

The Royal Society response to the OST report on the sustainability of university research

30 September 2003

- 1 The Royal Society is grateful for the opportunity to respond to the OST Report on the Sustainability of University Research¹ and also to the parallel consultation by the Funding Councils on the Roberts Review of the RAE. It does not, however, believe that it can respond adequately to either consultation merely through the supplied sets of questions, and hence its submissions are in the form of a cover note together with the completed questionnaire. The responses were overseen by the Society's Working Group on the future development of universities and have been endorsed by the Society's Council. The membership of the Working Group is at annex B.
- 2 The Society is concerned that the non-project funding of university research, including the funding of permanent academic staff while they are engaged with research, has become increasingly centrally directed over the last decade or so, more so than in any other country of similar size. This has resulted in two trends:
 - increasing complexity of the mechanisms for determining the distribution of this support;
 - arguably too selective a distribution of resources, possibly because of too limited a view of the purposes for the public support of university research
- 3 It is unfortunate that the opportunity was not taken to undertake a more fundamental review of the overall public funding of university research, including consideration of the balance between the research and funding council streams of funding, and whether it would be better for the Research Councils to pay the full cost of the research they support. The Society will be publishing a more detailed paper on this setting out some options in the near future.
- 4 Devising the optimum policy and funding for university research is crucial not only for the future of the universities, but also the country as a whole. Any fundamental review should take into account the diverse reasons for publicly funding university research. First and foremost the purpose of university research is to take forward the frontiers of knowledge, but this in turn provides a crucial capacity to:
 - i. solve problems – eg to underpin solutions to societal problems such as those in the health, social, economic, environmental areas;
 - ii. fuel and underpin economic activity, new and better/cheaper products and new and better/more efficient services;

¹ <http://www.ost.gov.uk/policy/universityresearch.pdf>

- iii. maintain a capacity to keep in touch with and understand developments occurring elsewhere in the world, and to maintain knowledge, skills, and long-term research infrastructure, for unforeseen eventualities;
- iv. train PhDs and post docs and to provide within universities an exciting and challenging learning environment for first degree and masters students
- v. retain existing national expertise and business investment, and to attract inward migration of skilled people and “foreign” companies/capital.

Implicit in many of these are the key role that research plays in maintaining culture and the UK’s standing within the world community.

- 5 Some, but by no means all, of this publicly funded research can be resourced on a project basis. There is also a need to re-build and maintain generic research facilities, with needs that go far wider than even large research council projects. This would argue for a mixture of project and research capability funding, such as the current funding arrangements through the Research and Funding Councils, although it neither follows that the streams have to be totally independent, nor that the present balance between the two streams of funding is the optimum, and will become even less so with moves to full economic costs.

- 6 Within the context of the OST Review, the Society is concerned about the proposal that the future funding arrangements should be based on the Research Councils only paying a proportion of the agreed costs of their supported projects. Clearly, the Science Budget does not have sufficient resources to fund the full cost of the research without a significant decrease in the volume of grant-supported research, which would be highly undesirable. Hence the Research Councils should be provided with the funds, if necessary through a mixture of additional funds and a transfer from the Funding Councils, to enable them to pay the full economic cost of their projects, excluding the cost of any PI input to the research, and that this should be a priority item in the next spending review. The Society appreciates that there may be some problems ensuring that the arrangements can be consistent across the UK, but it is important that these should be overcome.

- 7 On the detailed proposals in the OST report, while there are problems with the present arrangements of using the staff element of Research Council grants to drive the indirect costs, and hence with the option of merely increasing the current factor of 0.46 used in the calculation, it is not clear that the Report has shown that the proposed new arrangements:
 - a. are practicable and not excessively difficult to operate in terms of costing, monitoring and auditing;
 - b. provide the claimed level of transparency and that this improvement in transparency is worth the additional costs. In particular, whether paying a fixed percentage of total costs is superior to paying the full direct costs plus a contribution to the indirect costs calculated as a fixed percentage of a defined indirect cost driver. Using the total direct costs as a cost driver would remove some of the perverse incentives with the present arrangements.

