

The Performance-Based Research Fund: Issues and Options for the Future

**Jonathan Boston
Institute of Policy Studies
School of Government
Victoria University of Wellington**

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Introduction

All performance-based funding systems in the tertiary education sector – whether for teaching or research – are inherently contentious. There is, to start with, the fundamental question of how to assess performance. What are the relevant criteria? How should the agreed criteria be weighted? Is the available evidence reliable, and is it sufficient? Next, there is the problem of cost. Assessing performance can be expensive, especially if reliance is placed on qualitative assessments and peer review. Then there are the impacts on institutions and individuals: any performance-based funding regime will produce winners and losers, and the losers, generally speaking, will not like the system or its outcomes. And to compound matters, there are typically a range of unintended consequences, many of which will be negative: institutional gaming of the rules; mischievous advertising of the results; goal displacement – with institutions and individuals focusing unduly on what is assessed at the expense of what is not; and a potential loss of staff morale and capability in poorly performing units.

New Zealand's PBRF is no exception. For all the reasons just mentioned, it has been contentious, and is likely to remain so – irrespective of any changes or improvements that might be made. Certainly this has been the experience in Britain. The British Research Assessment Exercise (RAE) has been reviewed and modified repeatedly over the past two decades, but no matter what the changes it has remained the subject of much debate. What, then, is the solution? Is there a better way of assessing research performance and allocating the available funds in a small tertiary education system like the one in New Zealand? Or is the existing PBRF scheme the best we can do in the current environment – notwithstanding its many acknowledged weaknesses and limitations?

I do not pretend to have any simple answers. It might be helpful, however, to review the available options, identify their key advantages and disadvantages and offer an overall assessment. This, in brief, is the purpose of this short paper.

Broad Policy Options

Table 1 outlines six broad options for the PBRF, together with their respective pros and cons. The first option is essentially a status quo approach: to review the design of the Quality Evaluation, as codified in the 2006 *PBRF Guidelines*, to make such minor changes as appear necessary and desirable (e.g. in relation to the criteria for staff eligibility) , and conduct a full assessment, as planned, in 2012. The main advantage of this approach is that it will avoid a long period of uncertainty while a new funding model is developed, with all the disruption that this might entail. The main disadvantage is that it does not address the continuing concerns over using individuals as the unit of assessment or the objections to the current reporting framework – which, despite the changes agreed to in 2005, enables informed observers to infer the nature of the Quality Category assigned to many PBRF-eligible staff.

The second and third options are modifications of the first. Under the second option the next Quality Evaluation would be delayed for a number of years, for instance until 2016.

This would have the effect of spreading the transaction costs of the 2006 round over a longer time period, but would do little to resolve the concerns over the current design of the PBRF. It simply delays the eventual day of reckoning. The third option would be to make more significant changes to the current policy framework, but within the context of a mixed model (incorporating both peer review and performance indicators) and retaining the individual as the unit of assessment.

As noted in Table 1, there are at least three other policy options, all of which involve more fundamental reforms. The first would be to revisit one or more of the core design features of the PBRF. For instance, one could abandon any form of peer review and rely solely on performance indicators, as in the Australian Institutional Grants Scheme (IGS) and the Israeli research funding model. Alternatively, if a peer review process were to be retained, one could change the unit of assessment – from individuals to academic units (as in the case of the British RAE). A second radical option would be to discontinue the PBRF entirely and allocate the available funds via competitive bidding processes through the Foundation for Research, Science and Technology or the Royal Society. The final option would be to revert to the pre-2004 policy framework, with research funding being tied to student enrolments (with appropriate weightings for subject area and programme types).

Modest Revisions to the PBRF

Some of these broad options are worth exploring in more detail. Let us start by assuming that the basic features of the current version of the PBRF are retained. This includes retention of the mixed model and the use of individual staff members as the unit of assessment. Let us also assume that the next Quality Evaluation is conducted, as currently planned, in 2012. Under these conditions, there are various modest changes that could be made to the PBRF. Some of the options are outlined in Table 2; they are not necessarily mutually exclusive.

