

18 September 2015

The Secretariat
Review of Research Policy and Funding Arrangements for Higher Education
Department of Education
Canberra, Australia

Dear Secretariat,

Swinburne welcomes the opportunity to make this submission to the Australian Government's Review of Research Policy and Funding Arrangements for Higher Education.

The review comes at a critical time for Australian research and at a time of continued uncertainty for Australian higher education, given the unresolved issues in higher education funding as a consequence of ongoing disagreements between the Government and the Senate.

Swinburne is one of the world's leading universities, ranking as one of the top 400 in the world as assessed by the Academic Ranking of World Universities, and one of the top 100 in the world in physics. For an institution that only achieved university status in 1992, these are significant achievements.

Our emphasis is on teaching and research in science, technology, business, design and innovation – teaching and research that makes a difference in the lives of individuals and contributes to national economic and social objectives.

Swinburne has three Melbourne campuses at Hawthorn, Wantirna and Croydon. Swinburne offers a range of qualifications and courses delivered online. Swinburne also has a campus in Sarawak, Malaysia, which connects us to one of the most rapidly growing regions of the world.

We advance our research through partnerships with industry, our communities and other universities in Australia and internationally, to achieve results that are relevant to industry and society. Our close ties with industry provide students with opportunities for workplace experiences during their studies. Industry representatives inform, shape and challenge the curriculum.

Research funding should reward innovation and impact – not just scale

Swinburne welcomes the direction which has been signalled by new Prime Minister, the Hon. Malcolm Turnbull MP, in his first comments on becoming Prime Minister, where he said:

"The Australia of the future has to be a nation that is agile, that is innovative, that is creative. We can't be defensive, we can't future-proof ourselves. We have to recognise that the disruption that we see driven by technology, the volatility in change is our friend if we are agile and smart enough to take advantage of it."

Swinburne Research
PO Box 218 Hawthorn
Victoria 3122 Australia

Telephone +61 3 9214 5223
Facsimile +61 3 9214 5267
swinburne.edu.au

Swinburne is proud of its history as a smaller, more agile institution which is focussed on achieving outcomes through the application of new technology.

In the teaching space, this has led to Swinburne's innovative joint venture with Seek Limited to create Swinburne Online, a disruptive provider of online education that has become one of Australia's largest providers of innovative, high-touch, online higher education within three years of its establishment.

In the research space, our researchers have a reputation for high-impact research with strengths in advanced manufacturing technology, astrophysics, biotechnology, cognitive sciences, computing, design, micro and nano-engineering, optics and applied laser technology, and social sustainability and wellbeing.

Based on research activity as assessed by the Australian Research Council through the Excellence in Research Australia (ERA) process, Swinburne is one of the most specialised of Australia's metropolitan universities. For the purposes of ERA, we are research active in 11 of the ARC's 22 broad fields of research.

As a smaller university which does not attempt to operate across all research domains, Swinburne has been successful at achieving internationally important research quality rankings by focusing deeply on select areas and using the relatively small block grant allocation to achieve the strongest possible outcomes.

The current research funding model strongly favours larger Australian universities as the quantum of research funding available through all mechanisms is linked strongly to scale. This is reflected by the dominance of funding drivers such as the number of Higher Education Research Data Collection (HERDC) publications, the number of Higher Degree by Research (HDR) completions and the total amount of HERDC research income.

Currently funding rewards universities with a strong performance in traditional measures of research 'excellence' based on criteria such as the volume of research that is published. However, the scale of an institution's research outputs bears little resemblance to the quality of that research. Smaller scale universities which choose to direct their research effort strategically should not be penalised by funding models that reward scale.

While Swinburne welcomes the emphasis that the Government is increasingly placing on the importance of research impact, there are dangers in doing this simply by increasing the weighting that is placed on industry income through the funding formulae that drive allocations for Research Block Grants. There is a more complex relationship between impact and research engagement as measured by the total amount of industry research income.

