THE OFFICE OF THE DEPUTY VICE-CHANCELLOR (RESEARCH)

DEPUTY VICE-CHANCELLOR (RESEARCH)
PROFESSOR DAVID SIDDLE

THE UNIVERSITY OF QUEENSLAND

Brisbane Qld 4072 Australia
Telephone (07) 3365 9044
International +61 7 3365 9044
Facsimile (07) 3365 9040
Email w.freeman@research.uq.edu.au
Internet http://www.uq.edu.au/research

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Knowledge and Innovation Review Secretariat
Department of Education, Science and Training
Location 121
GPO Box 9880
Canberra ACT 2601

THE UNIVERSITY OF QUEENSLAND

SUBMISSION TO THE EVALUATION OF *KNOWLEDGE AND INNOVATION* REFORMS

1. Introduction

The reforms introduced by *Knowledge and Innovation* introduced fundamental changes in the Australian higher education research system. The focus on research excellence and the increase in research performance-based funding for research training were particularly welcome.

Backing Australia's Future promised further reform for the sector, but did not directly confront research related issues. Given this gap in *Backing Australia's Future* and the maturity of the *Knowledge and Innovation* initiatives, this review is timely and The University of Queensland welcomes the opportunity to comment.

This submission supports the key principles that underpinned *Knowledge and Innovation* and makes no recommendation that they be changed. It also recognises, however, that opportunities exist to introduce change to the performance-based allocation system that would better align the schemes with their stated objectives.

2. Evaluation Context

The five principles for funding of higher education research and research training that were adopted in the *Knowledge and Innovation* reforms are appropriate and should remain. Four warrant comment:

Excellence

Research excellence should be rewarded and the current practice of linking a proportion of Universities' operating grants to research performance works in support of this principle.

The RTS is to be supported for its intention of funding more higher degree student places at Universities that demonstrate stronger research performance. However, the scheme has produced some counter-intuitive outcomes that must be addressed.

Institutional autonomy and responsiveness

Institutional autonomy and flexibility is critical if universities are to concentrate resources and invest in building critical mass in strategically important areas. Any decrease in the performance-driven operating grant funds would clearly inhibit the future infrastructure building capacity of the universities, focus too narrowly upon individual grant winners and possibly create a disincentive for universities to collaborate with the growing number of research agencies other than the ARC or NHMRC.

Linkage and collaboration

The current rules that govern how institutions' research income is calculated provide no easy mechanism to acknowledge the contribution of partner Universities that have been significant contributors to a research program, but have not borne the major costs (and have not therefore receipted a coinciding share of the income). This incongruence between the collaborating institutions' research efforts and expenditure patterns is most apparent in the large, competitive infrastructure based schemes such as the Systemic Infrastructure Initiative (SII) and the major National Research Facilities (MNRF) scheme. It is a real, and growing, disincentive to collaboration.

Transparency, contestability and accountability

On the whole, the principles of transparency, contestability and accountability are well supported by the competitive block grant formulae, by peer-selection for the Australian Competitive Grant scheme, and by the Research and Research Training Management Reports and the AUQA process. This Review does, however, have an opportunity to recommend improvements and three issues in particular are worth consideration.

- The true costs of research and the responsibilities for meeting those costs are not readily apparent in that universities must supplement funding received from the Competitive schemes with support for essential and increasingly costly infrastructure.

- The transparency of the RTS is severely hampered by the complexity of data requirements and the calculations required to determine the separations component. Although the separations component is the most significant variable in the RTS funding formula, it is also the most volatile and the least predictable. The net effect is to hamper universities' ability to plan recruitment, selection, internal funding for scholarships and infrastructure, and other management strategies.

- The inclusion of student load in the allocation formula has led to the IGS being less directly dependent on research outcomes than its predecessor – the Research Quantum.

3. Overarching Issues for Performance-based Funding

The review *Issues Paper* states that the "RTS, IGS and RIBG represents the core of performance-based block funding provided to the higher education sector for research and research training". It needs to be noted, however, that the IGS is not funding received to undertake research, but is part of the operating grant that is marked off and driven by research performance.

One of the themes that must be addressed by the review of *Knowledge and Innovation* is the extent to which many universities, and especially the research-intensive ones, subsidise research through mechanisms other than direct research funding. This comes about largely, but not exclusively, from the need to develop significant infrastructure capability in the form of libraries, animal facilities, laboratories that are compliant with legislation (e.g. Gene Technology Regulation) and other facilities such as microscopy and microanalysis, parallel computing and visualisation and the many facilities essential for modern molecular bioscience. The extent of this subsidy has been variously estimated, but is likely to be around $400 million per annum across the sector.

