

A Dangerous Economy

The wider implications of the proposed reforms to the UK Research Councils' peer review system

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1. This report has been prompted by the proposals of Research Councils UK (RCUK) for the reform of the Research Councils' peer review system for giving project grants¹. However, it is not confined to the issues raised in that report: it treats the RCUK report in the wider context of the dual support system². Indeed it is a serious failing of the proposals – and of the parallel consideration of the replacement of the Research Assessment Exercise with Metrics – that neither takes any account of the implications of its proposals for the other leg of the Dual Support system, and neither contains discussion of the division of labour between public funders of university research.
2. For all that the Government has reaffirmed its commitment to 'dual support' there is little sign that it considers both the Research Councils and Funding Councils as components of a single system. The recently announced review by Lord Sainsbury of the UK's science and innovation system is a welcome development that it is to be hoped will take such a wider look, but as yet that is uncertain³.
3. In principle, the Funding Councils allocate that portion of university research funding which universities can be trusted to spend themselves, and the Research Councils make strategic investments in public or political priorities – such as climate change or 'economic impact'.
4. Of course, this idealised model of dual support has never existed. Both funding and research councils have trespassed on the remit of the other. The Funding Councils have done this by basing their funding on a Research Assessment Exercise which assesses quality at departmental level⁴. The Research Councils offer large amounts of "response mode"⁵ funding and much of their 'strategic' funding reflects priorities set by the councils 'below the radar' of mainstream public and political debate. It is hard to see why this kind of funding should not be allocated in the most efficient way possible – by simply giving it to those universities which have earned the right to be trusted with public funding for research and letting them decide what kind of work it should support.

¹ RCUK Efficiency and effectiveness of peer review project: consultation (www.rcuk.ac.uk). The consultation closes on 19 January 2007.

² The dual support system is a description of the current arrangements whereby universities receive some funding for research via their block grant from the Funding Councils and some from the Research Councils – generally provided in response to project proposals.

³ The Sainsbury review has a remit to look across the spectrum of government policy on science and innovation (including the research investment of government departments and the investments the Research Councils make outside universities). This is positive but it is not clear that it will look at both sides of dual support. At the time of writing, the terms of reference were available online at http://www.hm-treasury.gov.uk/Independent_Reviews/independent_reviews_index.cfm

⁴ It is noteworthy that, even though the RAE is to be abolished the commitment to assess quality at the level of the department remains.

⁵ Genuine response mode funding is not limited to a particular research agenda, but is allocated on merit to the strongest proposals regardless of their fit with strategic priorities. In practice, research council funding streams exist on a continuum with this strict definition of response mode at one end and tightly defined strategic funding where the Government behaves more like a customer than a funder at the other.

5. Notwithstanding the imperfect match between logic and practice the basic division of labour is very clear. If the Government wants to minimise transaction costs it should give money to the Funding Councils with strict instructions to minimise opportunities for games-playing (even if that means conducting less sensitive assessments); and where it wants public priorities to control the agenda, it must use the Research Councils making it very clear what kind of research it expects them to fund. The logic of the system is that the default mode of funding research *in universities* is through the Funding Councils, with the Research Councils supporting exceptional priorities⁶ (although the Research Councils are also responsible for funding 'national' research facilities).

6. This puts the Research Councils in a particularly tricky position: they have to keep costs under control - otherwise they look like poor value for money - but they also have to perform a distinctive role because there is no reason to tolerate the extra costs necessarily associated with the research council process unless they are performing a function which the Funding Councils cannot replicate.

7. Until recently, these points have been obscured by a lack of evidence concerning the cost of the research council system. Whilst it has always been obvious that a system based on reviewing individual project applications will be more expensive than one which reviews whole departments every few years, a lack of credible figures and a preoccupation with the politics of the RAE has helped keep the issue off the agenda.

