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Australian Academy of Science submission on the Review of the Australian Research Council Act (2001)

The Australian Academy of Science welcomes the opportunity to comment on the Review of the Australian Research Council (ARC) Act (2001).

Australian research policy overall

The lack of coherence in Australian support for research is striking, debilitating, and an indictment of the approaches that fundamentally imply knowledge is only important if it can be commercialised – or relate to some ill-defined national interest test that depends on whether it is consistent with a Minister’s view.

The present state of Australian policy for research is the consequence of vague strategic directions from the government, piecemeal interference from time to time over two decades, and ad hoc interventions that have demoralised researchers, minimised efficiency and disadvantaged the nation.

Other nations strive to bring coherence to their research policies: reviews are conducted, decisions are made, and action is taken. Australia fiddles, and risks being left behind: a nation where the whole is not greater than the sum of the parts.

While this review of the *Australian Research Council Act* does not have the scope to consider wider system issues, no review or recommendations to do with the Australian Research Council (ARC) can occur in a vacuum. Changes to the role, responsibilities, focus, settings, governance or legislation of the ARC will invariably influence the operation of the broader research system – without addressing the central problem: 212 research funding programs across 12 Commonwealth Departments.

Accordingly, the Academy recommends:

- That the Australian Government commissions an independent science and research system review without delay.

Review of the Australian Research Council Act

The ARC is an important part of the system, and this review is significant – the first holistic review since 2001. Therefore, the Australian Academy of Science welcomes the opportunity to comment on the Review of the Australian Research Council (ARC) Act (2001). The Academy recommends:

- the establishment of an ARC Council or Board in the Act, with a legislated requirement to have members with diverse research expertise
- the objects of the Act are revised to represent the aspirations and purpose of the ARC, including the responsibility the ARC has on behalf of the Australian people to support fundamental research
- the focus of the Linkage program on collaborations between researchers be restored, and programs on industry engagement and commercialisation be run by a different agency
- that Excellence in Research Australia (ERA) be discontinued and that the ARC modernise its capacity and requirements for data collection and analysis
- that the efficiency and fairness of the application processes be improved
- the role of the ARC as an adviser to the Government on research policy be strengthened in the Act
- that limits be placed on the use of ministerial discretion to disapprove properly assessed research proposals.

Modernising the governance of the ARC

The governance structure of the ARC requires modernisation. Since the mid-2000s, the ARC has had no board; only the recently re-established advisory committee. The committee lacks permanence, a legislative mandate and powers beyond providing advice to the CEO.

The criteria for choosing the membership are non-existent, with the previous government opting not to include any expertise in humanities and social sciences research. It is difficult to understand how some vested interests have maintained positions on the advisory committee for close to a decade when the voices of Australia's disciplines – the learned academies – have not been accorded similar roles.

The Academy recommends that a Council be legislated that sits between the ARC CEO and Minister, like that of the National Health and Medical Research Council (NHMRC). Any such Council or Board should have a role in making recommendations to the Minister on the appointment of the CEO. It would also provide advice to the CEO on funding recommendations, the ARC strategy and overall governance of the organisation.

It is of the utmost importance to ensure that the Council has extensive experience in the research system, particularly fundamental research. The Act should specify that the members have expertise across a range of different fields of research. Positions on the board for an Early- to Mid-Career Researcher and expertise in Indigenous knowledge systems may be legislated. No positions should be reserved for interest groups, though expertise should be sought from beyond the university sector.

R1 Establish an ARC Council or Board, with a legislated requirement to have members with diverse research expertise.

Safeguarding fundamental research

Fundamental research is critical. It is knowledge gained. And the more we collectively know about our world and how it works, the better we can make it – for all of us.

Over the past decade, there has been a shift towards funding research translation more and fundamental research less. Within the ARC, this has seen a drop in success rates in the Discovery Program and a shift in what is driving successful applications.

Smaller and frequently inadequate funding packets are reducing the long-term and larger-scale research projects proposed or selected. Instead, impact measures favour projects that can demonstrate their relevance and importance to translational or industrial outcomes.

Such a focus ignores the obvious: when we run out of knowledge, we run out of new ways of doing things.

Fundamental research should be the primary focus of the ARC. As American corporate leaders remind their politicians from time-to-time: it is government responsibility to fund the 'patient' capital that leads to discovery, while their job is to use it. We should learn from the wise.

