



Reform of Higher Education Research Assessment and Funding

A response to the DfES consultation document of June 13th 2006

from

The Council for Industry and Higher Education (CIHE)

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Introduction

The Council for Industry and Higher Education (CIHE) welcomes the consultation on the future of research assessment and funding. The consultation document started an important debate about how a more fundamental reform of the Research Assessment Exercise (RAE) can be taken forward. We agree with the Government, Universities UK, the CBI and other organisations that the status quo, or marginal changes to the status quo, are not options and that a fundamental review of the research assessment process and the purposes it serves is needed taking account of its impact on teaching.

Equally we welcome the announcement that RAE 2008 will proceed as planned. The consultation launched by DfES on 13th June 2006 proposed that a metrics based approach for some or all of the panel areas would form a shadow exercise alongside the RAE 2008 Assessment.

This document has been the subject of consultation with the Council's Research & Development Sub-Group and reflects a range of sources across industry and in Higher Education Institutions. It was endorsed at the full Council meeting on 11th October 2006. We offer responses to the questions put in the consultation document. However we believe it important that these responses are put in context by the statement or re-statement of a number of key principles concerning the rôle of QR funding in the development and support of research capability and the criteria which should therefore be attached to the development of the assessment system on which the distribution is based.

Role of the RAE

We have based our comments on the adoption of a number of principles concerning the ultimate objectives of the RAE. At the outset we should confirm that we support the principle of Dual Support funding. Within this system we suggest that what the RAE is or should be seeking to achieve is the development of capacity and capability to:-

- support and encourage internationally excellent research in all its various forms as judged by those who can offer well informed views; (ie. academic peers and those end users of the research who will have views on its international excellence as well as on the range of research); our report *International Competitiveness, Businesses Working with UK Universities* noted the views of business leaders that it is the excellence of the research base and the ability of university researchers to undertake world-class fundamental research that pushes out the frontiers of knowledge that they value and that underpins their investments in the UK;
- increase national wealth and the development of a more civilised society; that these developments are supported by a wide range of research modalities is demonstrated in the findings of the recent CIHE report (see above); and such a linkage supports the argument for continued exchequer funding, notwithstanding the historic weakness of translating fundamental research into UK wealth; however this weakness also argues that excellence in all forms of research from fundamental to applied should be supported;
- stimulate multidisciplinary and interdisciplinary research; (as it is increasingly at the boundaries of disciplines that innovative breakthroughs will occur);
- encourage collaborative research between institutions and with end users - since the UK has a limited research and funding capability and since collaboration can increase excellence and critical mass and open access to smaller institutions and organisations; moreover it is important that all

opportunities are taken to increase the absorptive capacity of UK business and active collaborative research programs are an important complement to this;

- encourage innovative and exploratory research that can flexibly respond to emerging areas of interest; research along traditional lines or evaluated on too historic a basis will not keep the UK at the forefront of knowledge creation or equip it for the more open innovation and networked world of modern research;
- act as a management tool across the sector;
- help the Government, devolved administrations, RDAs, potential users and the sector benchmark performance internationally and across the UK;
- ensure that the analysis is undertaken in a cost effective and efficient manner.

In the context established by these principles, three issues arise concerning the adoption of a metrics based approach post 2008.

Improvements anticipated for RAE 2008. One of the key principles adopted for the development of RAE 2008 was the intention to better recognise the value attached to research by users including a more appropriate balance between fundamental research and applied and practice based research. Whilst it is not yet clear how successful this will be, and we do have concerns about the limited representation of users on the panels, it was an intention which the Council warmly welcomed. It is not clear from the consultation document whether or not the proposals incorporate this improvement as an explicit objective. It is our view that any metrics based system should be at least as effective as RAE 2008 in achieving this balance. We view with some concern the fact that the data used for comparison with the metrics based allocation is inevitably historic and therefore the implicit criteria used in assessing the models include the extent to which the models replicate a system already acknowledged to have flaws. Any discussion or development of the metrics based approach should include explicit recognition of the need to recognise and reward changed behaviours rather than just be focused on reducing the resource cost compared with the current system.

Quality vs Volume The RAE is acknowledged internationally to have been successful in raising research quality. We know from our researches that where business is the research user, then the quality of the research is of key importance. Depending on the mode of research, then different factors will determine the criteria attached to the assessment of what constitutes “quality”; for example in fundamental or basic research conventional measures of quality (such as citation indices) may provide one measure whereas where there is close interaction with the user, a higher premium may be placed on collaborative capability and flexibility. Similarly the components of “quality” may vary from sector to sector. Peer review is likely to remain one ingredient.

