election to the Academy.
- Staff programs that appropriately support and reward Indigenous research and careers.

# FIGURE 6. Use of Indigenous academic staff time: Consequences on individual careers and inclusion

Based on stakeholder consultation



I grew up in that generation when we weren't told about what happened. It was all candy-coated, made to seem like Australia was settled very civilly. Our younger generations are getting more of the truth, but there is still discomfort about teaching and talking about our history and cultures [...].

What does embedding Indigenous content in the curriculum look like? We have been working on this for a long time, and haven't yet got it all right. And people are not always prepared to give up course content to teach Indigenous content. We have this ongoing battle for curriculum *air time*, in academic institutions, where we're trying to say our knowledge is as important as Western knowledge.

Indigenous research institute director at an Australian university.

# **DRILL DOWN – FIRST NATIONS**

# Reconciliation and the social sciences

Over the past decade, an increasing number of social science organisations have been implementing formal processes to learn about and improve their relationships with First Nations Australians. The Academy, for example, has recently started this journey with its inaugural *Reflect Reconciliation Action Plan.* However, the more general reconciliation of social science disciplines with First Nations Australia is yet to occur in a systematic way.

Required is the coming together of institutions and researchers to understand the damage that Western knowledge in various fields has done to Indigenous Australians over centuries. This piece outlines potential components of a reconciliation process led by Australia's social science disciplines (**Figure 7**).

Some of this work is already taking place in Australian universities, prompted and driven by the unwavering effort of thousands of Indigenous and non-Indigenous academics, students, and organisations. But more needs to be done. In places like New Zealand, the reconciliation process has led to the establishment of <u>Wānanga</u>, described as a *Māori learning environment*, which effectively functions as an alternative to universities and VET, awarding tertiary qualifications all the way up to doctorate degrees. In South Africa, reconciliation is taking shape through a critical, and often radical review of university curricula and research agendas, with the aim of putting Africa and African issues at the front and centre. Australia clearly has some way to go in its reconciliation journey.

The steps proposed here are not the result of a formal research process, but of face-to-face discussions with a small number of passionate First Nations academics in the social science sector. It is offered as a starting point for future conversations about what it could mean to genuinely and respectfully integrate Indigenous peoples and knowledges in Australian social science.

The Academy

reconciliation journey in 2021.

began its

Pioneering Indigenous social scientist Professor Marcia Langton AO FASSA

### FIGURE 7. Building blocks for reconciliation in the social sciences

# RECKONING

01

02

03

04

Research can, and has been, harmful to Indigenous peoples, for example:

- When conducted without their involvement or consent.
- When Indigenous knowledges or practices are misunderstood, or portrayed as inferior or negative.
- When research outputs have fuelled policies harmful to Indigenous peoples.

These issues vary across disciplines, and specific reconciliation approaches are required. As a first step, the acknowledgment of instances of past and present wrongdoing in various disciplines might include a formal apology for past and present harm, and a commitment to do better.

# LEARNING

A second step might include the exploration of Indigenous knowledges, from a place of respect. That includes learning and valuing Indigenous knowledges on their own terms, as opposed to by comparison to, or against traditional Western scientific standards.

# INVESTING

Developing the hard and soft infrastructures required for the preservation and dissemination of Indigenous knowledges.

Identifying and removing barriers for greater participation and inclusion of Indigenous Australians in the social sciences.

# HOLDING SPACE

... for Indigenous self-determination: *Nothing about us, without us.* Reconciliation processes are best led by Indigenous Australians. *Self-determination*, in this case, is about building processes and structures that guarantee Indigenous leadership and sovereignty over First Nations knowledges, data planning and policy.

#### 15

# **DRILL DOWN – FIRST NATIONS**

# Indigenous data in the social sciences

### **INDIGENOUS DATA**

Indigenous data is any and all information or knowledge from or about Indigenous people, that relates to or impacts Indigenous lives, at the collective or the individual level. It includes:

- Data about Indigenous people, including demographic, legal, health and service data.
- Data and knowledge from Indigenous people.
- Data about indigenous peoples' environments and resources, including land history, geological information and place names.

Indigenous data is important to Indigenous people and communities, to non-Indigenous Australians, and to Australian governments, particularly in the context of the 17 national socio-economic Closing the Gap targets under the 2020 National Agreement.

Despite this, much Indigenous data is and has been collected, used and stored by non-Indigenous social science researchers and practitioners, whether through ethnographic research, population surveys, or through interaction with private or public services. Very little of this activity has been led or governed by Indigenous peoples, and there has rarely been any consideration of data and information rights beyond the point of collection.

# DATA SOVEREIGNTY

There is a growing international movement toward Indigenous data sovereignty. It is grounded in the UN Declaration on the Rights of Indigenous Peoples and is defined as: *The right* of Indigenous Peoples to govern the collection, management, access, interpretation, dissemination and reuse of data related to them.

Indigenous data sovereignty is about giving Indigenous people control over the collection, management and use of data about them.

# FAIR AND CARE

The FAIR (Findable, Accessible, Interoperable and Reusable) data principles are increasingly being adopted worldwide, including in Australia, to support sharing and reuse of research data. However, they do not address the unique issues associated with Indigenous data.

As a complement to FAIR, in 2018, the Global Indigenous Data Alliance developed the CARE principles. These provide guidance to ensure:

- Collective benefit to Indigenous peoples.
- Authority to control, recognising data rights, interests and governance.
- Responsibility to the providers for expanding Indigenous capability and fostering positive relationships.
- Ethical data and processes, that minimise harm, maximise wellbeing and ensure justice.

#### MAYAM NAYRI WINGARA

This means 'to welcome good knowledge' in the languages of the Mer, Palawi Kani and Darug peoples. It is also the name of the <u>Aboriginal and</u> <u>Torres Strait Islander Data Sovereignty Collective</u> formed in 2018, to progress Indigenous data sovereignty and governance in Australia. At their inaugural summit, the Collective established five rights-based principles to empower Indigenous Australians to engage in data sovereignty. Indigenous people have the right to:

- 1. Exercise control of data ecosystems and data collection and use.
- 2. Data that is contextual and disaggregated.
- 3. Data that is relevant and empowers selfdetermination and self-governance.
- 4. Data stewardship and structures that are accountable to Indigenous peoples.
- Data that is protective and respectful of individual and collective interests.

I've spent most of my academic career building capacity within the institutions, as do other Indigenous academics. We see high levels of burnout, and it's not acknowledged in our workloads, career progressions, or staff development. The same happens with knowledge holders in the community.



# Schools

A rich, high-quality social science education at school is fundamental to ensure that individuals understand and are able to participate meaningfully in a democratic society. For some students, the social science education received in school will be their only formal encounter with these subject areas. It is therefore vital that schools provide the best possible learning experience for students to gain knowledge, skills and passion for social science subjects.

In the Australian Curriculum, the social sciences are taught alongside humanities subjects, under the title *Humanities and Social Sciences*, or HASS. From the beginning of school to Year 2, students are taught History and Geography; Civics and Citizenship are added in Year 3; and Economics and Business in Year 5. From Year 10, social science subjects in the Australian Curriculum change to Ancient History, Modern History, and Geography, but states have authority to set their own curriculum, so the offerings of core and elective subjects in social science vary significantly across states and individual schools.

This section examines the state of social science teaching in primary and secondary education: what is going well, where we're lagging, and the questions to address next.

Teacher quality is the single most important in-school factor influencing student achievement.

John Hattie (2009) in <u>Visible Learning: A synthesis of over</u> <u>800 meta-analyses relating to achievement</u>.

# SCHOOLS SCORECARD

		+ PERFORMING	- LAGGING	× CRITICAL	✓ PRIORITIES
VALUE	Quality and relevance of social science school education	_	• Lack of high-quality, publicly available data about the Australian school system, such as subject offerings, student enrolments, teaching quality or student performance.	<ul> <li>Low student performance in the National Assessment Program Civics and Citizenship tests (NAP-CC).</li> <li>Students and families sceptical about social science career prospects.</li> </ul>	<ul> <li>Revamped messages to students and parents about employment prospects and relevance of careers in the social sciences.</li> <li>Ensure high-quality teaching resources are available in all schools across Australia.</li> </ul>
CAPABILITY	Teaching workforce and infrastructure	_	• School staffing models often result in teachers being asked to teach outside their expertise (out-of-field), as well as to change subjects year-to-year.	<ul> <li>Insufficient incentives for teachers and schools to invest in, and develop subject-area expertise in social science.</li> </ul>	<ul> <li>Build incentives for schools to support the development of teachers' subject expertise.</li> <li>Improve the quality and accessibility of data about the Australian school system, to support a better understanding of the sector.</li> </ul>
EQUITY	Accessibility, diversity and fairness	_		• Stakeholder concerns that social science subject offering and enrolments are declining in senior secondary (further research required to verify these concerns).	<ul> <li>Develop a school ecosystem that prepares all young Australians to live prosperous lives, as free, democratic citizens.</li> </ul>

# VALUE

A high-quality school education in social science is critical for:

- **Democracy**. A strong knowledge base in history, political science, economics, law and ethics is fundamental to develop students' appreciation for the democratic freedoms and principles we enjoy in Australia, and to cultivate critical perspectives when it comes to exercising their rights and casting their vote in elections.
- Individual and social prosperity. Social science skills in communication, psychology, management, personal finance, or public health, equip students to lead prosperous, fulfilling, and balanced lifestyles, and to cultivate a positive legacy for others and society, regardless of which career they choose after graduation.
- Appreciating education, in general. Anyone who is aware of the former two benefits, becomes privy to the transformative potential of education and, consequently, a long-life champion for excellence and equity in Australia's education systems.

How good is the social science education delivered at school? Australia's testing system, the National Assessment Program (NAP), offers only a limited window into the quality of social science education: it only tests one subject, Civics and Citizenship, and is not applied over the whole population of students (only a sample). Considering that, what NAP tests are showing is that student performance in Civics and Citizenship is consistently low. The latest round, in 2019, saw <u>only 53% of year 6 students, and</u> <u>38% of year 10s achieving proficiency</u>. A definite red flag for value.

