



THE UNIVERSITY OF

MELBOURNE

RESPONSE TO THE
REVIEW OF THE R&D TAX INCENTIVE

FEBRUARY 2016



The University of Melbourne is pleased to respond to the R&D Tax Incentive Review initiated under the Australian Government's National Innovation and Science Agenda (NISA).

The Review seeks to identify opportunities to improve the effectiveness and integrity of the program, including how the program's focus can be sharpened to encourage additional R&D.

Current expenditure on the R&D tax incentive amounts to over a quarter of the Australian Government's support for science, research and innovation and is almost equivalent to funding for the NHMRC, ARC and CSIRO combined – some \$2.9 billion in the past financial year. This quantum of funds makes the incentive a powerful influencer of behaviours that drives outcomes.

In advancing the nation's innovation agenda, retaining incentives for industry to invest in R & D is critically important. In addition, this significant funding pool for research could be targeted to fuel the collaborative research ecosystem desired by Government, universities and industry where it can have the most impact on research and research translation. The R&D tax concession should be scrutinised to identify where the incentive is having demonstrated impact, where it is leading to collaboration and where it is generating returns on investment through utilisation consistent with the principle of "additionality". In turn, Australia could expect greater research translation into commercial outcomes and, through collaboration, stronger alignment between the interests and priorities of industry and the deep expertise in academia.

The R&D tax incentive could be modified to:

- ensure it focusses on R&D that would not otherwise have occurred and adjust policy settings to improve collaborative research outcomes and ensure optimal return on public investment (the principle of additionality)
- direct skills, resources and other supports for research in the catalytic phase of commercialisation, including in public research institutions, as this is an area not served by the marketplace (but will produce research that in time is likely to benefit the wider Australian economy (spillovers)). Building venture catalyst capability at the 'pre-investable' stage in research translation will grow the pipeline of research outcomes. Venture catalyst activity can increase levels of R&D if the pipeline of investable projects is enhanced.
- permit a wider set of research activities to be eligible including secondments by researchers into industry to work on R&D projects
- make it easier for SMEs to benefit from the tax incentive, especially where they utilise established research providers to solve their problems, by reviewing the minimum threshold for research spend; introduce quarterly tax credits for SMEs; and permit student internships and early career researcher secondments as an eligible R&D tax concession.
- encourage and leverage collaboration with public researcher providers and public research infrastructure by establishing a higher third tax concession tier for businesses to partner with those public research organisations.

For further information or to discuss our submission, Professor James McCluskey, Deputy Vice Chancellor (Research) can be contacted on dvc-research@unimelb.edu.au or (03) 03 8344 3238.

A. Introduction and overview

NISA recognises that universities, Government and industry are crucial participants and partners in the process of building, operating and leveraging Australia's innovation ecosystems. To achieve the goal of a prosperous and thriving research and innovation sector, as a means to generating the business and jobs of the future and supporting high living standards, Australia needs new practice models, fresh thinking and clever partnerships.

Delivering on – and exceeding – the expectations of NISA will require governments, businesses and research organisations to pursue complementary and interdependent but distinct roles.

As the Tax White Paper Discussion Paper on the R&D tax concession noted, many countries, including the majority of OECD countries, provide incentives for R&D through their tax systems, in addition to grants and other forms of direct assistance.

The majority of Australian government investment supports public research agencies, medical research institutes and universities, and a further third assists business through R&D tax measures. In comparison, incentives to foster and support research engagement between business, universities and research organisations have been modest. NISA seeks to address this gap in Australia's innovation ecosystem and the R&D tax incentive review will need to align with NISA's new, expanded and/or modified programs.

The R&D tax incentive is important for Australia's research effort. However, it could be more closely targeted to increase the incidence of industry-research collaboration and the output of research through public research organisations. This outcome would be consistent with the policy intent of the R&D incentive which is to encourage innovation and research activities in Australian industry that might otherwise not occur.¹

An update to the R&D Tax Incentive could include modifications to make it easier for SMEs to benefit from the Tax Incentive, while coupling it with dedicated programs to support SME innovation activities. In addition, the Tax Incentive could be modified to better leverage the efforts of public researchers and public research infrastructure.

B. The R&D tax incentive and public universities

The R&D tax incentive can be an important instrument to foster research collaborations with public research organisations, such as universities. While Australian universities are working hard to change academic cultures and better align promotion, reward and performance measures to foster collaboration, there is an opportunity to use policy initiatives such as the R&D Tax Incentive to act as an additional facilitator. Currently, as the Issues Paper identifies, for 2013-14 only 9.5 per cent of total projects registered under the program indicated they involved collaboration with another organisation.

¹ <http://www.business.gov.au/grants-and-assistance/innovation-rd/RD-TaxIncentive/Pages/default.aspx>

For its part, the University is drawing on international experience to build the economic, physical, and networking assets that are essential ingredients to a successful innovation district. When these three assets combine with a supportive, risk-taking culture they create an innovation ecosystem—a synergistic relationship between people, firms and place —that facilitates idea generation and accelerates commercialisation.