There are a number of ways in which this issue could be tackled. But, all depend on there being additional funding that is related to research performance. A beguilingly simple "solution" might be to provide additional funding to research councils so that they can more fully fund successful research grant applications. This, however, would not solve the problem. Even if this manoeuvre allowed the councils to cover the salaries of investigators, it would not address the issue of how to build the infrastructure that is necessary to support leading edge research. This is the kind of infrastructure that a number of universities have been building and will continue to build. Alternatively, additional funding could be put into the Institutional Grants Scheme and the RIBG. That would certainly provide a powerful incentive to lift research performance. A third possibility is to introduce some form of research assessment exercise (while noting recent changes to the British system), the results of which could drive the allocation of IGS and RTS.

Australian universities must carefully and strategically select research programs and medium- to long-term infrastructure investments if they are to pursue excellence and to "concentrate resources so as to build critical mass in areas of existing and emerging strength, thus providing optimal conditions for maintaining research excellence over the long term". The institutions that do this well and that produce demonstrable outcomes must be rewarded. The argument for an increase in funds available through the IGS and RIBG is particularly strong. It would:

- represent good investment. Untied funds such as these allow universities' to gain leverage by entering into arrangements with industry and other non-Commonwealth bodies;
- help compensate for the subsidising of research projects selected by Australian Competitive Grant schemes;
- provide a very strong incentive for universities to increase performance; and
- demonstrate a real commitment to research excellence.

4. Research Training Scheme

The broad principles underlying the RTS are to be supported:

- that there is guaranteed funding for continuing students for a specified period; and
- that the capacity to enrol new students is performance based.

Since the RTS has been implemented, however, a number of deficiencies have become apparent.

Counter-intuitive outcomes

The clear intention of the RTS formula is to move all institutions closer to an allocation based on research performance, as determined by the completions-income-publications index. The RTS has demonstrably failed to achieve this in a significant number of instances. This occurs when the effect of the separations component of the RTS mechanism overwhelms that of the performance-based distribution of the funding pool.

Volatility

The extent to which Universities' HDR separations drive the allocations under the current RTS formula is too great and is the primary cause of volatility, complexity and unpredictability within the system.

The RTS withdraws a place (and the associated funds) from an institution when an RTS student submits a thesis, exhausts his/her entitlement, or separates from the University (whether temporarily or permanently) for any other reason. The assumption inherent in this feature of the formula is that RTS operating costs are closely and immediately linked to student enrolment. This assumption is fundamentally flawed. Operating costs are dominantly linked to staff salaries and the support of research programs and infrastructure. These costs work on a much longer cycle and can only be adjusted incrementally. The costs certainly do not disappear when a student takes a short 'separation' for personal, health, or employment related reasons. These are not trivially small occurrences.

The volatility introduced by the separations component of the allocation mechanism is further exacerbated by the lack of any mechanism to smooth out its effect on formula outcomes. The separations figure, which is the sole determinant of funds to be returned by the University to the national pool, is calculated each semester, and the separations calculated in any year have complete and immediate effect on the next year's allocation. By contrast, the 'positive' indicators of performance are averaged over two years and lag by up to three years. The gap between a 'separation' caused by a thesis submission and the receipt by the institution of the full value of that event as a 'completion' will be from 3-5 years.

Complexity

The complexity that the separations component adds to RTS formula is widely accepted. The net effect of this administrative complexity is that institutions cannot calculate:

- most of the major formula inputs before years end;
- the extent to which they have 'used' their RTS allocation; and
- their contribution to the separations pool and therefore the number of places no longer available to them to fill.

It is not possible, therefore, to plan recruitment and selection or other HDR student management strategies on a reasonable basis. Effective forward planning is essential for institutions to operate effectively and make efficient use of public funds.

The current RTS scheme is clearly failing to meet some of the key criteria defined by *Knowledge and Innovation*, ie rewarding excellence, supporting institutional responsiveness and providing transparency. A new approach is recommended in which all of the RTS is allocated each year according to performance. The measures of performance should obviously include research income, HDR completions and publications. In order to reduce volatility and recognise

commitments to continuing students, a fourth measure is probably warranted. A prime candidate could be the previous years RTS allocation.

Inclusion of the prior year's RTS allocation has several advantages:
- it is a simple mechanism that provides a proxy for continuing student load;
- it is a stabilising influence;
- it is not susceptible to manipulation; and
- using it as a formula input removes any of the current incentive for institutions to increase enrolments to unsustainable levels.

A possible weighting system would be:
- 30% - previous year's RTS allocation;
- 30% - higher degree research student completions;
- 30% - research income; and
- 10% - research publications.

The basis for assessing HDR completions, research income and publications are relevant and should remain as is. The inclusion of international student completions in the performance measure has been questioned in some fora, however, international student completions are a bona fide indicator of research performance and should remain.

