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Ms Maria Vamvakinou MP
Committee Chair
Standing Committee on Industry, Science and Innovation
PO Box 6021
House of Representatives
Parliament House
CANBERRA ACT 2600
AUSTRALIA

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Dear Ms Vamvakinou

I refer to the inquiry being conducted by the House of Representatives Industry, Science and Innovation Committee into the contribution that Australian universities make to Australian research training, and the challenges universities face in recruiting, training and retaining quality research staff.

In response to the Committee's invitation to make written submissions to the inquiry, please find attached a submission from The Australian National University (ANU) that addresses key issues concerning the number of research graduates, the quality and breadth of research training, and funding to support increased numbers and quality.

As Australia's most research-intensive university, the ANU thanks the Committee for the opportunity to contribute to the inquiry and looks forward to the Committee's findings on this matter of major national importance.

Yours sincerely



Ian Chubb AC
Vice-Chancellor



Submission from The Australian National University (ANU) to the Inquiry into Research Training and Research Workforce Issues in Australian Universities

(i) Introduction

ANU commends the Standing Committee on Industry, Science and Innovation on this important inquiry, a recognition that research training and research workforce issues need to be urgently addressed.

Research-trained people with the education, skills and knowledge acquired through that training can contribute significantly to Australia's human capital development - the catalyst for innovation and growth.¹

We have too few research-trained people in our workforce – revealed by comparison with other countries and advanced economies. And we are in an unvirtuous cycle: too few research-trained people, an ageing workforce charged with training them, and too few of the trainers with research training in the first place. The cycle needs to be broken in Australia's interests.

To start. We need to increase the qualifications of the Australian academic workforce – it is that workforce which is charged with the responsibility for research-training. Increase the number of skilled trainers, expand capacity and the result will be more and better qualified people in the general workforce.

In only 7 Australian universities do more than 70% of the academic staff hold PhDs, while there are 14 universities with fewer than 55% of their academic staff holding PhDs².

Put starkly, Australian universities do not employ enough academics with the skills and knowledge that comes from research-training. The consequence is inadequate capacity in our universities – or inadequate standards of training.

The remedy has three components -

- to renew and replenish the academic workforce – the trainers;
- focus on the quality and standards of training, not just the numbers in training;
- link tightly the numbers in training to capacity – supervision, research quality and infrastructure.

¹ Gillard, Julia. *A Higher Education Revolution: Creating a Productive, Prosperous, Modern Australia*. Speech at the Australian Financial Review Higher Education Conference, Amora Hotel Jamison.

² DEEWR 2007, Selected Higher Education Statistics – Staff 2007, Tables 4.1 and 4.2.

(ii) The value of research-training

Excellent research training prepares scholars for a range of career options in non-academic settings. It is no longer just knowing a lot about a little.

Contemporary training acknowledges that the PhD is not only a critical foundational element as a staff qualification in the best universities in the world but is increasingly the backbone of competitive economies. People with PhDs assume leadership and responsibility in the key arenas that shape society, in government and industry. For example, in the US, four of the ten most recent secretaries of state and five of the six current members of the Reserve Bank Board have PhDs. In Germany, 50% of the members of the board of the 200 biggest German companies have a PhD³.

To prepare graduates for the array of roles and responsibilities they could face depending on their career choices, the training must embrace acquisition and use of knowledge, analysis, synthesis and debate, and communication skills. None can be consistently achieved without strategic investment at appropriate levels so that the highest quality research environments can be created.

Our national calamity is falling domestic PhD commencements. This is in an environment of fierce international competition for the best talent available. Other countries are not just investing in their own, they are seeking the best of ours. Without higher student numbers, innovative thinking and new funding, Australia will risk falling well short of the goal to create a world-class knowledge economy.

To promote and harness the benefits of research training, Australia will need to address three interdependent key issues: 1. the number of research graduates; 2. the quality and breadth of research training, and standards achieved; 3. funding to support increased numbers and quality.

