Submission to the Economic Growth Roundtable

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University of Melbourne

Introduction

Over the past decade, Australia has experienced its weakest productivity growth in sixty years. Recognising this as a critical national challenge, the Australian Government has prioritised boosting productivity as its primary economic focus. Education acts as an investment in human capital, driving productivity improvements across various sectors and contributing to overall economic development. Further, a significant proportion of the nation's R&D is conducted by our universities. Therefore, addressing the need to lift productivity via increased R&D and expanding tertiary education attainment must involve our universities.

UoM recommendations

The following recommendations are proposed for consideration:

1. **Develop a National R&D Strategy to pursue a target of 3% of GDP invested in R&D (by businesses, higher education and government) within a decade, with the majority of investment going towards agreed national priority areas.**

   Australia's R&D intensity has been in decline for over a decade, coinciding with stagnant productivity growth. Technology uplift will play a vital role in boosting productivity. An agreed national target for R&D expenditure is the first step in reversing this trend. The University supports the Group of Eight's call to lift national R&D expenditure (across public and private investment) to 3% of GDP by 2035. Australian R&D supports high societal returns – with CSIRO estimating an average economy-wide return of $3.50 for $1 of R&D investment. Other studies have shown that an increase of 1 per cent in public funding on higher education R&D can increase multi-factor productivity by 0.175 per cent. The OECD (2015) suggests that the economy-wide payoffs for R&D conducted in the home country are much higher than those derived from R&D conducted in other countries. Further, R&D expenditure specifically by university researchers has a positive impact on a firm's own R&D expenditure within the same Australian jurisdiction.

   The National R&D Strategy should **include 5-year targets**, and individual targets for Business Expenditure on R&D (BERD), Government expenditure on R&D (GovERD), and Higher Education Expenditure on R&D (HERD). There should also be targets for the level of investment going to national priority areas in which Australia can lead such as clean energy, health, and advanced manufacturing.

   The National Strategy should also include a roadmap for reform and **alignment of relevant policy and programs currently spread across multiple agencies**. This should include tax and other incentives for business investment, and the consolidation of fragmented grant programs, into fewer, larger initiatives, with clear and aligned objectives, to maximise impact, reduce duplication and drive stronger cross-sector collaboration. While the majority of Commonwealth funding should be directed toward areas of national priority, funding should be maintained for foundational/discovery research as the pipeline of innovation. It will be essential that **basic and strategic research continue to be funded via competitive peer reviewed grant processes**. The IMF has reported that "basic scientific research is a key driver of innovation and productivity, and basic scientific knowledge diffuses internationally farther than applied knowledge." An updated, complementary **research infrastructure strategy** and fund with a focus on driving collaboration across sectors should also be a priority.

2. **Make the development of innovation precincts a cross-cutting objective of Government policy.**

   Precincts boost productivity by supporting collaboration, attracting talent, improving efficiency, sharing costly infrastructure and driving innovation. Research, taxation, industry, and infrastructure policy should have a role in catalysing world-class innovation precincts focused around Australia's priority industries. Countries with the most innovative economies are home to place-based 'innovation ecosystems.' Clustering researchers, research intensive industry, and supporting infrastructure in a geographically concentrated area is an important precursor to the development of these ecosystems. Although there is an organic element to growth, successful innovation ecosystems rarely develop by chance – governments have an important role in policy focus, infrastructure location, industry

attraction and curation. The globally recognised Melbourne Biomedical Precinct is an example. The precinct employs over 28,000 people, with 10,000 being researchers. With more than $2.8 billion investment in research and healthcare facilities over the past decade, it produces 20 per cent of Australia's patent citations and contributes A$3.6 billion annually to Victoria's gross regional product.

3. **Reform the R&D Tax Incentive by introducing a collaboration premium rate for businesses collaborating on R&D with universities and other research institutions to drive high-impact research partnerships. In addition, modify the definition of eligible R&D Tax Incentive expenditure to permit activities such as researcher secondments, industry-engaged PhDs and hosting PhD internships to qualify as eligible activities.**

   Despite Australia's strong university research system, the Research and Development Tax Incentive (RDTI) has not significantly increased industry-university collaboration, nor driven additionality. Less than 10% of innovation-active businesses collaborated with higher education institutions in 2022-23. Given the very high level of public funding consumed by the RDTI and its failure to deliver on the policy objective of additionality, there is a strong case for reforming the program to better target it toward research which is aligned with national priorities and making it easier for SMEs to participate. This would encourage closer relationships between business and Australia's world class researchers. At a minimum, the Government should reform the RDTI to include a premium rate for businesses collaborating with universities and other research institutions and expand the range of collaborative activities that are eligible activities, such as embedded PhDs. Budget neutrality can be delivered by reducing offsets for other eligible activities, reducing the unproductive aspects of the RDTI and tightening eligibility in other areas. Specific support can also be provided through programs designed to facilitate SME innovation development and translation. An example is the Small Business Technology Transfer (STTR) program in the US that aims to stimulate innovation by funding collaborative R&D between small businesses and research institutions and ensure that technological breakthroughs can be effectively translated into market-ready solutions through entrepreneurial partnership.

