ENTERING AN ERA OF RESEARCH RANKING - WILL INNOVATION AND DIVERSITY SURVIVE?

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Introduction

There is something fundamentally absurd about the idea of ranking research. At the same time, no one can seriously argue that all research is equal in importance and quality. Either way, we are doubtlessly witnessing a dramatic change in the management and organisation of research. One aspect of this change is a move towards the ranking of research. In the United Kingdom, the Research Assessment Exercise (RAE) has been carried out on six occasions, with plans for another. Further, the Australian Government is in the process of introducing the so-called Excellence in Research for Australia (ERA). These are just some examples of a widespread trend affecting research around the world.

In this article, we examine, compare and discuss two research ranking schemes; the UK's RAE, and Australia's ERA. First, an overview is given of the two schemes. This is followed by a comparative part focused on identifying key similarities and differences between the schemes. We then move on to analysing the relevance of the indicators of 'research quality' used in the schemes. Finally, we explore some of the negative consequences that may follow research ranking exercises, and propose a possible way forward.

The ranking schemes

The ERA

The purpose of the Excellence in Research for Australia (ERA) is to evaluate the quality of research conducted in Australia's higher education institutions.[1] A trial of the ERA commenced this year (2009) and will evaluate the quality of research from

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1 Australian Research Council, *Physical Chemical and Earth Sciences (PCE) and Humanities and Creative Arts (HCA) Clusters: ERA Submission guidelines* (March 2009) 5.

two different groups, the Physical, Chemical and Earth Sciences (PCE); and Humanities and Creative Arts (HCA). The ERA calls these groups clusters.[2] Within these clusters are specific disciplines. For example, Law is a specific discipline in the Humanities and Creative Arts cluster. The ERA's evaluation will focus on specific disciplines. The trial will look at three broad categories as indicators of research assessment. These are: research quality, research volume and research application. Research volume is considered by taking into account research income and research output. Research application includes issues of commercialisation. Research quality is based upon citation analysis, peer review, ranking of publications, and research income.[3] Research quality is the relevant issue discussed in this paper. The following will outline in more detail the 2009 ERA trial method as it applies to indicators of research quality.

Peer reviews and expert reviews will ultimately decide what type of overall evaluation is given to an institution's discipline. An expert review is essential for all disciplines to receive an ERA evaluation. Peer reviews can be considered subordinate to expert reviews. Peer reviews are designed to assist the expert reviews with their final evaluation of a discipline.

The Australian Research Council (ARC) will appoint peer reviewers.[4] However, the ERA trial indicates that there is some flexibility in whether a peer review is necessary for specific clusters. It is not considered necessary in the current ERA trial for the PCE cluster. It will be used in the HCA cluster though. The ERA considers 20% of the research outputs (eg book chapters, journal articles) put forward for assessment as the standard amount necessary to conduct a peer review.[5]

Research Evaluation Committees (RECs) conduct the expert review of disciplines. An REC is assigned to each cluster. The ARC is responsible for appointing members to the RECs. An REC is described as comprising of 'internationally-recognised members with expertise in research evaluation and with broad disciplinary expertise'.[6] The REC is ultimately responsible for the final evaluation of each discipline assessed under a specific cluster. The evaluation will be based upon quantitative data collected on each institution's discipline. Part of this data is based upon citation analysis, journal ranking and research related income.

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2 Overall there are eight clusters.

3 Australian Research Council, above n 1, 6.

4 Australian Research Council, *Physical Chemical and Earth Sciences (PCE) and Humanities and Creative Arts (HCA) Clusters: Evaluation guidelines for the 2009 ERA Trial* (April 2009) 14.

5 Australian Research Council, above n 1, 11 – 12.

6 Australian Research Council, above n 4, 13.

Citation analysis will be a major part of the ERA assessment for the PCE cluster but will not be used for the HCA cluster.[7] A number of factors are considered when gathering statistics on citations made to publications (research output). The total number of publications from an institution's discipline group is taken into account, as well as the number of times citations have been made to these publications. An RCI (relative citation impact) is then given, which is an assessment of the number of citations measured against Australian and world wide citation averages for the specific discipline. The calculations used to arrive at these assessments are available in the ERA publication *ERA Indicator Benchmark Methodology*, April 2009.[8] In simple terms, the more a publication is cited, the more likely it is to receive a higher rating. This will improve the overall assessment of the institution's discipline group.

