

## THE UNIVERSITY OF WESTERN AUSTRALIA

### Submission to the Evaluation of the “Knowledge and Innovation” Reforms

#### Summary of Major Points

- The IGS, RIGB and RTS are suitable and should be retained.
- It is suggested that increasing the proportion of the GDP allocated to research funding to a level more commensurate with that allocated by our overseas competitors would be a positive move.
- The current elements except publications in the IGS and RTS should be maintained. The publication element should be abolished or should include a quality measure.
- IGS and RIGB should continue as institutional block grants.
- The RTS separations pool should be abolished.
- Annual allocations should be made using a revised RTS index with the publication element abolished or to include a quality measure.
- RRTMRs should be abolished or streamlined.
- Capping should be revised.

## Evaluation Context

### Relevance of funding principles

There is a general agreement that the enunciated funding principles for research (excellence; institutional autonomy and responsiveness; student choice; linkage and collaboration; and transparency, contestability and accountability) are still relevant. However some of the principles are in mutual conflict and it is also apparent that relevance and relationship to national economic goals have emerged as important drivers in research funding policy. This is certainly true of the CRC, Centres of Excellence programs as well as the MNRFF schemes and much of NHMRC project funding. Thus the permission for institutions to set their own research priorities and the injunction to support areas of research strength could be mutually exclusive. The freedom of student choice is also likely to suffer under the present funding arrangements which betray a lack of confidence in the operation of market forces and are reminiscent of a commitment to a planned economy. The definition of excellence is not an easy task and is often a subjective judgement. Bibliometric attempts at this are fraught with difficulty and the present publication component of the RTS and IGS rely on a quantitative surrogate. Quantity of publication without a true measure of excellence is futile and can lead to meretricious behaviour.

### Overarching Issues for Performance-based Funding

- Certainly the emphasis on performance-based funding has caused researchers to respond to changes, e.g. linkage, collaborations and multidisciplinary projects, but whether this has caused an improvement of excellence of output is difficult to gauge. There is support in the university system for the retention of the general principle of performance-based funding.
- Whilst there is no evidence that the reforms have encouraged the attraction and retention of significant numbers of high-performance research staff, there is agreement that the concentrations of research effort are able to deliver this outcome. There are some who argue strongly that the proportion of the GDP allocated to research funding should be increased to be more commensurate with that allocated by our overseas competitors. This should doubtless be a positive move. Some argue that the number of high quality Australian researchers, particularly in the biological sciences, who have left Australia has increased over the last three years. The favoured destinations are the UK, the USA and more recently Singapore, which is investing heavily in scientific research. The salaries of Australian researchers are certainly not comparable with those in these countries nor is the research infrastructure always comparable. The return of a few high profile researchers under the Federation Fellowships program has hardly stemmed this exodus.
- A number of universities have responded in a positive way at the institutional level by introducing mechanisms congruent with the “Knowledge and Innovation” reforms to develop pockets of international level research excellence. The University of Western Australia is one such, and has been using a performance based budget model for distribution of research monies to faculties for the last decade. However, good management cannot disguise the importance of the quality of researchers, the research programs and the available infrastructure. An inevitable outcome of the reforms will be the development of international level research activity across a range of disciplines at five or six universities and several other universities will perform at such a level in selected areas.

- The University is however aware that there is a serious risk that research will be concentrated in the more populous Eastern states to the detriment of Western Australia. It should not be forgotten that the Western geographic third of Australia provides significant economic benefits to the nation because of its possession of oil, gas, minerals; its unique flora and abundantly diverse fauna allied with concentrations of international research excellence.
- The current funding arrangements have driven the universities to move in the directions enunciated in “Knowledge and Innovation”. Cynics argue that they have resulted in safer, less adventurous research but the riposte is that significant areas of research strengths have been fostered.

### **Performance-based Block Funded Schemes**

- The current elements of the IGS index are research income (60%), research student numbers (30%) and publications (10%). It is argued below that the research publication element should be removed because of its lack of quality mensuration, the high cost and labour intensity of the data collection, and the contention that the other elements contain inherent measures of research quality and quantity output. However, if the publications element is retained then suggestions are made below for the quality mensuration.

