## Pandemic's negative impact on Australian scientific research future could last decades

John Mackay 19 June 2020

A report on the effect of the COVID-19 pandemic on Australian research has forecast a severe impact that could be felt for years and possibly decades. The report was prepared by Australia's Chief Scientist Dr Alan Finkel with number of leading scientific organisations and experts from Australia and New Zealand, known as the Rapid Research Forum.

The report was a product of an Australian government request that posed the question: "What impact is the pandemic having and likely to have on Australia's research workforce and its capability to support our recovery efforts?"

The report concludes that the biggest economic hit will be to universities due to the loss of income from foreign students and reduced funding by the business sector. However, medical research institutes, publicly-funded research agencies and the industrial sector also will be impacted, with expected sharp declines in business research spending and philanthropy.

The effect is expected to be greater than that of the 2008 global financial crisis. Research in the university sector will decrease by at least \$3 billion in 2020 due to the pandemic but the loss could be as much as \$4.6 billion.

The report says universities, the largest sector for research output, will reduce casual teaching positions and increase teaching loads on permanent staff, further limiting research capacity.

Universities have accounted for a growing amount of Australia's research, rising from 24 percent of total research and development ten years ago, to 34 percent in 2017–18.

According to the Australian Bureau of Statistics, the research workforce currently stands at over 164,000 full-time jobs, an increase from 91,000 since 2009. Of the 80,000 who work at universities, 57 percent is made up

of domestic and international postgraduate students, with 30 percent being full-time academic staff.

More than 9,000 international research students are not expected to resume their research work in 2020. In addition, up to 21,000 full-time university positions are projected to be axed over the next six months, with possibly 7,000 being research-related academic staff.

The report outlines a significant setback for the development of new technologies in all areas of scientific research, and a new era of job insecurity for those who work in research. The downturn is predicted to primarily impact early and mid-career researchers and recent graduates, who are a highly casualised workforce, with many employed on fixed-term funding from research grants.

Currently much research has been put on hold and, where resources and skills are available, research into COVID-19 has commenced. However physical distancing and travel restrictions have hindered access to laboratories and research facilities, including for clinical trials and population health studies. One area impacted is investigating the health effects of the summer bushfire crisis.

A seven-member Innovative Research Universities consortium, which includes Adelaide's Flinders University and Western Sydney University, published a statement on the risks of the pandemic for university research, calling for government assistance.

Conor King, the consortium's executive director, said: "Research is ... the driver of our economy and the solution to every medical and scientific question ever asked. If we allow research funding to fall, not only will jobs be put at risk but also the knowledge those jobs generate. As the coronavirus crisis has shown, you never know when that knowledge may come in handy."

Most research funding in Australia comes through

government grants, which totalled \$9.6 billion in 2019–2020. The universities receive almost 38 percent. Approximately 22 percent goes to industry with another 22 percent to government research activity, which includes the Commonwealth Scientific Research Organisation (CSIRO), the Australian Nuclear Science and Technology Organisation (ANSTO) and defence. The smallest portion, of nearly 19 percent, is paid to medical research institutes, agriculture and energy.

Spending on research from all sources, including government and industry, has declined in recent years. Research investment increased from \$6.667 billion in 2007–08 to \$10.072 billion in 2011–12 and was then cut to \$9.396 billion by 2018–19.

As the economic crisis deepens, as the result of the COVID-19 pandemic, governments will view this funding as an area for potential funding cuts.

In 2011, following the global financial crisis, the then Labor government proposed cuts to the National Health and Medical Research council funding scheme of up to \$400 million over three years. This was during the peak of the "mining boom" when China's strategy to offset the crash through infrastructure spending required Australian resources.

In 2016, the current Liberal-National government planned to sack up to 350 climate scientists from the CSIRO. This decision, condemned by scientists internationally, was a major blow to environmental research at a time when a deeper understanding of the effects of climate change is essential.

New Zealand's Labor-Greens-New Zealand First government has already begun cutting funding, even for health research, during the pandemic. The recent 2020 budget reduced health research funding from \$131.2 million in 2019 to \$117.5 million. Such a decision, in the face of a global health disaster, to cut the resources to address a pressing human need is a testament to the destructive character of the capitalist system.

The drive for corporate profit conflicts with the need to advance human knowledge. Instead of mobilising all of society's resources to address significant threats to human existence, scientific inquiry is blocked by the cost-cutting priorities of big business.

The only alternative is a scientifically and globally planned socialist economy, where investment in scientific discovery is regarded as critical for the advancement of humanity.



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