Queensland University of Technology
Response to the Department of Education, Skills and Employment consultation paper
Research block grant reform to boost incentives for greater university and industry collaboration

QUT welcomes the opportunity to respond to the Department's proposed reforms to the Research Block Grant (RBG), and we are grateful for the extension of time to permit more comprehensive and useful feedback from the sector on a proposal that would, if implemented, cause considerable harm to the Australian research and innovation enterprise – including, ironically, the research-responsive elements of Australian industry.

Recommendation

QUT's top-line advice to Government is that it should not proceed with this reform proposal.

Its implementation would be detrimental to the national interest, including to the successful application of university research through industry uptake. The Research Block Grant was overhauled only five years ago by the previous Government in response to the Watt Review, turning the dial towards application and uptake: there is no evidence that those changes have been ineffective or inadequate, nor that they are in need of a radical update. In the intervening period a number of related initiatives have been incrementally introduced – accelerating over the past two years – including the suite of measures rolled out under the *University Research Commercialisation Action Plan* and Ministerial Directions to the Australian Research Council (ARC). These measures must be properly evaluated for both efficacy and collateral effects, to decide whether it has met, fallen short or even exceeded the preferred overall balance of the national research enterprise, before consideration is given to further changes that pose a real risk to the integrity and effectiveness of Australian research.

Risk of overwinding

The chief collateral risk of the proposal – and indeed of the raft of recent adjustments to the "case-mix" of Australian university research already in train – is the over-winding of the system away from fundamental discovery research upstream towards application, translation and commercialisation downstream. Fundamental research is the feedstock of application research and development (R&D), and without new discoveries coming down the pipeline our applied research outcomes will soon run dry, to the detriment of industry and the national benefit. Any notion that Australia can avoid the need to make this investment in discovery research – in the hope we can freeload off other jurisdictions and simply rely on the fundamental discoveries they make – fails to take account of the empirical reality that industry overwhelmingly engages where the knowledge is found.

QUT supports the provision of an appropriate level of public support for application research as part of the overall public funding profile of Australian research, but we are well aware that the system has been tilted significantly in that direction by the previous Government – particularly over the last two years – to the point we are now at real risk of seriously depleting our fundamental research capability in science and technology. This outcome would be entirely self-defeating, including to the declared objective of the proposal itself. It would also do further harm to research that, while vital to the national interest, tends not to be funded directly by industry partners, including: much research in the humanities, arts and social sciences; public interest research across the disciplines; and applied research that produces significant outcomes that are not captured by industry (such as health services research, for instance).

Recent data from the Australian Bureau of Statistics [1] indicate that higher education research continues to skew away from discovery towards application. Between 2018 and 2020, "pure basic" research declined by 11.3% while "applied" research increased by 14%. Pure basic research comprised 19.4% of the higher education research spend in 2020, down from 22.8% in 2018, while applied research grew from 48.4% to 53% of the whole. These changes continue a well-established, long-term trend. Obviously a point will come when the mix passes the tipping point and we begin damaging the entire pipeline, including the uptake and commercialisation function, by running down our fundamental discovery capability: indeed, many informed commentators argue we have already passed that point. The present proposal opens the throttle wider, with the declared objective of shifting that balance still further.

The present proposal is based on a flawed "zero-sum" conception of the relationship between fundamental and applied research. To illustrate with a local example: the work of QUT's Distinguished Professor James Dale AC in developing disease resistant bananas has recently been commercialised though partnerships with international companies to the value of several million dollars. But this research was based on the outcome of years of fundamental research, funded initially by the university, then an ARC Discovery grant awarded in 2004, followed by ARC Linkage, CRC program, Queensland Government and direct industry funding over the subsequent 18 years. We need to take a mature and intelligent long-term view here, recognising that even for our commercialisation success stories, fundamental research is the first phase of application, not something we do instead of applied research. Then there is the plethora of fundamental research that benefits the economy, our society and the environment by means other than commercialisation: these include the delivery of cost-saving measures, non-patentable process improvements, publicly captured benefit, social and cultural insights, legislative reform, and the expansion of knowledge within disciplines that contributes to later application in unexpected and unpredictable ways.

