Options for the Publication Component of the Research Quantum

The report of the audit of the resubmitted 1995 publication data collection has raised again the need to address the future of the publication component of the Research Quantum (RQ). Now that an audit of all 36 universities has been completed, the sector is in a position to consider possible options and their appropriateness in both a short term and a long-term context.

This document canvasses five possible options. It is essential that these options and any others that can be conceived are considered in detail to ensure that the issues raised by the KPMG audit are addressed and the original objectives of the publication component of the RQ finally realised.

The five options are:

- to abandon the publication index completely and allocate the RQ on the basis of research income and higher degree completions alone;
- to further refine the publication index by removing categories to improve auditability;
- to retain the existing publications index based on four categories and attempt to improve compliance;
- to retain the existing publications index based on four categories but not attempt to improve compliance;
- to replace the existing publications index with a more sophisticated index that has a greater quality component.

Option 1

Abandon the publication index completely and allocate the RQ on the basis of research income and higher degree completions alone.

*Comment*

The funding shifts between institutions resulting from such a move are so large (up to $750,000 on 1998 data) that it is almost inconceivable that this option would be generally acceptable. Of course, DEETYA might 'impose' this option unilaterally but equally the $27M associated with the publications component of the RQ might simply be 'withdrawn'.

Such a step would also be a disappointing outcome of the sector's attempt to emphasise outputs in the allocation of research funding. It would also result in an unfortunate perception of the sector's response to a negative finding in a complex situation—simply abolish the problem rather than devise a more sophisticated and appropriate solution.

Option 2

Further refine the publication index by removing categories to improve auditability.

*Comment*

This option would further exacerbate concerns that various forms of research output and by inference particular disciplines are devalued. The modelling that occurred at the time of the
reduction of the original 22 publication categories to four also suggests that the financial consequences, while not as large as for Option 1, are still significant and unlikely to be generally acceptable.

**Option 3**

Retain the existing publications index based on four categories and attempt to improve compliance through:

- further refinement of the Specifications;
- removal of staff fractionation; and
- improved internal audit procedures within universities.

**Comment**

While the Specifications have been significantly amended and clarified since the initial 1996 audit, further refinement is certainly possible. However, the level of internal checking that already occurs imposes, particularly in the research-intensive universities, an immense workload that has little to do with an assessment of the quality of research outcomes. Should improved audit procedures result in the imposition of an even greater workload with more bureaucratic aspects, this is likely to lead to an increased scepticism that the system has any value and thus ironically lead to further lack of compliance. It must be realised that there is a fundamental tension between achieving an acceptable degree of auditability through tight and unambiguous specifications and academic quality assurance. The latter is appropriately focussed on content rather than simply the mode of publication.

**Option 4**

Retain the existing publications index based on four categories, further refine the specifications, remove staff fractionation but do not attempt to improve compliance through improved internal audit procedures within universities.

**Comment**

To date the approach to ensuring the veracity of the publications data has involved universities collecting and collating their publication data, procuring appropriate evidence for verification of the claims being made, and then checking and rechecking the data in preparation for an audit. The audit has been seen as a punitive measure designed to determine the accuracy of the universities’ claims and rectify any misallocation of funding occurring from the use of false or unverified data. The emphasis has been on ensuring that universities’ internal processes produce compliance with tightly specified categories that increasingly are seen as detached from academic values and practices. An alternative approach would be to recast the audit as the process by which a diversity of publication practices and values all of which have validity at institutional level are standardised or moderated for use as a basis for inter-institutional allocation of funding.

Under this option, the audit could replace much of the detailed internal checking that is currently undertaken by universities. Individual universities would simply collect the publication data and any evidence required for verification. A sample selection of each institution’s collection would then be externally audited to determine that institution’s score for inclusion in the Composite Index. The potentially politically damaging perception that the sector tolerates large error rates in its publication practices should be ameliorated by the
emphasis on the audit as a standardisation/moderation process for inter-institutional allocation and not as a quality assurance process.

