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Professor Margaret Sheil AO  
Vice-Chancellor and President

Standing Committee on Employment, Education and Training  
House of Representatives  
PO Box 6021  
Australian Parliament House  
Canberra ACT 2600

Dear Committee Members

Thank you for the opportunity to provide input to the Committee's inquiry into Funding Australia's Research. QUT considers this to be an important exercise in securing the country's research and innovation system and our global competitiveness into the future.

I include our detailed feedback as **Attachment 1**. While the terms of reference, as stated, are important, their implicit premise that the funding structures and underpinning processes are primarily responsible for any infelicities or inefficiencies in the system is misplaced in the context of the broader research and innovation system. Structural matters, while important and of course susceptible to improvement, are not the main issue: quantum is the main issue. The most significant challenge confronting the country's ability to innovate and undertake high quality impactful research is the relatively modest investment committed by the federal government on behalf of the nation. It is obvious that our global competitors have acknowledged the importance of research and innovation to their economies and are investing significantly in basic fundamental and applied research supported by well-established mechanisms and pathways to translation. Our failure to address this fundamental shortfall places stress on our ability to attract and retain research capacity, build and maintain world class research infrastructure and engage productively with our industry and business partners.

For Australia to thrive, the other key structural issue that needs to be addressed is agreement on a long-term national vision for research, which demands bipartisan support on planning and investment. To be effective, both vision and investment must be long-term and insulated from the vagaries of election cycles. To assist with the development of the vision and investment models, we would support the establishment of a high-level advisory committee comprising active researchers, innovators and industry to provide recommendations to government for consideration and actions.

We would be pleased to provide further input and advice should this assist the Committee. I wish you well in your deliberations.

Yours sincerely

A handwritten signature in black ink, appearing to be 'M Sheil', written over a light blue horizontal line.

Professor Margaret Sheil AO FTSE FRACI  
Vice-Chancellor and President

## Inquiry into Funding Australia's Research

### Response to terms of reference

- **The diversity, fragmentation and efficiency of research investment across the Australian Government, including the range of programs, guidelines and methods of assessment of grants;**

First, it should be acknowledged that a diversity of approach across programs is a strength of vibrant innovation system. The Australian Research Council (ARC) has a critical role in funding basic or discovery research across all disciplines and a major role in evaluation of research in Australian universities. The National Health and Medical Research Council (NHMRC) has a different mission and objectives including a critical role in providing advice to government on health policy in addition to health and medical research funding. The CRC program has a role in building long term multi-party consortia which has been particularly successful in enabling collaborative, pre-competitive research.

The roles of each, and other funding bodies and research agencies, are complementary and address different needs. For example, the ARC funds collaborative equipment and infrastructure, the NHMRC less so. NHMRC provides higher levels of fellowships in response to the needs of specialised medical research institutes etc. It is important that the balance of investment across disciplines is maintained to ensure we have an adequate pipelines of academics and researchers into the future.

The two main funding agencies that administer competitive research funding i.e. the Australian Research Council (ARC) and the National Health and Medical Research Council (NHMRC) operate competitive peer review systems that are highly efficient when benchmarked against comparable agencies in other western countries. For over decade, the ARC has been operating at less than 2 per cent of their administered program budget, in comparison to European and North American agencies operating between 4 and 8 per cent of their budgets. While there may be an opportunity to harmonise some of the processes and protocols, given the current levels of operating efficiencies of the agencies themselves, there would need to be additional specific investment to develop, for example, a single online application portal, or other common processes.

Over 100 competitive funding opportunities (in addition to ARC and NHMRC schemes) are listed on the Australian Competitive Grants Register compiled by the Federal Government for the HERDC collection. A number of these opportunities are administered by federal government departments in their own right. Each one of these opportunities initiate their own call for applications, have their own funding rules and application processes, assessment steps and different funding agreements and reporting requirements. Examples include:

- Department of Industry, Innovation and Science – Australia India Strategic Research Fund; and
- Department of Foreign Affairs and Trade – Tropical Disease Research Regional Collaborative Initiative

To maximise efficiency and reduce administrations costs, such sponsored research could be administered by one of the funding councils using the well-established pre-and-post award mechanics they already have in place for competitive schemes. The NHMRC provides this service on a small scale for Cancer Council Australia applications considered in parallel with NHMRC Project applications. This would be well received by the research community, as it would rely on processes, practices and peer review protocols that are already well understood. In addition, more funding would be available to support research into national and sector priorities.

Peer review is the cornerstone of our competitive grant process and is recognised as placing a significant time impost on the academic community; in general there is a willingness to undertake this work, but this generosity of effort is challenged when the level of return is low. There is a tipping point in terms of success rates of around 14-15 per cent below which the burden of reviewing is not met with a reasonable return for the effort on behalf of the academic community.

- **The process and administrative role undertaken by research institutions, in particular universities, in developing and managing applications for research funding;**

Academic and professional staff within Australian universities invest a significant amount of time and energy identifying and applying for appropriate research funding opportunities consistent with the university's mission, research capacity and available infrastructure. In the pre-award stage of the process, academic staff make a considerable intellectual investment in developing a high quality application for funding, often in collaboration with domestic and international partners. Professional staff work closely with applicants to provide support and expertise in relation to technical eligibility, budget preparation and other administrative components required for the submission of an application.

Most universities have implemented quality control and support mechanisms (including internal and external peer review) to ensure only the most competitive applications are submitted for consideration. Despite the obvious improvements in quality control and support for applicants, the low success rate across both major funding schemes means that many competitive projects are not supported (in the order of 50-70 per cent).