No case for change

The previous Government wholly implemented the recommendations of its Watt Review over the period 2016-18, which included an overhaul of the RBG to the same purpose as the present reform proposal. Those reforms have not since been systematically evaluated – neither as to effectiveness nor as to side-effects. There is certainly no extant evidentiary basis for further change along the same lines. Additionally, a raft of subsequent related reforms have been implemented, as recently as the Letter of Expectations furnished by then Acting Minister Robert in December 2021 to the then ARC CEO, that jointly and severally have the effect of turning the focus of university research still more towards application, translation, commercialisation and industry uptake. No evaluation of their effect has been conducted either, nor is it yet possible to judge their ultimate effects. Neither has the system as a whole has been subject to a dispassionate expert appraisal of the desired balance between fundamental and industry-adjacent research. Without these evaluations, there is simply no way to know whether further winding of the spring is warranted, or indeed whether it is already over-wound. Further reform in this direction should not proceed without the benefit of a sound analysis of the current state of the system and an independent and objective appraisal of the optimal balance, against which to compare the evaluation.

Design flaws

Beyond the concerns above, the proposal suffers from several specific design flaws. At the top level it risks violating the sound principle that public funding should address the gaps that private investment cannot or will not target: the justification for public funding of research diminishes in close proximity to the point of market application. This proposal ignores that public policy risk, skewing the university

[1] ABS, 6 May 2022. https://www.abs.gov.au/statistics/industry/technology-and-innovation/research-and-experimental-development-higher-education-organisations-australia/latest-release

incentive towards the zone of privately captured benefit, where the public funding rationale can become difficult to sustain.

The proposal also manifests a misunderstanding of what the RBG is for. The paper rightly observes on p.3 that the purpose of the RBG is to "provide flexible funding to Australian universities for the indirect costs of research and research training." The paper continues that the Research Support Program (RSP) component "supports the systemic costs of research at Australian universities that are not supported directly through competitive and other grants, such as libraries, laboratories, consumables, computing centres and the salaries of support and technical staff." [2] Immediately after that acknowledgement, however, the paper moves to a conception of the RBG as funding for a category of research, which is a fundamentally different proposition: "RBG funding ensures that universities receive support for *basic* research, feeding high-quality and innovative research into the research pipeline" (emphasis added). The paper then further claims that, "Because RBG funding is flexible, it can be invested in the *translational and commercialisation* phases of R&D" (emphasis added).

This is a magic pudding argument. In the first instance, as the Department is aware, the RBG does not fully cover the indirect costs of grant-supported research, so there are no RBG funds left over with which to fully support additional strategic research. Even if there were, the paper implies that these funds would somehow be simultaneously available to support fundamental research outside the incentive structure proposed (should universities consider that important, which we do); and yet also available for redeployment towards industry-facing application (in alignment with that incentive structure). The fact is that university funding for strategic purposes comes from other discretionary sources: universities "self-fund" these priorities. Comfortably more than half of all university research is resourced that way under the current funding model of the national public research enterprise. The idea that the RBG can somehow meet the indirect costs of funded research and fund otherwise under-supported basic research and also bend to an applied strategic purpose is entirely flawed.

The proposal also makes a fundamental error of classification in designating *government* in opposition to *industry* as distinct sources of funding. The fact is that the public sector is a significant end-user of university research, using and applying research in exactly the same way as industry, for deployment in fields as diverse as agriculture, health, social services, aerospace, law enforcement, energy and defence. It is categorically mistaken to classify all government-sourced funding (from all portfolios, and all levels of government) as of a kind with research grant programs such as those made by the ARC and the NHMRC under the National Competitive Grants Program (NCGP).

In addition, the proposal makes an exception (without rationale) to this categorisation for funding from Rural R&D Corporations, when their typological disinction from other non-NCGP government sources is not apparent.

Transitional arrangements

With the provision of the above advice, which we know is consistent with responses across the sector, it is hoped that analysis of the proposed transitional arrangements is moot, but for completeness we point out that they are not coherent with the program's logic as an incentive for behavioural change within universities. The transitional arrangements rely on results from prior and current years, effectively rewarding or punishing institutions for prior behaviour that cannot have been influenced by this proposal's incentive signal. The buffer period does not address this design flaw, only dampening dramatic transitional effects: it reduces the amplitude but preserves the incoherence. We hope it is not necessary to discuss this further with the Department, but should this scheme go ahead we would be grateful for the opportunity to expand on these concerns, and offer our alternative.

[2] In reality the Research Training Program (RTP) component also contributes to the funding of these facilities and staff, on which and whom Higher Degree by Research (HDR) students are highly dependent.