The retention of national competitive research grants as defined and reported under the HERDC should remain the only determinant of RIBG allocations. The RIBG has increased from \$82M in 2000 to \$136M in 2003 in line with increased funding to the ARC but the pool has not remained in proportion to the magnitude of NCGP earned by the sector so that there has been a decline of the RIBG to 20 cents in the dollar. This figure does not cover the actual infrastructure costs associated with the research it is designed to support. There is a strong case for an increase in these funds.

The IGS is achieving its stated objectives of increasing the flexibility and autonomy of institutions, and as such its retention in the current format is advocated. There is also a strong argument for retaining the present method of distribution of the RIBG rather than being disbursed by the ARC to individual research projects. Both these schemes allow universities to manage these funds in strategic ways congruent with their individual research profiles and they allow some degree of flexibility and continuity in research activities. The danger of a too strong link between RIBG and project grants is that support and development of early career researchers (particularly in the humanities and social sciences) may be neglected together with the sustainability of the next generation of researchers and teachers. The outcome might be an aging population of successful researchers with unfortunate long-term effects. Institutions need the autonomy to strike out in new directions, cross-subsidise developing research, and to smooth good years with bad.

- It is argued that research income from all sources including competitive granting bodies and other public and private sources is a good measure of an institution's research quality. Hence, there seems no logical reason for a differential between the sources, and thus the restoration of the 2:1 weighting in favour of national competitive grant income is not supported.

## Research Publication Element

The research publication element constitutes a relatively small amount of funding and appears at 10% in both the IGS and RTS. The collection and auditing of the data are highly labour intensive and the real costs of these must be a significant proportion of the funds distributed. It is well known that an undesirable and unintended consequence of this element has been an increase in the number of low-quality publications in low impact-factor journals. The total removal of this element would probably have little effect on the overall outcome of funding. Track-record, as measured by publication, is an important determinant in the outcome of research grant applications and is thus measured in other parts of the formulae. In most universities promotion of academic staff depends strongly on research performance as measured by peer-reviewed evaluation of publication quality. Research workers certainly established reputations based on their published work, whether as books or journal articles, before the introduction of this element.

If it were to be decided to retain this element then some measure of quality needs to be introduced. This should not be beyond the wit of scholars to devise but as yet this outcome has eluded them. In the areas of science and engineering, journals have impact factors, the use of which could be adopted as a quality measure. Other areas of scholarly endeavour, especially in agriculture, the humanities and the social sciences, often have a strong Australocentric flavour so that some research will inevitably not be published in international journals. The appropriate academics could be charged with the task of devising impact factors for these journals and appropriate quality measures for other forms of research output. However, cost/benefit considerations might militate against this proposal.

## Block funding mechanisms and the RAE

- Performance in block funding mechanisms, it is strongly held, should be maintained at the University level and not measured at a lower level. The RAE in the UK has had some deleterious outcomes which are a consequence of measurement at the departmental level. Interdisciplinary research has suffered and as pointed out by Noel Annan (“The Dons”, Harper Collins, 1999):

*“In order to bump up the ratings in a department, its head would try to lure someone from another university to join it just before the day of the assessment so that his publications could be added to the rest and thus obtain a higher rating for the department.”*

An unforeseen consequence of these musical chairs is the dilution of research concentration. The cost of mounting a similar exercise in Australia would be prohibitive and some of these functions are surely served by AUQA.

- The balance between performance based funding and competitive funding allocated by granting bodies should be maintained at its present level. The case for retaining the IGS and RIBG in substantially the present form is made above.
- Further incentives for collaboration could be introduced provided there was increased overall funding. Increased tax relief for outside bodies would stimulate collaboration.

- There is an inevitable conflict between the necessity to contribute funding to new collaborative projects and the funding of existing continuing research. This danger is perceived and is met by each institution in terms of its individual policies. The removal of the conflict could only be achieved by an overall increase in funding.

## **Capping**

The argument for the introduction of capping of funding under the IGS, RIBG and RTS was to ensure that there were no punitive swings during the transitional years. The rationale for the introduction of the reforms was to increase institutional performance and there seems little point in continuing capping on the RIBG. Since the IGS and RTS are concerned with the funding of research higher degree candidates there is a necessity to ensure the continuity of adequate funding. If the RTS formula is to undergo any major change it is suggested that capping should be maintained for a further three year period and the situation should then be reviewed. What form should the cap take? The suggestion that there should be no cap on growth but a cap on losses (5%) is attractive. The retention of these capping arrangements would allow the discontinuation of regional support.

