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HOUSE OF LORDS SELECT COMMITTEE ON SCIENCE AND TECHNOLOGY GOVERNMENT RESPONSE TO REPORT



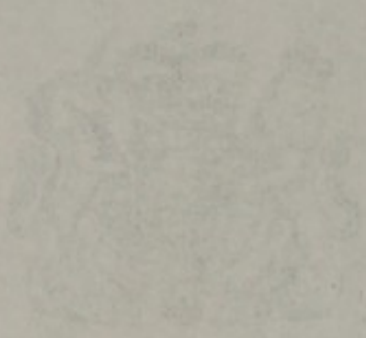
# SCIENCE BUDGET 1991-92

Government response to the House of Lords  
Select Committee on Science and Technology:  
Report on the Science Budget 1991-92

Presented to Parliament by the Prime Minister by  
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July 1991

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## HOUSE OF LORDS SELECT COMMITTEE ON SCIENCE AND TECHNOLOGY: GOVERNMENT RESPONSE TO REPORT

1. The Government is grateful to the Select Committee for its report on the science budget—the DES vote that provides grant-in-aid to the Research Councils, the Royal Society and the Fellowship of Engineering—and welcomed the opportunity to discuss the Committee's findings in the debate in the House of Lords on 23 May.

2. The Government notes the Committee's views on the 1990 PES settlement and its recommendation that a further £12m should be made available in the current year. The Government recognises that some of the Research Councils have experienced financial difficulties. However, it does not believe that these are the result of underfunding by the Government, or that they amount to "a crisis". The most conspicuous problems have been those which the Science and Engineering Research Council has had to tackle in order to bring its spending back into line with known planning allocations. However, the Government recognises that Research Councils face higher costs this year than were anticipated at the time of the Autumn Statement when expenditure plans were announced, and accordingly an increase of £7 million in the science budget was announced on 12 June (Official Report cols 536 and 537). The value of the 1990-91 science budget has thereby been maintained in real terms in the current year, after taking account of the special factors noted in the Government's written evidence to the Committee.

3. The Government has accorded the funding of basic and strategic research high priority since 1979-80; and given the size of the increase in the science budget over and above general inflation since then—23%—the Government does not accept that criticism of its policy on science funding is justified.

4. Following the recent increase, planned provision for science within the DES expenditure programme in 1991-92 stands at £934 million. This includes expenditure financed by EC receipts, which accrue to and are spent directly by the Research Councils, estimated at £6.8 million. The balance of £927m, being the funds allocated by the Secretary of State on the advice of the Advisory Board for the Research Councils (ABRC), constitutes the science budget.

5. This funding supports a wide range of high quality research in Britain's higher education institutions (HEIs) and Research Council laboratories, much of it of world class. The tendency to overlook the excellent work that is being funded causes unjustified, and potentially harmful, negative perceptions of UK science, particularly among those who have still to make choices about their future careers.

6. Much of the evidence to the Committee concentrated on particular work for which funding is not available. However, it has never has been difficult to find excellent scientific initiatives that cannot proceed because publicly available funding is finite. The pace at which the frontiers of scientific research are forced back inevitably means, both in Britain and elsewhere, that opportunities for first class research will always run ahead of the funds which any government can afford. The need for rigorous appraisal and re-appraisal of priorities is as important in the area of scientific research as it is in every other field of public expenditure. Conducting such an appraisal is one of the key responsibilities of the individual Research Councils and of the ABRC.

7. This response to the Committee's report, like the report itself, addresses first the question of the science budget and then the future of the Dual Support arrangements.

## SCIENCE BUDGET

8. The aims of the DES funding of science are to advance knowledge and technological capability; to train scientific manpower at postgraduate level; and in these and other ways to contribute to the realisation of economic, social and cultural benefits for the United Kingdom. The Government believes that once it has set the size of the science budget, it should be for the ABRC and for the Councils themselves to decide what is the best science to support to achieve these aims.

## TRENDS IN THE SCIENCE BUDGET SINCE 1979-80

9. In eight of the eleven settlements since 1979-80, the Government has announced plans for expenditure that represented an increase in real terms over the current year. The 1988 Autumn Statement brought a very substantial 8% real terms increase for 1989-90, which was widely welcomed by the scientific community - and which has been broadly maintained until the end of the current planning period. Hence it is misleading to view the 1990 PES settlement in isolation from earlier settlements. The 1991-92 science budget is 23% higher in real terms than it was in 1979-80<sup>1</sup>. This is an impressive record of funding support, which demonstrates the Government's commitment to a proper level of funding for basic and strategic science.