# CAPABILITY

Data about the school teaching workforce is spread across different agencies in states and territories, and not publicly available, so an understanding of its current state is limited.

Consulted stakeholders expressed concern that social science teaching is being negatively impacted by a number of issues (**Figure 8**):

• School staffing practices, such as assigning teachers to subjects they have little or no expertise in (asked to teach 'out-of-field'), or changing assigned subjects year-to-year.

#### FIGURE 8. What does it take to develop subject-expert teachers?

From consulted stakeholders

- Personal interest In teaching a social science subject area.
- School incentives and support to undertake professional development (e.g., career progression).
- Government support and incentives for schools to invest in teacher training.
- School staffing models that support matching teachers' expertise with assigned subjects.
- Student appetite for social science subjects (influenced by parents, industry, government).
- Local availability of qualified teachers.
- Availability of, and access to adequate professional development opportunities.
- GOVERNMENT

*TEACHERS* 

SCHOOLS

- Teacher education guidelines and quality assurance appropriately incorporate subject expertise.
- School funding policy is conducive to the development of subject-matter expert school teachers.
- Development of partnership arrangements with discipline-specific teacher education providers.

FIGURE 9. Public spending in primary and secondary education

Source: OECD 2021

Australia's public spending in primary and secondary school education in 2018 o

**3.3%** of national GDP

3.1%

OECD average

**4.7%** Costa Rica (top contributor)

- Lack of support or incentives for teachers and schools to invest in subject-matter expertise. In Australia, teachers are required to complete at least 100 hours of professional development every 5 years, but there is no requirement or incentive to undertake subjectspecific education.
- Lack of stable and adequate funding for professional development providers. Teacher associations, which could provide subject-specific training, often struggle to secure stable and adequate funding to offer subject-specific professional development programs on a continuous basis.

# EQUITY

In the context of this snapshot, Equity is interpreted as the degree to which a good education in social science is available to *all* Australians, regardless of location, ethnicity or socio-economic circumstance.

While Australian schools have adopted the Australian Curriculum (up to 80% of teaching time is devoted to the national curriculum), the delivery of social science content can vary significantly across schools. In other words, current school policies and administration are failing to guarantee *all* Australians will leave school with a high-quality foundation in social science. The issues include:

• Unequal offering of social science subjects across schools, particularly in senior secondary. "In [State], many schools are offering HASS subjects from Year 9 as electives, meaning many students do not do any history, civics, or geography past Year 8". · Unintended consequences of a (wellmeant) emphasis on STEM skills. In preparation for the technological turn of the century, the Australian Government, as well as some industry sectors (e.g., mining), have made significant investments to improve the quality of STEM education in schools over the years, for example, through incentives to STEM teaching or the development of highquality classroom resources. The social sciences sector has not benefited from the same effort or resources, and the divide is growing and showing. "The increased emphasis on STEM does not have a neutral impact on the humanities and social sciences. Schools are a balancing act, limited by budget, timetable and space. When you make space for one thing, it has to come off somewhere else."

The combination of these factors is reportedly leading to a decline in both the number of social science subjects offered by schools to students, and the number of students choosing to study them, specifically at a senior secondary level (this issue is further explored in <u>Losing ground in</u> <u>senior secondary</u>).

The question, to be clear, is not whether a push for STEM in schools is right or not (it is). Instead, it is about whether our education system is giving *all* students access to a balanced, high-quality education, and the long-term individual and collective benefits that come with it.

As per other aspects of the school education system reported, better data is needed to confirm and adequately understand these trends.

# **PRIORITIES FOR ACTION**

- Revamp messaging about social science opportunities, to improve student and parent confidence about employment prospects in social science fields and their continued relevance in a technology-enabled world. All stakeholders in the ecosystem have a stake in ensuring social science talent is well nurtured at this stage of the education pipeline.
- Ensure high-quality social science teaching and resources are available in all schools across Australia, supported by the right level of infrastructure, investment and incentives at the state and school levels.
- Develop a school ecosystem that equips young people to live prosperous, fulfilling lives, and to responsibly exercise their rights and freedoms as democratic citizens. As the new curriculum rolls out in 2022, the sector should look for opportunities to boost student participation and performance in social science subjects, particularly at the secondary level.
- Improve the quality and accessibility of data about the Australian school system, such as subject offerings and enrolments, staff education and development, and student performance, to support a better understanding of the sector.

The truth is that 'well-educated people' or 'well-read people' is generally used [...] to denote those with a grasp of politics, economics, history, arts and culture, literature, philosophy. Studying the humanities is also associated with achieving leadership roles in subsequent careers. If the school students with a grasp of these things are primarily emerging from independent schools, the likelihood of [other] students achieving success in their careers and being promoted is reduced, extending inequity.

Representative, state-level school teachers' association.

"

# DRILL DOWN - SCHOOLS

# Losing ground in senior secondary

In senior secondary, the Australian Curriculum shrinks to a few subjects, and schools have significant discretion to decide which courses to offer to students each year.

Unfortunately, consulted stakeholders agree that there is a decline in the proportion of social science subjects available to students in senior secondary, as a result of factors such as those outlined in **Figure 10**. Data on student enrolments are not publicly available for individual subjects, so the exact extent of the problem cannot be measured at present.

The influence of parents in subject choice appears to be particularly strong, with stakeholders observing that, while students may be interested in continuing their social science education, some parents direct their children to choose class subjects that have more obvious employment connections.

"

Stakeholders described the current environment around senior secondary electives as a *marketplace*, with teachers having to convince students, parents and schools of the merits of enrolling in social science subjects or maintaining them in the timetable.

This situation makes it difficult for students with talent or a disposition for the social sciences to pursue their interests in senior secondary and, for the remaining students, to gain a basic understanding of social science knowledge and skills.

"Every student, every Australian decides whether or not they're interested in the social sciences at school", was the reminder from one of our stakeholders. With schools as the first step in the educational pipeline, reclaiming ground in senior secondary is key.

What we're hearing from social science teachers right now, is that they have students who want to take their [social science] subject into senior year levels, and parents who are saying 'no'.

Director, Teaching Association.



# **FIGURE 10.** Factors influencing the availability and quality of social science elective subjects in senior secondary

From consulted stakeholders

Public discourse about the value of social science (e.g., media, government)	
Parents' own experience with higher education and employment	STUDENT DEMAND
Perceived link between social science subjects, ATAR scores, careers and employment	
Availability of teaching materials and subject-expert teaching	HIGH-QUALITY TEACHING AND RESOURCES
Career counselling resources	
Choice of single subject or 'blended' learning	DESIGN DECISIONS
Industry partnerships: additional funding and learning experiences	STRATEGIC
University partnerships: teaching collaboration and early entry options	

With big industry supporting STEM in schools, how will we level the field for social science and other areas?

Stakeholders report that STEM learning areas are often supported with highquality teaching and career counselling resources as a result of ongoing investment by mining and other big industry entities interested in encouraging students to pursue STEM in higher education. The lack of similar resources for other areas inevitably makes them look less attractive and relevant in the future employment market. If the social sciences, arts and humanities step up, big industry will have inadvertently played a part in increasing the standard of teaching and career resources in schools, for the benefit of all students.

#### Re-examining 'blended' learning

The social sciences have increasingly been offered in a blended or 'integrated' format, often in conjunction with the humanities. While convenient, this does not always result in improved learning outcomes. Consulted stakeholders insisted that effective delivery of mixedarea subjects works best when:

- Delivered by a teaching team with appropriate expertise in each individual subject.
- Each subject is clearly distinguishable.

Emerging university-school partnership models

- Early entry into undergraduate social science programs (e.g., from Year 11).
- Universities collaborating with teachers' associations to support professional learning for school teachers, in their discipline.
- Alternative admission pathways (non-ATAR) into social science disciplines (e.g., essay, interview).

# Vocational Education and Training

Australia's Vocational Education and Training (VET) system equips people with knowledge and skills for employment in a broad range of careers. VET qualifications at Apprenticeship, Traineeship, Certificate or Diploma level can be gained for initial entry into the workforce, as well as for upskilling, retraining or re-entering the workforce.

The VET areas that directly incorporate social science skills and content include Business, Commerce, Management, Accounting, Education, Community Services and Tourism. In 2020, 46% of Australia's VET enrolments were in social science programs, or 1.2 million enrolments (NCVER 2020).

VET graduates in these areas are employed in many industries and play a particularly prominent role in the provision of government and community services. Social science VET graduates can be found at the frontline in childcare, aged care, education and training, justice, health, community, and housing services, among others.

In Australia, the VET sector comprises:

• **Industry groups**, responsible for designing training packages or guiding documents that establish the skills and knowledge needed by learners to perform a job.

21

- Australian governments. The Commonwealth Government is responsible for regulation of the national training system, and States and Territories for their delivery and operation.
- VET providers, including TAFEs, community education providers, private training providers, industry skills centres, and some schools and universities. Providers educate and assess VET students according to the skills and knowledge identified in training packages.

As of 2021, the VET system is preparing for significant reform. This reform process provides the broader social science sector with a significant opportunity to engage.

This section examines the state of social science teaching in VET: where the sector is performing well, where it's lagging, and the issues to address next.

VOCATIONA	VOCATIONAL EDUCATION				
AND TRAINING SCORECARD		+ PERFORMING	- LAGGING	× CRITICAL	✓ PRIORITIES
VALUE	Quality and relevance of social science qualifications	• High levels of student satisfaction with social science VET courses.	<ul> <li>Design of Training Packages (led by industry) does not sufficiently involve VET teachers and other education specialists.</li> </ul>	<ul> <li>Missed opportunities to elevate industry practices, through critical application of social science knowledge.</li> </ul>	<ul> <li>Identify opportunities to better integrate social science knowledge and skills in VET courses, leveraging the current Skills Reform.</li> <li>Advocate for greater participation of VET trainers and education specialists in the design of VET training packages.</li> </ul>
CAPABILITY	Teaching workforce and infrastructure	-	• Education delivery model highly vulnerable to workplace disruptions, as evidenced throughout the pandemic.	-	-
EQUITY	Accessibility, diversity and fairness	<ul> <li>Fulfilling one of its purposes as a bridge into higher education: as many as 9% of Australian university enrolments come through VET streams.</li> </ul>	-	• Planned reforms to the VET qualification structure could lead to the elimination of Certificates I to III which serve as highly accessible entry points into the tertiary sector.	<ul> <li>Ensure that VET qualification restructures do not create unintended impacts on student access to tertiary education.</li> </ul>

# VALUE

Social science VET graduates report consistently high levels of satisfaction with the quality of their training; 83-90% in 2020 (NCVER 2020).