8. That is no longer the case. The RAE is shortly to be abolished shifting the focus onto the Research Councils. According to the Government, it cost £45 million to run the RAE⁷ in 2001 (including compliance costs). A higher (unpublished) cost estimate for the RAE of £100m⁸ was produced by the HEFCE Audit Service in 2003, which included the full range of the costs of the time of management and individual academics in planning and making submissions. That is the figure used in this report. Given that the results of the most recent RAE are to be used for seven years that implies a cost of about £14 million per annum.

9. RCUK has stated⁹ that the Research Councils' peer review processes cost 'up to' £196 million per year, calculated on a broadly comparable basis. The Research Councils allocate less than £1 billion per annum in grant whereas the Funding Councils between them will allocate around £10.5 billion on the basis of the 2001 RAE results - an average of £1.5 billion per annum. This implies a transaction cost of 20 per cent for the Research Councils, compared to less than

⁶ The situation is complicated by the fact that the Research Councils fund at less than 100 per cent of the full cost. This means that a proportion of QR is required simply to meet the gap between full economic cost and the rate paid by the Research Councils. Given that universities never refuse research council funding on the grounds that the price is uneconomic, that proportion is effectively controlled by the Research Councils even though it passes through the Funding Councils' accounts. The remainder of QR is, in theory, a fund for universities' own research priorities. In practice, though, much (but not all) of that balance is spent on supporting the cost of part-funded research sponsored by other funders which means that the system already diverts public money to support the research priorities of charities and industry, something which critics of the Funding Councils claim - naïvely or disingenuously - that it does not do.

⁷ This includes the cost of planning for and making submissions but not the cost of actions such as exceptional recruitments taken by universities with a view to improving their performance.

⁸ This figure was first discussed in Annex A of HEPI (2006) "Using metrics to allocate research funds"

⁹ Report of the Research Councils UK Efficiency and Effectiveness of Peer Review Project (www.rcuk.ac.uk)

1 per cent for the Funding Councils, making the Research Councils roughly twenty times more expensive.

10. As with the RAE cost figures, the cost of research council peer review includes the cost of work which universities and individuals would have to do anyway as part of the process of producing high quality research. As with the RAE, however, it would be implausible to argue that applicants do not go out of their way to construct proposals which they think will catch the eye of reviewers – and, of course, it is hard to dispute that the work put into unfunded proposals (72 per cent of the total in 2005-06) is ultimately unproductive¹⁰.

11. RCUK argues that its costs expressed as a percentage of the funding it distributes are comparable with other grant-giving organisations – but that ignores the fact that they are at least twenty times more than those of the Funding Councils which fund the same institutions for the same kind of activity. It also ignores the fact that most research council funding in universities goes to the same organisations year after year. Imagine for a moment that the Office of Science and Innovation had simply calculated the share of total research council funding in universities provided to each institution in 2000-01 and had given each university the same share of the available pot for the four years after that (2001-02, 2002-03, 2003-04 and 2004-05). By calculating the difference between the allocations produced by such a system and the actual amounts of research council income gained by each institution it is possible to say how much money changed hands as a result of those four years of peer review.

12. Over the four years from 2000-01, continuing to operate peer review meant that 79 universities shared an extra £158 million¹¹ redistributed from 61 universities who, between them, lost the same amount. If peer review costs £196 million per year, this means that RCUK spent £784 million on redistributing £158 million over four years. It is true that Research Councils do not see themselves as providing funds to universities, and that it is likely that if the money had simply been provided to universities as part of the HEFCE block grant the specific research in question might not have been carried out. At least that is so as far as directed funding is concerned – it is less evident as regards the funding provided in responsive and strategic mode.

13. The RAE – which is a much less expensive process than Research Councils' peer review – is to be abolished and replaced by something which the Government, at least, believes will be more efficient. Now that their costs are out in the open, will the Research Councils be any more successful at defending their assessment processes than the Funding Councils were at defending the RAE?