10. Funding for the science base (science budget plus funding for research through the Universities Funding Council) has also increased, with a rise of some 16% in real terms between 1979-80 and 1989-90. The figures for UFC-funded research in Tables 3 and 4 of the report are from the 1989 Annual Review of Government-Funded Research and Development, and have since been revised upwards for the later years. The outturn estimate for 1989-90 is £860 million.

<sup>1</sup> The science budget index in Table 2 of the report is incorrect in two respects: (a) the figures for 1979-80 and 1980-81 should be adjusted to reflect the transfer of £13.9m (at 1980 Survey Prices) to MRC from the Health Departments on 1 April 1981; and (b) the 1987-88 outturn figure was £658.2m, not £676.3m.

11. UFC figures for subsequent years are based on extrapolations rather than outturn data. The Annual Review makes clear that the uncertainties inherent in the process mean that the figures for UFC-funded research are probably accurate to within only plus or minus 10%. Figures for future years are generally revised upward in the light of outturn data.

12. UFC recurrent funding on research-based criteria increased by 10% in 1991-92, in line with the planned increase in overall funding for the universities through UFC grant and publicly-funded tuition fees. Taking this measure together with funding through the science budget, science base funding in 1991-92 is likely to have increased in real terms since 1989-90.

### **RESEARCH COUNCIL PLANNING**

13. The Committee's report describes the difficulties which the Research Councils are currently experiencing in adapting to their 1991-92 levels of grant-in-aid and subsequent planning figures. The report comments in para 2.20 that "the planning figures for the second and third years of the PES process are never enough to sustain a Research Council's first year programme". This reflects a misunderstanding of the basis of the forward planning process that the Research Councils are expected to follow, and takes no account of the funds held back each year by the ABRC for subsequent distribution to the Councils to meet urgent priorities.

14. At the heart of the planning process is the requirement that each Research Council should assume in preparing its forward plans that it will receive no more than the announced planning figure for the year in question. Research programmes, including new initiatives, should be prepared on that basis, and expenditure on those programmes should be planned to be contained strictly within the planning figures. Individual initiatives described in Councils' Corporate Plans should therefore not be dependent on additional funds becoming available in future Surveys, and hence there should be no question of the "continuity of planned programmes being jeopardised" (para 2.20). In this connection the Government notes the Committee's recognition that the current financial problems at SERC arose because the Council's forward plans were based on the expectation of a higher grant-in-aid than the announced planning figures.

15. The scope for adjustment of previously planned provision for science varies from year to year, according to the Government's assessment of national priorities and in the light of the prevailing economic circumstances. However, provided that the Research Councils adhere firmly in their forward planning to the requirement that they should plan

to live within their known financial means, these variations should not cause problems of the kind that SERC have experienced this year.

16. It should be appreciated that the science budget allocations to individual Councils represent a combined figure for both recurrent and capital spending. Given that capital spending may vary considerably from year to year, depending on whether major one-off projects are being funded, it follows that the overall grant-in-aid figures for individual Councils may vary by similar margins. Year-on-year comparisons may therefore be misleading.

17. The Committee also recommends at paragraph 2.42 a general overview by the Government of spending under the science budget as a whole, to consider whether, "in view of the alarming response of research councils to the present settlement they are content to live with the consequences of their public expenditure policy for science". The responses of the Research Councils in general to the present settlement have not, in the Government's view, been "alarming". SERC had difficulties in aligning its programmes to its future income but, as the Committee acknowledges, these difficulties were largely a result of decisions taken in the course of the Council's financial planning a year ago.

18. The important issue, which disappointingly is not addressed in the Committee's report (although it is always on the agenda for the Research Councils), is the need rigorously to appraise research programmes — both present and proposed — and to decide which are the highest priorities. This may mean discontinuing important work which has hitherto enjoyed a high priority, in order to make a start on other work that has come to be regarded as of even greater importance and priority. Decisions of this kind will frequently involve hard choices. It would be unrealistic to expect otherwise.

#### ANNUALITY

19. The Committee claims that under the Resource Management Arrangements (RMA) there is little scope for Research Councils to carry-over funds from one year to the next. Paragraph 2.22 of the report contrasts the Research Councils' position with that of Government Departments, and implies that the latter have a more favourable carry over entitlement under the End Year Flexibility (EYF) Scheme. The report recommends that the RMA should be reviewed to enable Research Councils with "lumpy costs" to carry forward underspends of up to 5% of gross recurrent expenditure.

20. The Research Councils enjoy greater end-year flexibility than Government Departments. Under the EYF arrangements, which apply only to **capital** expenditure, the Research Councils have the same 5% carry over entitlement on capital expenditure as Government Departments.