Precinct development harnesses the economies of agglomeration by providing distinctive spaces for engagement, pathways for students to work with industry, researchers to engage with peers, and companies to acquire and support new ideas. For example, major initiatives such as the University’s Carlton Connect and the development of a productive partnership with IBM, has been instrumental in IBM establishing one of its Global R & D Labs near campus.

Another example is the Melbourne Biomedical Precinct (MBP). The University is a major partner with leading hospitals in MBP, an internationally significant aggregation of medical research and clinical practice that brings together 10,000 medical and scientific experts to conduct high-impact research, teaching and research training. The MBP houses nationally important NCRIS research infrastructure including the 7 Tesla magnetic imaging system hosted at the Melbourne Brain Centre, as well as other research platforms based at the University’s Bio21 Institute for Molecular Science and Biotechnology, Victorian Comprehensive Cancer Centre and the Peter Doherty Institute for Infection and Immunity. The University has strong relationships with companies such as CSL, which is co-located at the Bio21 Institute.

Research – basic and applied – undertaken in the Melbourne Biomedical Precinct is for the purpose of acquiring new knowledge – an objective of the R&D tax incentive. The significant investment in public research infrastructure by Governments, the University and its precinct partners could be further leveraged by stronger collaborations with industry across a broader cross section of industry and industry sectors.

C. Venture catalyst support

The University highlights to the Review Committee however the ongoing gap in supportive infrastructure at the earliest venture catalysing phase of the research commercialisation pipeline. Namely, that part of the pipeline when research discoveries have been made with recognised commercial potential, but it is still too early to attract commercial investment. This ‘pre-investable’ stage in research translation is not owned by any one participant; as such the skills necessary to traverse this terrain, and the modest funding needed to resource the gap, are generally not available in universities.

The University observes that the translation funds announced as part of NISA, although essential, are targeted at the commercialisation phase *after* the very early stage translation gap. As such, the University urges the Australian Government to consider complementary actions to also address this earlier gap in the commercialisation continuum in public research institutions and, subsequently, in Australia’s innovation ecosystem. Provision of support at the very early stage is critical to building a flowing source of potential commercialisation ventures that can go on to bid for seed and venture capital funding.

The translation gap will *not* be filled by the market as the nature of the endeavour means that most of these opportunities will never make a commercial return. This is why it is so important for the Australian Government and universities to work together to address this vital phase which immediately proceeds our research outcomes. It is a precursor, in many cases, to being able to attract R&D investment. Increased levels of R&D might ensue if the pipeline of investable projects were enhanced.

The University, for its part, is undertaking actions towards addressing the translation gap. We are examining the feasibility of hiring Venture Catalyst teams and ancillary infrastructure to cover that earlier and inevitable filtering stage of the commercialisation process. Co-investment between universities and Government would enable the Venture Catalyst infrastructure to reach the scale and resourcing levels necessary for success.

Investing in the people to lead the catalytic process is also crucial. The skills and experience necessary to achieve great scientific breakthroughs are very different to those required for translating technologies into compelling products and services. At our University we have many world-class researchers, but we also need to build world-class commercialisation teams. While some researchers naturally possess both research and commercial skills, not all do and nor would all researchers be expected to have commercial skills.

This is why public research institutions need to build reservoirs of management and business skills to complement scientific and technical skills. For every dollar spent on the research to develop a new product, a significantly higher amount will ultimately be spent on the downstream development and marketing activities necessary to successfully bring the product to market.

D. Transforming University practice to align with social, economic and industry imperatives

The University has made a major investment in a new Research, Innovation and Commercialisation (RIC) capability. The purpose of RIC is to facilitate research relationships for the University, as well as attracting the necessary resources and building internal capacity for successful commercialisation, which in turn reinforces our ability to conduct world-class research. This sophisticated business development resource has been put in place centrally and across every Faculty to work with leading academics to develop and nurture industry collaborative relationships, assist in broadening global networks and to identify basic research with the potential for translation into applied research and commercialisation. This new infrastructure will complete another section of the innovation pipeline and increase the number of opportunities for corporate partners to access the R&D tax incentive to advance R&D that might not otherwise occur.

The University already collaborates with around 300 industry partners across activities including innovative research, major institutional partnership, internship and education and access programs. Our *Research @ Melbourne* strategy will see the University aim to double our funding from industry and international sources by 2020 and guide the University's research investment towards innovative, interdisciplinary and collaborative enterprises. A healthy foundation exists from which to build research eligible for support through the R&D tax incentive.

Some of the industry partners or collaborators the University already works with are CSL Limited, Siemens Hearing Instruments, Colgate Palmolive, Ford, Rio Tinto, Rode Microphones, Australian Energy Market Operator, Cadbury Enterprises, GC Australasia, Sanofi Pasteur Inc, Procter & Gamble Australia, Bega Cheese Ltd, Seagull Technologies, Alcatel-Lucent (Bell Labs), Nasdaq, Asics Oceania Pty Ltd, IBM Australia, Think Spatial, Google, Microsoft Australia, Microsoft Research, Kraft Australia, Mondelez International, Bluescope Steel, Telstra Corp Ltd, Australia Post, Westpac, TD Securities, PWC, Jobs Australia, Ostara Australia, Workpower Inc, Wise Employment, the Personnel Group, Matchworks and 18 health institutions including major metropolitan hospitals, amongst many others.