## **HERDC and RRTMRs**

The RRTMRs have ensured that universities have paid proper attention to the strategic planning and control of research and research training. However, the purpose and use of the reports have not been clearly defined, there is considerable overlap in the data reported in section B with that required for HERDC, and the release of the reports has been tardy. The continuation of the requirement for these reports is debatable and the introduction of AUQA reviews surely covers much of the same ground in ensuring policy outcomes. It is proposed that consideration should be given to abolishing the reports completely or ensuring that they are streamlined so that there is no duplication of data collection. Should they be retained their purpose and use must be more clearly defined. Perhaps the frequency of reporting could be reduced to triennially.

Were such reforms to be introduced HERDC would assume more importance. It is clear that the retention of HERDC is necessary to ensure adequate accountability.

Some researchers have suggested that universities should report on their expenditure of RIBG on specific competitively funded research projects in their RRTMRs. This should be adopted if the reports are retained.

## **Research Training Scheme**

- Most universities in Australia have responded positively to the issue of quality of supervision and have described their efforts in the RRTMRs. Certainly this has been taken very seriously at the University of Western Australia and a number of monitors of quality have been introduced.
- The allocation method is conducive to placing research students into the areas of research excellence and hence of research infrastructure support. Institutions have varied in their response to this driver. At the University of Western Australia, strong and continuing efforts have been made in this direction.

- There has been no change in the trend at the University of Western Australia in the declining proportion of Masters candidates as compared with PhD candidates. In 1993 the proportion of Masters candidates was 28.8% which had fallen to 15.8% by 2002. This reflects student preference and indicates the primacy of the doctorate as the desirable research qualification.
- Many argue that 4 years is insufficient time to complete a doctoral degree. They disregard the fact that scholarship funding is only 3.5 years. A high rate of attrition occurs after scholarship funding has ceased and the extension of RTS funding to 5 years would serve to exacerbate this situation. A rethinking of the purpose of a PhD degree is occurring in the Australian university system which focuses on the training and generic skills acquisition of the candidate without sacrifice of the high standard of Australian PhDs or of timely completion.
- The impact of the RTS on part-time and mature age students is difficult to gauge. Given that part-time funding for the doctoral degree is 8 years there should be no consequences. However, anecdotal evidence suggests that in some areas the obsession with completions, due to a lack of real understanding of the RTS, may have had adverse effects. One concern expressed by part-time students (who are often mature aged) is that APAs for part-time students are taxable. This inequity should be removed.
- The University of Western Australia has not changed its policies on allowing students legitimate suspensions or changing from full-time to part-time study. Anecdotal evidence suggests that this is not true at all universities and some manage the timing of suspensions to minimise their reporting of separations at the census dates. This would argue for a reconsideration of the separations pool.

### RTS Formula

- There is general agreement in the University system that there are major flaws in the RTS formula. The paper by King and Dobson demonstrates that the formula is failing in its intention “*to allocate funding to institutions to provide higher degree by research places on the basis of performance...and speeded up completion times for students.*” The crux of the problem is the separations and it is clearly shown that it is financially advantageous to enrol students as part-time candidates. Hence it is argued that the separations pool be discontinued.

A reformed system would need to take into account accurate measures of the relative research performance of universities including completions and ensure that continuing students are guaranteed funding. It would also need to be transparent and if possible reduce the expense and complexity of administration.

Given the above discussion on the limited utility of publications as a measure of research quality it is proposed that the RTS index should be based on:

- (i) 40% HDR completions maintaining the present relativities between high cost and low cost, and between PhDs and Masters;
- (ii) 30% previous RTS funding; and
- (iii) 30% research income as presently estimated.

These data would be the means of the previous two years' data.

- The current RTS index includes international students in HDR completions. Some argue that this is an inequitable use of taxpayers' money but a significant proportion of international students are IPRS students and the universities already receive funds from this source. Given the strong emphasis on international collaboration and the argument that attraction of international students is a measure of the research prowess of an institution, the retention of such completions is favoured.

### **Institute of Advanced Studies**

- The special arrangements for the IAS should continue until 2005 and then they should be treated in the same way as the rest of the ANU.