14. Two strategies are open to the Research Councils: they can stress *distinctiveness* making sure that all of their funding streams are seen to perform

¹⁰ Equally, it is not unreasonable to argue that undertaking peer review of the proposals of other academics is of benefit to those who undertake it but it is difficult to accept that it is as efficient a means of deriving such benefits as the reviewer having the time to themselves to use as they see fit.

¹¹ This figure is the sum of the net gain of all those institutions who received more money between 2001-02 and 2004-05 (inclusive) than they would have done under a system whereby shares of funding were frozen at 2000-01 level. The analysis is based upon HESA figures for UK universities' income from OST research councils in 2000-01 and the four subsequent years.

a unique and necessary function or they can focus upon *cost reduction* – trying to reduce their costs to a less attention-catching level.

15. Inconveniently, these two strategies are in conflict. The most obvious way to reduce costs is to restrict access to competitive peer review because – on RCUK's figures - 84 per cent of £196 million per year cost is incurred by universities in preparing applications. Unfortunately, it is the peer review of individual proposals which makes the Research Councils' process a precision instrument for funding the highest quality research in the most high-priority areas. Furthermore, one feature of research council funding is that it offers direct access to funding for principal investigators whereas the Funding Councils provide funds at institution level. Water down the commitment to reviewing individual project proposals on demand and the Research Councils begin to look like a more cumbersome – and expensive - version of the Funding Councils.

RCUK Proposals

16. RCUK are consulting on proposals designed to increase the "efficiency and effectiveness" of peer review. These proposals are set out in **box A**.

Box A: RCUK proposals to control the number of applications

Larger multi-project awards

"A greater proportion of Research Council funding could be devoted to larger research grants, which would be offered either to research groups, or to departments and/or institutions and would consolidate support for a number of projects within a single large grant. Investigators supported by such a grant would then face some restriction on further proposal submission...The aim would be to provide long-term and flexible support for leading research groups, departments and institutions, whilst reducing the burden incurred (in) the preparation and peer review of multiple proposals. In addition, or alternatively, the Research Councils could seek to increase the frequency with which grant holders need to apply for further funding".

Quotas for applications

"A quota could be established for the maximum number of proposals each institution could submit during an identified period of time. The aim would be to control the number of proposals submitted to the Research Councils and thereby the burden on the research community...One variant of this option might be to apply it only to institutions with the lowest success rates."

Banning resubmissions

"Research Councils would introduce measures to control the number of proposals that, following an initial, unsuccessful pass through the full peer review process, are modified and then resubmitted. In one variation all resubmissions would be prevented, in another only "invited" resubmissions would be allowed."

Greater use of outline proposals

"Short, outline proposals, comparable to those currently used in some directed programmes, would be required for responsive mode proposals. These would be subject to a light-touch peer review, which would inform a substantial sift or triage. Full proposals would only be accepted from among the outlines selected. The aim would be to reduce the time spent on the preparation and peer review of detailed proposals, and thereby the overall burden of peer review."

Will the RCUK proposals affect costs?

17. The first three of these proposals (which are also the three most far-reaching) are designed to target costs by reducing the number of applications. RCUK appear to have decided that cost reduction is more important than distinctiveness – which could be a strategic mistake.

18. The first thing to note is that the number of applications is only one half of the equation – the other is the *cost per application* which all three proposals will have the effect of increasing. A department which knows it is bidding for funding over a five year period is bound to put more work into its research proposals than an individual bidding for a small grant; it would be bizarre if limiting universities to a fixed quota of applications did not increase the amount of work put into making each application (to say nothing of the effort expended in making proposals which the university chooses ultimately not to submit). Finally, the knowledge that there is no opportunity to resubmit a failed proposal will surely encourage applicants to put more effort into getting it right first time.