E. Reforming our Research Training Scheme

A distinctive feature of the Australian research workforce is that, in comparison with other OECD countries, it is primarily employed by universities rather than hired directly by business, government and not-for-profit organisations. The University sees great potential in a secondment program involving university researchers working within industry and also embedding PhD candidates within new and innovating enterprises as a means to facilitate access to high-quality research while providing industry relevant skills to researchers.

Further, the efficient delivery of quality research higher degree (RHD) training is critical for the future of Australia's research effort. PhD degrees provide the unique skills mix needed for a career as a researcher and the RHD training system must continue to provide the future research workforce. Although Australia currently produces around 8,000 PhD graduates a year, only a fraction will ever work as an academic. Australia's RHD training system must be reformed to ensure all graduates gain the skills necessary to contribute their unique capabilities more broadly across Australian industry and society, in roles other than research academics.

The University has been developing ways to integrate further skills training into PhDs, within current program scope and time limitations. For example, doctoral students are offered placements through the Australian Mathematical Science Institute industry internship program. The interns work on a project that attempts to solve a key business challenge for their host company, working on-site with the organisation for half of their working time.

The University supports the development of targeted researcher and RHD student secondment and mobility programs to help overcome cultural barriers between universities and industry. We are taking action on-campus to develop such programs, but require support to scale-up the reforms. Measures in NISA that will be important in supporting universities' efforts in this regard include the Innovation Connections (expansion of Research Connections), which will provide matched grants to support graduate and postgraduate researchers' placement in business, and business researchers' placement in publicly funded research organisations.

Some of these activities could be made eligible activities under the R&D tax incentive, which would make it even more attractive for industry to engage with the Australian research workforce.

F. Critical impact of large multinational firms in developing the ecosystem

Innovation ecosystems thrive on activity density. Every successful innovation ecosystem around the world has, at its core, at least one world class research institution and a number of successful multinational companies operating symbiotically. Whilst this nucleus is not sufficient to generate a thriving innovation ecosystem, there can be no doubt that it is a necessary precursor that generates the environment in which start-ups and small business can also thrive.

The challenge for governments, businesses and universities is getting the right funding and incentives in place to focus activity towards vital national objectives. Investment decisions made by multinationals is a global one and Australia must compete to attract and retain global investment, including R&D hubs, in order to develop infrastructure, research excellence and intellectual capital required to drive the outcomes envisaged by NISA. The R&D tax incentive can make the difference in attracting those companies Australia needs to drive the development of its innovative research.

The R&D tax incentive harnesses market dynamics to best allocate government support in the form of tax concessions, and in doing so provides a valuable mechanism to support R&D work for private Australian companies. Given the R&D tax incentive has proven so popular with Australian industry and has delivered significant benefit, the review provides an opportunity to explore ways additional value can be derived from this measure. This might include measures such as a higher third tax concession tier for businesses that leverage other public investment in research and drive collaborative enterprises with our public research organisations to realise the most benefit for the Government's total investment in research and development.

G. Additional incentives for smaller businesses to invest in R&D to complement the tax incentive

Several studies of other OECD countries have shown that appropriately targeted incentives can be attractive to SMEs. They have a stronger impact on SMEs than larger firms, particularly so for liquidity constrained firms.² The R&D tax incentive should be reviewed to encourage greater SME participation. Even a small increase in research activity across the spectrum of small and medium businesses not engaged in R&D could pay big dividends for Australia.

At present, one per cent of Australian businesses currently account for two-thirds of non-government R&D spending. Adjusting government incentives to foster a greater R&D effort for the ninety nine per cent of other businesses could broaden investment and innovation across a wider sectoral base within the Australian economy. This is particularly important for those 'micro' businesses with less than four employees that make up the majority of all Australian businesses but only undertake a very small fraction of the research activity (around five per cent).

The University acknowledges the NISA announcements including the expanded and refocused Innovation Connections (Expansion of Research Connections) program, which goes some way towards encouraging SMEs to collaborate with university research and innovation. The effectiveness of that program could be enhanced with a higher quantum to support its various components.

² Castellacci, Fulvio (2015) 'Do the effects of R&D tax credits vary across industries? A meta-regression analysis', In Research Policy, Vol 44

A business is usually required to invest a minimum of \$20,000 in research to be eligible for the R&D Tax Incentive. This requirement means tax concessions alone are not an effective tool to encourage many small businesses that could benefit from R&D to do so.

Consideration should also be given to providing quarterly tax credits under the R&D tax incentive for SMEs. The current approach of yearly returns can create significant cash flow difficulties for early-stage start-ups.

Acknowledgment of research student internships and early career researcher secondments as an eligible R&D tax concession could bridge the gap for many SMEs wishing to engage in research with universities.