

29/02/16

R&D Tax Incentive Review Secretariat
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Dear Review Panel,

Re: R&D Tax Incentive Review

The Australian Technology Network of Universities (ATN) welcomes the opportunity to provide comments to the R&D Tax Incentive Review, and supports policy change that encourages R&D activities that would not otherwise happen, and maximizes the spillover effects in the economy. The ATN acknowledges the need to balance fiscal integrity and policy efficacy in the R&D Tax Incentive, and offers some suggestions in this submission to help achieve greater effectiveness and integrity.

The ATN represents five of the most innovative and enterprising universities in Australia, who are committed to working with end-users to ensure the maximum impact and community benefit is gained from the results of research and development activities. In making this submission, the ATN acknowledges that individual institutions may make their own complimentary submissions to the review.

Given that the R&D Tax Incentive accounts for a significant portion of the Australian Government investment in R&D, it is important that the scheme works effectively as intended, and compliments other initiatives aimed at supporting research and innovation. In the context of the Government's National Innovation and Science Agenda (NISA)¹, and the accompanying efforts to improve Australia's level of industry-research collaboration, there is merit in a more targeted approach that provides greater impetus on encouraging businesses to collaborate meaningfully with publicly funded research organisations (PFROs) on innovative R&D activities.

According to the OECD (2015), R&D tax schemes are more likely to encourage incremental innovation and short-term applied research, rather than long-term innovation, when compared to direct subsidies (such as grants, public procurement activities and innovation tech vouchers)². It is therefore important that the R&D Tax Incentive is fit for purpose for the Australian context and takes into account its role in the broader innovation system. Targeted policy will be crucial in this case, particularly to engage smaller businesses who are not currently innovation-active and who make-up the majority of Australia's industry profile.

In summary, the submission will attempt to make a case for the following recommendations:

- Link a portion of the R&D Tax Incentive to collaboration with publicly funded research organisations.

¹ Commonwealth of Australia (2015), Department of the Prime Minister and Cabinet, National Innovation and Science Agenda.

² OECD (2015), The Innovation Imperative: Contributing to Productivity, Growth and Well-Being, <http://ifuture.org/documentacion/the%20innovation%20imperative.pdf>

- Allow businesses to claim the R&D Tax Incentive against HDR graduate salaries for the first 3 years after graduation.
- Increase the rate of the refundable R&D Tax Incentive for small and micro firms to provide a greater incentive for smaller companies to undertake technologically challenging developments and offset the high cost/unavailability of capital for these companies.
- Consider diversity of spillovers, including social, community and environmental benefits, as well as economic and productivity benefits.
- Commit to a period of stability once the new rules for the tax incentive are in place so that business can plan with confidence and universities can commit to partnering with business.

Linking the R&D Tax Incentive to Collaboration

A key policy intent of the R&D Tax Incentive is to encourage business innovation that would not otherwise happen. As noted in the R&D Tax Incentive Review Issues Paper³, targeting and assessing this level of ‘additionality’ is difficult.

In order to better prompt additional R&D activity, Australia should be aspiring to develop innovation that is ‘new to the world’ or ‘new to market’. However, Australian businesses are much more likely to produce innovation that is new to business only.⁴ One way of increasing greater private investment in ‘new to the world’ innovation, is by introducing a R&D tax premium for expenditure on research in collaboration with PFROs. Australia has a noted world-class research environment, often working at the cutting edge of new knowledge and technology. There is untapped potential in the (two-way) knowledge transfer and technological cooperation between PFROs and businesses. However, the lack of collaboration between the research and business sectors, which has been subject to much political and policy setting scrutiny, inhibits the translation of knowledge and technology between research and its real-world applications in industry and the community. This has a marked effect on Australia’s ability to remain competitive internationally, create new jobs and improve our social and cultural fabric.

The Review Issues paper notes that businesses are more likely to innovate in-house, with only 9.5 per cent of total projects registered under the R&D Tax Program in the 2013-14 income year involving collaboration with another organisation⁵. This is despite the OECD (2015) noting that collaboration with higher education and public research organisations as an important source of knowledge transfer for firms.⁶ Findings from an Australian commissioned large-scale, firm-level econometrical analysis⁷ suggest that both innovation and collaboration had a significant effect on productivity:

- SMEs which previously introduced innovations were 24 per cent more productive than their non-innovating counterparts.
- Firms that innovated and sourced their ideas from research organisations (‘science-based’ innovation) were 34 per cent more productive;
- Firms that accompanied their innovations with collaboration were 31 per cent more productive.