To continue to support a strong and diverse system of university research, we need funding incentives that reward the quality and impact that universities achieve, taking into account the size of the operations of each.

Smaller scale universities such as Swinburne that are aiming to achieve high quality assessments in select areas cannot invest in achieving outcomes in the breadth of disciplines that larger universities can. The number of high quality assessments that a university can achieve through the ERA process must be considered with respect to the scale of the university, using measures such as the number of full-time equivalent research-active staff, research student numbers and overall investment value.

Swinburne would also support the inclusion of international research reputation measures, such as Academic Ranking of World Universities outcomes, in research funding allocations. Quality and ranking outcomes achieved through a university's research effort should play a significant role in the funding model, as they provide a measure of the value of the government's investment, measured on international scale.

Research funding should support research that better reflects Australia's industrial profile

As the Issues Paper identifies, countries that invest more in research and development as a proportion of GDP tend to experience higher GDP growth, there will always be constraints on the total investment that governments can make in supporting a high quality research sector. For this reason it is important that there be a focus not just on the quantum of funding that is available but the type of research activity that is supported.

As was identified in the recent AiGroup report *Innovate and Prosper – Ensuring Australia's Future Competitiveness through University-Industry Collaboration*, Australia's industry profile is not reflected in our research, with an imbalance between its industry strengths and its research focus:

Almost one third of all R&D expenditure in higher education institutions has been in medical and health research, while the number of Australian companies who can take medical innovations to market globally is relatively limited. It is clear that medical and health research has been underpinned by significant investment by Government, and has led to many beneficial outcomes for Australia. However, there needs to be similar levels of investment into industries where Australia has competitive advantage and economic strength.

The federal government's ongoing support for medical research, including through the recent creation of the Medical Research Future Fund, is welcome. However, this should not be at the expense of significant investment in research activity that has the potential to create opportunities for industry-university research collaboration outside of the medical sector.

The innovation that will drive Australia's future competitiveness will spring from a range of different research fields, including advanced manufacturing technology, engineering, materials science, computing, optical physics, as well as social sciences that can assist in the translation of advances in technology into human practice.

There are dangers in picking winners as it is impossible to know with any certainty from where the drivers of future innovation and economic competitiveness will emerge. For this reason, we recommend that federal research funding supports a broad range of research fields which have the potential to drive advances in the industries in which Australia has competitive strengths.

Research funding should support a diverse university research sector – not drive 'sameness'

As the results of ERA 2010 and ERA 2012 demonstrated, Australia has a diverse spread of universities undertaking research, each with its own distinct profile and each operating at its own level with respect to quality of the research they undertake. No two institutions are alike. Some universities are clearly operating across multiple fields at or above world-class levels; others are operating at world-class level with strategies in place to improve quality further;

others are operating below world-class levels and either have plans to develop these areas further or, in some cases, to exit.

In Swinburne's case we have pursued a strategy of research concentration and used our limited resources to build research strength in key areas which are concentrated around science, technology and innovation.

Future research funding settings should value the diversity of institutions and their respective roles within the Australian research ecosystem. Collectively, it is important that there is scale in Australian university research but within this there is a role for smaller universities like Swinburne who are able to concentrate their resources strategically to tackle key research areas aligned to national priorities.

For example, Swinburne is playing an important role in working with SMEs, NGOs and community organisations to help them transform their businesses and grow through research-driven innovation. These type of research engagement typically does not attract significant research funds but it does help transform businesses and the SME sector and through that spur social innovation and economic growth. Funding models should support universities to make strategic choices to invest in this type of research-driven innovation to create impact for customers each university serves.

We thank you for the opportunity to make this submission and we look forward to engaging further with the Review through the forums that are scheduled later in 2015.

Yours sincerely,

A handwritten signature in black ink, appearing to read 'Aleksandar Subic', written in a cursive style.

Professor Aleksandar Subic
Deputy Vice-Chancellor (Research & Development)