

Boosting the Commercial Returns from Research

Murdoch University Response

Background

The Government has established a bold agenda to boost commercial returns from research in Australia. In doing this it has recognized the excellence of University led research in the Commonwealth, in terms of the proportion of world leading research papers emerging from Australian HEIs and their citation rates. None-the-less, Australia struggles to engage its research base with its industry base and ranks the worst in terms amongst OECD countries using this measure of productivity.

Murdoch University is a relatively young Institution (less than forty years old) and is a member of the IRU group. Murdoch's history is in the education of first in family graduates and its schools favour multi disciplinary and applied research. In a number of spaces Murdoch can claim to be world leading, particularly in agricultural and veterinary sciences. In many ways the Government's current agenda for research fits the Murdoch vision and ethos and the University welcomes this opportunity to respond.

Preamble

At the heart of the discussion paper is a desire to see greater engagement between Industry and Academia with the long-term ambition to convert the excellence of the Australian research base into future economic growth by supporting existing and emerging businesses. The paper spends considerable time discussing the incentives that might be applied to positively influence interactions between Industry and Academia and to lever Industry investment in research. Measures include: tax credits for Industry; altering the block grant allocations to reward Universities for Industry engagement; promoting career paths for academics wishing to perform industry sponsored research; and providing industry internships within PhD training programs. All of this is to be applauded and will make a difference to the landscape and culture.

There is, however, an apparent gap in the language and consideration both within the discussion paper and in subsequent responses that Murdoch has had access to (those written by the IRU and Universities Australia, which in general we support). That gap relates to entrepreneurs and entrepreneurship. The discussion paper makes little reference to spin-out companies and/or the origins and funding of those entities, even though it does refer to the Cambridge technology park. Two important issues to address is whether there are sufficient opportunities for Universities to license their technologies and IP to SMEs for further exploitation and how academics can be encouraged and supported to start their own companies.

Issues for further work and development

Building upon the comments above, Murdoch wishes to highlight the following for further consideration by the Government.

1. Incentives for industry should certainly include enhanced tax credits where investments in R&D engage and exploit the expertise of Academia. However, providing this incentive appears to be based upon an assumption that existing industries will continue to serve the country's industrial needs. To build an environment where SMEs manufacture low volume/high value products, Australia also needs to attract certain types of industry from overseas trading partners to its cities and states. These companies will support new home grown businesses. It also needs to provide incentives for its own financial institutions to take risks in capitalizing these new businesses.
2. Incentives to Universities to engage with Industry should be applied so that they support a pipeline in the translation of new ideas into new processes or practices. Australia needs to retain its position as a leader in blue skies research but to bolt on a vigorous translational culture. It is not self-evident that all institutions should be doing the same thing. Murdoch has a relatively small base for very high quality fundamental research but a much larger base for research that directly benefits end users. There is no reason why UWA should or would try to emulate Murdoch and vice-versa. What is clear is that within a State and between States, Institutions should co-operate to ensure that research has practical and economic outcomes whilst recognizing that the origins of these outcomes could have stemmed from research performed ten to fifteen years previously and in a different institution. Whatever incentives are adopted should recognize this pipeline and its natural timelines.
3. The incentives for the researcher, is an interesting question. There are significant gaps in the discussion paper and in the responses surrounding incentives for the researcher. For the entrepreneurial researcher the incentive will be adequate protection and the opportunity to start and receive financial reward from their own company. For those researchers engaged with research for established companies, depending on the nature of the research and their contribution to innovation, the reward could be opportunity for career advancement in order to modify researcher behaviour. This needs to be devolved to each University depending on each Institution's research strategy. For either to be effective buy out of time from teaching for relevant periods is absolutely necessary and should in itself be considered part of a reward/incentive structure. Recognition of innovation at State and National levels is also crucial.
4. For PhD students to engage effectively with industry, the training period needs to be increased from three years to a minimum of three and a half and ideally four years. This would also help to improve recruitment from overseas markets. The additional training period could then be deployed between formal training in IP protection, patenting and exploitation, and internships with commercial partners. Enhanced funding on a pilot basis for such programs OR via CRCs could be valuable.
5. The UK has positioned itself well in terms of research infrastructure through four rounds of JIF and SRIF funding. This has provided significant benefits to

HEIs in terms of attracting industrial collaborations. This level of infrastructure investment is lacking in Australia and may prove to be an obstacle to widespread industry engagement.

6. Similarly, the UK has a well-developed funding system to encourage commercially driven research. It is interesting that the Australian Government has picked up on the Catapult centers, which are as yet untested. The Government might wish to look more closely at BBSRC and EPSRC funding opportunities and how they link into TSB funding. BBSRC for example funds industry-focused research via its LINK and IPA schemes. Both offer a clear advantage to applicants at the funding stage and both are available for pre-competitive translational research and at the stage that this research could be considered competitive in a commercial environment, 'follow-on' funding is also available. Each of these programs is led by the academic partner. When the project is mature, the industry partner then has the opportunity to apply for TSB funding to bring the idea to market. Through these channels partnerships between Industry and academics can benefit from over seven years of government support (with industry usually contributing up to 50% of the costs).