Review of the dual support transfer : final report, November 1995 / Office of Science and Technology.

Coopers
&Lybrand

OFFICE OF SCIENCE AND TECHNOLOGY

Review of the Dual Support Transfer

Final Report

November 1995

Contents

Executive summary

1 The dual support transfer which took effect from August 1992 involved the redefinition of responsibilities for meeting costs associated with research. In particular the Secretary of State for Education and Science decided that the research councils should be responsible for funding all the direct costs (other than the costs of permanent academic staff) associated with the projects which they fund and that they should also fund some of the indirect costs. It would remain the responsibility of the institution receiving the grant to meet the costs of "permanent" academic staff; accommodation and general premises related costs and the costs of central computing. One of the consequences of the Secretary of State's decision was the transfer of funds from the Universities Funding Council (UFC) to the research councils.

2 Throughout this report, we refer to the direct costs that the research councils were responsible for before the transfer as "pre transfer costs" and to the additional direct costs that the research council became responsible for after the transfer as "post transfer costs".

3 There were two main reasons lying behind the shift in the boundary:

- to increase awareness (and transparency) of the true costs of research and the nation's investment in it;
- to provide greater clarity in the balance of responsibilities and associated funding between research councils and higher education institutions.

4 In announcing the dual support transfer the Secretary of State gave an undertaking that the operation of the new arrangements would be subject to an early review to ensure that they were working as intended. Coopers & Lybrand were selected by competitive tender to contribute to this review and in particular to report upon:

- the extent to which the transfer objectives of awareness and clarity have been achieved;
- the allocation of indirect costs;
- the extent to which financial neutrality has been maintained.

Awareness of the costs of research

5 The objective of raising awareness of the costs of research would have been achieved if those concerned with submitting and appraising applications for research grants were more aware of the full costs of research now than they had been prior to the transfer.

6 It appears that the transfer has contributed towards an increased understanding among principal research investigators that the costs of research are higher than they had previously thought. This understanding appears to be more highly developed in those institutions that

have devolved the responsibility for resource management down to academic department level.

7 **There are a number of issues that will need to be addressed before there is a widespread understanding of the full costs of research. In the institutions we visited the research council project related costs associated with premises, academic staff and central computing and the associated overhead (the institution side of the dual support transfer) were not explicitly identified and as a result, principal investigators and other staff were not in a position to understand fully the level of support provided to research projects by the institution over and above the costs reclaimed from research councils.**

8 **We found that there is a widespread perception amongst principal investigators that the "cheaper" the grant the more likely it is to be funded by the research councils. Consequently there can be a reluctance among principal investigators to acknowledge or expose the full costs of a project.**

9 **Some academics are still under the misapprehension that the forty per cent of staff costs provided by the research councils represents the total additional costs associated with research projects over and above the direct costs claimed from research councils. This misapprehension is also found among some external funders of research (ie non research council) who are using the forty per cent overhead addition payable on research council grants as a benchmark for their own overhead contributions. Whilst in the short term this might be helpful in levering overhead contributions from organisations that have not previously paid them, in the longer term institutions will need to ensure that all funders are aware of the total costs of research not just those that fall on the research councils.**

Clarity of funding responsibility

10 During the 1980s there was growing concern that the dividing line between the respective funding responsibilities of the research councils and the universities had become confused. One of the main reasons for the dual support transfer was to provide greater clarity in the funding arrangements. There are two elements to be considered when looking at the extent to which this objective has been achieved:

- the clarity of the dividing lines between what should be funded by the research councils and what should be funded by institutions;

- the clarity of the divide between indirect costs and direct costs.

Institution and research council responsibilities

11 In general we found that the boundaries between the categories of costs which should be funded by the research councils and those which should be funded by institutions were clear and understood by those applying for and appraising grants. The one exception was the funding of equipment.

12 Equipment is funded through both the funding councils' route and the research councils' route. Given that some items of equipment are used for both teaching and research there is inevitably some lack of clarity as to who should pay for what. In some cases it would appear that research council grant committees have refused to provide funding for the purchase of new equipment on the grounds that one or more members of the committee believe that the department in question already has access to the necessary equipment.

13 **There are a number of possible strategies which might be considered to improve clarity in this area. These are highlighted in Chapter IV of the report. However the issues involved in the funding of equipment are complex and therefore we suggest that they should be the subject of further consideration in the light of the outcome of the current review of the equipment needs of universities being carried out by the Committee of Vice Chancellors and Principals (CVCP) and the funding councils.**

14 At the time of the transfer the question of how central computing should be dealt with was the subject of specific analysis by the Advisory Board for Research Councils (ABRC) and CVCP. At that time it was decided that the costs should remain with the institution but that the issue should be looked at again when the dual support transfer was reviewed.