It is of the utmost importance to the national research system and our national prosperity that the role of the ARC in supporting fundamental research be restored and safeguarded.

R2 The objects of the Act be rewritten to focus the ARC on supporting fundamental research.

R3 The role of the ARC in supporting fundamental research be reflected in the objects of the Act that are amended to be:

(a) to establish a body for the following purposes:

- (i) to support and advance high-quality discovery research throughout Australia through competitive and collaborative funding mechanisms*
- (ii) to support investigator-driven frontier research across all fields based on scientific excellence and peer review*

- (iii) *to monitor and report on the state of Australian research using data-driven approaches*
- (iv) *the administration of the regimes of financial assistance provided for in Divisions 1 and 2 of Part 7;*
- (v) *the provision of high-quality advice to the Minister about matters related to research and research policy; and*

(b) to provide for the funding of research programs.

Research, translation and industry partnerships

There has been a shift to a focus on commercial outcomes (impact). There is no argument that research findings should not be translated into products or services that support the community. The question is only where and how.

In the meantime, the purpose of ARC programs has been distorted.

The nature of the ARC Linkage program, for example, was introduced primarily to build collaboration and partnerships between researchers. Now it is focussed more on industry collaborations.

The Centres of Excellence program has become less of an opportunity for longer-term fundamental research and closer to a Cooperative Research Centres-like program.

Academy Fellows involved in Centres of Excellence in fields such as quantum science or climate science are of the view that discovery-like proposals in these fields, which have and are leading to significant advantages for Australia, would struggle to be supported in the 2020s.

In other countries, funding programs for fundamental research are separate from those that aim to bolster industry collaboration and research translation. The separation of specific industry-facing programs, such as the Industry Translation Research Hubs and Industry Fellowships, allows for more suitable assessment and governance models for these programs.

R4 The original focus of the Linkage program be restored: building collaboration between researchers.

R5 Programs to encourage industry engagement and commercialisation be delegated to a different (or new) agency.

Excellence in Research Australia

Excellence in Research Australia (ERA) was a driver for research funding, notably the Sustainable Research Excellence scheme. Since 2015 ERA has had no role in allocating research funding. What does it now achieve – at significant cost in time and resources? Too little to warrant its continued imposition.

R6 Abolish the ERA.

Research has come a long way since the Act was introduced, and the ARC has significant scope to modernise its practices. Of particular importance is the need to modernise the way that data is collected on researchers, their research funding and outputs. There are many examples of international research councils using identifiers such as ORCIDs and DOIs to track researchers and their outputs, saving time in the application processes and making the process of reporting on the quality and impact of research more streamlined.

The ARC should take on the role of monitoring and reporting on the state of Australian research using data-driven approaches. However, such an approach should be “data plus” and not preclude an element of peer review. This should become both an object of the Act and a separate legislative requirement.

The ARC should also sign the Declaration on Research Assessment (DORA) for developing and promoting best practice in the assessment of researchers and scholarly research.

R 6 Modernise the ARC’s capability and requirements for data collection and analysis; amend the Act accordingly.

Increasing efficiency and fairness of application processes

There is widespread frustration amongst scientists at the increasing bureaucracy of organisations like the ARC. The introduction of more sophisticated data collection and analysis, including the mandated use of digital identifiers, will assist with streamlining application processes. However, further action will be needed to reduce the substantial workload the grant application process places upon researchers.

R7 Mandate smaller or staged applications, reducing the amount of superfluous information required and introducing expression of interest stages.

The Australian Government should establish Commonwealth Research Rules and Guidelines across all Commonwealth research related grants that would stipulate commonly agreed requirements, such as for Open/FAIR as well as mandating the use of identifiers. The aim would be to bring consistency across the research system on some important matters that shape the research system but are currently promulgated separately by each of the funders.

An effective advisor to government

Section 3(a) of the ARC Act stipulates that one of the roles of the ARC is:

- *the provision of high-quality advice to the Minister about matters related to research.*

In recent years the interpretation of this role has differed and narrowed. It was once understood that the council, through the CEO, should have an active role in advising the government and the Minister on research policy matters. The ARC Annual Report 2021 and ARC Strategy 2022-25 interpret this role as a limited one of merely providing intelligence to government on developments in the research sector.