The first option would be to make changes to the PBRF to address a number of the concerns that arose during the conduct of the 2006 Quality Evaluation. One such issue is staff eligibility. The *PBRF Guidelines* for the 2006 round were designed to ensure that there was much greater certainty than in the previous round over which staff in participating tertiary education organizations (TEOs) are PBRF-eligible and which are not. Key changes from the 2003 round included greater clarity over the meaning of the so-called ‘substantiveness test’, a tightening of the meaning of ‘major role’ in degree-level provision, and a strengthening of the substantiveness test in regard to staff members whose principal place of research or degree-level teaching is overseas or who are sub-contracted to a TEO by a non-TEO. Arguably, the tightening of the *PBRF Guidelines* helped to reduce uncertainty in the sector over the eligibility of particular staff members.

At the same time, TEOs evidently applied the revised criteria in different ways. Some went to great lengths to find legitimate ways of excluding staff members who were expected to score poorly in the 2006 Quality Evaluation. This included, in a number of instances, placing full-time and well-established academic staff under the ‘strict

supervision' of another staff member. Applying the 'strict supervision' provision in such a manner was certainly not intended (or anticipated) by those who designed the PBRF. The provision was meant to cover junior staff, often in part-time positions (such as tutors and assistant lecturers), and other staff who are involved from time-to-time in degree-level teaching roles (such as laboratory technicians and demonstrators) but who are not members of the core academic staff.

Another issue which requires attention prior to 2012 is the PBRF funding formula, and in particular the subject-area cost weightings. The current cost weightings for the 42 subject area categories – namely, 1, 2 and 2.5 – were based on the recommendations of the PBRF Working Group in late 2002. These recommendations were, in turn, based on the existing, essentially arbitrary, ratios that then applied to the “research top-up” funding stream. But the PBRF Working Group made it crystal clear that “little robust information” was “currently available” (2002, p.27) for determining what the appropriate weightings should be and which subject areas should be included in which particular weighting band. The Report also noted that the recommended weightings were markedly different to those applying in Britain and Hong Kong, and that “further work” needed “to be done to determine the relative costs of undertaking research in New Zealand” (p.28). Despite the analysis undertaken subsequently by the Funding Category Review, no serious effort has been made to date to assess the relative costs of undertaking research in different subject areas in New Zealand universities – unlike the situation in other jurisdictions, such as Britain and Israel.

Of course, the PBRF subject-area cost weightings would not matter as much if only a small amount of money was involved. But over the next six years, close to \$1 billion is likely to be allocated across the tertiary education sector on the basis of the results of the 2006 Quality Evaluation. If the current subject-area cost weightings are significantly out of line with the relative costs of conducting research in different disciplines, then they will clearly privilege some areas of research (and hence researchers) at the expense of others. And this outcome will be utterly arbitrary. Accordingly, there is a strong case for reviewing the current cost weightings, and making such adjustments as appear justified. This might include changes to the current ratios, changes to the number of categories and/or changes to the allocation of particular subject-areas to specific cost categories. I realize that a review of the kind proposed will not be a straightforward or uncontroversial exercise, but we need to make the effort. It would be unjustified to continue to embrace cost weightings over an extended period that were set in an utterly arbitrary manner.

There are various other aspects of the 2006 *PBRF Guidelines* that ought to be reviewed. These include some of the issues raised by the Moderation Panel in its recent report to the TEC, such as the training of panel members, the support services for panels, the handling of special circumstances, the assessment criteria for new and emerging staff, and how eligible staff members are allocated to particular subject areas. There are other matters, too, that are worth considering afresh, such as the number, coverage and composition of the peer review panels – including the proportion of overseas panel members.

Leaving aside the specific issues of how the *PBRF Guidelines* might be revised, there are at least three options for changing the way the 2012 round is conducted. In each case the basic aim is to reduce the high administrative and compliance costs associated with the Quality Evaluation. The first option, as noted in Table 2, would be to conduct the 2012 round, as in 2006, on a partial basis. Under this approach, eligible staff members who were not assessed in 2006 would be required to prepare Evidence Portfolios (EPs); for other staff re-submissions would be a matter for TEOs to determine. The arguments for and against a partial round in 2012 are broadly similar to those rehearsed in the prelude to the 2006 round. The only point that I would make about this matter is that the savings in administrative and compliance costs are likely to be relatively modest – and tiny relative to the volume of public funding that will be allocated on the basis of the 2012 results.