15 **For the reasons outlined in Chapter IV, we consider that moving responsibility for this kind of indirect cost from institutions to the research councils would seem to work against the objective of improving clarity of funding, particularly while institutions continue to be responsible for major costs associated with academic staff and premises.**

Dividing line between direct and indirect costs

16 Institutions are applying for direct costs items that are more akin to indirect costs. Examples include relatively small amounts of non-academic staff time and some kinds of consumables. **As a result there is some difference of interpretation between research councils and institutions about the dividing line between direct and indirect costs. This issue might be addressed by reclassifying as indirect some of the costs that institutions are currently trying to claim as direct costs.**

Indirect costs

17 Research councils pay a contribution towards the indirect costs associated with research projects. Their contribution is calculated on the basis of a 40% addition to staff costs on each award and is intended partially to compensate institutions for the costs of providing central and departmental services required to support research activity.

18 We have found considerable confusion about the purpose of the funding for indirect costs. We think that there would be considerable merit in clarifying the position and publicising it to principal investigators, some of whom seem to be under the impression that they should receive all or a substantial proportion of the indirect costs funding - possibly to be used for additional direct costs in the same way that funding council money was used before the transfer - when this is, in fact, intended as a contribution to central institutional and departmental indirect costs.

19 **The indirect costs payable by the research councils should continue to be provided via a single average percentage addition calculated on the basis of direct staff costs. It should be recognised that an overhead amount calculated on this basis is unlikely to reflect the actual costs associated with the elements it is intended to cover in any one institution. At best it will represent a contribution to overheads .**

20 The present contribution of forty percent was calculated on the basis of a very broad estimate of the overheads across the higher education system excluding premises, permanent academic staff and central computing. The amount transferred to the research councils in respect of indirect costs has been returned for this purpose, consequently the sector has not "lost" any of its funding for indirect costs. However, some institutions clearly do have overhead levels that are higher than forty per cent (some will have lower levels than this) and so individual institutions may not recover all of their overhead on research council grants through this average recovery rate.

21 **Given that within any single institution the indirect costs provided by the research councils will represent a contribution to total institutional overhead rather than the actual costs of providing specific elements of activity, it is not in our view sensible (or possible) to attribute research councils contributions to indirect costs to individual activities within institutions.**

Financial neutrality

22 When the Secretary of State for Education and Science announced the dual support transfer he made it clear that it was his intention that the shift in the boundary of responsibilities within the dual support system should be financially neutral and that in particular it should not lead to any changes in the volume of research which research councils sponsor in higher education institutions. We think that there are two valid definitions of financial neutrality:

- global financial neutrality;
- volume neutrality.

Global financial neutrality

23 Information supplied by the Research Councils shows that their total grant expenditure in 1992-93, 1993-94 and 1994-95 was well above the reducible minimum set at the time of the transfer. Overall, the funds transferred to the Research Councils have been returned to the HE sector, and global financial neutrality has been achieved.

Volume neutrality

24 It is clear that the volume of research activity has increased since the dual support transfer took place. It is also clear that some of this increase is unrelated to the dual support transfer. Research council expenditure in HEIs has increased by 4% in 1992-93 and 1993-94

and 11% in 1994-95 over and above the irreducible minimum. Even allowing for the effects of inflation, this would lead to a real increase in volume.

25 **This issue aside there is evidence to support the conclusion that the dual support transfer has led to the increase in research volume. In particular:**

- **principal investigators have not been applying for as much additional direct cost as it was assumed they would when the transfer amounts were calculated, consequently resources transferred for additional direct costs (ie technicians, other support staff etc) have been invested in pre transfer type costs (research assistants);**

- **while there are wide variations between Councils, overall there is a significant increase in the number of research assistants post transfer and in the number of research assistants awarded per grants;**

- **there has been a post transfer shift in the pattern of support on grants from direct non-staff costs to staff costs and within staff costs, from technicians and other support staff to research staff.**

26 **From the analysis in Appendix D, it appears that at least £9 million and possibly up to £29 million of the £67.5 million transferred to cover additional direct costs has been spent on pre transfer costs (largely research assistants), and possibly an increase in grants. This in turn has led to an increase in volume. There is no basis on which we can further narrow down these ranges to determine a more precise figure. Whatever the precise figure, 40% should be added for indirect costs associated with spend on staff.**

27 There are a number of factors that have contributed perhaps in varying proportions, to the increase in volume.

28 First, there is some evidence that principal investigators may have been "under-claiming" post-transfer costs at least in the first year or two following the transfer. Most institutions are now taking steps to address this. A second and related issue is whether the research councils have been disallowing legitimate claims for post-transfer direct costs, although there seems to be little evidence to support this conclusion.