We do not believe that the measure actually used in model “B” (in which the income is divided by the number of active researchers) is strictly speaking a measure of quality in the true sense of degree of conformance to requirements or fitness for purpose. Indeed we find it difficult to see how any of the models proposed would accurately reflect the quality of research (as opposed to volume). Moreover there is a danger that the measure proposed would encourage the pursuit of volume rather than value which in an FEC environment may constitute perverse and potentially damaging behaviour. Indeed it is difficult to see how true measures of quality could be achieved without some incorporation of peer review or at least the development of metrics within and across disciplines to reflect the measures of quality that may be appropriate to a particular discipline. One set of centrally determined metrics is unlikely to fit all sectors.

Forward Looking vs Backward Looking Any metrics based approach is bound to be backward looking and will find it difficult therefore to accommodate the potential for new research disciplines or interdisciplinary research. Such areas will become increasingly important as a source of innovation in business and society. We therefore welcome the potential implicitly offered by question 7 in the consultation for taking into account institutions research plans in the assessment process; nevertheless we do not think this sufficient by itself. What should be assessed is the institution’s capability to manage effectively the implementation of plans for developing new fields of research and, having regard to the importance of developing research capability for the future, the ability to develop and support new and aspiring

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researchers. Included in this would be the propensity of the institution to support success and address and remedy (or curtail) failure at levels below that of the whole institution.

In the context provided by these general observations we offer the following detailed observations on the consultation document.

Para 1.6; there are many fewer larger institutions than smaller and the breakdown in correlation for smaller institutions and its impact on distribution should be explored in more detail. The approach to the underlying statistics is at too summary a level for comfort. This questions the validity of the statement in 2.8 “This provides a case for believing that a metrics-based system may represent a more efficient alternative for allocating QR funding”

Para 1.11. There is no explicit statement as to how the success of the shadow exercise will be judged. Simple mathematical replication of results is unlikely to encourage and reward the changes in behaviour that the Government and the CIHE wants to achieve (notably encouraging closer partnerships between businesses and universities). Use of metrics should be accompanied by an explicit statement of how the parameters are intended to affect distribution and an analysis of the behavioural response it is desired to achieve. .

Para 2.11 makes clear the rôle of QR funding in providing research infrastructure and capability. Unless business relevant research is explicitly included in the criteria and given an appropriate weighting in the distribution of funds, then policy initiatives to promote business / university collaboration will be hampered by lack of infrastructure as the infrastructure and necessary concentration of expertise cannot be developed by individual projects (an important justification for the Dual Support system).

Question 1: Which, if any, of the RAE 2008 panels might adopt a greater or wholly metrics-based approach ?

Consistent with our comments above, we consider that appropriate metrics should be developed by individual high level panels or by other groups set up specifically to ensure that user views are suitably represented. These groups may themselves be encouraged to use weighting which would give effect to variations in perceived value in different research users. Thus income from SMEs in collaborative research might be given a higher weighting than income from large companies reflecting both the higher resource costs involved in securing such funding and the fact that per unit income it reflects a higher perceived value by the company (because availability of funding is so much less¹).

The use of metrics is, as the document makes clear, easier in STEM subjects than others, although consideration might be given to the potential distortion introduced by income for medical research and major installations of national importance for which explicit grants may be made.

Para 3.8 It is not clear how speculative research will be encouraged by an entirely backward looking set of generic metrics; an institution’s capability to identify and then develop new fields of research is a key factor and the metrics proposed are not sensitive to such a distinctive capability. Individual research panels or user groups may be able to suggest more appropriate forward looking metrics.

Para 4.5 Where activity measures are used to reflect demand then it is important that they are measures of real demand from users and not synthetic; thus income from business reflects real demand. Patenting and spin-out company start-ups may not reflect real outcomes.

¹ The model used by Universities Scotland in the distribution of Knowledge Transfer Grant provides a useful analogy.

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Question 2: Have we identified all the important metrics? Bearing in mind the need to avoid increasing the overall burden of data collection on institutions, are there other indicators that we should consider?