A rather more significant departure from the current approach would be to conduct the 2012 round using a random sample of eligible staff from each participating TEOs – perhaps 20-30%. This would certainly save money, but would create a raft of difficulties. No matter how such sampling was conducted, such an exercise is likely to create feelings of injustice. There would also be staff who would welcome the opportunity to submit a fresh EP in order to improve their Quality Category but who would be unable to do so. Equally important, it would not be possible to publish a full set of results for TEOs, subject areas or academic units if random sampling were used; at best one would be limited to quality scores – and these, as we know, provide only one measure of research performance (however useful this may be). Under such an approach, therefore, drawing reliable comparisons between the 2012 and previous rounds would be difficult.

Yet another option would be to introduce a greater degree of TEO self-assessment, as originally proposed by the Tertiary Education Advisory Commission in its Fourth Report (2001, p.98). Under the approach suggested in Table 2, TEOs would be granted the right to assign the following Quality Categories to eligible staff: C, C(NE), R and R(NE). Only the peer review panels established by the TEC would have the right to assign the Quality Categories of A and B. TEOs would be audited to ensure that they did not assign C or C(NE) Quality Categories in an inappropriate manner. The main advantage of this approach is that it would reduce the volume of EPs submitted to the TEC for assessment. The main disadvantages are that it would probably increase the workload for TEOs and may reduce public confidence in the results.

In sum, there is a good case for reviewing aspects of the 2006 *PBRF Guidelines* and making some modest changes to address current concerns. The precise nature of these changes will need to be carefully thought through and undertaken in close consultation with the tertiary education sector – as occurred with the review of the 2003 *Guidelines* during 2004/05. It will also be important to ensure that any changes are signaled well in advance of the 2012 round. This means that any review needs to be conducted, and the resulting decisions taken, over the next 18 months or so. Whether any of the other options outlined in Table 2 warrant detailed consideration is less certain, but I am open to persuasion.

More Fundamental Revisions

There is, of course, a school of thought – and, indeed, perhaps more than one school – which argues that the current PBRF policy framework is fundamentally flawed and requires much more radical surgery. Proposals to address these inherent design weaknesses are many and varied. Table 3 outlines four of the available options.

Under the first, New Zealand would replace the current PBRF model with something much closer to the 2008 version of the British RAE. This would entail changing the unit of assessment and abandoning the current way that funding is linked to performance indicators. Whether the most recent iteration the RAE represents an improvement on the PBRF is open to question. Quite a number of British academics and tertiary policy experts have suggested to me in recent years that the PBRF is preferable to the RAE (whether in its 2001 or 2008 guise) – although, of course, my sample may be biased. More significant, perhaps, are the conclusions of a recent comparative study undertaken by Coryn, et al. (2007). In this analysis, two panels of professional researchers and evaluators were asked to assess, independently, the relative merits of the research funding models used in 16 countries. Their assessments were conducted blind – i.e. without knowledge of the specific countries and models in question. Interestingly, the PBRF was rated first, by both panels, of the models reviewed; the RAE was rated second. According to the panels:

The strength of the PBRF ... lies in its unit of analysis (individuals versus institutions, programs, or disciplines, for example), its comprehensiveness (e.g. of criteria), its transparency (e.g. of procedures and guiding principles), its overall approach (i.e. mixed in terms of expert panel review and quantitative indicators of research quality or impact), that differential funding is allocated according to the system's research quality categories, the consideration given to new and emerging researchers, and that the exercise is independently metaevaluated (Coryn, et al., 2007, p.15).

I am not entirely convinced by these rather flattering conclusions about the PBRF. Nevertheless, there can be no question that the RAE has many detractors, and replacing the PBRF with the RAE (to the extent that we could actually do so in a small tertiary education system) is likely to replace one set of problems with another. Nor am I persuaded that changing the unit of assessment would greatly reduce the negative impacts that the PBRF has on some individual staff members. Using academic units as the unit of assessment, as in the RAE, has major implications for the individuals who form part of these units. For instance, there are the issues of which staff will be included and under which academic unit they will be reported. Moreover, the implications for individual staff will be all the greater under the 2008 version of the RAE because of the new reporting framework. In 2008, for example, the funding councils will publish performance profiles for each academic unit included in the assessment exercise rather than just a single rating on a seven-step scale. Performance profiles will give outside observers a clear indication of whether (and to what extent) particular academic units have staff in them who are producing research outputs of high international excellence. And it is likely that many academic units will be found wanting.