Unfortunately there is insufficient information available to answer some of the points raised in the report, as there are no illustrative costings. It would be worrying if OST had not undertaken these to test out the various scenarios.

- 8 In principle, a case can be made for project funding to cover the full cost of the project, including the cost of any academic staff time devoted to the project. Indeed, universities should be in a position to calculate the full economic cost of their various activities in order to price contracts and to ensure that they are aware when activities are being subsidised by others. However, there are some major practical problems with the proposed arrangements for Research Councils that need to be considered:
- a. while most staff on projects are likely to be employed for a particular percentage of their time, the position of PIs is much more fluid, making it difficult to cost in the first place and later to monitor and to audit.
 - b. Making PI costs a chargeable element of a research grant might encourage universities to try to increase their cost recovery of the salaries of permanent members of staff who at present may be undertaking research without a Council grant at little additional cost apart from their own salaries and indirect costs. This would increase the pressure on research grants, although Councils may try to discourage this through the use of higher minimum grant proposals, or maximum percentages of a grant that can be associated with staff costs.
 - c. It seems likely that determining indirect costs to a project level using departmental overhead rates would involve a significant amount of additional work, especially as this involves not only costing, but also monitoring and auditing. Even if the Research Councils could pay the full cost of their projects, it is not clear whether there are sufficient benefits from going to this level of detail, or indeed whether the uncertainties in the inputs to the calculation justify going to this level of sophistication.
 - d. The enhancements to the TRAC methodology are still being developed at pilot sites – it would be unwise to assume that it would be ready to use generally by the summer of 2004.
 - e. There is a case for including fellowships in the scheme. However, if excluding these and PI costs would allow the Research Councils to pay the full FEC, then in the short term it is more important to be able to pay the full costs of grants. There is a case for delaying implementation of this extension until sufficient funds are available to pay the full cost of grants and fellowships.
 - f. There is no strong case for extending the full cost arrangements to Research Council studentships, but some review of the arrangements for supporting such students including the research training support grants would be worthwhile.
- 9 Hence the Society believes that the Government should provide the Research Councils with sufficient resources to pay the full cost of their projects, excluding any PI contribution, on a UK wide basis. In the meantime there would not seem to be any case for moving to any more sophisticated arrangement for calculating the contribution to indirect costs. The Society agrees that it is important for universities to be aware of the FEC of their activities, but that calculating this on an institutional basis would appear to be adequate for most purposes.

- 10 For the calculation of the Research Council grant, the Society is not persuaded that until the Research Councils are in a position to fund the full cost of their projects on a UK wide basis, there is much benefit of moving from a simple arrangement for calculating their contribution to the indirect costs. Indeed there may be merit in using, as an interim measure, a single cost driver such as total direct costs on grants excluding capital items.
- 11 The attached completed questionnaire represents the Society's views on the various recommendations, but should be read in the light of our view that there needs to be a fundamental review of the overall public funding arrangements.

Please send any comments or enquires about this submission to:

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Appendix A. Summary of questions & template for responses

Please email responses by 30th September 2003 to Cynthia.Richardson@dti.gsi.gov.uk.

SUR	Question	Your answer Y/N (if appropriate)	Please give your reasons	Other comments
3.1	Are there options or alternatives that have not been set out here which would provide a better overall solution?	Y	<p>The Society believes that it is important to consider the overall arrangements for the funding of university research, within a UK-wide Research Council system.</p> <p>In the long term the Research Councils should pay the full cost of their projects. Until this can be achieved, it is not worthwhile setting up elaborate arrangements for paying indirect costs. There are, however, problems with using staff costs on grants as the only driver for these indirect costs. It would therefore be best to move to using the total costs.</p> <p>If, however, in the interim it is decided that the contribution to the total costs should be based on FEC, then this should exclude PI costs and be calculated on an institutional level. In order to increase the percentage paid on research grants it would be best to delay extending the additional payments for fellowships.</p>	