19. In practice *the cost of the process is determined to a very great extent by how much is at stake for the applicant* not by the extent of the formal data requirement. Simply trying to ration or discourage applications means that each application is more critical. This means that any fall in the number of applications will be offset by an increase in the cost per application. No-one is currently in a position to say whether the net effect will be higher or lower overall costs; but it would be reassuring if the Research Councils were to demonstrate an awareness of the fact that reducing the number of applications is not necessarily the same as bearing down on costs or cutting bureaucracy.

20. The fourth proposal is an effort to reduce the costs per application. It is doubtful, however, that requiring outline proposals from all applicants to be followed by full proposals from those short-listed will achieve this. As noted above, it is the amount at stake rather than the size of the formal information requirement which chiefly determines how much effort applicants put into applications. The likelihood is that short-listed applicants who are required to submit an initial outline followed by a full proposal will do more work than before; and it is far from certain that applicants will put less work into outlines than they currently do into full proposals (and if they do, they may well use the extra time to write more outlines). It is quite possible, therefore, that the net effect will be to increase costs rather than to reduce them.

21. This discussion serves to demonstrate that it is far from straightforward to reduce the costs of peer review – and it is, in any case quite inconceivable that the current proposals will reduce it to anything like the cost of the RAE (estimated at up to £14m per year).

The effect of the RCUK proposals on distinctiveness

22. In paragraph 6 (above) it was noted that it is impossible to justify the higher costs of the Research Councils unless they perform a distinctive role. All of its proposals undermine the unique role that the Research Councils currently play, and RCUK is therefore taking a big gamble that it can reduce costs to the point where distinctiveness ceases to be important. In any evaluation of the dual support institutions, the first question for RCUK to answer must be this: does the cost differential between the Research Councils and Funding Councils represent value for money?

23. If the Research Councils are to demonstrate value for money, they must show that they perform a distinctive role which the Funding Councils could not replicate without increasing *their* costs. The section which follows discusses three possible roles for the Research Councils and shows how their current proposals undermine them.

The strategy role: balancing strategic importance with research quality

24. The Research Councils have a unique role in making strategic investments in areas of research in which the Government discerns a particular public interest. Funding for climate change research, for example, is based not merely on the belief that it is an exciting area of research in which the prospects for advancing the frontiers of knowledge are good, but also on the fact that there is an urgent and evident public interest in directing research investment to such a pressing set of questions. The Research Councils are uniquely placed to weigh both sets of considerations (public interest and research possibilities).

25. There is no doubt that the Research Councils play an important role in this regard, and the Government will always want to target research funding at topics of overwhelming importance. However, it is only fair to note that climate change is an unusual example, as much of the funding of Research Councils is either response mode or directed at priorities identified by the councils themselves in consultation with research communities rather than by elected representatives or in response to clear political priorities¹². Consequently, this function as currently exercised cannot by itself justify the *current* scale and range of their activities.

26. Furthermore, the proposal to offer consolidated grants – which might support a unit or even an institution – for several years will reduce the scope of the Research Councils to direct funding towards projects of strategic importance. The Funding Councils are capable of funding universities on the basis of departmental performance and it is hard to see that there is a niche for the Research Councils trying to do the same thing.

The dual support role: balancing researcher-led research with institution-led research

27. For supporters of the dual support system as historically practised, the efficiency of research council peer review, as measured by the relationship between administrative cost and the amount of money at stake, is almost beside the point. The Research Councils play a distinctive role in channelling money through individual researchers, rather than through the institutions that employ them.