29 It seems more likely that the original transfer assumptions may not have held true because:

- the average level of post-transfer direct costs was overestimated in the original calculation of the amount to be transferred, and that consequently more was transferred in respect of direct costs than was being spent on those costs from the funding council block grant; and

- the balance between pre and post-transfer costs may have changed since the transfer took place as a result of principal investigators' decisions about the level and type of support they require.

30 Our interviewees suggested that now that principal investigators have more control over the recovery of costs for technical and support staff they tend to prefer to claim for and then obtain additional (new) staff rather than seek to recover the costs of existing staff. If some of these additional staff are research assistants engaged in research activity then the volume of activity would have increased. Further, institutions will potentially be left with a group of technicians on permanent contracts who were (and probably still are) supporting research activity but for whom no specific funding is now available. The funding for these staff will have been transferred to the research councils, but principal investigators may be using it to fund the costs of their preferred staff.

31 A decision is required on whether or not to take specific steps to redress the balance on volume neutrality. The consequence of a reduction in volume would be a reduction in the number of research council grants and an increase in the amount of infrastructural support available in higher education institutions. Because of the variety of factors that have contributed to the current position, it is difficult to make a firm estimate of the extent to which the balance on volume neutrality should be redressed. If a decision is taken to do so then there are two main options for achieving it:

- transfer an amount back from the research councils to the funding councils;
- increase the level of indirect cost funding.

32 Transferring an amount back would require decisions to be made about the total sum to be transferred from the research councils to the funding councils and on how it should be distributed. Calculating the amount to be transferred would be a complex issue.

33 The alternative would be to increase the level of indirect cost funding. This would allow institutions to have more control over infrastructural support for research. The advantage of this approach is that it avoids the need to estimate amounts to be transferred at the level of the individual research council. Its disadvantage is that the relationship between the indirect cost payment made by the research councils and the envelope of resource it is intended to compensate within institutions becomes less clear. However, as we argue in Chapter V of the main report, given the nature of indirect costs this link is not clear anyway.

34 A third alternative would be to adopt an approach that was a combination of the two options outlined above.

I Introduction

Background to the dual support transfer

1 The support of academic research in UK universities is based on the notion of dual support. Universities receive public funds for research both through institutional funding from the Higher Education Funding Councils and the Department of Education for Northern Ireland - (DENI) and specific project grants from research councils. Prior to August 1992 the Universities Funding Council (UFC) funds provided for the costs of the basic infrastructure for university research, such as laboratories and equipment, as well as academic staff - the well found laboratory. This also enabled universities to undertake seedcorn research at their own discretion. There was no equivalent funding for polytechnics and colleges. The research council side of the dual support system covered the specific direct costs (or marginal costs) associated with individual research projects. Projects were (and still are) distributed on a competitive basis for which all higher education institutions could apply.

2 The UFC provided teaching and research funds to institutions by way of a block grant calculated on the basis of various formulae. One of these formulae took into account the number and value of project grants awarded by research councils and other research funders, this element of the UFC grant was known as DR. The level of DR awarded to an institution, was linked to success in securing research council and charitable grant funding. Despite popular belief, the DR amount was never intended to represent the actual infrastructure costs associated with supporting these grants, it was simply a means of determining the allocation of one component of the block grant for teaching and research.

3 During the 1980s there was a growing concern that the dividing line between the respective funding responsibilities of the research councils and the universities had become confused. In the absence of an exact definition of funding responsibilities, the system depended on there being a common understanding of what was meant by the "well found" laboratory. This understanding was breaking down both across the research councils and between research councils and the funding councils. In addition there was a fairly widespread belief that DR was intended as the underpinning support for research council and charity grants, even after it was stated that success in obtaining such grants merely informed decisions about DR allocations.

4 The dual support transfer, which took effect from August 1992, involved the redefinition of responsibilities for meeting costs associated with research projects. Essentially the research councils assumed responsibility for funding more of the costs associated with projects than they had funded hitherto. In particular, the then Secretary of State for Education and Science decided that research councils should be responsible for funding all the direct costs (other than the costs of permanent academic staff) associated with the projects which they fund and that they should also fund some of the indirect costs. It would remain the responsibility of the institution receiving the grant to meet the following costs:

- accommodation and general premises related costs;
- the salary costs of 'permanent' academic staff[1];
- the costs of central computing facilities.