However, stakeholders expressed concern that, over the years, industry's well-intended efforts to augment the practical skills delivered through VET have sometimes led to the design of overly prescriptive training packages, for example, packages that require the demonstration of competency in specific skills over more general capabilities.

In order to meet the complicated training package requirements, VET educators frequently have to omit more general and formative components of the training, such as the broader social science knowledge and skills that provide context and meaning to an occupation, as well as higher-level skills in communication or management which could benefit students in and beyond any specific job. In their own words: "We've just got so hooked up on describing the tasks needed for the job, that the underpinning stuff which really enables and enlivens that has been completely disregarded".

Sector stakeholders have long been advocating for greater involvement of VET educators in the design of the training packages, <u>with little or no</u> <u>success to date</u>. The current <u>Skills Reform</u> process presents a new opportunity for social science stakeholders to advocate for any desired improvements in the VET sector. Opportunities available through this reform process for increased engagement with the social sciences are further explored in <u>Bringing social science</u> to the fore in VET.

# CAPABILITY

Stakeholders participating in the consultation did not point to any ongoing capability issues specific to social science VET programs.

At the time of consultation, however, the COVID Pandemic was presenting the VET sector with significant challenges; particularly in those areas that required hands-on training and assessment. Restrictions in aged care and childcare facilities, for example, resulted in long delays in the delivery of workplace-based study units. Looking ahead and considering the possibility of similar scenarios in the future, some stakeholders suggested that diversifying digital assessment and delivery options for VET (e.g., simulated work environments), may increase the capacity of the sector to manage similar disruptions in the future.

# EQUITY

One of the key roles of VET, alongside training in job- and industry-specific competencies, is to provide students with an accessible entry point to education from which they can build. This is particularly relevant for students interested in degree-level programs who do not achieve the necessary school grades, and as many as 9% of Australian university enrolments come through VET streams.

However, some stakeholders raised concerns that reforms to the structure of VET qualifications could potentially impact student accessibility if lower-level qualifications such as Certificates I to III were to be discontinued.

# **PRIORITIES FOR ACTION**

- Identify opportunities to better integrate social science knowledge and skills in VET courses, leveraging the current Skills Reform. The effort should extend to both social science VET programs, and any other VET qualifications that could benefit from higherlevel social science skills, such as communication, negotiation, or collegiality, to name a few.
- Advocate for greater participation of VET trainers and education specialists in the design of VET training packages (led by industry).
- Ensure that reforms implemented on the VET qualifications' structure (also part of the current Skills Reform) do not create unintended impacts on student access to tertiary education.

Deep dive into /

**FIGURE 11.** Social science as a proportion of all VET enrolments, 2016–20 From NCVER (2020)

FIELD OF EDUCATION	2016	2017	2018	2019	2020
Education	5%	5%	5%	6%	5%
Management and commerce	23%	22%	22%	21%	21%
Society and culture	16%	16%	17%	17%	18%
Total	44%	43%	43%	44%	44%

**FIGURE 12.** Key figures, Vocational Education and Training (all fields) From NCVER (various sources)

> 6.4 B Government spending on VET in 2019

4.2 M VET Students in 2019 57% Employers used the VET system in 2021

297,920 Apprentices and

241,200 VET in school students in 2020

Trainees in 2020



# Bringing social science to the fore in VET

# FUTURE-PROOFING VET

The employment landscape is changing rapidly, and social science skills have a crucial role in future-proofing Australia's VET sector.

The upheaval caused by the global pandemic has made it clear that VET graduates need to be adaptable, and to understand the importance of the changing social context in which industry operates. A social science curriculum can provide students with critical skills in this area: from developing an understanding of the social and economic context in which their industry operates, to managing human resources, to communicating effectively with colleagues and customers. In the words of a VET sector leader: "Social science skills are great at those generic skills needed for work in the 21st century".

In practice, however, the inclusion of social science components in the VET curriculum is heavily contested, due to the limited scope of training packages (which tend to be strictly developed around job-specific technical skills), available funding, and insufficient academic staff training in the social sciences.

# IDENTIFYING LINKAGES, BUILDING ALLIANCES

"We need to identify the linkages between particular training packages, occupations, job roles, and their social science foundations", said one VET sector leader. This is not a simple task, and will require cooperation across sectors, such as VET alliances with universities, industry and government.

Stakeholders identified early childhood education, aged care provision, youth workers, and domestic violence response workers, as immediate priorities for enrichment.

# LEVERAGING THE CURRENT SKILLS REFORM

The current <u>Skills Reform</u> process (2020-24) presents an opportunity for social science stakeholders to engage more closely with the VET sector. The process will involve:

- Industry Engagement Reform, including the design of VET training packages.
- Qualifications Reform—the type and number available VET pathways, and their relationship to various skills.
- Quality Reform—the redefinition of standards for Registered Training Organisations (RTOs) and the VET teaching workforce.

Important milestones taking place during 2022 will include:

- Selection of new industry clusters, or industry-specific groups responsible for the design of the VET training packages.
- Development of a capabilities framework and workforce plan, to govern the selection and development of the VET trainer workforce.
- Evaluation of new qualification pathways, tested during 2021. The tests included new forms of qualifications for data analysts and personal care workers.

At a time when all education sectors are reorienting, it is important that the social sciences are part of the conversation around the future of VET in Australia.

Many of our teachers in social work, nursing, early childhood, and so on, are unaware they are already teaching social science. Every time they share good-practice advice with their students, about how to treat an elderly person or their family respectfully, for example, or how to communicate with children's families... that's social science. Imagine how much better we could do, if VET staff were even more empowered.

VET sector leader.

The government often turns to vocational education and says, solve the youth unemployment problem, the migration problem, the English..., solve this, solve that. And many of those problems are, at heart, challenging social science phenomena.

VET sector leader.

"

# Higher education

One of the main functions of undergraduate and postgraduate education is to prepare people for knowledge-intensive roles; those that require analysis, higher-order thinking and the use of specialist methods to arrive at complex decisions. Social science degrees in particular, equip students to manage the human challenges in organisations of all types, from small businesses, to community organisations, to public policy and administration. Social science graduates– economists, psychologists, managers, lawyers, social workers and countless other social professionals–make up roughly 13% of the population aged 15 to 64 (Census 2016).

At the time of writing, there are over 2,500 bachelor-level, 1,700 master's-level, and 400 doctoral programs in social science across Australia, delivered by over 130 university and non-university providers (CRICOS 2021). In 2019, nearly 860,000 people were studying towards a social science degree; 53% of all enrolments in this education segment (DESE 2019).

The health of the university social science sector and its ability to train critical, adaptable knowledge workers is arguably a leading indicator of how well Australia will manage the human factor when dealing with grand challenges such as climate change, global pandemics or artificial intelligence; how swiftly our government, industry and community will be able to adapt to change, and the democratic quality of our institutions. This section examines the health of social science teaching at universities: what we're doing well, where we're falling behind, and the questions to address in the near future.

I don't want to go back to our reliance on international students and precariously employed casuals. But we need a bigger conversation. What are the core principles within our disciplines? What is a core curriculum? And what are the skills and knowledge that we want our graduates to have? I think there's a huge opportunity to rethink some of the ways in which we've been doing things.

Deputy Dean, Faculty of Arts at an Australian university.

HIGHER EDUCATION					
SCORECARD				× CRITICAL	✓ PRIORITIES
VALUE	Quality and relevance of social science qualifications	Good to excellent graduate     employment outcomes.	• Slow decline in domestic enrolments.	• Poor community understanding of the role of social sciences in Australia's future.	<ul> <li>Make the case for the relevance of social science degrees in the 21st century.</li> <li>Elevate government and the public understandings of social science skills, for jobs and beyond.</li> </ul>
CAPABILITY	Teaching workforce and infrastructure	• High student satisfaction with teaching.	<ul> <li>Uncharted standards for online teaching.</li> <li>Unknown extent and impacts of nation-wide staff cuts.</li> </ul>	<ul> <li>Limited progression for teaching-only staff, casualised and overworked.</li> </ul>	<ul> <li>Better support and incentivise teaching academics.</li> <li>Proactively discuss the role of universities in the changing qualifications landscape (anticipated introduction of micro-credentials).</li> <li>Set benchmarks for online teaching quality.</li> </ul>
EQUITY	Accessibility, diversity and fairness	<ul> <li>Online delivery uplift welcome by remote and non-traditional students.</li> </ul>	• Gender still sets staff back.	• Need for better data on equity, including impact of recent legislation change.	<ul> <li>Improve quality of available equity student and staff data.</li> <li>Monitor, understand and address equity-related impacts of recent legislation changes on students and staff.</li> </ul>

# VALUE

In universities across Australia, the social sciences are at an impasse. On the one hand, social science graduates have excellent employment outcomes (**Figure 13**), On the other, many stakeholders feel that governments and communities are losing confidence in the relevance and value of social science and related humanities education.

Since 2014, domestic student enrolments have declined in two out of the three social science broad fields of education (Education, and Management and Commerce) and stalled in the other (Society and Culture) (**Figure 14**).

The Job-Ready Graduates Package passed in 2020 included a <u>new schedule of student fees</u> to match the perceived job-relevance of different degrees. Seven out of 12 social science areas were classified among the less 'job relevant' (see <u>The JRG aftermath</u>).

# CAPABILITY

Australian university departments and facilities are undergoing major shifts in workforce, infrastructure and student profile in the social sciences as in many other fields.

Since the early 2010s there has been an increasing trend of casualisation in the teaching workforce (see <u>No guarantees in academia</u>) along with increasing administrative requirements on academic staff.