The ERA, as part of their quality assessment, will also consider where the research output is published. The ERA has developed a journal list that has ranked, according to quality, over 21 000 journals. These journals are placed in one of four quality categories: A*, A, B or C. A* is the highest quality and C is the lowest quality. Large numbers of research output published in higher ranked journals will help to improve the overall assessment of an institution's discipline group.[9]

The ERA collects data on research incomes that are related to grants, and commercialisation. The research income for each discipline is evaluated by calculating the average dollars received per grant. Larger institutions are likely to have greater real dollar amounts in research income compared to smaller institutions. An average dollar amount per grant is used, so smaller institutions can be compared fairly against larger institutions. A ratio of income dollars per full time equivalent staff is another measure used in the assessment of income. The use of averages and ratios means that institutions that receive large (in terms of dollar amounts) research grants will improve their overall rating.

Finally, it is of significance that it has not been announced whether future research funding will be based on, or at least affected by, the ERA. This is perhaps only natural considering that the ERA is still in a trial phase. Anecdotal evidence suggests, however, that the general expectation is that the ERA will affect funding. Indeed, the Minister for Innovation, Industry, Science and Research (Senator Kim Carr) has stated that the 'ERA will give the government, business and the community a clear idea of how well our researchers are performing. It will recognise and promote

7 Australian Research Council, above n 1, 64.

8 Australian Research Council, *ERA Indicator Benchmark Methodology* (April 2009) 9 – 11.

9 Ibid, 11 – 15.

excellence across the higher education sector. *It will also guide future investment in research*.'[10] (emphasis added).

The RAE

The first Research Assessment Exercise (RAE) was held in 1986. Later RAEs were run in 1989, 1992, 1996, 2001 and 2008.[11] RAE processes have changed over the years. Initially it was not used as a tool for allocating research funds.[12] The RAE process referred to in this article is the RAE for 2008.

The United Kingdom's RAE is currently used to determine the distribution of research funds to HEIs (Higher Education Institutions). Any HEI in the UK that is eligible for public research funds can participate in the RAE. Participating HEIs receive a 'quality profile' from the RAE, which is an assessment of its research activities. These profiles are used by the UK's education funding councils to determine the allocation of research funds to specific HEIs.[13]

An HEI's quality profile consists of individual assessments of each of its research activities. It is the role of specific groups in the RAE called panels and sub-panels to give a quality value to each research activity and create the HEI's quality profile.

In order to assess different types of research, specific disciplines are grouped together under panels and sub-panels. For example, there is a main panel in the RAE called 'Panel J'. This panel consists of six sub-panels: Law; Politics and International Studies; Social Work and Social Policy & Administration; Sociology; Anthropology; and Development Studies. Each sub-panel will evaluate an HEI's research activity if it relates to their area.[14] Guidelines on this assessment process are created for each sub-panel.

> An underpinning principle is that sub-panels should assess each submission in the round: they will not make collective judgements about the contributions of

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10 Australian Research Council, *Strategic Plan 2008–09 to 2010–11* (2008) <http://www.arc.gov.au/about_arc/strategic_plan08-11.htm> at 6 July 2009.

11 RAE 2008 Research Assessment Exercise, *About the RAE 2008*, (2008) <http://www.rae.ac.uk/aboutus/> at 6 July 2009.

12 Derrick Armstrong, Peter Goodyear 'Implications of external research quality assessment for local research leadership: learning from the UK RAE experience' (2006) 33 *Australian Educational Researcher* 19, 21.

13 RAE 2008 Research Assessment Exercise, *RAE 2008* (2008) <http://www.rae.ac.uk/> at 6 July 2009 .

14 RAE 2008, *RAE 2008 Panel criteria and working methods: Panel J*, (January 2006) [1] – [3].

> individual researchers, but about a range of indicators relating to the unit, research group or department that is put forward for assessment.[15]

Essentially the RAE is a peer review exercise. Sub-panels are made up of relevant professionals that have experience and expertise related to the subject area. Sub-panel members are ultimately decided upon by the UK funding bodies' chief executives.[16]

The panels and sub-panels assess an HEI's research group or department by considering five components. These components are research output, research students and studentships, research income, research environment and esteem indicators'.[17]

Research output can mean 'printed academic work' but can also include other forms of intellectual property.[18] Sub-panels are not required to assess all research outputs submitted, instead 'a proportion which in its opinion, is sufficient to make an informed judgement on the quality profile'[19] is all that is required. Sub-panels have a certain degree of freedom to create their own approach to assessment. They can do this as long as it remains within the Panel's overall general assessment criteria. For example, the Law sub-panel evaluates research output by, in part, using a set of criteria for published material. This includes the following:

> Student texts books can be regarded as research output if they contain significant scholarly research;
>
> A journal ranking system is not used to assess journal articles. Each article is assessed on its own merits; and
>
> Book reviews are not usually considered research output.