28. The essence of the dual support system is that one funding stream (provided through the Funding Councils) is provided as an unhypothecated block grant to institutions and provides flexibility for university management and academic staff. The other, (provided through the Research Councils) is tied to specific

¹² Conceptually, this kind of 'lightly strategic' funding occupies a middle position between researcher-driven and genuinely strategic funding because the topics to which funds are directed are identified by research communities acting collectively through the Research Councils rather than by government (as in truly strategic funding) or individual researchers (as with genuine response mode and other forms of researcher-driven research).

projects and gives autonomous researchers the ability to compete for funding without having to rely on their institution for support. On this view, the precise division of funding responsibility is secondary to the basic principle that there should be a balance between institution-driven and researcher-driven research priorities and that this is best secured by having genuinely competitive funding streams supporting both. The 'dual support role' exists only if both the Research Councils and Funding Councils play their distinctive role – the Funding Councils in supporting institutional aspirations and the Research Councils in providing an outlet for researchers with good ideas.

29. Current proposals however, will cause the role of the Funding Councils and Research Councils to converge to the extent that dual support will, arguably, exist in form only. It is not clear that the Research Councils will continue to provide researcher-driven funding if their plans for consolidation and quotas are implemented. These proposals will lead to a situation where researchers no longer have the final say in what is applied for because universities will need to ensure that weak applications are not submitted. It will also create a situation where grants support a unit for a prolonged period of time rather than named researchers for a defined piece of work.

30. On the other hand, it is equally unclear that the Funding Councils will continue to support institution-driven research when every penny of QR can be traced back to the citations or funding accrued by named individuals. Institutions will have to support those individuals who can demonstrate that they are bringing in the money – or they will leave; and resources being finite, this will restrict the ability of institutions to adopt priorities which compete with the demands of the most productive research leaders.

31. It appears, therefore, that we are about to see considerable convergence in the *de facto* role of the two arms of dual support. This seems likely to create a system where the power to determine research agendas rests not with institutions or individual researchers but with the 'research stars' who lead large, celebrated research groups – a far smaller group than the 40,000 research active staff in units rated 4 or above or the holders of grants under the current system. As the lead authors of highly cited papers and the principal applicants for consolidated multi-year grants this relatively small group will hold the key to securing revenue from both sides of dual support. It will be difficult for other independent researchers to prosper and for universities to say 'no' to these powerful research leaders¹³. Consequently, the task of research management in universities will consist of recruiting the right stars and keeping them happy, whilst easing less successful researchers out of research altogether.

The metrics argument: providing quality information to inform funding council allocations

32. A further role for the Research Councils' peer review system will arise from the vacuum created by the abolition of the RAE. If the Funding Councils are to

¹³ This has implications for the breadth of UK research because small response mode grants and the emphasis of the RAE upon output quality have, until now, made it possible for researchers in unfashionable fields to maintain a presence in UK universities.

use metrics to allocate research funds, those metrics have to come from somewhere. Therefore, it might be argued, the demise of the RAE makes the existing peer review process an indispensable part of the wider research funding system because, in the absence of the RAE, there will be a lack of credible quality information.

33. The problem with this argument is that it ignores the high cost of the Research Councils system. The RAE has – on the Government's own figures – provided information about research quality at department level for less than 5 per cent of the cost of Research Councils' peer review. In one sense, this is unsurprising because the RAE is an instrument designed for that very purpose whereas the research council system produces the information as a by-product of activities which have a different – and more extensive – end in view. But the fact remains that the RAE (which the Government regards as poor value for money) has provided department-level assessments at a small fraction of the cost of the Research Councils' peer review processes.

34. Furthermore, the RCUK proposals undermine the viability of research quality metrics based upon Research Councils' funding data. This is because any funding-based quality metric must have three characteristics – it must be based on a sufficiently large number of funding decisions to provide reliable figures; it must be based upon funding competitions which are equally open to all irrespective of the field(s) of research in which they specialise and it must be based upon information about the quality assessment of proposals rather than just the funding decision. These conditions can only be met if there is a large pool of response-mode¹⁴ funding attracting a large number of credible applications all of which receive detailed peer review. This will not exist within the research councils system under these proposals: there will be less response mode funding and holders of consolidated 'mega-grants' may not be eligible for it; applications will be reduced by quotas and those that are received will in many cases be outlines which receive only a 'light touch' peer review.

