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Ref: The House of Representatives Standing Committee on Industry, Science and Innovation: *Research training and research workforce issues in Australian Universities*.

This is a personal submission and does not necessarily represent the views of my university; however my role includes significant interest in the area of research endeavour, innovation, and some challenges related to workforce issues. The rationale for this submission is to contribute positively to the debate so that we may provide an improved research culture, with more security, for our often excellent researchers whose critical expertise may not benefit Australia if they are not retained and recognised.

Additionally, my own research areas include innovation management at an international level, and I am occasionally invited to speak at U.S. university-sponsored international innovation conferences (recently at M.I.T.'s GSW in Madrid, and at the International Business Conference in Hawaii, sponsored by a consortium of U.S. universities. These events provide me with some insights into international differences in workforce issues and the principle drivers of research in these areas.

Firstly I think that despite the very best of intentions, the strict budgetary demands within universities make funding to support and deliver teaching outcomes an absolute priority. Only a small number of well endowed universities can sustain themselves and engage in exploratory research. In a university environment, generally researchers have become perceived as a very expensive necessity and are maintained at minimum levels. Unfortunately, they are seen as just too expensive to support.

Some of the more innovative research approaches derive from lower status universities, in fact, in recent years, the B-HERT innovation awards have all gone to regional and lower status universities.

I would like to make just five short points against the key challenges of:

1. Factors for graduates that determine pursuit of a career in research;
2. Opportunities for career advancement for research graduates and staff;
3. Factors determining pursuit of research opportunities overseas;
4. Australia's ability to compete internationally for high quality researchers;
5. Whether Australia's academic workforce is ageing, and the impact this may have on Australia's research capacity.

1. Researchers are, at least partially, people motivated, often obsessively, to undertake research and usually within a discrete area of interest. Many will overcome or ignore the financial, professional and social penalties involved in being a researcher. At universities, budgetary imperatives require a very driven approach to publish rather than necessarily to explore, unless funding for exploration has already been awarded to a group or CRC. However, funding normally flows to those senior academics who have already been identified as experts in their areas. Thus junior researchers either follow a mentor into the funding stream or are generally left in the wilderness of individual efforts. Thus many potential researchers are lost to their universities and this country because they are channelled into more teaching hours, a serious impediment to undertaking research. Teaching demands are immediate and imminent whereas research achievement requires longer term development and publications often require 1-3 year lead times.

2. Opportunities for research graduates are rarely clearly defined. Perhaps an example may assist. A recent PhD graduate was awarded a research fellowship by a Federally funded centre for research, and then appointed to a university. The university expected the fellow to be a research leader. The fellow expected to join a well established research team or centre and to learn from more senior researchers. Neither was achieved. The fellow underperformed during his contract period; research publications and funding was sparse; and the fellow learned little from others. Thus a \$300,000 investment in research by a Federal agency resulted in little meaningful work or value to Australia. On completion of the contract period, the fellow's options were to attempt to gain employment as a junior lecturer at another university because his teaching was undeveloped and there was no budget allocation or expectation for him to continue as a full time researcher. The fellow has now secured employment overseas where he feels more valued, and is better paid.

3. Researchers, in my experience, are frequently attracted to overseas posts, especially to the U.S. and U.K. where recognition, research culture, support and reward are seen as more attractive. Many also return and continue with internationally collaborative research networks. Their publications are usually with U.S. journals, being deemed the highest level in terms of impact and exposure (though not necessarily quality), and the research is often still sponsored jointly by U.S. industry and government agencies at State or Federal levels.

4. Australia has many opportunities to compete for researchers internationally if some of the benchmarked research cultures and business models are replicated more widely. Australia is an attractive, safe location for many academics. Our negative points usually relate to support funding and tenure. For example, a colleague was recently offered a similar role overseas with a \$50,000 seed funding account; access to PhD students in her area of interest; no teaching or

administrative duties; administrative support including a personal assistant; and a variety of industry and government network contacts to help her develop, expand and manage a research centre related to community benefits and environmental improvements. The university is not Ivy League, but a regional university with a strong innovation orientation.

Compare that with her situation in a good Australian university where she was required to teach as part of her workload; had no administrative support, not even for grant applications (a very expensive and arduous exercise); a \$2,000 seed funding to subsidise her travel expenses for a year otherwise all expenses were borne by herself.

For those without critical ties, and some professional ambition, the choice is an obvious one. Whether she returns or not, her work output as an internationally recognised researcher in innovation will provide benefits to another society, not ours.

- 5 Demographically, about half of all academics are likely to consider retirement within the next 6 years unless the research culture is more conducive to retain them. However, many universities, especially regional and often smaller ones, have introduced more sympathetic HRM policies and practices to achieve this retention, and with some success. I do note that all recent B-HERT innovation award winners have been research and teaching academics from smaller, regional and lower status universities. I have not insight as to why, except that there is a similar situation in the U.S. with M.I.T. and North Carolina State, often surpassing the larger universities in innovation research achievements.