The sub-panel for Law is used as an example for the remaining components below. This sub-panel assesses the quality of the research environment by considering its capability of supporting specific quality levels of research activities. When assessing an institution's research environment, account is taken of its research structure, staffing policy and research strategy. The number of research students is also considered an indicator of quality, but only in terms of the support it provides for

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15 Ibid, [21].

16 RAE 2008, *Units of assessment and recruitment of panel members* (July 2004) [42]-[43].

17 RAE 2008, above n 14, [21].

18 RAE 2008, above n 14, [31].

19 RAE 2008, above n 14, [34].

contributing to the research strategy of the HEI's department.[20] Finally, research income is also considered an indicator of the quality of the research environment.[21]

The sub-panel for law will look at specific evidence when evaluating the quality of esteem indicators. Esteem indicators can relate to an HEI's department, or specific staff. Some factors important for staff include:

editorships of journals;

the prestige of public lectures given;

advisers to government;

international recognition; and

competitive research fellowships awarded.

Drawing upon an analysis of the five components described above the Law sub-panel will then give qualitative values to an HEI's research output, research environment and esteem indicators. The weighting of these, as they contribute to an overall qualitative value for the HEI's department is, research outputs 75%, research environment 20%, and esteem indicators 5%.[22]

The research outputs, environment and esteem are assessed by giving each of them one of four qualitative values that relate to research (4, 3, 2, or 1). The highest quality value is 4. This means the research is considered 'world-leading in terms of originality, significance and rigour'.[23] The other three values are defined as either having international or national significance. A higher quality value is given to research that has international significance. A lesser value is given to research that only has national significance. There is also a category for research activities that are considered below the RAE standard, or do not comply with the RAE definition of research.[24] The Law sub-panel does not consider quantitative analysis important, except for noting the number of research students and the research related income as indications of the quality of the research environment.[25]

In attempt to highlight similarities and differences, we have constructed a table outlining the key features of the research ranking schemes discussed above:

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20 RAE 2008, above n 14, [27].
21 RAE 2008, above n 14, [29].
22 RAE 2008, above n 14, [45].
23 RAE 2008, above n 14, [34].
24 RAE 2008, above n 16, [50].
25 RAE 2008, above n 16,[51].

	Australia	**United Kingdom**
Name of Scheme:	Excellence in Research for Australia	Research Assessment Exercise
Year of introduction:	2009 (trial)	1986
Frequency of re-assessment:	No information available.	So far carried out six times over the past 23 years.
Indicators of quality:	• citation analysis • peer review • ranking of publications research income	• peer review • research environment • esteem indicators
Allocation of funding based on scheme:	• Not yet announced	• Yes

The perceived indicators of research quality

Having identified the indicators of research quality used in the two research ranking schemes discussed above, we will now analyse how well each of these indicators measure research quality.

External research funding

Both the RAE and the ERA attach significance to the amount of external research funding an institution has attracted. So what can then be measured by such an approach? We have identified three relatively trivial things such an approach can measure, and four significant problems with focusing on the success rate of obtaining external research grants.

While in an ideal world the most worthwhile research projects would always get funded over the less important projects, only the most naïve of commentators would suggest that that is always the case in reality. The simple truth is that grant application writing skills are vitally important for the success of funding applications, and a well-written application may ensure funding for a less significant research project, at the expense of a more valuable research project with a poor application. It is, of course, true that a good application often is the hallmark of a well thought through project, and consequently a project obtaining research funding is often deserving of the funding. However, it is equally true that many worthwhile projects fail to obtain funding due to the application being less convincing than those of competing projects. In other words, using research funding as a measure for

research quality will result in a low number of false positives, but a high number of false negatives.

An institution's level of successful grant applications may serve as an indicator of that institution's level of support for grant applications. Many researchers, particularly senior researchers, may be able to draft applications for external research funding quite independently. However, bearing in mind aspects such as the technicality of the funding restrictions and the necessity of a well constructed budget, most researchers would benefit from their institution's support services for grant applications. Without having any statistical evidence to support our assumption, we think it likely that a statistical study of grant success would reveal a clear correlation between an institution's spending on, and commitment to, grant application writing support and the rate of successful grant applications.