COVID-19 border closures during 2020 and 2021 have meant a loss of over 30% of yearly international social sciences enrolments. This has combined with a five-year decline in domestic enrolments, a significant increase in remote and online learning offerings, and the possibility of a further decline in enrolments in response to the Job-Ready Graduates Package.

Not surprisingly, universities have needed to rapidly adjust to changed circumstances; reducing workforce and restructuring programs. As of February 2021, <u>Universities Australia</u> estimated that jobs losses passed 17,000, with many more cuts reported since (see <u>The JRG</u> <u>aftermath</u>).

A consequence of this has been the reported closure of several social science programs across Australian universities, with many more deemed to be at high risk, especially smaller disciplines, and those in regional areas.

The sector needs to keep a close eye on how these trends (i.e., casualisation, downsizing and restructuring) are impacting Australia's capability to carry social science knowledge forward into the future.

# EQUITY

'Equity groups' comprise students from low socio-economic backgrounds, women studying in male-dominated fields, students from regional and remote areas, those with a disability and Aboriginal and Torres Strait Islanders. Public datasets on equity group participation are only available for the entire student population, so the levels of participation specific to social sciences study programs are unknown.

As of the 2016 Census, Australia had achieved what is considered 'universal' tertiary education, with 51.4% of the population aged 19-20 enrolled in either university (41.2%) or VET (10.1%) according to a report by the <u>National</u> <u>Centre for Student Equity in Higher Education (NCSEHE)</u>. The 50% threshold assumes that if the majority of a cohort participates, engagement becomes a social expectation, and thus 'universal'.

According to the same publication, the proportion of enrolled students coming from at least one 'equity group' was also high, at 47.3%.



### FIGURE 13. Does it pay to get a social science degree?

Income by discipline group and education level, Australian Census 2016



Highest qualification

#### FIGURE 14. Domestic demand for social science degrees

New enrolments in social science disciplines (DESE 2010-19)



# **PRIORITIES FOR ACTION**

Asked about the way forward, social science stakeholders highlighted the following priorities with respect to university education:

- Raise awareness of the value and impact of the social sciences among current and potential future students, starting at Year 11 or earlier.
- Emphasise the value of broad study programs including social sciences for students in all disciplines. As one survey respondent put it, *Job-readiness sells universities short of their purpose*. A balance between practical, analytical and disciplinespecific knowledge and skills is in the best interest of all Australians, and about the main differentiator of a university education (see <u>The skills conundrum</u>).
- Reformulate career incentives and development opportunities for researchand-teaching, and teaching-only academics to ensure a priority focus on quality education (see <u>No guarantees in</u> <u>academia</u>). Improvements in this area could benefit the university sector as a whole, as this issue is not exclusive to social sciences.
- Investigate opportunities for the social sciences in emerging education markets such as the upskilling and reskilling of older workers and the anticipated introduction of short-cycle qualifications (micro-credentials) (see Online education: Winner takes all?)
- Ensure consistent standards of quality for virtual teaching. The social sciences are critically placed to lead this vital reinvention of our education systems.
- Collect more and better data on student and staff diversity and inclusion, including through direct consultation with students and staff.
- Monitor, understand and address equityrelated impacts of recent legislation changes on students and staff, including the end of demand-driven funding to universities (or funding caps, introduced in 2017), to the review of the Australian Qualifications Framework (in 2019), to the Job-Ready Graduates Package (2020).

The social sciences (and the humanities) are those parts of our universities that can and must educate and research for democracy. This is their distinctive role and comparative advantage. Absent this political significance, not only would Australian democracy be weakened [...] but the social sciences themselves would no longer be worth fighting for.

Political Science academic at an Australian university.



# The skills conundrum

The skills issue was raised over and over again throughout the consultation.

University teachers across all disciplines, including the social sciences, are feeling pressured by the government to dedicate more of the curriculum space to job-specific skills training. University management is likely to follow suit, as jobreadiness is an easy selling point. But are jobspecific skills the best use of the university

### **GOVERNMENT PERSPECTIVE**

# What the government might be getting wrong

- Public support for the social sciences "The government conversation for the last 20 years has been negative about the role of expertise in guiding policy. And that affects more negatively the social sciences, than it does STEM. We need recognition that the social sciences have important things to offer." President, social science association.
- Asking universities for job-readiness

"The Job-Ready focus sells universities short in their purpose. While preparing graduates for professions is a part of their mission, it is well short of educating them in the broader sense. Also, there can never be one-to-one correspondence between university programs and the diverse range of roles that graduates fill. You just have to look at the range of roles where graduates of single programs end up." Senior Academic, Education, UQ. experience? A problem that appears as a simple dilemma between job-specific vs. careertransferable skills is actually complicated by several other variables.

These pages provide a glimpse of the complexities raised during the consultation process. Finding alternatives that deliver the best possible outcomes for students will require a whole-system coordinated approach.

# Invested in providing skills that will serve students well into the future

Skills for

jobs and

industries

that don't

exist yet

Need to

plan ahead

and support

innovation

Need to support

human-resource

needs of current

industries

e students of the future students career connections

Willing to offer

What skills should universities teach?

> Skills for specific jobs on demand now

# UNIVERSITY PERSPECTIVE

### Where social science schools might be falling short

 Explicitly discussing real-world utility or social science skills

"We need to talk about what the distinctive methods are in the social sciences, so that students understand what they're actually getting [...]. As much as I don't think university education is just for employability, that is something we have to really engage with. Otherwise [social science] just becomes almost like a generalised way of thinking." Senior academic, Western Sydney University.

#### Underselling industry

"[Social science] graduates have said 'I only want to work in an NGO or government', when they could be doing amazing work in the private sector, with people who are also passionate about their purpose and making a difference. We need to teach social sciences in a way that broadens students' perspectives about the opportunities available in the private sector." Policy manager, mining industry.

• "We've got a booming film industry. People studying computer science see a future in it (working in CGI, for example), but our writers and historians don't. The links are obvious to us [academics], but the community doesn't get it. There is a real need for that conversation". Senior academic, Psychology.

# INDUSTRY PERSPECTIVE

### Problems building up in industry

• Ever-climbing stakes to entry-level jobs "Years ago, you could get an arts degree and walk into the public service. That bar has been lifted. Now you need a double degree, a master's and then a few years of experience." Senior employee, Australian Government.

"Often, people who've applied for a job with a PhD qualification tell us they got it because after their undergraduate degree they couldn't get a job. So they went: "I'll heighten that with master's or PhD". And... it becomes a cycle". Executive director, government agency.

• Erosion of industry training opportunities "When I was an undergraduate, there were cadetships and studentships, which seem absent from the scene now. Industry has stopped training. Universities provide some work-integrated learning, but that's still not the industry doing the training, or something universities will be able to teach. And it's causing all sorts of problems for people trying to get started in an industry. That's a major missing piece in our country's training system." Senior academic, University of Western Australia.

*"It is becoming acceptable for students to work in unpaid internships for years."* Senior academic, Psychology.

transferable across jobs and careers Some industries are highly satisfied with graduates, particularly in jobs that require adaptability and analysis

Some industries are asking for more jobspecific training, so hired graduates can 'hit the ground running'

#### 27

# No guarantees in academia

Stakeholders spoke loud and clear about their discontents with career prospects in academia, some of which have been present for years. Most of these discontents are likely to impact academics across the board, not just in social science. Here are the highlights.

# **OVERWORKED, INSECURE**

A sizeable 44 stakeholders explicitly stated their research is often produced outside work hours. The work week is insufficient to both teach and maintain the research standards that would ultimately lead to career progression. For early and mid-career academics in insecure positions, fast-tracking their record in their "sleeping hours" is the best way to make it into the senior leagues. Since the extra hours are unreported, the extent of the problem remains unmeasured.

University employment shows some of the characteristics of a dual-labour market: where a section of staff has good employment conditions, including continuing appointments, and reasonable promotion prospects; while another faces insecure conditions (i.e., short-term, casual or fixed-term employment). The latter group is arguably more vulnerable to impact from the overwork culture and unpaid effort.

### **QUESTIONING THE NEXUS**

Academics have traditionally been expected to undertake both teaching and research duties with the assumption that active researchers make better teachers. This idea is behind the 40:40:20 model, or the division of working hours into 40% teaching, 40% research, and 20% service and administration.

This model is not consistently applied across the sector, and there is increasing emphasis on a fourth dimension of external engagement (with media, industry partners etc). Stakeholders who did consider the suitability of the 40:40:20 model were divided evenly between those in favour and those against (49% and 51% respectively from 365 survey responses). Several also commented that the link between research and teaching quality has not been firmly established.

The main argument in favour of the model is that it introduces fairness: academics can claim a right to research time when they need it most (early years). Those against it argue few people have the talent and disposition to perform well in both areas. The alternative could be flexible contracts, to suit personal preferences, talent, and life and career stages. Emerging teaching-only and research-only roles offer a way out, but without teaching incentives in place, it's a dead end for teaching-only staff.

# FOR BETTER OR WORSE?

With tenured academic positions becoming scarcer, some stakeholders were worried that overall academic quality will be impacted. Non-permanent staff (particularly casuals) generally don't get the same opportunities as ongoing employees, so are less likely to gain the experience and the rewards that lead to secure academic positions.

*"[These] modes of working [...] are most conducive to the foundational thought that brings about deep social change"* (consultation submission).

#### Another scholar said:

*"We're gaining on research, but losing 'scholarship'."* (consultation submission)

Others see brighter futures for academics:

"[They] will need to develop skills to move in and out of higher education, pivoting to government, non-government and private sectors [...]. This could be a welcome trend, especially where academics can then re-enter higher education, bringing experiences from other sectors to benefit research and teaching quality" (consultation submission).

# THE WRONG INCENTIVES

Teaching performance is said to be poorly measured (only through student satisfaction surveys) and disregarded when it comes to career progression. According to stakeholders, the situation does not only discourage teaching excellence, but leads to all sorts of distortions of the educational mission (**Figure 15**).

*"Everyone tries to steal as much time as they can from the teaching and administration elements because they need to keep their research profile up. ERA is the only game in town. There are no rewards for teaching, as I have learnt over many years sitting on selection committees."* Emeritus Professor, University of Tasmania.