Thus, there is a clear case for the introduction of specific incentives which target activities to encourage innovation through collaboration, with additionality and spillover more likely to be achieved when a firm looks ‘beyond the business’.

Internationally, there are several countries which have targeted tax initiatives aimed at incentivising collaboration between industry and research organisations, such as Norway, Belgium, Canada,

³<http://www.business.gov.au/grants-and-assistance/innovation-rd/RDTaxIncentive/Documents/RandDTaxIncentive-IssuesPaper.pdf>

⁴ ABS 8158.0 - Innovation in Australian Business, 2012-13,
<http://www.abs.gov.au/ausstats/abs@.nsf/Latestproducts/8158.0Main%20Features92012-13?opendocument&tabname=Summary&prodno=8158.0&issue=2012-13&num=&view=>

⁵<http://www.business.gov.au/grants-and-assistance/innovation-rd/RDTaxIncentive/Documents/RandDTaxIncentive-IssuesPaper.pdf>

⁶ OECD (2015), The Innovation Imperative: Contributing to Productivity, Growth and Well-Being,
<http://ifuturo.org/documentacion/the%20innovation%20imperative.pdf>

⁷ Australian Council of Learned Academies (ACOLA). Securing Australia’s Future – The role of science, research and technology in lifting Australia’s productivity: Is science-based innovation more productive? A firm-level study.

Denmark and the Netherlands.⁸ Under the Norwegian R&D Tax Scheme ‘Skattefunn’, companies who purchase R&D services from approved R&D institutions are eligible for an 18 per cent tax deduction rate for small companies and 20 per cent deduction for large companies.⁹ Canada has an extensive program of tax incentives to encourage R&D, both at the federal level and at the provincial/territorial level. The federal R&D rate in Canada is at 35 per cent on qualified R&D expenditure, up to a maximum threshold of \$3 million. On top of this, provinces offer additional tax incentives to target specific sectors including partnering with research organisations and employing foreign researchers and other experts. For example, in Ontario, businesses collaborating with an eligible research institute are able to claim a 20 per cent refundable tax credit of 80 per cent for qualified research expenditures up to \$20 million annually.¹⁰

Given the budget challenges facing the Australian Government, consideration could also be given to restricting the R&D tax incentive to firms who collaborate with universities, over a certain threshold.

Care will need to be taken to ensure such differential R&D tax rates would work in the Australian context. The ATN suggests at a starting point, Government investigate introducing:

- A premium tax rate that is greater than the current 45 per cent refundable rate for businesses collaborating with a research organisation on R&D and/ or
- A waiver on the grouped turnover threshold.

Collaboration could also take the form of supporting exchange of personnel between the industry and research partners (e.g. an industry person embedded in a university as part of the R&D project and/or for PhD/post-docs from the university to be embedded in the company to support the R&D project). Such an approach would improve the mobility between industry and academia and support further engagement and collaboration (noting that firms undertaking one form of collaboration are more likely to engage in other forms collaboration¹¹), addressing a greater cultural and structural issue in Australia’s innovation system. An increased research and innovation intensity within corporations will also lead to improved overall research and innovation capabilities in those businesses.

Recommendation: Link a portion of the R&D Tax Incentive to collaboration with publicly funded research organisations.

⁸ Stepp and Atkinson (2011), Creating a Collaborative R&D Credit, The Information Technology and Innovation Foundation, <http://www.itif.org/files/2011-creating-r&d-credit.pdf>

⁹ Cappelen (2010), Evaluation of the Norwegian R&D Tax Credit Scheme, Journal of Technology Management and Innovation, Vol. 5 (3), <http://www.jotmi.org/index.php/GT/article/view/art165/583>

¹⁰ Ontario Ministry of Finance (2014) Ontario Business Research Institute Tax Credit, <http://www.fin.gov.on.ca/en/credit/obritc/index.html>

¹¹ Davey, T., Baaken, T., Galan Muros, V., & Meerman, A. (2011). The State of European University-Business Cooperation. Part of the DG Education and Culture Study on the cooperation between higher education institutions and public and private organisations in Europe. http://ec.europa.eu/education/tools/docs/uni-business-cooperation_en.pdf