SUR	Question	Your answer Y/N (if appropriate)	Please give your reasons	Other comments
3.2	Is there a danger that our proposal might reward past infrastructure under-investment or current institutional inefficiencies? Does this matter and, if so, what can be done about it?	Y	<p>Any system that takes as given institutional costs is likely to have this problem. The situation is likely to be even worse if undertaken at a departmental level.</p> <p>One way forward would be to have normal bands outside of which universities have to make a special case.</p>	
3.3	Are there general systemic problems with our proposal, e.g. the creation of perverse incentives, and if so what can be done to resolve them?	Y	Including PI costs is likely to lead to significant perverse incentives on the part of institutions. We recognise that our proposals to move to paying the full cost less those associated with PIs may also increase the number of applications.	
3.4	Do you agree that a single percentage of FEC should be used to calculate the Research Council contribution for all research proposals? What are the possible drawbacks and how might these be overcome?		At least in the longer term the Research Councils should pay the full costs of their projects, excluding PI costs.	Much more background information is required on this.
3.5	Should we simply allocate the £120 million among the Research Councils in proportion to their current research spend in HEIs? Or is a more sophisticated approach required in order to protect the present broad balance of funding across the disciplines? If so, what might that approach be?	N	<p>Any change from the present distribution of research spend should be a conscious decision based on evidence that a different distribution would on balance be better to the UK – it should not happen by chance. However, excluding PI costs should make such a reallocation less extensive.</p> <p>It is essential that the effect of the changes should be modelled</p>	Again much more information is required

SUR	Question	Your answer Y/N (if appropriate)	Please give your reasons	Other comments
3.6	Will undesirable consequences arise within HEIs from local variations in FEC (e.g. between disciplines) and, if so, what should the Government do to mitigate them?	Y	We believe that going to departmental indirect costs is spurious accuracy, bearing in mind other errors in the system.	
3.7	How can excessive applications of this sort be prevented? One possibility might be for Research Councils to specify which types of proposals are not eligible for their support in order to 'define-out' this problem. Would you favour such an approach?		Most of the problems arise from the inclusion of PI costs. These should be removed from the calculation of costs for Research Council grants, but not of course for the costing of contact research.	
3.8	Are there other technical issues raised by our proposal which you think we may have missed? How could they be resolved?	Y	<p>The inclusion of PI costs, apart from introducing perverse incentives, would be difficult to determine precisely in advance, especially where the PI was supervising a number of projects and research students with different sources of funding.</p> <p>More generally, the report did not give sufficient data to judge whether there were other technical problems.</p>	
3.9	Are the benefits in implementing the costing methodology sufficient to persuade mid-research spectrum HEIs to invest the necessary resources to achieve this by September 2004?	N	As indicated above and in our cover sheet, we do not believe that there are net advantages of going to costing at a departmental level.	

SUR	Question	Your answer Y/N (if appropriate)	Please give your reasons	Other comments
3.10	Should the implementation of these reforms be phased in some way? If so, do you support the mixed economy approach, shadow running or some other method (please specify).	N	Such phasing would not be required using institutional indirect costs. However, to leave time for a fundamental review, the Society would recommend that a simple interim arrangement be put in place.	
3.11	Do you agree that research studentships should be excluded from this reform?	Y		
4.1	Do you feel the guidance in Appendix A is sufficiently detailed to allow academics and research administrators to apply the principles in practice?	Y		
4.2	Will funders and users of the research base also find the guidelines useful in understanding and negotiating the prices they are offered?	Y		

Annex B

Members of the Royal Society's Working Group on the Future Development of Universities

Established to advise the Society's Council on the recent White Paper on the future of higher education and the expected subsequent range of related reports.

Professor John Enderby CBE FRS (Chair)	Vice-President and Physical Secretary of the Royal Society
Professor Carole Jordan FRS	Department of Physics, University of Oxford
Professor George Kalmus CBE FRS	Rutherford Appleton Laboratory
Sir John Kingman FRS	Director of the Isaac Newton Institute for Mathematical Sciences, Cambridge
Professor John McCanny CBE FRS	Professor of Microelectronic Engineering, Queen's University Belfast
Sir Alistair MacFarlane CBE FREng FRS	Chair, Royal Society Education Committee
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