4. **Higher education policy, regulation and funding needs to be reformed with the objectives of prioritising agency and choice for students, and specialisation and dynamism among universities. Also acknowledging that a productive economy requires students to be job-ready upon graduation, and for employees to upskill and retrain throughout their careers, flexible qualification models and closer collaboration between employers and the higher education sector should be incentivised.**

   An educated population is essential to drive future productivity, which is recognised in the Accord target of 80 per cent of the working-age population holding a post-secondary qualification by 2050. Achieving this will add around $240 billion in additional income to the economy over the period to 2050.

   The Government has recognised the need to better align education, skills and training with employer needs to boost productivity and is undertaking significant higher education reforms through the Accord over the next few years. However, the funding regime needs a complete overhaul to enable higher education attainment targets to be met and for the delivery of priority courses in the STEM fields, which are currently underfunded. While the productivity roundtable can't solve this issue, it can underline the essential contribution of education to the productivity challenge; the need to align policy and funding settings with the desired national interest outcomes; the need to consider the role of industry in co-investing in education and training; the importance of incentives for universities and business to drive education aligned with a productivity and growth agenda; and the value of prioritising action. The Job Ready Graduates funding regime stands in the way of these objectives.

   Greater efficiencies across the higher education sector would be possible through sharing resources, services and teaching and research innovation through partnerships and collaborative arrangements. However, this type of innovation can quickly meet with ACCC scrutiny in a competitive market and this can work against the public good. A sprint review by the ACCC (with ATEC, Universities Australia and the Productivity Commission) of barriers to **greater innovation and collaboration between universities** could assess actual barriers, provide advice and guidelines to steer sector engagement and outline mitigants that would enable the pursuit of specialisation, deeper pools of expertise and system efficiencies that better meet student needs and preferences.

Policy and funding frameworks should also encourage a post-secondary education system that offers a range of options and outcomes for students, from **core qualifications to credentialed short courses that encourage upskilling and retraining**. The spectrum of educational outcomes delivered by a more diverse sector must range from critical, analytical, complex problem solving capabilities to professional and technical capabilities; and for students to access different mixes of these educational options across the spectrum. The ability of new students and those returning to study to seamlessly transition into and between educational programs will be critical. More attention should be given to nested and structured pathways within programs that allow students to exit with a recognised credential without completing a full degree. Policy and funding frameworks should also encourage education models which are designed and implemented in collaboration between universities and business, such as apprenticeship degrees, work integrated learning programs and also non-award microcredentials, with multiple entry and exit pathways and between providers.

The need for a broad general higher education, with professional entry post-graduate qualifications, will also endure and be a driver of productivity through graduates able to adapt to accelerating external disruptions. Increasingly, postgraduate education will be necessary as industries are disrupted and working professionals return to study to retrain and/or upskill. Postgraduate award and non-award programs that allow for this, building on previous expertise, and providing necessary reskilling, upskilling and professional specialisation will be essential for building an evolving workforce capable of adapting to innovation and industry evolution.

AI will deliver a step change for business and will be an essential tool in lifting productivity. The nation's workforce will need to be upskilled in the effective use of AI and this education and training will need to be provided broadly, and particularly to those in industries whose work will be disrupted and may be underrepresented in formal education and training. This also underscores the importance of education providers offering innovative curriculum offerings that produce adaptable, flexible, life-long learners willing and able to keep abreast of the changing workforce and shifting industrial base. Education can also build trust and support for technological innovation.

To better enable Australia's world-class university research to be commercialised, driving productivity gains and creating new companies and jobs, reforming the way higher education is funded must encompass the **funding of university research**. There is currently a significant gap in funding for the indirect costs of research, for example, which is a constraint on the ability of universities to leverage research into impact. It causes cross subsidy across the system and leaves Australia's R&D effort exposed where it relies on other sources of funding. This issue can be addressed by the SERD review and ATEC, but should be identified by the roundtable as an issue relevant to the nation's productivity challenge and a priority for resolution.

5. Support the establishment of a privately-run national university venture capital 'fund of funds' structure, backed by existing Government investment pools such as the National Reconstruction Fund.

To translate and commercialise Australia's world class research, the nation's university innovation ecosystems need more deep tech global quality venture capital embedded at their core. Existing venture funds such as Uniseed, which is backed by investment from universities and co-investments by Unisuper, is valuable. However, it is spread too thinly across multiple institutions and falls significantly short in scale – both of capital and attraction of expert venture building talent – to enable Australia to meet global commercialisation and economic impact benchmarks. Australia's Economic Accelerator (AEA) programs have provided a strong start, but AEA needs to scale up to deliver the productivity boost needed for Australia's R&D effort. AEA is a complement to the 'Fund of Funds' concept.

For the University of Melbourne, Tin Alley Ventures has successfully been established in partnership with private investment fund Tanarra Capital and has already delivered a dramatic increase in start-up creation. To catalyse the creation of more university-facing venture capital funds, the Government should consider utilising an existing Government investment pool, such as the NRF, to cornerstone and attract private sector investment into a 'fund of funds', which could then invest in individual dedicated university facing venture capital funds and in global scale-up fundraising rounds across the portfolio.