*"When it comes to promotions and overall standing, you can be a terrible teacher and citizen but if you've got the right publications, you'll be fine. This is SO wrong."* Mid-career academic, Australian National University.

# ENDURANCE MYTH

The potential consequences of a work culture where unpaid research time is the norm goes beyond lost wages (**Figure 15**). Below the surface, the academic 'endurance' ideal is leading to:

- A silent crisis of workplace health and safety, with academic staff sacrificing work-life balance and health over career progression. "We're all overworked".
- "The same gendered outcomes", as women and others with caring responsibilities either leave the race, or stay permanently behind those who can use their time more flexibly.
- Loss of the best and brightest, who find their talent is rewarded better and sooner in other industries.

# FIGURE 15. Stakeholder perceptions of the unintended consequences of the research-centric culture

Based on findings of the consultation process



Currently, most academic staff I know are working around 40% above the notional annual hours set out in enterprise agreements."

Senior academic, regional university.

Teaching well plus service takes up considerably more than 60% of an academic's time. The norm is that if you want to get any research done (or really, just stay afloat with teaching) you will work more hours than you are paid for."

Mid-career academic, Group of Eight university.

# The JRG aftermath

The Job-Ready Graduates Package (2020) makes the biggest changes to higher education funding policy since the introduction of uncapped (demand-driven) places between 2010 and 2017. It's impact could be just as significant.

When the Job-Ready Graduates Package was first introduced in August 2020, changes to student fees made the headlines. Some social science programs that previously had the lowest student fees were suddenly more expensive than medicine (**Figure 16**); others saw modest increases and others still reductions.

Early in 2021, we asked social science academics about their views on the potential impacts of the package for the social sciences. The majority of respondents (71%) felt pessimistic about its effects (**Figure 17**, overleaf); in particular the narrative around jobreadiness. However, only a small proportion of respondents are worried specifically about a decline in student demand or the closure of programs. This section presents what stakeholders are thinking, beyond the headlines.

# FUNDING SHIFTS

- The package introduced changes to the student fees, but also to the amount of subsidy paid by the government for each student (**Figure 18**, overleaf). The combined effect of these changes means universities will get more funding per social science student than they used to in 9 out of 12 social science programs.
- Meanwhile, programs such as science, engineering or environmental studies will receive between \$4.7K to \$9.9K less per student each year. How will universities adjust to the new reality?
- The package also included a new National Priorities and Industry Linkage Fund (NPILF) to support increased engagement between universities and industry. Despite its primary focus on STEMM, stakeholders noted there should be opportunities for social science researchers to access and leverage this fund.

# IMPACTS ON QUALITY

- Poorly managed, the new emphasis on employability could result in a 'dumbing down' of social science program curricula, for example, if the teaching of generic job skills displaces core discipline skills.
- Alternatively, higher fees could lead social science students to demand top quality programs, and universities to make greater efforts to recruit them. Well managed, the new, more competitive environment could see the quality of social science programs increase radically over the coming years.

# IMPACTS ON EQUITY

- While commentators (e.g., <u>Norton 2020</u>) doubt the legislation will succeed in influencing student choices, some stakeholders fear lower socio-economic students might be sensitive to the fee hikes. Over time, higher-fee social science programs could see a decline in student diversity – become 'elite'.
- The shifts to tuition fees also mean students from other areas (e.g., studying towards degrees in Health, Humanities, or STEM) are likely to be discouraged from enrolling in elective courses in the top-paying fields, such as social studies, behavioural science (impacting multidisciplinarity). At the same time, it opens opportunities for social science students to take up coursework in reduced-fee areas.
- Smaller social science faculties (e.g., regional) are more sensitive to student losses. If demand falls, Australia could see social sciences programs restricted to larger universities (e.g., G8).

# FIGURE 16. Students' perspective: old vs new contributions, by field

Students contributions by field, before and after the introduction of the Job-Ready Graduate Package, based on <u>Parliament of Australia 2021</u>



# **DRILL DOWN - HIGHER EDUCATION**

# FIGURE 17. Higher education stakeholders' sentiment in relation to the Job-Ready Graduates Package

From stakeholder consultation (online survey) by the Academy

# How do you feel about the potential impact of the Job-Ready Graduates Package?



We note that applications to study 'society and culture' are remaining strong and even outstripping other areas. [...] This actually shows enormous adaptability and creativity by academics.

Head of School at an Australian school of social science

,,

#### FIGURE 18. University perspective

Combined effect of legislation changes to student and government contributions, based on <u>Parliament of Australia 2021</u>

#### Change in government contributions per student (in thousands)



 Fields of study where the combined changes result in decrease of funding per student.

# Online education: winner takes all?

As we continue to adjust to post-pandemic conditions, expectations for a return to normal are replaced with speculation about what the new normal will be like. A look into the likely futures of university education.

Global trends are increasingly pushing universities to compete in the market of online education. This space, previously occupied by commercial entities (short course providers like Coursera, Udemy, Lynda), is now filling with universities which are adapting their curricula for distance learning, and readying to compete in a global tertiary education market. This trend presents both a threat and an opportunity for Australian universities, which could either lose part of the current domestic and international student market, or use online platforms to grow their education exports even further.

One of the key risks in an increasingly globalised education marketplace is the monopolisation of education provision, and the resulting impacts that could have for world nations in terms of equity, the erosion of human and social capital, and loss of educational capabilities (both human resources and infrastructure). This risk weighs particularly heavily on smaller social sciences disciplines, which, according to stakeholders are already struggling to ensure sustained capability.

This section summarises the key ingredients of this trend, as a foundation for future discussion (**Figure 19**). The steps taken by the university sector over the next years in response to the online shift will be critical not only to the future of each university, but to the overall strength of our disciplines, and the national tertiary education system. ■ **FIGURE 19. Considerations for Australia's future in a global online education market** From stakeholder consultation

#### **ENABLING TRENDS**

- Technological innovations (e.g. broadband, videoconferencing).
- Increasing access to personal computers and internet.
- Online delivery of tertiary education increasingly acceptable.
- Changing student expectations about flexibility in delivery (24/7 access, off-campus).
- Economic globalisation.
- Economies of scale (e.g., single video lecture can now be reproduced and, potentially, sold to millions, globally).

# THE FUTURE OF THE LECTURE

The traditional lecture, delivered in-person by a qualified university staff member, is amongst the candidates for radical change. Think points:

- Quality and transparency. Australian universities have started <u>outsourcing online</u> <u>teaching</u> from third party providers. Online students are not always made aware of the differences in service, or benefit from cost savings reflections in tuition fees.
- Innovation. On the bright side, course and assessment design could take a turn for the better, with the tools made available by online teaching, such as video and interactivity.

### **MICRO-CREDENTIALS**

Three reasons why traditional universities need to seriously consider the micro-credentials market:

- **Government wants them**: they have been earmarked for introduction in the Australian Qualifications Framework. When they do, the education budget will likely begin to be split with micro-credential providers.
- Employers want them: consulted industry stakeholders are either looking for suitable providers or developing their own programs.
- Non-traditional students need them: in a swiftly changing environment, older Australians in or entering the workforce are having to constantly re-skill and up-skill. The future is one of *long-life* learning.

#### THE AUSTRALIAN PREMIUM

Traditionally, factors such as Australia's physical proximity to Asian nations, weather, and its attraction as a tourism or immigration destination were important advantages in favour of education exports. Many of these advantages lose relevance in an online education environment. What could Australia's selling points be in a global online education market?

# GO HYPERLOCAL?

Going hyperlocal is one potential strategy to ensure Australian universities remain relevant and competitive, at least in the domestic market. Examples of hyperlocal initiatives might include the strengthening of ties with domestic industry partners; in-person entrepreneurship and mentoring programs; or campus-based research, study or sports communities.

The **future of the traditional campus** is also at stake. Will these massive pieces of infrastructure face the same struggles as brick-and-mortar shopping centres? Or find a rebirth as hubs for collaborative partnerships? What will the new infrastructure anchors be?

# **EQUITY CONSIDERATIONS**

- Access. By 2020, 10% of Australia's population remained <u>without access to the internet</u>. Those with lower incomes, indigenous, over 65, or with a disability are most often excluded.
- **Public spending.** If a significant portion of domestic students were lost to foreign providers, we would lose millions in unrealised benefits from public spending in education.
- **Public interest**. If a large portion of domestic students opted for an online undergraduate education by a foreign provider, they would no longer be educated by institutions who have their interest, and that of Australia, at heart.

# Research

Social science research expands the boundaries of knowledge and understanding. It fosters more equitable public institutions, informs effective and efficient government programs and policies, improves education programs and helps to orient industry and employment to more socially-beneficial ends. However, the realisation of such positive impacts depends on having an integrated and well-resourced 'knowledge pipeline'.

In the social sciences, this pipeline begins with researchers. It includes universities, think tanks and other agencies that provide the leadership and infrastructure; the publishers and data agencies who review, print, store and disseminate research data and findings; consulting firms (large and small), think tanks (again), communications professionals and researchers who *translate* research findings into accessible and targeted inputs; and the policy-makers, business people, NGOs and active citizens who ultimately act on these findings to elevate the quality of our lives and institutions.

This section examines the health of the Australian social science research system: what we're doing well, where we're lagging, and the challenges that need to be tackled next.

The social sciences don't have the kind of technological breakthroughs that STEM can show, that have transformed our lives. I think we struggle to articulate the contribution that we make. Climate change, COVID, AI and all the new technologies are presenting new challenges, which means we have to re-articulate and demonstrate our value. It's basically an existential state for the social sciences.

Executive Dean, School of Business and Law at an Australian university.