Under the RMA, however, Councils can also carry forward receipts from capital disposals; a freedom not available to other bodies. This arrangement was introduced in recognition of the Councils' special circumstances.

21. The carry-forward arrangements for recurrent expenditure are the same as those available to other non-departmental public bodies. They are not designed to enable Councils to build up reserves of grant-in-aid: the accumulation of such reserves would mean that payment was being made in advance of need, and the Committee will be aware that this would contravene one of the main tenets of Treasury public accounting procedures. Rather, the arrangements—introduced as part of the RMA as recently as 1989, and a significant relaxation of the conditions that applied previously—are intended as an aid to sensible financial management. They give the Research Councils a degree of flexibility in controlling their year-end finances, by allowing them to carry forward from one financial year to the next a working balance of up to 2% of their gross recurrent expenditure. This sum is not tied to any particular category of expenditure, and Councils have freedom to deploy their working balances as they choose.

22. The Department intends in due course to evaluate how well the RMA have been working, but they must obviously be given a reasonable length of time to operate before the evaluation. In the meantime there are no plans to relax the carry forward arrangements. Indeed there is no evidence that Research Councils are in a position to take advantage of any greater freedom in this area. The amount which Research Councils collectively carried forward from 1989-90 to 1990-91 was only 0.66% of their gross recurrent expenditure, as against an entitlement of 2%. This does not suggest that Councils are straining against the outer limits of the present entitlement.

### **INFLEXIBILITY OF RESEARCH COUNCIL SPENDING**

23. The Committee emphasises the need for Councils to maintain flexibility in their budgets, and recommends at paragraph 2.46 that the Government should "look hard at UK large and joint facilities and programmes and consider whether they are content with flexibility, especially of SERC proposals". The Government agrees that it is important, when considering forward planning in science, to ensure that the future resource implications of large and joint facilities are fully costed and form part of a balanced programme. What constitutes a balanced programme, however, is essentially a matter for scientific judgement and for the Research Councils to decide.

24. The Committee concludes that the Research Councils would have greater flexibility in managing their budgets if researchers' levels of pay were uncoupled from that of university teachers; and the report



recommends that each Research Council should be free to fix its own levels of remuneration and that local variations should also be taken into account in determining researchers' pay.

25. Research Councils already have flexibility to relate their pay and allowances to the most appropriate public service model. At present the AFRC, ESRC, NERC and SERC follow Civil Service pay and conditions: scientific and technical grades in the MRC are linked to University Teachers' scales and MRC clinical staff to NHS hospital doctor and dentist scales. The effect of uncoupling the Councils from these wider public service scales would be unpredictable.

26. The pay of research staff in higher education institutions is a matter for the employing institutions. The present pay arrangements for university academic staff generally allow for a considerable degree of flexibility, which the Government welcomes. Local managements are able to use this flexibility to target specific skill shortages and to reward merit.

### **INTERNATIONAL SUBSCRIPTIONS**

27. In its discussion of international subscriptions the Committee refers to the benefit expected to flow from the decision to join the exchange rate mechanism. The Report recommends at paragraph 2.49 that from now on Research Councils should be expected to bear the risks only within the margins allowed, with the same liability for movement in relation to the Swiss franc.

28. Public expenditure is planned on a cash basis and Departments and their sponsored bodies are responsible for meeting all price movements. In the case of the largest international subscription, that for CERN (European Organisation for Nuclear Research), steps have been taken by the Organisation to reduce the year-to-year variations in member state subscriptions, paid in national currencies, by adjusting the proportion of the budget met by each member annually using up-to-date exchange rates. The SERC's exposure to currency fluctuations is reduced by buying-forward. Hence the large fluctuations in the CERN subscription experienced during the 1980s should not recur.

### **COORDINATION OF SCIENCE ACROSS DEPARTMENTS**

29. The Committee is concerned that the "government machine as a whole" should take sound advice before reaching future decisions on science funding. It recommends that in order to ensure both that wider advice is brought to bear and that Government is fully cognisant of the consequences of any eventual settlement, Ministers collectively should involve themselves in the process of consulting on the appropriate level of funding for science.

30. The Prime Minister has already confirmed his intention to continue the arrangements set out in the White Paper "Civil Research and Development" (Cm 185). In particular he chairs collective Ministerial consideration of science and technology priorities. Ministers take an overview of science and technology priorities and objectives as part of the Government's consideration of the funds to be made available for scientific research through the Public Expenditure Survey. Independent advice is provided by the Advisory Council on Science and Technology. These measures will ensure that settlements for science are made only after adequate consultation and advice across the whole of Government.