Tax Incentives for Employing HDR Graduates

Higher Degree by Research (HDR) trained graduates represent a uniquely skilled cohort of workers who can bridge the gap between academia and industry. If the Government is serious about creating a cultural change in collaboration between the research and industry sectors, it should consider policy targeted at improving the rates employment of HDR trained individuals (particularly PhD graduates) within industry. As noted in the QUT submission to the ACOLA Research Training Review¹²,

“Many knowledge-intensive economies like Germany and Switzerland have a high levels of PhDs represented in management roles in the business sector. One obvious advantage of this is that these companies are more likely to innovate and also more likely to reach out to universities and public sector research organisations to source research and innovation (simply because these managers know where to find it). They are also likely to employ more PhDs and over time this leads to a change of culture favouring innovation. In Australia, the participation of PhDs in the broader economy is low and hence providing incentives for companies to employ PhDs will over time lead to better links between businesses and universities and a more competitive knowledge-intensive economy. One way to do this would be to include the salary of PhDs under the R&D tax concession scheme, even if they are not directly employed to undertake R&D.”

The OECD notes that the increasing specialisation in science and research makes doctoral professionals a key element of innovation systems.¹³ Australia has approximately 40 per cent of its doctoral graduates employed in education, with only 5.6 per cent in ‘manufacturing, agriculture, mining and other industrial activities’ and 18.2 per cent in ‘professional services and related market services’ (figure 1). Countries with high R&D intensity and innovation capability such as Switzerland, the Netherlands and Germany are characterised by strong cultures of doctoral trained employees working across industry sectors (figure 1) and a high proportion of researchers working outside of higher education (figure 2).¹⁴

¹² <http://www.researchtrainingreview.org.au/wp-content/uploads/2015/07/QUT.pdf>

¹³ OECD (2015) Investing in Knowledge, Talent and Skills, in Science, Technology and Industry Scoreboard 2015, p.102

¹⁴ Both figure 1 and figure 2 are presented below, recognising that not all doctoral holders work as researchers, and not all researchers have doctoral degrees.