# **RESEARCH SCORECARD**

NESEANON	SCORECARD	+ PERFORMING	- LAGGING	× CRITICAL	✓ PRIORITIES
VALUE	Quality and impact of social science research	• Consistent disciplinary performance on excellence metrics and researcher recognition.	• Commercial partnerships with industry relatively uncommon, and very little commercialisation income from research-derived products and services.	<ul> <li>Falling behind STEM and health and medical disciplines in Excellence in Research for Australia (ERA) assessments.</li> </ul>	<ul> <li>Understand why social science is falling behind in the ERA assessment.</li> <li>Design research quality and impact metrics appropriate for the social sciences and advocate for their implementation.</li> </ul>
CAPABILITY	Research workforce, funding and infrastructure	• Diverse and skilled research workforce.	<ul> <li>Limited tradition of multidisciplinarity and collaboration at scale.</li> <li>Limited preparedness for impact of AI, machine learning and digital technologies on research.</li> </ul>	<ul> <li>Very high reliance on ARC grants for research funding.</li> </ul>	<ul> <li>Systematise training and support for alternative revenue generation.</li> <li>Understand and prepare for the impact of AI and data technologies on social science research, including research training in digital and data literacies.</li> </ul>
EQUITY	Gender equity, cultural diversity and accessibility of information	Gender equity in research workforce     participation.	Continued underrepresentation of Indigenous researchers.	<ul> <li>Most academic research outputs are still published in subscription journals (only accessible to university staff).</li> </ul>	• Introduce incentives to translation across the research pipeline, to increase social science impact on government, industry, the community sector and everyday Australians.

"

# VALUE

Does Australia produce valuable social science research? Value can be examined from two perspectives: *quality*, or the rigour, objectivity, or originality of the research; and *impact*, for example, whether it provides benefit through informing public policy or other means.

**Quality.** Australian social science researchers produce high-quality research. 84% of social science units of evaluation were rated at or above world standard in the most recent Excellence in Research for Australia (ERA) report (2018), and Australian social scientists are over-represented (by population) on highly-cited researcher indices in many fields.

However, the same ERA reports show an increasing performance gap over the past decade between social science and STEM and Health and Medical research in Australian universities. This issue is further explored in <u>What's holding us</u> <u>back</u>. It could reflect a real difference in quality, a result of the peer-review vs citation-based methods used to assess HASS and STEMM disciplines, or it could be a combination of the two. Understanding and addressing this issue is a priority for the social science, as well as the Humanities and Arts disciplines.

**Impact**. Social science research has produced and informed some of the most significant social and economic policies and programs in Australia's history, from our globally innovative incomecontingent higher education loan scheme (HECS/HELP), to water sharing policy, childsupport payments and the energy rating labels that adorn household appliances. Demonstrating this impact in a consistent way is, however, challenging, as social science research generally produces knowledge and processes, rather than tangible products and services.

Further, social science knowledge can often be accessed and applied directly by people in policy or decision-making roles (many of whom are social science professionals or people with social science training) without further interaction with the researchers.

Industry funding or commercial revenue are often used as proxies for impact; the basis being that organisations, governments and consumers will pay for things they find valuable and can use. However, unlike in STEM or health and medical research, there isn't a strong tradition of commercial partnerships between social science and industry, and there is very little commercialisation income from research-derived products and services (most of which aren't patented and are made freely available as public goods).

While Australian governments do invest heavily in social science-based advice, the majority of this activity occurs in the context of private consulting and advisory companies with no direct links to the academic research sector. This relative lack of industry funding and non-grant government funding for social science research presents a significant challenge when it comes to demonstrate impact. It also limits the volume of social science research that could be undertaken, if additional funding and revenue streams were expanded. See **What's holding us back**. We need bigger social science research projects that tackle big issues. ARC grants of \$400,000 over 3 years allow for the career development of one postdoc and not much else. Where are the big teams working on fundamental societal issues? We need more EU type and scale grants that work on basic social science issues.

Senior academic, Policy and Administration, University of Melbourne.

# CAPABILITY

**Research workforce.** Social scientists comprise 36% of Australia's university research workforce; over 27,800 FTE in 2018. Only a small percentage of these are casual academics (7%), however more than one in five (22%) contribute their time as volunteers (often emeritus) or as unpaid collaborators.

Stakeholders identified two key pressure points for research workforce capability: (1) increasing demands and decreasing security (discussed in the previous section, <u>No guarantees in</u> <u>academia</u>); and (2) overall reductions in workforce, owing partly to the pandemic and partly to ongoing change and restructuring in the higher education sector.

**Funding.** Investment in social science research in Australia amounts to around \$1 billion per year, across multiple funding sources and beneficiaries. Universities' social science research income totalled \$878m in 2016 (ARC 2018), obtained through competitive grants (40%), other public sector funding (42%), industry (16%) and Cooperative Research Centres (2%). Meanwhile, expenditure in social science R&D was roughly \$3.3m per annum (ABS 2018-20) (this includes expenditure by higher education institutions, but also government, businesses and private nonprofits).

Although this is a substantial investment that supports high-quality research, social science disciplines lag the STEM and health and medical fields in the allocation of competitive research funding. For example, social science research secured approximately 19% of total ARC grant funding in 2021 despite comprising over 40% of the eligible applicant pool (excluding medical research). Furthermore, ABS data shows that between social science research secured just over 10% of total annual R&D expenditure in Australia.

While it is true that most social science research doesn't need the specialised and costly instrumentation and materials often required for STEM and health and medical research, the majority of non-capital research funding (research operations, rather than infrastructure) are allocated to staffing across all disciplines. The relative lack of funding for social science research therefore represents a disproportionate constraint on research capability; limiting valuable work that could be done. Further, given that much of the available research funding is allocated through competitive processes, existing gaps between disciplines typically increase over time as less successful disciplines and fields progressively lose capacity to compete. Combined with the other financial pressures facing universities, stakeholders reported that many schools are already struggling to maintain sustainable levels of research activity, and in some cases are choosing to shift academics into full-time teaching instead.

**Research infrastructure.** A number of current initiatives have the potential to enhance social science research infrastructure. These include the pending *2021 National Research Infrastructure Roadmap*, and the recently launched <u>HASS and Indigenous Research Data Commons project</u>. The latter explicitly aims to fast-track the evolution of social and cultural data systems in Australia, supported by an investment of \$8.9 million over four years.

It's time we reach out beyond traditional academic outputs and become part of public discussion. The institutional rewards need to come not just for publications and grants, it needs to be also for those who are getting social scientific ideas into public discourse. Connecting our research to policy and being industry relevant.

Mid-Career academic at a regional university.

# EQUITY

Equity in research covers multiple domains: gender representation and representation of other diversity groups, as well as equity in access to research findings.

**Gender equity.** There are as many men as women employed as social science researchers in Australian universities (12,858 women and 12,890 men in the <u>2018 ERA report</u>), although there is substantial variation across disciplines (**Figure 21**).

As in all research fields, however, historic and continuing barriers to participation and advancement for women mean that men outnumber women at senior academic levels (**Figure 22**, overleaf). As universities and research funding agencies get better at removing systematic gender biases in recruitment, award and promotion processes, it is likely that this seniority gap will reduce further.

**Cultural and other demographic diversity.** Unfortunately, there is no systematic data on cultural and linguistic diversity (CALD), disability or GLBTI representation in research disciplines. Noting that such data is hard to collect, stakeholders reported that the social sciences are predominantly white and Western in their composition and in their approach. As noted in the <u>First Nations</u> snapshot, Indigenous Australians are underrepresented in the social sciences; comprising less than 1% of the research workforce.

**Equity of access to research outputs.** Most academic research outputs are still published in subscription journals that are effectively exclusively accessible to university staff and students, and to some research institute

employees. An accelerating shift towards open access publication is helping to overcome this issue (albeit not without other costs and challenges for researchers), with social science researchers in Australia rapidly adopting open access practices (**Figure 23**).

# PRIORITIES FOR ACTION

- Understand why social science is falling behind in the ERA assessment.
- Design research quality and impact metrics that are appropriate for the social sciences and advocate for their implementation across the ecosystem.
- Systematise training and support for alternative revenue generation.
- Understand and prepare for the impact of Al and data technologies on social science research, including through research training programs to boost the digital and data literacy of social science researchers.
- Introduce incentives to research translation across the research pipeline, to increase the volume of, and speed at which social science research reaches decision makers, from government, to industry, to the community sector, to the media, to the everyday Australian.

Overall, the social science research sector needs to work cooperatively to define sustainable levels of research capacity in the various social science disciplines, exploring and defining avenues to future-proof local and national capability.

The social science research ecosystem is due for a transformation, to more equitably hire, train, reward, fund, publish and translate social science.

Our research is interesting, fascinating and important. Each year teaching first-year sociology students, I'm reminded that what we do is important. It changes lives. We need to keep believing in our project and communicate to a wider audience our importance and relevance.

Mid-career academic, Sociology, University of Tasmania.

#### FIGURE 20. Competitive research grants, social science, 2021 Based on ARC 2021 ^



Funding for social science projects (Discovery and Linkage): \$126m, 19%

■ Funding granted in other fields of research: \$547m, 81%

^ Social science totals were obtained from adding up the following 2-digit Fields of Research: Built Environment and Design; Education, Economics; Commerce, Management, Tourism and Services; Studies in Human Society; Psychology and Cognitive Sciences; Law and Legal Studies; Language, Communication and Culture; History and Archaeology; and Philosophy and Religious Studies. Linkage scheme Applied / industry \$20m

Discovery scheme

**\$106m** 

Primary research

# FIGURE 21. Female researcher participation in social science, 2018

Based on Australian Research Council (2018)





### FIGURE 22. Gender representation by academic level<sup>†</sup>, social science researchers (FTE)

Based on ERA (2018)



<sup>†</sup> Level A: Associate Lecturer; Level B: Lecturer; Level C: Senior Lecturer; Level D: Reader or Associate Professor: Level E: Professor.

#### FIGURE 23. Social science articles in Open Access journals (2020) Based on Scopus 2021\*

(6,600 articles; 34%)

(13,100 articles; 66%)



\*Includes: subject areas (social science, business, economics and

psychology); document type (article); country of affiliation (Australia)

Social science research articles, Australia Open access and paywall

Australia, 2020

Increase since 2010

Are we actually working on issues where our research can meaningfully inform policy? Or are we working on fringe issues of interest to only a few? I think that it is becoming harder to publish on big, meat and potatoes issues, and there is a journal demand to study new but low-impact topics. So the academic incentives don't align with what the public would want from research.