Modern research councils have an important role in advising governments on research policy. The Academy contends that the ARC should be an important advisor on research policy for the Minister and the government of the day. Research policy is too important to be set without the ARC in the room, and the Act should be amended to strengthen this role.

R8 Amend the Act to strengthen the role of the ARC as an adviser to government on research policy.

Approval of grants

Past rationales for applying the Ministerial discretion – “national interest” and “value for money” – to not approve grant recommendations under Section 51 of the Act disregards the capacity of the ARC to make recommendations that include consideration of these matters, informed by experts during their assessment.

Historically, political interference in research heralds a serious degradation of the intellectual capacity of a nation. When the research sector talks of a “chilling effect” on research, it is a fear driven by lived, historical precedent, not abstract principle.

There is a role for Ministerial discretion in setting goals, objectives and clear guidelines for granting schemes. Ministerial discretion should not be used after assessment of applications by experts who conclude that an application is worthy of funding.

While the Academy would support the removal of the ministerial powers this is not a simple matter. In some respects, the bureaucratic veto is as much to be feared as a political veto. The review should consider options to discourage ministerial discretion in grant approval, which includes:

- establishment of an ARC Board or Council that would approve CEO recommendations to the Minister
- Following the use of the veto, the Minister should be required to issue an explanation to Parliament within 15 sitting days. This explanation should provide clear evidence that the granting criteria have not been met, provide a foundation for the decision, and indicate what alternatives were considered to withdrawing funding. It should be unambiguous in defining why the Minister has sought to

countermand the ARC College of Experts and CEO and make direct reference to the additional material considered but unavailable to the ARC.

R9 Limit Ministerial discretion not to approve a grant recommendation from the ARC.

Other issues

National Competitive Grants funding through both the ARC and NHMRC does not (a) cover the full direct cost of research projects and (b) does not recognise or cover the indirect costs. Competitive research grants meet only a proportion of the total costs associated with undertaking that research. This is because competitive grants are limited in what they can pay for and generally do not contribute to many of the services and facilities which are used by researchers to undertake their work – that is, funding regimes do not adequately cover the indirect (or overhead) costs associated with research.

The review should consider the issue of indirect costs of research as vital to the effectiveness of ARC competitive funding.

This issue and others discussed above in this submission should be addressed as a matter of priority. In addition, some other issues should be considered as part of this review:

- Reinstating the Learned Academies Special Projects program to support discipline and strategic planning
- Mandating open access for all publications resulting from ARC grants immediately
- Mandating publication of metadata or data, strengthening existing policies about the publication and sharing of data resulting from ARC funding
- Approaches to enable a continuous and healthy pipeline of researchers
- Data driven approaches to identifying and addressing biases and barriers faced by underrepresented groups in the STEM sector

To discuss or clarify any aspect of this submission, please contact Mr Chris Anderson, Director Science Policy at Chris.Anderson@science.org.au.

Attachment

Governance of research councils

It is instructive that research councils in overseas jurisdictions have different governance structures from that of the ARC.

- **The European Research Council (ERC)** has a high-level Board with representation from across the European Commission. It also has a scientific council of 22 eminent scientists and scholars responsible for governing the ERC and setting the ERC's scientific strategy. The Scientific Council may set up standing committees, working groups and other structures from amongst its members to address specific tasks such as open science, diversity, innovation and participation.
- **United Kingdom Research and Innovation (UKRI)** has a Board with general oversight of UKRI's activities, responsible for achieving the UKRI's strategic objective and vision. The Board is made up of a Chair, Chief Executive and Chief Finance Officer, as well as between 9 and 12 independent members from higher education, industry and commerce, policy, charities and other non-governmental organisations.
- **National Science Foundation (US)** is an independent federal agency established by Congress. It is governed by a 25-member National Science Board appointed by the President, including the Director. Members are drawn from industry and universities who must be eminent in the fields of basic, medical or social sciences, engineering, agriculture, education, research management and public affairs. It elects its own President and Vice President and establishes policies of the NSF, identifies strategic directions, and the annual budget and approves major new programs and awards.
- **French National Centre for Scientific Research (Centre National de la Recherche Scientifique or CNRS)** has a board made up of a President and CEO who must be a member of the scientific community and appointed by Cabinet on the recommendation of the Minister, a Chief Research Officer, a Chief Resources Officer, a Chief Technology Transfer Officer and the President's Cabinet Secretary.