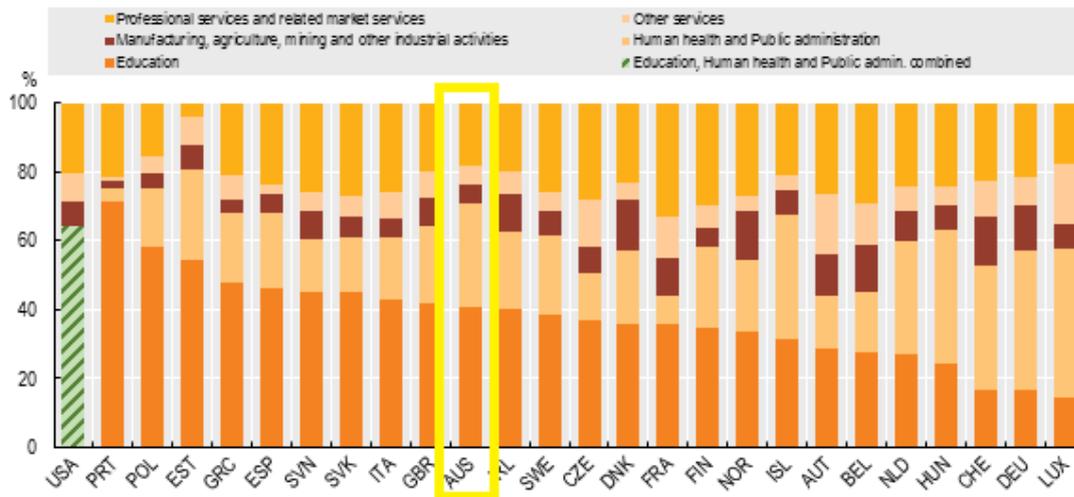


Figure 1: Doctorate holders by economic activity, 2012

Source: OECD (2015) Science, Technology and Industry Scoreboard 2015

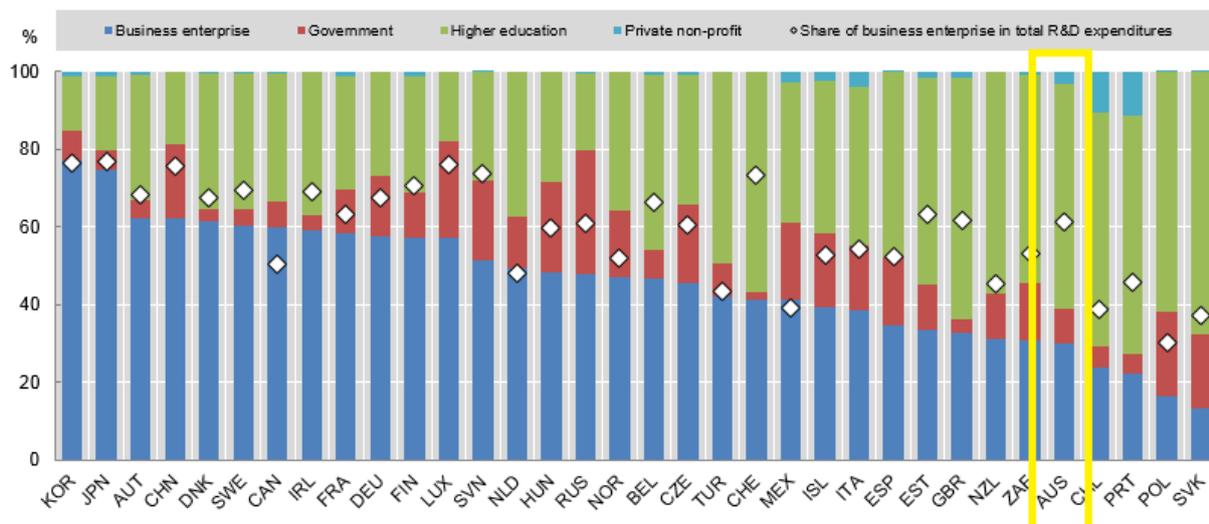


Figure 2: Researchers by sector of employment, 2011

Source: OECD (2015) Science, Technology and Industry Scoreboard 2013

International precedents for tax incentives for employing graduates include the ‘Co-operative Graduates Hiring Incentive’ in Manitoba, Canada, where businesses can claim 5 per cent of wages and salaries for hiring and retaining in full-time employment, graduates from recognized post-secondary co-operative education programs for the first two full years of employment, to a maximum of \$2,500 for each year, where the employment commences within 18 months of graduation.¹⁵ This scheme is part of a group of programs targeted to provide incentives for employers to offer work experience opportunities for students in Manitoba, and a wider strategy to improve work readiness.

Belgium, as part of its economic stimulus plan to invest 3 per cent of its GDP in R&D by 2020 and improve innovation, has introduced a suite of measures including a partial salary withholding tax

¹⁵ Manitoba Government, Workforce: Tax incentives that consider Labour Costs, http://www.gov.mb.ca/jec/invest/busfacts/workforce/wf_lab_costs.html

exemption of 80 per cent for researchers working on eligible R&D projects or programs.¹⁶ The initiative is intended to make it more attractive for companies to hire researchers by providing financial aid accessible at the time of hire. Essentially it means that companies are only obliged to remit 20 per cent of the total withholding tax from qualified researchers and may retain the remaining 80 per cent for company use. Three types of firms are targeted for the partial exemption:

- Businesses with researchers active in projects which consist of partnerships with academic establishments in the EEA (European Economic Area) or recognised scientific institutions;
- "Young Innovative Companies"¹⁷ employing scientific professionals; and
- Companies with paid researchers who are active in R&D programs and who possess doctoral degrees in medical or pharmaceutical sciences, degrees in civil engineering or master's degrees in one or more scientific disciplines.

Similarly, the Australian Government can send a strong signal that it is committed to the innovation agenda, and improving rates of collaboration between the research and industry sectors by incentivising the employment of HDR graduates in industry. Allowing companies to claim the salary of HDR graduates through the R&D tax concession would make the appointment of a HDR qualified employees cost-comparable with that of an undergraduate, and would help address issues of culture change over the long-term by creating tangible links between businesses and research organisations.

Recommendation: Allow businesses to claim the R&D Tax Incentive against PhD graduate salaries for the first 3 years after graduation.