See comment on para 4.5 (above). Two examples of metrics which would be a true reflection of user value might include research sponsor retention and license agreements arising from collaborative research. We do believe that the use of weightings deliberately to incentivise behaviour should be explored in the models. This may be deliberately encouraged *once there is more objective data on the contribution of different research modalities to the creation of value in business and society and the mechanism by which this value is created is better understood*. Without such supporting data the overuse of weighting might be dangerous as it may provide mechanisms for manipulating the system.

Question 3(A): Which of the alternative models described in this chapter do you consider to be the most suitable for STEM subjects?

We believe that all the models proposed have the same fundamental flaw that one size is unlikely to fit all; any use of metrics must be developed and justified on a more rigorous basis (ie relating the metrics explicitly to the criteria to be used in QR funding and then in turn related to the strategic objectives of the funding) than currently set out in the form of the correlation identified. It may be that a satisfactory use of metrics may be panel specific within a standard process (as is now available for RAE 2008).

Question 3(B): Are there alternative models or refinements of these models that you would want to propose?

Yes. Consideration should be given in the models to providing appropriate weighting to business demand and appreciation of the value of research by business. (NB this is not to suggest that the value of university research to business is **necessarily** correlated with proximity to market; as our report "International Competitiveness" indicates, this may depend on the nature of the business and the type of research, hence the importance of engaging users in the definition of metrics) We have made this point in relation to the original intentions for RAE 2008 in our general comments (above). One outcome of such a consideration might be greater use of appropriate metrics to encourage collaborative research.

Question 4: What, in your view, would be an appropriate and workable basis for assessing and funding research in non-STEM subjects?

This decision is best taken at panel level provided the panels have appropriate representation from end-users. Special consideration is already being given to how funds should be allocated for the arts, humanities, social sciences and creative industries. A similar approach in other areas would be more likely to achieve metrics appropriate to each panel and a greater buy-in by academics and end-users to the metrics finally agreed. Better information on user relevant indications of quality and the modality of application is necessary across all disciplines. In the arts, humanities and creative industries for example, there are indications from our work that the manner in which such research effects to "increase national wealth and the development of a more civilised society" is not well characterized and that conventional metrics and assessments of quality will tend to undervalue it.

Question 5: What are the possible undesirable behavioural consequences of the different models and how might the effects be mitigated?

The major problem is likely to be the distortion of activities to manipulate the metrics – for example the deliberate attempts to increase volume which we have already cited at the expense of quality and the

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sacrifice of long term development to pursue the recruitment of already active researchers and research teams (a criticism leveled at the current RAE also). We do not consider mitigation of the effects within individual models possible but have made suggestions concerning the preservation of assessment of quality and assessment of research planning and management which might counteract these at the system level. Similarly the metrics described in para 4.5 must be used intelligently in such a way that they will not distort business / university interactions towards producing a commercial outcome for the university as has occurred with HEIF funding.

Question 6: In principle, do you believe that a metrics-based approach for assessment or funding can be used across all institutions ?

Excellence has to be rewarded and supported at the level of the team – including cross-institutional teams. Metrics can make an important contribution within each panel but are unlikely to be successful if imposed across panels.

Question 7: Should the funding bodies receive and consider institutions' research plans as part of the assessment process ?

What should be assessed is the institutions capability to plan, resource and then implement strategic research developments including the development of new researchers, as distinct from just the plans themselves. Such an approach might be applied to interdisciplinary research as an additional factor to the incorporation of the base metrics within the most appropriate panel area, as an indicator of the “added value” of the researchers' management capability being able to extend across disciplines.

Question 8: How important do you feel it is for there to continue to be an independent assessment of UK higher education research quality for benchmarking purposes? Are there other ways in which this could be accomplished?

There are now various world league tables that rely on international rather than national systems of quality assessment. However at the more granular level of disciplinary and interdisciplinary teams, indicators of quality need to be sensitive to the discipline, the type of research and the potential users. It is therefore likely that they are best defined within individual panels.

Next Steps

Given that there will be differences between the metrics appropriate for different disciplines, it is important that draft metrics are produced by the high level panels or panels convened specially for the purpose before final decisions are made on the future. This not a delaying tactic but is aimed at better ensuring academic and user buy-in on the way forward. That is why we welcome the announcement that RAE 2008 will proceed as planned and that shadow metrics will be developed as part of this process.

We also suggest that a limited number of panels that have satisfactory final end-user representation urgently develop draft proposals on the metrics they might use. All panels should then establish a group with adequately wide representation to propose their own metrics. The degree of overlap could then be ascertained and any issues of interdisciplinary and multidisciplinary research addressed.

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