The degree of success an institution has in obtaining external funding may also be a measure of the level of research conducted in priority areas for the various funding schemes. For example, one of the most important sources of external funding in Australia, the ARC Discovery grant scheme, identifies priority areas. Projects addressing topics falling within these priority areas are more likely to be funded than projects that cannot be fitted within those areas. In light of this, a focus on the level of external research funding obtained will be beneficial for those institutions that have adjusted their research to fit the needs identified by the funding bodies, including the relevant government. While this may be justified in one sense, it may also mean that those institutions that focus on groundbreaking research, not yet envisaged by the government, may be disadvantaged.

Consequently, some relevant data can be gained from examining an institution's rate of success in obtaining external funding such as research grants. However, all things considered, the level of external research funding is an unsuitable indicator of research quality and should not be used as a basis for further research funding.

First of all, there must be something inherently wrong with a scheme that encourages researchers to conduct their research in an as expensive manner as possible. By focusing on research income, it is the obtaining of funds that is of importance – not how well the money is utilised, or indeed, the production of (quality) research. It is, of course, true that the funding bodies generally are seeking to get the best value for their money. However, the simple truth is that, where a project can be carried out without external funding (ie in the manner with the least impact on the funding country's economy), or with minimal additional resources (making it inefficient or impossible to seek external funding), that project is not as favourable to the host institution as if the same research was produced in a more expensive manner justifying an external grant. While many academics have so far resisted the pressure

to dedicate their limited teaching-free time to grant application writing, a focus on obtaining grants in the promotion process is sure to result in a move towards more expensive research methods and approaches. In light of this, rather than providing 'hard evidence that taxpayers are getting the best bang for their buck',[26] schemes such as the ERA and the RAE are likely to ensure inflated budgets in the research projects the taxpayers are paying for.

Furthermore, some disciplines are much less dependent on funding.[27] For example, while many forms of medical research are dependent on access to expensive technical equipment, legal research can typically be carried out with minimal resources such as access to a good library collection and possibly some research assistance. Consequently, there is a significant difference in the level of incentive to seek external research funding – some forms of research simply cannot be carried out if no funding is received, while a large part of e.g. legal research can be carried out regardless of external research grants.[28]

In addition, one must question the logic of, and policy goals associated with, financially rewarding success in obtaining external research grants. This reversed Robin Hood approach – take from the poor and give to the rich – will benefit those institutions that already gain funds to finance their research efforts, while it ensures that those who already struggle to get their research off the ground remains unable to compete. This is all the more serious when one considers that several of the most important external research funding schemes are already tied to the Government. In effect this means that an institution is rewarded twice for a successful grant application – first through the actual grant and second in the form of a higher research ranking leading to additional funding. Logic suggests that this will benefit the large research institutions over the smaller ones, and will result in a widened gap between the research intensive institutions and those that are not.

Finally, the level of external research funding obtained says nothing about research productivity. It is, after all, not unheard of that researchers fail to carry out the research they have gained funding for. In other words, rewarding institutions for obtaining external research funding is like rewarding a company for putting together

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[26] Christopher Arup, 'Research Assessment and Legal Scholarship' (2008) 18 *Legal Education Review* 31, 32.

[27] See further: Christopher Arup, 'Research Assessment and Legal Scholarship' (2008) 18 *Legal Education Review* 31, 48.

[28] This is not to say that research in disciplines such as law do not benefit from external funding. Such funding may, for example, make possible beneficial international travel, conference organisation etc. However, most such research is not *dependent* on external funding.

a marketing campaign – a research grant is not a guarantee for research output, and a marketing campaign is no guarantee for sales.

Journal ranking[29]

The ERA has opted for a ranking of journals as a shortcut to assessing the quality of journal articles. That approach was strongly resisted by the Law Panel in the UK RAE both in 2001 and in 2008. The law panel in the UK's Research Assessment Exercise 2001 concluded that:

> Work of internationally-recognised excellence was found in a wide range of types of outputs and places, and in both sole and jointly authored works (the Panel adhered to its published criteria in allocating credit for joint pieces). First-rate articles were found in both well-known journals and relatively little-known ones. Conversely, not all the submitted pieces that had been published in 'prestigious' journals were judged to be of international excellence. These two points reinforced the Panel's view that it would not be safe to determine the quality of research outputs on the basis of the place in which they have been published or whether the journal was 'refereed'.[30]

This reasoning has been maintained, and is now firmly established, in the UK with the law panel in the UK's Research Assessment Exercise 2008 stating that:

> Echoing the overview of the 2001 law panel, we found excellent work across a range of journals and publishers; we agree with the conclusion that it would not be safe to determine quality on the basis of place or type of publication. Indeed, of the different possible methods of assessing the quality of legal research, peer review of publications is the only one in which we would have confidence[.][31]

Interestingly, this approach is not specific to the discipline of law. In Research Assessment Exercise 2008, Main Panel J (encompassing Politics and International Studies, Social Work and Social Policy & Administration, Sociology, Anthropology, Development Studies as well as Law) reached a similar conclusion: 'Work of world-

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[29] The topic of journal ranking is discussed in detail in Dan Svantesson, International ranking of law journals – can it be done, and at what cost?, *Legal Studies* (forthcoming, accepted 26 April 2009).

[30] RAE 2001, *RAE 2001: Law Panel General Overview* (2001) <www.rae.ac.uk/2001/Overview/docs/UoA36.doc> (at 13 August 2009).

[31] RAE 2008, *RAE 2008 subject overview reports* (2009) http://www.rae.ac.uk/pubs/2009/ov/ (at 25 February 2009).

leading quality was found across the board and not limited to a small number of institutions, nor to particular areas or types of research or places of publication.'[32]

We agree with the reasoning of the Law Panels mentioned above, and with the group of 24 leading philosophers who, in their response to the Australian ERA ranking, concluded that: 'journal rankings are no substitute for direct assessment of a scholar's work by knowledgeable peers'.[33]

Peer review

Peer review is a major assessment tool in the 2008 RAE. The ERA uses peer review in its assessment methods also, but does not rely upon it as heavily as the UK. In the past, the Australian academic community has indicated they are not adverse to the idea of a peer review process.[34] This is understandable considering a peer review process can reflect academic values.[35] Further, academics are used to peer review, for example, in the context of submitting an article to a journal, or a book manuscript to a publisher. However, peer review methods do raise serious issues. The quality of a peer review process is utterly dependent on the skill, knowledge and integrity of the people involved in the assessment. Conflicts of interest and the inherent subjective nature of the review are, thus, relevant concerns.[36]

The ERA has acknowledged that conflicts of interest can be a problem with a peer review process. Therefore, guidelines have been put in place to address a conflict of interest a peer reviewer may have.[37]

While this is an important step in the right direction, peer reviews can, nevertheless give unreliable assessments. Studies have shown peer reviews can produce inconsistent results with different assessors conducting reviews of the same material being found to fundamentally disagree on evaluations.[38] One study collected applications that had already been reviewed by the US National Science Foundation.

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32 Ibid.

33 Z Corbyn, *Philosophers in ranking protest*, (28 August, 2008) Times Higher Education http://www.timeshighereducation.co.uk/story.asp?storyCode=403321&sectioncode=26 (at 17 February 2009).

34 Fiona Wood, V. Lyn Meek, G Harman, 'The research grant application process. Learning from failure' 24 (1992) *Higher Education* 1, 18.

35 Penelope Murphy, 'Research quality, peer review and performance indicators' (1994) 37(1) *Australian Universities Review* 14, 15.

36 Ray Over, 'Use of peer review by the Australian Research Council' (1994) 37 *Australian Universities Review* 31, 32.

37 Australian Research Council, above n 4, 16.

38 Over, above n 36, 32.

Relevant experts that were not a part of the initial assessment assessed the applications again. Many applications were given a higher score when compared to the initial assessment. The study found that if peer reviews were relied upon solely as a means of allocating funds then 'outcomes would have been reversed in 25% of cases'.[39] This is not conducive to an assessment process that is supposed to be fair when comparing the research quality of institutions.

Citations

As seen above, the ERA's assessment methods of research quality are somewhat different to the 2008 RAE. The ERA places a great deal of emphasis on objective methods of assessment, while the 2008 RAE's emphasis on peer review can be seen as a more subjective choice. The UK appears to be moving away from the peer review approach though. The next RAE after 2008 will most likely be a more objective exercise that uses bibliometric data as a form of assessment.[40]

Bibliometrics is one of the key assessment tools in the ERA. Citation analysis is used in the ERA to measure the impact of scholarly research.[41] A criticism of this method has been the lack of citation data for specific disciplines.[42] Law is one of the fields of research that is not adequately covered by citation data. The ERA has excluded citation analysis as a research assessment tool for Law and for any of the other fields of research that are in the Humanities and Creative Arts cluster.[43] The lack of reliable data is an obvious reason to exclude certain assessment methods. The ERA trial has acknowledged this to some degree by adopting a more flexible approach to the assessment of research that comes from different disciplines. However, there are other concerns about the accuracy and value of citation analysis. The wide variety of publications made possible because of the Internet may prevent any attempt at comprehensive citation counts. Individual citation tools do not necessarily represent all the literature that is available world wide.[44] Citation counts can quantify the impact of specific research but do not necessarily indicate quality. Citations to research (a journal article for example) may appear for all the wrong reasons.[45] The

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39 Ibid.