An obvious alternative to the RAE would be to embrace a performance indicator model, perhaps along the lines of the Australian IGS or the Israeli research funding model. But such approaches were fully reviewed by the Tertiary Education Advisory Commission in 2001 and found wanting. The Commission's conclusions are consistent with the broad assessment of the tertiary policy community in Australia, which is in the process of replacing the IGS with a funding scheme based on peer review. Further, recent proposals by the British Treasury and others to replace the RAE with a metrics-based model have attracted vigorous, robust and justified criticisms (Sastry and Bekhradnia, 2006a, 2006b). Accordingly, I remain to be persuaded that there is sound case for abandoning a performance-based research funding scheme in which peer review forms the primary method for assessing performance.

An even more radical option would be to abandon the PBRF altogether. Under this approach, various different ways of allocating funds for research purposes in the tertiary education could be contemplated. One of these would be to use the competitive bidding processes employed by the Foundation for Research, Science and Technology and the Royal Society. But such an approach is open to serious objections: it is likely to entail higher administrative and compliance costs (per dollar of funds allocated) than the PBRF; it would significantly reduce institutional autonomy; it would increase funding uncertainty (unless the timeframe of the current research grants were to be substantially extended); it would reduce the range of funding options available to researchers; and it would have major implications for the distribution of funds between TEOs and within disciplines.

Perhaps the cheapest and most simple solution would be to return to the funding model in place prior to the PBRF. The advantage of this option is that it is a known quantity. The disadvantage is that it, too, had some notable defects.

Conclusion

In conclusion, if the PBRF is to be retained within the TEC's current armory of funding instruments, there is a strong case for an independent review of some of its current design features, including those affecting staff eligibility and subject-area cost weightings. Such a review should, in my view, be undertaken relatively promptly. I am pleased that the TEC has foreshadowed that this is its intention.

As highlighted in Tables 2 and 3, there are various ways that the PBRF could be modified, including options for radical surgery. No doubt, some of these options warrant more serious attention than others. No doubt, too, some will be tempted by the thought that another country's scheme is better than their own. But for those looking for the perfect research funding system – one that has numerous advantages but no disadvantages – the quest will be very short: there is no such funding regime available. Every option is flawed – although, admittedly, the flaws of some of the options are more glaring and conspicuous than those of others.

Finally, I take little comfort from the positive evaluation of the PBRF reported by Coryn et al. (2007). To be sure, two expert assessment panels may have rated the PBRF more highly than the other available funding models currently in use. But this cannot disguise the fact that it has many weaknesses and drawbacks. Moreover, despite my role in designing the current scheme, I am filled with dread at the thought that that New Zealand-based academics, from this generation until the end of history, might be obliged to complete EPs every six years and then submit them to peer review panels for assessment.

To use a literary analogy: retaining the PBRF would, I fear, be the equivalent of Dante remaining permanently in Hell or perhaps Purgatory, and never reaching Paradise, unlike his progression in *The Divine Comedy*. As a pilgrim like Dante, I would much prefer to journey, even if rather slowly, from Hell to Paradise. But the way ahead appears to be irrevocably blocked – by institutional gaming, disciplinary boundaries, incentive issues, funding constraints and human imperfections. Troublingly, the vision of the divine remains decidedly opaque; indeed, it seems to be getting dimmer and more distorted. Maybe it is time for some utterly lateral thinking.

Table 1: Broad Policy Options

	Policy Options	Advantages	Disadvantages
1	<p>Status quo</p> <ul style="list-style-type: none"> • Hold 3rd Quality Evaluation in 2012 with full participation • Make only minor changes to the 2006 <i>PBRF Guidelines</i> 	<ul style="list-style-type: none"> • Greater certainty for the sector • Avoids potentially costly and disruptive changes 	<ul style="list-style-type: none"> • Does not mitigate the concerns over the unit of assessment or reporting framework
2	<p>Delay the next Quality Evaluation (e.g. until 2016)</p>	<ul style="list-style-type: none"> • Spreads transaction costs of the 2006 Quality Evaluation over a longer period 	<ul style="list-style-type: none"> • May reduce incentives for TEOs and individual researchers to perform • Data based on the 2006 Quality Evaluation will become increasingly dated and less reliable for stakeholders
3	<p>Retain mixed model, but with modifications</p>	<ul style="list-style-type: none"> • May be possible to address some of the continuing concerns over the PBRF 	<ul style="list-style-type: none"> • Even modest changes are likely to entail additional costs, generate uncertainty and alter funding allocations
4	<p>Make fundamental changes to the PBRF</p>	<ul style="list-style-type: none"> • May be possible to address some of the concerns over the PBRF 	<ul style="list-style-type: none"> • Any fundamental change will entail additional costs, generate uncertainty and may result in significant shifts in funding allocations
5	<p>Discontinue the PBRF and allocate the available funds via the Foundation for Research, Science and Technology or the Royal Society</p>	<ul style="list-style-type: none"> • Avoids the costs of running two separate research funding allocation systems 	<ul style="list-style-type: none"> • No significant reduction in overall transaction costs • Likely to result in greater funding uncertainty • Likely to result in major shifts in funding between and within institutions • Reduces institutional autonomy and academic freedom
6	<p>Discontinue any kind of performance-based system and reinstate EFTS-type funding system</p>	<ul style="list-style-type: none"> • Avoids the costs of running separate funding allocation systems 	<ul style="list-style-type: none"> • Reduces incentives for TEOs and individual researchers to perform • Reduces the quality of information available to stakeholders • Reduces the public accountability of TEOs