¹⁶ Deloitte (2013) Economic Stimulus Plan: R&D and Innovation, <http://www2.deloitte.com/content/dam/Deloitte/be/Documents/tax/EconomicStimulusPlan/Economic%20stimulus%20plan%20-%20RandD%20and%20innovation.pdf>

¹⁷ A 'Young Innovative Firm' performs research projects; is small in accordance with article 15 of the Belgian Company Law; is less than 10 years old; was not established as a result of consolidation, restructuring etc and has spent funds for R&D at least 15% of total costs in the previous taxable period.

Innovation and Australia's industry structure

As noted in the ATN's submission to the Joint Select Committee on Trade and Investment Growth's inquiry into Australia's Future in Research and Innovation,¹⁸ poor collaboration between research organisations and industry is in part due to Australia's industry structure, 97 per cent of which is comprised of micro and small businesses. A key point in the policy debate on innovation is ensuring that Australia widens its net of participating companies to include those who are not currently engaged in innovation activities, and those who experience barriers to innovation. Certainly, the R&D Tax Incentive to date has enabled R&D activities that would have not otherwise occurred with previous submissions to the R&D Tax Incentive testament to the fact. However, Table 1 suggests that there is much untapped potential in micro and small firms who are not currently 'innovation-active'. Initiatives such as the refocused 'Innovation Connections' scheme¹⁹ will be crucial in this effort, however, given that smaller innovative firms are more responsive to fiscal incentives, and that smaller businesses are most likely to report a lack of access to additional funds and cost of development of introduction/implementation as barriers to innovation²⁰, there may also be merit in considering further incentives for small businesses to participate in innovative R&D.

Recommendation: Increase the rate of the refundable R&D Tax Incentive for small and micro firms to provide a greater incentive for smaller companies to undertake technologically challenging developments and offset the high cost/unavailability of capital for these companies.

Table 1. Summary of innovative activity in Australian business, by employment size(a), 2012-13

		0-4 persons	5-19 persons	20-199 persons	200 or more persons	Total
Estimated number of businesses(b)	'000	466	243	58	4	770
Businesses that introduced innovation (innovating businesses)	%	28.9	45.8	58.3	66.8	36.6
Businesses with innovative activity that was(c):						
still in development(d)	%	18.3	27.8	35.6	51.4	22.8
abandoned	%	5.3	6.9	6.3	4.4	5.9
Businesses with any innovative activity (innovation-active businesses)		34.7	51.0	63.4	74.3	42.2

(a) Proportions are of all businesses in each output category.

(b) Business counts are provided for contextual information only, and the total may not sum to the total of the components due to rounding. Refer to Explanatory Notes 19 and 20.

(c) Businesses may be counted in more than one category.

(d) As at the end of the reference period 30 June 2013.

¹⁸ Submission 46:

http://www.aph.gov.au/Parliamentary_Business/Committees/Joint/Trade_and_Investment_Growth/Research_and_Innovation/Submissions

¹⁹ <http://www.innovation.gov.au/page/innovation-connections>

²⁰ ABS 8167.0 - Selected Characteristics of Australian Business, 2013-14, <http://www.abs.gov.au/ausstats/abs@.nsf/Latestproducts/8167.0Main%20Features62013-14?opendocument&tabname=Summary&prodno=8167.0&issue=2013-14&num=&view=>

Other recommendations:

The ATN would also like the Review Panel to consider the following points in its assessment of the R&D Tax Incentive:

- **Diversity of Spillovers:** In recognising the diversity of spillovers, it is also important to acknowledge that benefits beyond the firm can be achieved through a variety of ways (which are not always economical in nature) including: the mobility of researchers; upskilling and educating workers; developing an entrepreneurial culture; and influencing policy within the community and broader society.
- **Committing to a Stable Policy Environment:** Since the enactment of the R&D Tax Incentive in July 2011, the policy has been subject to many changes and adjustments. Once the new rules for the tax incentive are in place, the ATN recommends that the Government commits to a period of stability - so that business can plan with confidence and universities can commit to partnering with business.

The ATN would once again like to thank the Review Panel for the opportunity to provide additional comments to the review.

Please do not hesitate to contact the ATN Directorate on (08) 8302 9135 or via e-mail at renee.hindmarsh@atn.edu.au to discuss any elements of the submission further.

Yours sincerely



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