40 Universities UK, *Research report: The use of bibliometrics to measure research quality in UK higher education institutions* (2007) 3.

41 Australian Research Council, above n 4, 23.

42 Linda Graham, 'Rank and File: Assessing research quality in Australia' (2008) 40(7) *Educational Philosophy and Theory* 811, 812-3.

43 Australian Research Council, above n 4, 64.

44 Universities UK, above n 40, 3.

45 Peter Goodyear, 'Educational research and the ERA' (July, 2008) no 63 *AARE News* 4.

relative quality of the work that cites the research may be an important factor that is not necessarily taken into account when collecting citation numbers.[46]

Esteem

Esteem is used as an indicator of research quality in the 2008 RAE. The ERA does not use esteem in their assessment. In the RAE, assessment of esteem can apply to individual staff members within a department as well as the department as a whole. The RAE procedures list specific criteria related to the assessment of an individual's esteem.[47] However, the use of esteem as an indicator of research quality can be unreliable. The subjective nature of esteem can result in unfair comparisons being made between institutions. Older more established institutions might have an unfair advantage over relatively new institutions that have not had the time to create external recognition. It has been well recognized in the United Kingdom and Australia that there is a university hierarchy that has been established over time. In the United Kingdom

> …universities have always fallen into an informal hierarchy of esteem, reinforced by differential capacities in terms of endowments and the ability to attract research funding from research councils, private foundations and industry.[48]

In Australia older universities emphasise their social prestige and have been viewed as leaders in research.[49]

The long-term reputation of older more established institutions might also create another issue. University ranking systems have been criticised in the past for their bias towards a university's pre-existing reputation.[50] 'Some universities have a long history of high status such that the status takes on a life beyond the objective resources of the university.'[51] Instead of attempting to properly access a university's

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46 Universities UK, above n 40, 3.

47 RAE, (2006) Unit of Assessment 38 Panel J, 27.

48 Marianne Bauer & Maurice Kogan, 'Evaluation Systems in the UK and Sweden: successes and difficulties' (1997) 32(2) *European Journal of Education* 129, 136.

49 Paul Ramsden, 'Predicting institutional research performance from published indicators: A test of a classification of Australian university types' (1999) 37 *Higher Education* 341, 345.

50 David D. Dill, Maarja Soo, 'Academic Quality, League Tables, and Public Policy: A Cross-National Analysis of University Ranking Systems' (2005) 49(4) *Higher Education* 495, 503.

51 Pamela Paxton, Kenneth A. Bollen, 'Perceived Quality and Methodology in Graduate Department Ratings: Sociology, Political Science, and Economics' (2003) 76(1) *Sociology of Education* 71, 74.

overall quality assessors may be influenced by past reputation.[52] This could also apply to the use of esteem as an indicator of research quality.

Research environment

Using an institution's research environment as an indicator in a research ranking exercise has several benefits. First, it emphasises that research quality is not only dependent upon the quality of the individual researchers, but is also highly dependent on the research support offered by the institution in question. In other words, a poor research ranking is at least as likely to be a result of insufficient institutional support as lacking research capacity amongst that institution's staff. We are consequently generally positive as to how the RAE incorporates research environment into its assessment structure. In particular we see the value of taking account of an institution's research structure, staffing policy and research strategy.

At the same time, we are concerned to see research income being considered a factor in this context as well. In addition to the concerns we have expressed above about the general unsuitability of attaching significance to external funding, one specific concern arises in relation to how the RAE uses research income to assess research environment.

In our view, it is inappropriate to view research income as an indicator of how well equipped an institution is to support research. The reason for our concern is that an institution may very well attract funding in other ways, but use those funds for research purposes. It may, for example, be more financially efficient for any institution mainly funded by student fees to encourage its staff to devote more time to marketing efforts than to grant application writing. The funding attracted by an increase in student numbers may then be used to support research efforts.