Table 2: Policy Options for Modest Revisions to the Quality Evaluation in 2012

	Policy Options	Advantages	Disadvantages
1	Make minor changes to the Quality Evaluation, such as changes to staff eligibility criteria and the funding formula	<ul style="list-style-type: none"> • May help reduce gaming and increase the integrity of the results • May ensure a better alignment between funding allocations and research costs 	<ul style="list-style-type: none"> • May create new problems and uncertainty • Any changes in funding allocations will generate winners and losers
2	Conduct 2012 Quality Evaluation on a partial basis, requiring only those who were not assessed in 2006 to submit Evidence Portfolios	<ul style="list-style-type: none"> • Lower transaction costs relative to a full round 	<ul style="list-style-type: none"> • May reduce incentives for individual researchers to perform
3	Conduct 2012 Quality Evaluation using a random sample of PBRF eligible staff (e.g. 30% of each participating TEO)	<ul style="list-style-type: none"> • Lower transaction costs relative to a full round 	<ul style="list-style-type: none"> • May reduce incentives for individual researchers to perform • Will make it impossible to publish comprehensive performance data, certainly at the sub-institutional level • Those required to prepare and submit an Evidence Portfolio may feel unfairly treated
4	Panels assess only those wishing to secure an 'A' or 'B' Quality Category; individual TEOs assess all other eligible staff, subject to external audit	<ul style="list-style-type: none"> • Lower transaction costs relative to a full round 	<ul style="list-style-type: none"> • May increase the administrative costs and burdens for TEOs • May reduce the reliability and integrity of the results • External audit arrangements will add to the complexity of the system

Table 3: Policy Options for Fundamental Changes to the PBRF for 2012

	Options	Advantages	Disadvantages
1	Adopt a UK-type Research Assessment Exercise based on the 2008 version	<ul style="list-style-type: none"> • Avoids direct assessment of individual staff • Reduces the proportion of staff required to participate in the PBRF 	<ul style="list-style-type: none"> • Raises significant redesign issues • Likely to generate greater funding uncertainty and differentiation • Less comprehensive reporting of results • Increased potential of 'gaming' by TEOs • Unlikely to reduce staff dissatisfaction to any great extent
2	Adopt an Australian-type Institutional Grants Scheme based on key performance indicators (external research income, research degree completions and research outputs)	<ul style="list-style-type: none"> • Substantially reduces the transaction costs of allocating research funding to TEOs • Avoids direct assessment of individual staff 	<ul style="list-style-type: none"> • Loss of peer review • Major changes in funding allocations likely, irrespective of the precise weighting attached to the available indicators • Likely to generate an emphasis on quantity over quality
3	Adopt an Australian-type Research Quality Framework, with external panel assessments of research quality and impact	<ul style="list-style-type: none"> • Avoids direct assessment of individual staff • Reduces the proportion of staff required to participate 	<ul style="list-style-type: none"> • An untried system • Raises significant redesign issues • Assessing research 'impact' is likely to be complex and controversial
4	Allocate funding on the basis of various metrics, such as citation rates	<ul style="list-style-type: none"> • Substantially reduces the transaction costs of allocating research funding to TEOs • Avoids direct assessment of individual staff 	<ul style="list-style-type: none"> • Likely to result in major shifts in funding between and within TEOs • Likely to have adverse implications for the funding of the humanities, creative and performing arts, etc.

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