"

Early-career academic, Economics, Monash University.

Not enough private-public collaboration and movement of social scientists across academia, government and industry. Academia needs to be more 'real world'. Make it easier for people with long careers in non-academic settings to get the social sciences in academia. At present, [Universities] are more likely to hire someone who did one degree after another, without ever working in practical and applied roles. These folk can do the mechanics of research but often lack understanding of " real world contexts.

Early-career researcher, Public health, University of Melbourne.

"

# What's holding us back?

It's not just a lack of funding keeping social science research back. Stakeholders spoke about the multiple factors limiting growth in social science research.

While Australia's capacity to undertake high-quality social science research is not in question, stakeholders felt strongly that structural barriers are preventing it from achieving its true potential. systems) drive perceptions, funding allocations, institutional strategy and – to an extent – student decisions. Resolving this question and developing solutions is a critical issue for the Social Sciences as well as the Humanities and Arts disciplines.

# METRICS

Since 2010, the triennial Excellence in Research Australia (ERA) process has assessed and benchmarked the quality of Australian research across universities and disciplines. This has been useful for identifying areas of comparative strength and weakness. However, during the consultations some stakeholders noted that the dual-assessment methodologies, citation-based for STEM and peerreviewed primarily for the HASS disciplines, were potentially problematic, despite an <u>expert Review</u> of ERA finding that the dual methodologies were appropriate and necessary given disciplinary differences in publication practices.

As the review notes, since 2010 the number of STEM disciplines in citation-based fields rated 5 (i.e., 'above world standard') has increased at a faster rate than peer-review HASS disciplines.

While the overall quality of Australian STEM research could be improving rapidly relative to the rest of the world, and to humanities and social science research in Australia, it is equally possible that some of the difference could be due to changes in the global research environment and the method of assessment. Most notably, the rapid global increase in the number publications, many uncited, could see Australian research pulling away from a changing world standard. Stakeholders and the ERA Review also considered that citation-based assessments are potentially more amenable to optimisation strategies than assessments by peer-review.

Whatever the case, ERA ratings (and other rating

# FUNDING

The Australian Government invested a record \$12 billion dollars in R&D in 2020-21. 29% of this was allocated directly to universities in the form of research block grants and research training support; 24% to the CSIRO and other government research agencies; 23% to private industry through the R&D tax incentive; 13% to health and medical research through the National Health and Medical Research Council (NHMRC) and Medical Research Future Fund; 8% to the Australian Research Council (ARC); and 4% to research infrastructure and collaboration (DISER 2021).

Within this mix, the attention of university social science researchers is focused primarily on the ARC. These grant programs are highly competitive (average success rates lie below 20%; ARC, 2021; although equivalent for social science and STEM applicants), and time-intensive in both the application and review stages.

While competitive peer-review processes are an equitable and rigorous means of allocating limited funds, it does mean that thousands of highly trained individuals—many employed specifically as researchers—spend a significant proportion of their time competing for the funding necessary to do their work at full capacity. Without the alternative funding streams available to other disciplines, particularly the health and medical sciences, this limited funding has a disproportionate impact on the productivity of research in the social sciences.

# INFRASTRUCTURE CINDERELLA

Social science researchers acknowledge a number of shortcomings when it comes to research infrastructure:

- A *soft* spot for soft infrastructure. Social science researchers struggle to imagine themselves utilising big, expensive pieces of physical infrastructure (e.g., satellites, computer labs, photogrammetry).
- Digital and data skills. Social science research is due for a redesign of research training programs, to take even more advantage of big data and other opportunities from new digital technologies.

It's no surprise then, that social science research is often overlooked in research infrastructure plans or fails to be included in lists of national critical infrastructure.

# SMALL-TEAM CULTURE

Social science research in many disciplines is primarily undertaken by individuals or small teams working in relative isolation. While this is not inherently problematic, it does present challenges, particularly in comparison to research fields in the science and technology domains that are moving towards larger scale projects.

Some of the potential consequences of smallteam culture in the social sciences (**Figure 24**) include:

- **Careers**. Researchers working individually or in small teams are likely to produce a smaller number of research outputs.
- Faculties. Smaller teams produce fewer research grant applications; senior researchers working alone may have less time available to train PhD students and mentor post-doctoral researchers.
- Universities. Since social science schools tend to report less research income, university administrations often prioritise STEM and Health disciplines with discretionary funding and with support for commercialisation activities.
- Whole sector. Ultimately, the small-team culture contributes to lost opportunities to pursue more social science research, with costs for the sector, and Australia. ■





Ν	EX7	[ <b>S</b> ]	ΓEF	<b>S</b>

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# Where to from here?

This report has identified a number of challenges and opportunities for the social sciences over the coming years. The extent to which sector stakeholders can work collaboratively and collectively to overcome these challenges and embrace the opportunities will determine in large part the future of the social sciences in Australia.

# AN OPEN CHANGE AGENDA

The Academy proposes to continue the process of stakeholder consultations that fed into this report, commencing in 2022. It will invite stakeholders to think carefully and engage critically with the findings of this report and the priorities identified, and to consider what concrete actions could be undertaken organisationally, within disciplines or collectively to advance the social sciences in Australia.

# **BIENNIAL UPDATES**

The State of the Social Sciences report is a benchmarking exercise that the Academy hopes will be valuable to individuals and organisations across the social sciences. The Academy plans to update this report periodically over the coming years with a view to tracking process, identifying what's changed, and highlighting issues where further attention is required.

# ENGAGE AND COLLABORATE

We invite our readers and stakeholders to join the Academy in this process and to contribute according to their means and interests to ensure the Australian social sciences are robust, recognised, resilient and inclusive. More importantly: to ensure that social sciences can continue delivering valuable knowledge, insights and solutions to practitioners and professionals, students and alumni, to government and business decision makers and, ultimately, to society at large.

Sign up to stay in the loop and participate



# "

Nothing works without an understanding of how people think and behave –at individual, group, organisational, national, or international levels. That needs to be said loudly and consistently, and social scientists will have to go on the front foot to make it happen.

Senior academic (retired), Psychology, UNSW Sydney.

"

# Priorities for the social sciences

This report presents five overarching priorities identified by stakeholders as critical for the social sciences to operate and deliver at their full potential. It also identifies 26 area-specific priorities relating to different parts of the social science ecosystem. Addressing these priorities through strategic and coordinated activity will be critical to help shape Australia's social science sector going forward.

# SECTOR PRIORITIES

# **1. GENUINE RECONCILIATION**

Past and ongoing harms from social science to be acknowledged and righted, and underrepresentation of Indigenous people throughout the social science ecosystem to be addressed.

# 2. A MORE CONNECTED SECTOR

A more integrated social science ecosystem, with strategic alliances between schools, VET, universities, research organisations, business and governments will provide new opportunities for impact and a stronger Australian social science sector.

# 3. DEMONSTRATING VALUE

The disparate nature of the social sciences makes it challenging to demonstrate their collective value. The sector has an important task to craft clear narratives that elevate awareness and understanding about our value to the Australian public, from high-school students and their parents, to industry and government leaders.

# 4. ACCELERATING IMPACT

Concerted efforts to connect with other disciplines and key decision makers on major social challenges is critical. From climate change, to emerging threats to democratic systems, to pandemics, social science perspectives are vital to Australia's future.

# **5. SUSTAINING UNIVERSITIES**

The COVID-related loss of international students coupled with the Job-Ready Graduates Act left numerous casualties in the university sector, with some social science areas hit particularly hard. As institutions recover and adapt, the future scope, structure and funding of university social science education and research are being decided today.

# SPECIFIC PRIORITIES

# **FIRST NATIONS**

- More and better-quality Indigenous content in schools, VET and university; and staff appropriately trained to teach it.
- 2. Nation-wide data infrastructure and protocols that give Indigenous Australians control over Indigenous data collection, access and use.
- New and enhanced infrastructure and programs to preserve First Nations peoples' knowledges.
- 4. Programs and support for First Nations Australians to pursue social science study and careers.
- Increased recognition of Indigenous social scientists through proactive nomination for relevant awards and election to the Academy.
- 6. Practical improvements to the wellbeing and careers of Indigenous Australians in the education and research sectors.

# SCHOOLS

- Revamped messages to students and parents about employment prospects and relevance of careers in the social sciences.
- 8. Ensure high-quality teaching resources are available in all schools across Australia.
- 9. Build incentives for schools to support the development of teachers' subject expertise.
- 10. Improve the quality and accessibility of data about the Australian school system, to support a better understanding of the sector.
- 11. Develop a school ecosystem that prepares *all* young Australians to live prosperous lives, as free, democratic citizens.

# **VOCATIONAL EDUCATION**

- 12. Identify opportunities to better integrate social science knowledge and skills in VET courses, leveraging the current Skills Reform.
- Advocate for greater participation of VET trainers and education specialists in the design of VET training packages.
- 14. Ensure that VET qualification restructures do not create unintended impacts on student access to tertiary education.

# **HIGHER EDUCATION**

- 15. Make the case for the relevance of social science degrees in the 21st century.
- Elevate government and the public understandings of social science skills, for jobs and beyond.
- 17. Better support and incentivise teaching academics.
- Proactively discuss the role of universities in the changing qualifications landscape (anticipated introduction of microcredentials).
- 19. Set benchmarks for online teaching quality.
- 20. Improve quality of available equity student and staff data.
- 21. Monitor, understand and address equityrelated impacts of recent legislation changes on students and staff.

# RESEARCH

- 22. Understand why social science is falling behind in the ERA assessment.
- 23. Design research quality and impact metrics appropriate for the social sciences and advocate for their implementation.
- 24. Systematise training and support for alternative revenue generation.
- 25. Understand and prepare for the impact of Al and data technologies on social science research, including research training in digital and data literacies.
- 26. Introduce incentives to translation across the research pipeline, to increase social science impact on government, industry, the community sector and everyday Australians.

# About this report

# CONTEXT

This report was developed by the Academy of the Social Sciences in Australia in consultation with social science sector stakeholders during 2020 and 2021. It is intended to provide an overview of the social sciences in Australia to understand the nature and composition of the sector, and an understanding of the strengths, challenges and opportunities for the coming years.