The negative consequences of research ranking

As is clear from the above, we have little faith that existing research ranking schemes are capable of producing accurate and scientifically valid ranking of research. At the same time, we are convinced that attempts to rank research carry with them serious detrimental effects on research diversity, and potentially, research quality. This is particularly so where research funding is based on the outcome of the ranking exercise.

In any situation where a ranking exercise determines the level of funding universities or other organisations receive, it is inevitable that such organisations adjust their

[52] Dill, Soo, above n 50, 503.

operation to obtain a favourable ranking. For this reason, the factors used in the ranking exercises end up determining what is valued within organisations such as universities. Using mechanisms such as bonuses and promotion criteria, universities and other organisations will in turn steer the behaviour of their academic staff in the direction emphasised in the ranking exercise. This means that ranking exercises, with funding implications, to a great extent control the behaviour of individual academics – the implications for academic freedom are obvious. Another consequence is that a misguided ranking exercise can seriously harm the academic life in a country.

One of aims of the ERA is to define 'areas of strength' and to create an infrastructure 'based on all universities having centres of excellence in specified fields'.[53] The logic here is obvious; having research concentrations in various areas will be a more efficient structure for conducting research than having the expertise in each area distributed across a large, and increasing, number of higher degree institutions. While we acknowledge the benefits of this approach, we think that those benefits must be balanced with the negative impact of research concentrations. First of all, research concentrations will undermine competition. If one university, for example, establishes a centre of excellence in intellectual property law, other universities are better off concentrating their efforts on other areas. This is particularly so where such a centre is already firmly established and highly regarded. The logical consequence is that each university will find its particular areas of focus, avoiding areas already 'taken' by other institutions, and establish centres of excellence in those areas. Inter-institutional competition is then lost, and we have to rely on intra-institutional competition and/or international competition to ensure a competitive driving force in research.

It is, of course, unlikely that all areas of academic pursuit will have a widespread enough following to ensure a centre of excellence being created. In light of this, there is a risk that research in the areas not covered by any centre of excellence will suffer. This can happen in at least three ways. First, institutions may be inclined to invest their limited research funds in their centres of excellence at the expense of other areas of research. Second, researchers outside the centres of excellence may be ill equipped to compete with the centres for external research funding. Finally, the hardship of carrying out research in fields outside the scope of the centres of excellence may cause researchers to abandon their areas of research in favour of the areas falling within the scope of a centre of excellence. This will inevitably result in a loss of diversity.

[53] Arup, above n 26, 32.

Research concentrations may also have a negative effect on teaching. While discussing the 'elite' thinking generally, Professor Arup notes that: 'It might be more important to the quality of legal services if these students [i.e. students at non-elite institutions] have exposure to teachers who are also scholars and researchers than that the standards of the elite increase even more.'[54] We agree with this, and are concerned that the idea of research grouping will significantly impact on the teaching quality at Australian universities generally, and in regional areas in particular.

To conclude this issue, while research concentrations *may* make Australian research more internationally competitive in the areas in focus, research in areas not addressed by the research concentrations *will* suffer. This will doubtlessly have a detrimental effect on innovation and diversity.[55]

We are also concerned that some of the indicators of research quality discussed above will lead to a further decline in the level at which academics take the time to write for the practitioner and student markets. Already today, the writing of shorter articles for industry-focused publications, as well as the writing of student texts, gain very little academic recognition. Looking at law as an example, an even stronger emphasis on peer-reviewed journals as the most rewarding research outlet will result in even fewer academics writing for the practitioner and student markets. In turn, this will lead to a less informed legal profession, which surely cannot be in the interest of any country.

Several of the indicators of research will directly, or indirectly, work to focus the relevant country's research efforts in a particular direction. This is certainly an efficient way for the government to ensure that critical research tasks are addressed. We are consequently not against the idea of identified research fields of priority. However, our concern is that this must be appropriately balanced with the need for diversity and flexibility. Otherwise, research may not be carried out in cutting edge areas of interest not yet identified as a priority. Further, a too strong focus on research priorities overlooks the fact that a significant innovation may come as a by-product, or even as an unintended consequence, of a research project. In other words, sometimes researchers find more than what they were looking for.

Finally, placing too much emphasis on priority areas may negatively impact on the production of what we can refer to as 'foundation research'. Using the discipline of law as an example, there is a significant value in doctrinal work such as legal case notes and the writing of textbooks and other basic texts. However, such research endeavours are unlikely to be identified as specific priority areas. Indeed, there

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[54] Arup, above n 26, 53.