(iii) Number of research graduates

While Australia has become more educated and the number of graduates in the work force has increased steadily over the past twenty years, the number of doctorates in the Australian workforce remains comparatively low: 7.8 per one thousand workers, compared to almost 11 in the United States, and 20 in Germany.⁴

Recommendation 1: Australia should aim to significantly increase the number of doctorates in the workforce: academic as well as general.

Creating opportunities and incentives for domestic students to undertake a research degree has to be a primary objective. Domestic PhD commencements, however, have been decreasing over the past years. To reverse this trend, it is critical that a number of funding issues be addressed, which will be discussed below.

To supplement domestic graduates, Australia needs to increase the number of international students in research-training. At present, international students in Australia comprise only 17% of total research training students, while it is 40% in the United Kingdom.⁵

Recommendation 2: Australia should significantly increase the number of international students undertaking research training at Australian universities.

³ Enders, J. (2005). Border crossings: Research training, knowledge dissemination and the transformation of academic work. *Higher Education*, 49(1-2), 119-133.

⁴ OECD, *Labour Market Characteristics and International Mobility of Doctorate Holders: Results for Seven Countries*, STI Working Paper, 2007.

⁵ OECD, *Education at a Glance*, 2007

There are two barriers:

- current visa restrictions; international students are not permitted to switch to part-time, they cannot take a break in their studies to gain additional income or practical work experience, and their families are inadequately supported.
- access to scholarships; it is in Australia's long-term interests to educate/train international graduate students with the option of keeping some in Australia. To deny them local scholarships is short sighted.

Recommendation 3: The Government should create more flexibility in visa schemes for international students; actively promote work opportunities in Australia to international research graduates and provide more scholarships for their support.

(iv) Quality of research training

To participate effectively in the global economy, Australia not only requires a high number of researchers, but specifically researchers whose skills, knowledge and expertise rank among the highest in the world. Australian universities must offer excellence in research training.

There is no room for compromise: it is unarguable that it is talent honed by education/training that will turn Australia around, not simply the number holding a particular qualification.

Recommendation 4: The quality and breadth of Australian research training must be pursued rigorously.

To promote and enhance quality and skills development in research training Australia needs to place greater emphasis on the quality of research itself. Only in an environment of research excellence can research training achieve the internationally competitive quality which is needed. There is a tight correlation between research capacity, research strength and quality of research graduates. To promote and ensure quality, government programs must take into account quality and emphasise research training where the capacity and capability is located.

Recommendation 5: Research training should be supported with greater consideration of overall research capabilities within institutions. The quality of training and the research environment supporting training should be benchmarked against world comparators.

(v) Funding for research training scholarships and the research environment

The doubling of Australian Postgraduate Awards (APAs) announced in the Labor Government's first budget is a good step. The next step must be an increase in their value.

The current stipend of \$20,007 provides inadequate living support.⁶ The stipend is considerably lower than all average graduate starting salaries. In other words, the very lowest graduate starting salary in Australia is offered to some of our very best graduates who choose to do a PhD.

The current scholarship length of 3.5 years is ridiculous.

Recommendation 6: Australian Postgraduate Awards should increase in value and duration.

⁶ CAPA, *APAs to Break Poverty Line*, 2008. <http://www.capa.edu.au/media-releases/2008/apas-break-poverty-line>.

Funding for research itself needs to be improved. ANU welcomes the announcement in the budget to invest in overdue improvements in research infrastructure. The Government should now focus on changes to other schemes to ensure the full cost of research and research training is covered. The chronic partial funding erodes everything, not only the fabric of institutions.

It is critical that funding be distributed with emphasis on research strengths. Research and research training costs are not the same at every institution. Rather than relying on uncritical and formulaic allocation, funding should be allocated with greater consideration to true costs and achievements and go to wherever real quality is found.

Recommendation 7: Funding schemes must fund the full cost of research and research training.

Without the above reforms, Australia will fall behind much of the rest of the world in terms of educational attainment, industry innovation and our ability to contribute to solving the important local and global problems we face. Investing in research training and equipping graduates with the breadth of skills they need to cross boundaries in research, to be leaders in industry and government, to enhance policy making and to be highly trained educators of the next generation urgently requires investment.