The report is based on a combination of publicly available data and input from stakeholders who participated in consultations through roundtables, interviews, submissions and a survey during 2021.

More importantly, this report outlines a number of priorities that stakeholders agreed need to be progressed in the near future to unlock truly transformative impact in the social sciences sector.

Throughout the project, our priority was to understand and reflect the diversity and breadth of the social sciences in Australia, as opposed to a narrow focus on higher education. Consistently, we adopted a reflexive, wide-ranging, and inclusive process for consultation, data collection, analysis and review.

The Academy will continue to refer to and update this report, including through formal consultation with stakeholders on actions required to address a range of priorities for the social sciences in Australia.

# CONSULTATION

Consultation on the report commenced in January 2021 with publication of a <u>Discussion Paper</u>. This paper presented a data-only, desktop view about the state of the sector, and encouraged stakeholders to offer more on-the-ground perspectives on identified issues.

Consultation comprised: (1) An online survey, open to the public; (2) Email or postal submissions; and (3) A series of round tables and one-on-one interviews.

The online survey was designed as a mix of open and closed questions, and responses were invited from over 20,000 social science researchers (via email and social media, among others). A total of 390 survey responses were received between January and March 2021.

After the survey closed, the team conducted 10 online roundtables with social science leaders from across Australia, to dig deeper into the issues raised in the survey. We have over 100 stakeholders from universities, schools, think tanks, VET, subject associations and industry to thank for hours of lively, robust discussion. Five additional one-on-one interviews were conducted to fill in specific information gaps.

In addition to the above, 12 organisations and individuals made formal submissions.

# GOVERNANCE

**Steering group**. The project steering group comprised:

- Professor Mark Western FASSA (Chair).
- Professor Deborah Cobb-Clark FASSA.
- Professor Fred D'Agostino FAHA.
- Professor Amanda Davies.
- Dr Elise Klein OAM.
- Professor Deborah Lupton FASSA.
- Professor Peter Shergold AC FASSA.

**Peer review**. Drafts were reviewed by more than 30 expert stakeholders who provided valuable insights and feedback on different drafts.

**Project team**. The project was managed by a team comprising Academy staff and PhD interns:

- Isabel Ceron (Intern/Policy Analyst).
- Andrea Verdich (Policy Manager).
- Mary O'Halloran (Intern).
- Dr Chris Hatherly (CEO).

**Ethics approval**. The consultation and data collection for this report were deemed exempt from ethics review by the University of Queensland Human Research Ethics office.

**Project Funding.** This project was established and resourced by the Academy primarily using its own resources and reserves. We are grateful for support from the Australian Government by way of a 50% industry rebate on stipends provided to two project interns recruited through the APR.Intern program during 2020 and early 2021.

# ASPIRATIONS AND LIMITATIONS

The data collected for this report provide quantitative and qualitative insights about the people working in the social sciences; their wishes, challenges and opinions on a wide range of key contemporary issues; and their aspirations for transformative change in the immediate and near future.

As noted, however, the social sciences operate in a large and diverse ecosystem involving hundreds of thousands of people. As such, the data and views presented here are inevitably limited.

With respect to the First Nations snapshot, we are thankful for the contributions made to this report by the Indigenous academics who responded our online survey, as well as by the dozen Indigenous leaders who engaged in direct conversation with the Academy about these issues, and provided feedback on various drafts. We acknowledge that these efforts are insufficient. The assessment offered here is just the beginning of a longer effort and conversation, which the Academy will continue to encourage, and which we know can only truly progress through Indigenous leadership and engagement.

With respect to Australia's rich and historied school and VET sectors, it was not possible to undertake a full survey of the social sciences in either case. While the findings presented here are representative of the available data and the views of those consulted, further research and engagement will be required for a deeper understanding and stronger relationships with social science stakeholders in these critical sectors.

Finally, the Academy intends for this report to be a live source for collaborative, strategic action for the social science ecosystem. Get in contact with the Academy's Policy team anytime to share your views about how we can better meet our aspirations (contact details via <u>www.socialsciences.org.au</u>)

# ACKNOWLEDGEMENTS

The Academy is grateful to everyone who took the time to complete a survey, participate in a roundtable or interview or review drafts of this report. It thanks and acknowledges members of the steering group; particularly Mark Western as Chair and Fred D'Agostino and Amanda Davies as academic supervisors of the project interns, Finally, the Academy acknowledges the dedication, creativity and leadership of the project team: in particular Isabel Ceron, Mary O'Halloran and Andrea Verdich.

# Data sources

Most of the information in this report was sourced from submissions and inputs to the consultation process, as well as analysis of publicly available datasets (described below). The Academy will continue to update this report as new data becomes available.

# SECTOR OVERVIEW

- Percentage of social science enrolments in VET or Higher Education based on: Australian Bureau of Statistics, ABS (2016) Census of Population and Housing.
- Count of social science graduates in the Australian workforce based on: ABS (2016) Census of Population and Housing.
- Count of social science researchers at Australian universities, from Australian Research Council, ARC (2019) *State of Australian University Research 2018–19: Volume 1 ERA National Report,* Australian Research Council, Canberra (Staffing Profile, dataset),

https://dataportal.arc.gov.au/ERA/NationalReport /2018/pages/section4/staffing-profile/.

# **FIRST NATIONS**

- Count of Indigenous student enrolments in VET from: National Centre for Vocational Education Research, NCVER (2020) *Total VET students and courses 2020: program enrolments*, Research and Statistics, Data Builder, <u>https://www.ncver.edu.au/research-and-</u> statistics/data/databuilder,
- Count of Indigenous students and academic staff at Australian universities from: Department of Education, Skills and Employment, DESE (2019) Higher Education Statistics, Student data and Staff data, <u>https://www.dese.gov.au/ highereducation-statistics</u>.
- Count of Indigenous Discovery Grants and total funding from: ARC (2021) National Competitive Grants Program Dataset (spreadsheet), <u>https://www.arc.gov.au/ grants-andfunding/apply-funding/grants-dataset</u>,

# SCHOOLS

 Total public spending on primary and secondary education from: Organisation for Economic Cooperation and Development, OECD (2021), Public spending on education (indicator: Primary to post-secondary non-tertiary, as a percentage of GDP). DOI: 10.1787/f99b45d0-en, <u>https://data.oecd.org/eduresource/public-</u> spending-on-education.htm#indicator-chart.

# VOCATIONAL EDUCATION AND TRAINING

- Student enrolments in social science and other VET programs from: NCVER (2020) *Total VET students and courses 2020: program enrolments*, Research and Statistics, Data Builder, <u>https://www.ncver.edu.au/research-andstatistics/data/databuilder</u>.
- VET student satisfaction with quality of the training from: NCVER (2020) VET student outcomes 2020, Research and Statistics, Data Builder, <u>https://www.ncver.edu.au/research-andstatistics/data/databuilder</u>.
- Percentage of employers who used the VET training system from: NCVER (2021) *Employers'* use and views of the VET system 2021: data tables, <u>https://www.ncver.edu.au/research-and-</u> statistics/data/all-data/employers-use-and-viewsof-the-vet-system-2021-data-tables.

# HIGHER EDUCATION

- Number of social science higher education programs available across Australia estimated from data available through <u>the CRICOS course</u> <u>database</u> (fields: Education, Management and Commerce, and Society and Culture).
- Enrolments in higher education social science

programs from: DESE (2010-19) *Higher Education Statistics, Student data* (multiple datasets). <u>https://www.dese.gov.au/higher-</u> <u>education-statistics/student-data</u>.

- Estimated loss of international enrolments is based on the percentage of international enrolments in social science higher education programs in: DESE (2019) *Higher Education Statistics, Student data.*
- Analysis of median weekly income by field of study and highest level of education based on: ABS (2016) *Census of Population and Housing* (using Table Builder).
- Analysis of changes to student and government contributions introduced by the Job-Ready Graduates Package based on: Parliament of Australia (2021) *Higher Education Support Amendment (Job-ready Graduates and Supporting Regional and Remote Students) Bill* 2020, Bills Digest No. 12, 2020–21. <u>https://www.aph.gov.au/Parliamentary\_Business/</u> <u>Bills\_Legislation/bd/bd2021a/21bd012</u>.

# RESEARCH

- Percentage of social science units of assessment rated at or above world standard based on: ARC (2018) *ERA Outcomes*, <u>https://dataportal.arc.gov.au/ERA/Web/Outcomes</u>.
- Number of social science researchers and appointment types from: ARC (2019) State of Australian University Research 2018–19: Volume 1 ERA National Report, Australian Research Council, Canberra (Staffing Profile, dataset), https://dataportal.arc.gov.au/ERA/NationalReport /2018/pages/section4/staffing-profile/.
- Total ARC grant funding awarded in social science fields of research and other fields, from:

ARC (2021) National Competitive Grants Program Dataset (spreadsheet), <u>https://www.arc.gov.au/grants-and-funding/apply-funding/grants-dataset</u>.

- Analyses of female researcher participation in the social sciences, by discipline and academic level from: ARC (2018) *Excellence in Research For Australia, ERA, Gender and the Research Workforce*, <u>https://dataportal.arc.gov.au/</u> <u>ERA/GenderWorkforceReport/2018/</u>.
- Count of social science research articles published in Open Research and other academic journals from a Scopus database search performed in August 2021. Results filtered by subject area (social science, business, economics and psychology), document type (article), and country of affiliation (Australia).
- Research income reported by universities from: ARC (2018) State of Australian University Research 2018–19: Volume 1 ERA National Report (Section 4, multiple datasets). <u>https://dataportal.arc.gov.au/ERA/NationalReport</u> /2018/.
- Expenditure in Research and Experimental Development across government, higher education, businesses and private non-profit from: ABS (2018-20) *Technology and innovation,* various datasets, <u>https://www.abs.gov.au/statistics/industry/techn</u> <u>ology-and-innovation</u>.
- Department of Industry, Science, Energy & Resources, DISER (2021) 2020-21 SRI Budget Tables. https://www.industry.gov.au/data-andpublications/science-research-and-innovation-sribudget-tables.