In considering public investment in research and development, it is worthwhile noting that the number of postgraduate research scholarships has not increased significantly for some years. It could be argued that a relatively inexpensive but significant investment would involve an increase in the number of scholarships.

5. Institutional Grants Scheme

The specific objectives of the IGS are appropriate and are well matched by the competitive, formula-based allocation mechanism employed.

It is instructive to consider the objectives carefully:
- Support the general fabric of institutions' research and research training activities;
- Allow institutions to manage their own research activities and set their own priorities;
- Assist institutions to respond flexibly to their research environment in accordance with their own strategies; and
- Enhance support for areas of research strength.

Inherent in every one of these is recognition of the paramount importance of institutional autonomy and flexibility.

In introducing the IGS, *Knowledge and Innovation* has eroded the direct link between research outcomes and the allocation of the funds formerly distributed via the RQ and ARC Small Grants mechanisms. HDR student load, while indicative of ongoing activity, is not a direct measure of research output. Accordingly, the weighting given to student load should be reconsidered along with the possibility of increasing the weighting given to research income.

6. Research Infrastructure Block Grant

The current funding distributed to universities through the Research Infrastructure Block Grant (RIBG) is pivotal in the development and maintenance of institutional infrastructure.

RIBG funding is essential in underpinning large tracts of university research and research training. Without it, universities would not have the ability to plan and build, to effectively support the fabric of their core infrastructure (including essential project-related infrastructure), or to respond to new initiatives as they can now.

At UQ, RIBG funding underpins research and research training in exactly these ways. It is used to develop and maintain essential infrastructure capabilities (such as libraries, major microscopy, magnetic resonance and computational facilities, amongst others); to support a range of discipline-specific major equipment and infrastructure initiatives through an internal competitive scheme linked to excellence in research and areas of identified or emerging institutional strength; to build collaboration through the support of initiatives such as ARC LIEF and MNRFs; and to support strategic infrastructure needs within the University in areas of high quality research.

The University reports on its key strategies in the use of RIBG and the major initiatives supported by those funds in detail to DEST each year. As such the existing RIBG scheme is transparent in its operation and, importantly, achieves this with the added benefits of institutional flexibility. Furthermore, the elements of research infrastructure that may be funded under the existing scheme appropriately recognise the full range of infrastructure support required, including the salaries of research support staff.

UQ strongly supports the appropriateness of the current allocative and administrative mechanisms for RIBG (although the level of funding in cents per dollar is acknowledged to be well below our key international counterparts). We share concerns with many other Australian universities that the reallocation of RIBG as an overhead on project grants, as has been argued by the ARC, would significantly weaken the ability of universities as major research providers for the nation to underpin the range of infrastructure support described above. This would have the inevitable consequence that funds over which there is some discretion to build institutional capability are exchanged for funds that are tied to particular projects. It would fly in the face of the capacity-building potential of research intensive universities and of the need for appropriately funded infrastructure. Such an outcome would deprive well managed institutions of the ability to prioritise and plan research directions. It would also inhibit the growing and sensible trend of entering into collaboration with other universities and research organisations and would inevitably mean that the human and physical infrastructure that has been assembled by careful planning and prioritisation would be dissipated and fragmented.

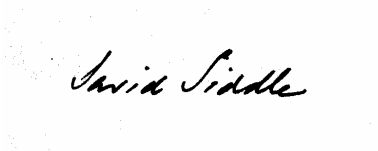
7. Capping and Regional Protection

The capping mechanism and the regional support package were included within the *Knowledge and Innovation* reforms as transitional arrangements. As a matter of principle, The University of Queensland recommends the removal of these arrangements at this stage. We recognise, however, that should there be further changes to the allocative mechanisms as a result of this review, it may be appropriate to extend the capping policy for a limited period.

8. Summary of Recommendations

The University of Queensland supports the key principles that underpin *Knowledge and Innovation* and makes the following recommendations:

- Increase in the quantum of funds made available to institutions through the performance-based block grants.
- Amend the guidelines for reporting research income so that the notional share of income to supporting participants in inter-institutional collaborations can be recognised.
- Revise the RTS formula to one that distributes all available funds each year on the basis of the previous year's RTS allocation (30%), higher degree research student completions (30%), research income (30%), and research publications (10%).
- Revise the IGS formula so that a reduced weighting is placed on HDR student load and the weighting on research income is increased.
- Retain the RIBG in its current form.
- Remove the transitional regional protection arrangements.
- Pending further change in the IGS or RTS, remove the transitional capping policy.



Professor David Siddle
Deputy Vice-Chancellor (Research)
The University of Queensland