To ensure an acceptable degree of compliance, penalties could be applied for error rates that are significantly outside what is deemed to be an acceptable bandwidth. Alternatively, and better, incentives could be introduced for low error rates. However, both moves would tend to focus attention on errors and error rates rather than on the view that the audit is a process of moderation/standardisation of a diversity of publication practices and values all of which have validity at institutional level.

Option 5

Replace the existing publications index with a more sophisticated index that has a greater quality component.

Comment

The idea of a funding scheme based on a process in which a university’s performance on a field of research basis is assessed is attractive for a number of reasons and could be of significant benefit for Australian higher education. In UWAte’s response to the West Committee’s draft report, I outlined a possible mechanism for such a scheme. The suggested process built on initial suggestions by Paul Bourke and incorporated aspects of the 1993-5 Quality Assessment Reviews, particularly the 1995 round that focussed on research. This scheme is summarised in the Appendix. However, to make such an exercise cost effective the amount of funding influenced by it would need to be increased, presumably by including in the RQ some fraction of academic salaries that are imputed to research.

Conclusion

While a quality-based research allocation mechanism as envisaged in Option 5 is ultimately the only way to overcome all of the problems with the current publication collection, the development of the required policies and processes would take time and thus make 2000 the earliest year for implementation. Consequently Options 3 and 4 appear to be the only feasible options for 1999. Both have the advantage of continuing to use an output measure with which institutions are familiar. Because of the reduction in institutional workload my preference would be Option 4. However, either choice must be seen as only an interim response and work should start immediately on developing the political will to move to a more credible and more acceptable system such as that envisaged in Option 5 and the Appendix.

Michael N. Barber
Pro Vice-Chancellor (Research)
The University of Western Australia

16 March, 1998
Appendix: A Quality-based Research Allocation Mechanism for Australia

1. Institutions nominate for assessment those major fields of research in which they exceed minimum performance thresholds, eg coverage of a minimum range of subfields, a minimum research income, a minimum number of research student completions, and particularly, a minimum number of research-active staff. The performance thresholds should be specific to a particular field of research.

2. The notion of "research-active staff" is important both as a threshold for nomination and as the basic "unit" for subsequent funding allocation. To qualify as research-active an academic staff member would need to have produced a minimum quantity of research output over a specified period. Again the criteria involved should be specific to a particular field of research. For these purposes, an author's contribution to a paper should not be fractionated in the case of multiple authors, thereby encouraging inter-disciplinary, collaborative and cooperative research.

3. Assessment would be at two levels:
   - *Institutionally on the basis of a portfolio demonstrating the institution's performance over at least a minimum number of sub-fields of research. The portfolio would need to address specified criteria which might, in addition to quality, significance and impact of research outcomes, include issues such as innovation in research, the postgraduate research environment and research administration and management. As in the 1995 Quality Review, research improvement should be a criterion.*
   - *At the level of a centre, in cases where institutions do not meet the criteria allowing institutional assessment across the whole field of research. In those circumstances, institutions could nominate centres that represent pockets of strength and research activity in selected (narrower) areas of research. Again minimum levels of performance should be specified for nomination.*

4. The results in both cases would be an assessment of either the institutional or centre activity on a three point scale, say Q, QQ, QQQ. The lowest level could simply involve confirmation of the claims for research-active staff and no portfolio assessment. Under those circumstances it should be possible to design a relatively simple statistical audit process to confirm a university’s claim without checking every individual academic involved.

5. Given this assessment, the index would be constructed by summing over all fields of research, the product of $Q_c N_A$. Here $N_A$ is the number of research-active staff; $C_a$ reflects the relative costs of the different fields of research; and $Q_c$ is a quantification of the outcome assessment exercise, say, 1 for Q, 2 for QQ and 4 for QQQ.

Unlike the UK’s Research Assessment Exercise, in which lowly ranked departments gain little or no funding, universities would receive some "base level" funding for the output of all research-active staff under this model. In addition, all universities would continue to gain funding through the other two components of the Composite Index. The resulting distributions would be more egalitarian than in the UK and more appropriate to Australia, where research activity is now fairly widely distributed across the system. However, the proposed model would also provide considerable incentives for institutions to build concentrations of research activity and to reward and recognise performance.