[55] See further, Arup, above n 26 at 32.

seems to be a tendency to not even regard such work as 'real' research. We submit that, the absence of foundation research would make other forms of legal research more difficult, it would seriously harm legal practice, and it would decrease the quality of judgments leading to a decrease in the overall quality of the law. Consequently, it is crucial that the significant value of foundation research is not overlooked.

A possible solution

As is hinted at in the above, the most serious issues associated with research ranking stem from the fact that research funding typically is attached to, or indeed based on, such exercises. Consequently, to a large extent, the 'evils' of research ranking could be avoided if funding was disassociated from research rankings. Below we discuss an alternative funding structure for research that does not rely upon research ranking. However, first, it is necessary to say a few words about the need for taking a discipline-specific focus.

One size does not fit all

While many funding schemes, such as the RAE and ERA, recognise that different disciplines must be assessed differently, they stop short of having different funding models for the different disciplines. Focusing on law, it is our view that, there are at least two factors suggesting that this discipline must be dealt with separately. First, legal education, research and writing is, to a large extent, aimed at the legal profession – a short case note suggesting an alternative approach may have far-reaching consequence that most lengthy and highly academic papers published in prestigious journals do not have. Similarly, a textbook managing to explain complex legal concept in an accessible manner must be based on a sophisticated legal analysis. The point is that some research endeavours that appear trivial to researchers from other disciplines are in fact highly valuable and more sophisticated than they may seem at a first glance.

Second, the fact that some forms of research simply cannot be carried out without extensive funding, while other areas of research require little or no funding, suggests a need for radically different funding models for different disciplines. Most legal research, certainly most legal foundation research, can be carried out with minimal resources.

The model

In an attempt to break the link between research funding and ranking exercises such as the RAE and the ERA, we have devised an alternative model for research funding. While it is in its infancy, our aim is merely to highlight a possible alternative that

may deserve further consideration. Either way, while the model suggested below most likely could be applied to some other disciplines, and would be inappropriate for other disciplines, it is here only suggested in relation to the funding of legal research.

The first step in our model is to ensure that there is adequate funding available to maintain a sufficient level of foundation research. Such funding should make it possible for every research active academic staff member to: hire a research assistant for a number of hours per week, get access to necessarily materials (including data bases, books etc), and attend relevant conferences within reasonable limits. There are a number of ways in which a government could calculate the level of funding it provides for foundation research. For example, an institution's level of funding could be determined by reference to its number of research active academic staff members.

Having secured sufficient funding for foundation research, the remaining research funding should be provided for research in priority areas. The priority areas could be identified by an organisation within the government (for Australia, eg the Australian Research Council). However, as we have discussed above, it cannot be expected that such an organisation can perform this task on its own. We suggest that the government ought to invite suggestions from the community (including legal academics, judges, law reform organisations, government departments, international organisations, non-governmental organisations, and the general public). The governmental organisation in question could then collate the priority areas it has identified and the suitable priority areas identified during the consultation period, and publish a list of priority research areas.

Under this structure, an individual researcher, research grouping or institution could suggest priority areas during the consolation phase, with the aim to subsequently submitting a tender to research that particular topic. This gives an incentive for researchers to identify relevant and innovative priority areas – otherwise their proposed research areas will simply not make it onto the list of priority areas. At the same time, as also other researchers can tender for the project in question, it creates a competitive environment ensuring that the best suited researchers take on the research and do so in a cost effective manner.

Adopting the tender structure anticipated above, the third step would involve individual researchers, research groupings or institutions proposing how they could address a specific research priority found on the list published by the governmental organisation in charge. The tender would need to specify matters such as the proposed research method, the expected research outcome and the financial requirements. The governmental organisation in charge could then allocate funding, on a competitive basis, to the best proposals/tenders.

The final step consists of the governmental organisation in charge following up on the research outcome at the end of the project.

Concluding remarks

The above will have left the reader with no doubt about the strong concerns we have about ranking of research. To summarise, we have argued that any research ranking exercise is bound to fail to deliver a scientific result of the kind researchers would expect from their own research. Put differently, none of the ranking methodologies we have come across has the sort of scientific rigour that can be expected from an exercise with such profound implications.

Our second concern is that the results of research ranking exercises, whatever form they may take, are bound to be influenced by intentional and/or unintentional biases. Consequently, there may be a lack of 'procedural fairness' as to who will be the winners and who will be the losers under any particular ranking scheme.

Finally, we are concerned about the consequences that inevitably will flow from research ranking. Those consequences may be particularly detrimental for a small jurisdiction like Australia.