A strategy for distinctiveness

35. If the Research Councils elected to focus upon distinctiveness – which would be far preferable in the context of a viable dual support system, and in their own long-term interests – what would they do?

36. They could attempt to present themselves as the researchers' champion offering more response mode funding. It is, though, very difficult to see the Government supporting a rebalancing of public funding away from its own priorities towards those of researchers. Furthermore, there is no real evidence that universities do a bad job of supporting researcher-driven research where they have spare funds to do so and it is therefore hard to argue against the notion that the Funding Councils are the most efficient funders of researcher-driven research. (In the light of current proposals for a replacement for the RAE a qualifier is required here: the Funding Councils can play this role only if they fund on the basis of output quality rather than funding data. If they simply reflect the

¹⁴ Only response mode funding is open equally to researchers in all fields. Strategically-driven funding, by its very nature is directed towards researchers in particular fields whilst excluding researchers in others.

decisions of other purchasers of research they turn themselves into providers of crude subsidies and cease to perform any distinctive function).

37. That leaves the one mission which clearly belongs to the Research Councils: directing a portion of public funding for research at public priorities (as opposed to the priorities of researchers themselves, institutions and other research users in the public, private and voluntary sectors all of whom are supported indirectly through QR). A sharper focus upon clear and understandable public priorities would greatly strengthen the case for tolerating the higher transaction costs associated with research council funding.

38. It would however be wrong for the Research Councils simply to transfer funding currently earmarked for response mode or what might be termed 'mildly strategic' funding to more focussed strategic programmes. This will reduce the money for researcher driven research –therefore placing greater reliance upon the ability of planners to anticipate which fields of research will prove most productive. To prevent unintended consequences, an overarching review of government research funding in universities would be timely. The proper balance between national facilities, strategic funding, funding for independent research and support for the costs of research funded by third parties should be established and only once this has been done should the division of public funding between the Funding Councils and Research Councils (and other public funders) be resolved. The Sainsbury review referred to above does not appear to have this remit, but this would represent a worthwhile extension of its work

Conclusion

39. This report does not argue that the Research Councils should be abolished and their funds allocated to universities as part of their core grant – although that might be a logical conclusion. But it does argue that unless they retain a distinctive role in a well-delineated dual support system, then logic and political pressures will eventually put them at risk. The fundamentals of the argument set out in this paper are:

- a. The admitted cost of Research Councils' peer review at 'up to' £196 million demands a response. The Research Councils face a strategic choice between stressing the unique role they play or trying to reduce their costs so that they are closer to those of the Funding Councils.
- b. The Research Councils' proposals for reducing the cost of peer review are naïve because they implicitly assume that applications or awards can be rationed without affecting the cost per application. In fact, measures which increase the pressure on universities to put in successful applications will increase the cost per application. No-one is in a position to know whether the net effect of such proposals will be to increase or decrease the overall compliance costs associated with Research Councils' peer review processes.
- c. The proposals are also risky for the Research Councils, because even if they are successful at reducing costs they are likely to do so by blurring the distinction between the roles of the Funding Councils and the Research

Councils. If the de facto roles of the Funding Councils and Research Councils continue to converge it will be increasingly difficult for the Research Councils – as the more expensive arm of dual support – to justify their role in funding research in universities.

d. The Research Councils must either find a better means of reducing costs which does not undermine the distinctiveness of their role – and it is not immediately apparent how they might do this – or focus upon doing things which the Funding Councils cannot do. The latter course implies that the Research Councils should focus upon strategic themes which reflect genuine political and public priorities, rather than replicate the purposes of the Funding Councils.

e. Notwithstanding the above there is also a need to ensure that the overall level of support for researcher-driven research across both sides of dual support does not fall, otherwise the system will be placing excessive faith in the ability of planners to identify the research areas which really matter. The issue is *who* should fund researcher-driven research, and how, not *whether* it should be funded.