## **DUAL SUPPORT**

31. The Committee also considered the proposed changes to the arrangements for the dual support system for research sponsored by the Research Councils at higher education institutions (HEIs). It concludes that the change is "an appealing one on purely administrative grounds", but recommends that "unless a fully workable scheme can be set in place in good time for 1992-93 so that the consequences of the changes can be reflected in ABRC and UFC allocations for that year, the scheme should not be proceeded with" (3.20).

## **PURPOSE OF THE REFORM**

32. The Government considers that the new boundary within the dual support system announced last November will have wide-reaching benefits. Its purpose is two-fold. First, it is designed to provide a clear division of funding responsibilities between the Research Councils and the higher education institutions. In future an institution will know that if a Research Council decides to support a project it will pay for everything needed for that project; the institution will contribute only the time of its academic staff and the premises. This clarification of funding responsibility has become essential because of confusion over where the boundary lies under the current system.

33. Second, the new system should promote a clearer understanding of the true costs of undertaking research. Universities carry out research at present for a wide range of outside bodies. It is important that all those involved should have a proper understanding of its costs so that they can decide what price to charge. Likewise it is important that Councils and institutions making decisions about which research projects to support should be in a position to judge the expected benefits of those projects relative to their costs. The changes to the funding of Research Council projects under the new arrangements will ensure that researchers have a greater awareness of the resources they are using.

34. Since the Committee reported, the Government has issued the White Paper "Higher Education: A New Framework" which shows how the revised dual support arrangements will fit within a wider structure for funding higher education. The White Paper sets out plans for single Higher Education Funding Councils for England, Scotland and Wales which will provide funds both for teaching and research. It describes the four principles which the government considers should inform a new structure for public funding of research in higher education—the principles of **plurality** (more than one source of research funding); **competition** across all higher education; **selectivity** against judgements of quality; and **accountability** in use of funds.

35. The principle of plurality will be achieved through the continuation of the dual support system. The new Higher Education Funding Councils will be responsible for the allocation of general research funds, which institutions will be able to use at their own discretion, alongside the system of earmarked project grants from the Research Councils. The principles of competition, selectivity and accountability will apply to both channels of funding. The arrangements for Research Council funding already provide for free competition between HEIs, and for selective funding on the basis of those projects most highly rated through peer review. The new definition of the boundary will promote greater accountability and transparency in the allocation and use of research funds.

#### PREPARATION FOR THE NEW SYSTEM

36. The Government shares the Committee's view of the need for adequate preparation for the new system. To this end there has been full consultation on the proposals, beginning with a consultation paper issued by the Department in January 1990. The Secretary of State for Education and Science announced in November 1990 that he had decided in the light of the responses to consultation that the change should go ahead, but that he had accepted the advice of the Advisory Board for the Research Councils that the date of implementation should be put back to 1 August 1992 to allow time for the necessary preparatory work to be done.

37. At the same time, he invited the Research Councils and the representatives of the higher education institutions to draw up a detailed and workable specification of the new boundary; to do further work on the costs of the responsibilities which would thereby transfer to the Research Councils, including their contribution to institutions' indirect costs; and to draw up new application forms and other guidance for those involved in grant applications. These measures were designed to ensure a smooth transition to the new system.

38. The Research Councils and the Committee of Vice-Chancellors and Principals have now reported the results of their work to the Secretary of

State. A copy of their joint Report "Changing the Boundaries of Dual Support" has been placed in the House of Lords Library.

### **MONITORING**

39. The Committee further recommends that "research councils be required by the Secretary of State to ensure that the sums transferred continue to be used in support of university-based research only" (para 3.20). The Secretary of State has reaffirmed his intention that the transfer of funds should not lead to any reduction in the volume of research which Research Councils sponsor in higher education institutions. This will be made clear to the ABRC and the Research Councils when their funding is announced, and the Department is making arrangements to monitor planned and actual spending by Research Councils on grants to higher education institutions to ensure that the new arrangements are working as intended. The balance of grant support between universities and other institutions will be determined, as now, through open competition for Research Council funds based on peer review of individual projects.

### **RELATIONS BETWEEN THE UFC AND THE ABRC**

40. The Government agree that good working relations between the UFC and the ABRC are important. These can be provided both at working level, through day to day contacts between the secretariats, and through more formal contacts between the Board and Council. In appointing members to both bodies, the Secretary of State for Education and Science continues to bear in mind the desirability of some common membership. Sir Charles Reece, currently a member of the UFC, was until recently also a member of the ABRC, while Professor Howard Newby, Chairman of the ESRC and a member of the ABRC, has just been appointed to be a member of the UFC.



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