The process by which teams and individual academics prepare applications for funding does require a considerable investment of academic time; however, it does also provide a source of new ideas, a rigour around framing research questions and new collaborative opportunities. Those benefits are not generally sufficient to justify the commitment of time, resources and effort where the overall levels of competitive funding and the success rate are too low.

Another unintended consequence of the low success rate and the implementation of rigorous internal controls is that universities and funding agencies are less likely to support applications seeking funding for higher risk research, and will tend to support well established research teams over more junior, less experienced teams. The exception to this is the schemes which provide longer term funding (5-7 years) such as Centres and Program grants where the additional timeframes have provided for riskier, high return research.

The lack of support for riskier, more innovative research has been exacerbated by the practice of government recommit contestable funding within the ARC to specific purposes in other parts of the ecosystem or to fund election commitments (such as Antarctic Science and Juvenile Diabetes).

- **The effectiveness and efficiency of operating a dual funding system for university research, namely competitive grants and performance-based block grants to cover systemic costs of research; and**

The dual funding system was designed to support research training (including supervision, student stipends and research costs); to provide universities with funding to cover the costs of competitive research that are not funded by grants (so-called indirect costs); and to initiate small seed projects and support.

Over time, the level and the purpose of the block grants has been both diluted and redirected in an attempt to achieve different policy outcomes. For example, as part of the Watt Review (2015) a number of changes to the Commonwealth's research block grant were recommended and implemented as part of the National Innovation and Science Agenda and deployed in 2017. These changes were designed to creating a funding environment where a greater emphasis is placed on attracting industry funding, thus reducing the burden on government. However, the reformulation resulted in a dilution of the indirect costs for competitive grants and the support for PhD training and supervision.

Overall, the dual funding system is reasonably efficient, with relatively low transaction costs for universities and increased flexibility associated with how funds can be spent, but the quantum of public investment is insufficient to cover the unfunded real costs borne by the higher education sector and the shortfall in budgets supported by funders. The promise of increased funding under the Sustainable Research Excellence scheme, introduced by the Australian Government as part of the 2009-10 budget, proved to be short-lived, with the proposed \$510M in additional investment towards indirect costs soon redirected towards other initiatives such as NCRIS. The reality is that the sector continues to bear the majority of the unfunded real costs associated with research, including the subsidisation of staff salaries, through cross-subsidy from teaching revenues.

Despite investment challenges, the dual funding system provides universities with a degree of certainty and flexibility, as well as the ability to undertake long-term planning and investment to build capacity and infrastructure aligned with high quality training and local, state and national research priorities. While increased collaboration between Australian universities and industry is critical to the sustainability of the sector, investment is still low by comparison with other OECD countries. The dual funding system facilitates a high standard of research and research training support across the sector, especially in those regions where access to industry may be restricted. Maintenance of these standards is important for improving the likelihood of greater university-industry collaboration and co-location and it is for this reason the Federal Government must continue to commit to a long-term vision for Australia's research and innovation system and continue to invest accordingly.

One unintended policy consequence of the implementation of the Watt Review changes are that over time the return on investment for non-Category 1 funding diminishes. As the formula is currently drafted, the Research Block Grant funding treats Category 1 and Category 2-4 equally, with RSP at 50 per cent and RTP 25 per cent. This is the result of the changes implemented in the Watt Review. The policy intent of the changes appeared to be to incentivise growth in industry (non-Category 1) funding. Following the implementation of these changes, Category 2-4 funding has been growing at a faster rate than Category 1. While arguably this may suggest the changes to incentives is working, this trend is in fact largely a consequence of a decline in Category 1 funding. One potentially unforeseen consequence of this is that the return on Category 1 is higher

than Category 2-4 and the gap is only widening. Ensuring there is a balance of incentives that matches the policy intent is an important consideration for the whole ecosystem.

- **Opportunities to maximise the impact of funding by ensuring optimal simplicity and efficiency for researchers and research institutions while prioritising delivery of national priorities and public benefit.**

The single most significant impediment to the effectiveness of the national research enterprise discharging its obligations is not efficiency or process, it is the inadequate quantum of funding. The most obvious issue is what some call ‘indirect costs of research’ but is really the unfunded real costs of conducting research. By deliberately not meeting the actual costs of research, the system demands of every grant winner a cross-subsidy, which comes from the teaching and learning budget – both domestic and international. This produces distortions of the dual function of universities’ routine business that can be reconciled from year to year, but is hardly the optimal model for the operation of the national higher education system. The frank acknowledgement of this arrangement and a bipartisan willingness to address it in concert with the sector would be the single most productive recommendation the Committee could make in the course of its deliberations.

Another very substantial and relate shortfall is in open contestable research funding. A recent example: with Antarctic science now being funded significantly through an ARC SRI (to ensure the continuity of this essential research after the end of the Antarctic CRC’s life), the pool of funding available to all other non-medical research diminishes once again. These kinds of excisions have been going on for some time, and have eroded success rates along with researcher confidence in the mission and efficacy of the system. Restoring funding to a healthy level will help with success rates and go some way to address the cost/benefit issues that apparently concern Committee members and that most submissions have raised. More money won’t solve everything, of course, but the lack of it is definitely a factor hampering the system’s effectiveness, and adequate funding will go far further to rectifying any concern the Committee could point to than could relatively minor tweaks to processes.