5 Because of the previous misunderstanding of what DR was intended to be, this transfer of responsibilities was often (misleadingly) referred to as the DR shift: this terminology thus perpetrated (and reinforced) the earlier misunderstanding.

6 Figure 1.1 shows respective responsibilities for meeting the costs associated with research projects prior to the dual support transfer and Figure 1.2 shows respective funding responsibilities after the transfer. The net effect of this transfer was to add some new direct cost responsibilities to the research councils together with some indirect cost responsibilities. Throughout this report, we will refer to the direct costs that the research councils were responsible for before the transfer as "pre transfer costs" and to the additional direct costs that the research council became responsible for after the transfer as "post transfer costs".

Figure 1.1
Responsibility for funding costs associated with individual research council projects prior to the dual support transfer

Institutions' responsibilities	Research councils' responsibilities
• Permanent academic staff	• Research assistants, technicians and other staff specifically needed for and employed directly on the project
• Accommodation and general premises related costs premises	• Some consumable and equipment costs
• Central computing	• Some travel and subsistence
• Basic laboratory infrastructure	
• Institutional overheads covering all the above	

[1] In fact the Economic and Social Research Council had regularly made grants to fund teaching replacement for 'permanent' academic members of staff and this practice has continued after the dual support transfer.

Figure 1.2
Responsibility for funding costs associated with individual research council projects after the dual support transfer

Institutions' responsibilities	Research councils' responsibilities[1]
• Permanent academic staff • Principal investigator overheads • Accommodation & general premises related costs • Central computing	• Research assistants, technicians and other staff employed directly on the project • Other staff (academic and non-academic) contributing to the project • Consumables and equipment needed to undertake the project • Travel and subsistence • Department and some institutional overheads

1 Under the original transfer arrangements, institutions were allowed to reclaim the costs of departmental support staff associated with an individual project where the aggregate over the grant period averaged at least 20% per annum of full time equivalent hours. If the cumulative staff effort was less than 20% this was deemed to be covered by indirect costs. Following acceptance of the BUFORG recommendations (ff paragraph 12) by the research councils, this 20% threshold was removed. Similarly, the threshold levels for different categories of exceptional item were reduced by half.

7 There were two main reasons lying behind the shift in the boundary for funding research:

- to increase awareness (and transparency) of the true costs of research and the nation's investment in it;
- to provide greater clarity in the balance of responsibilities and associated funding between research councils and higher education institutions.

8 One of the consequences of the Secretary of State's decision was the transfer of some funds from the Universities Funding Council[2] to the research councils. This transfer took place over a three year period from 1992-93 to 1994-95[3]. Under transitional arrangements, projects still current but approved before August 1992 did not receive any additional funding for these years in respect of the post transfer direct costs (as defined in para 6 above); but funding for the indirect costs of these grants was paid in the same way as for all new grants approved after August 1992.

9 In announcing the dual support transfer the Secretary of State said that his intention was that:

2 The Higher Education Funding Councils for England, Scotland and Wales and the Department of Education for Northern Ireland took over responsibility in 1993 from the UFC and the Polytechnics and Colleges Funding Council, (PCFC), the Scottish Office and the Welsh Office.

3 Throughout this report we have used (/) to signify an academic year (eg 1993/94) and (-) to signify financial year (eg 1993-94).

> "the shift in the boundary of responsibilities within the dual support system should not lead to any change in the volume of research which Research Councils sponsor in Higher Education Institutions, [and that he] would be looking for clear evidence that the sums transferred were being used for the purpose for which they were intended "- Allocations Advice: Secretary of State's letter of 20 November 1991.

10 The Executive Committee of the British Universities Finance Officers' Group (BUFORG) established a working group in September 1992 to review, from the universities perspective, the operation of the new arrangements. The working group's terms of reference were to identify the value of the additional direct costs and (overhead) received from the research councils on new grants awarded after 1 August 1992.

11 The working group reported to the BUFORG Annual Conference in March 1993. It concluded that there appeared to be a shortfall in the value of the additional direct costs that institutions had received under the new arrangements compared with what the working group estimated that they might have received under the old arrangements. As a result it was recommended that changes be made to the thresholds for departmental support staff and exceptional non-staff items, in order to enable institutions to reclaim greater amounts of additional direct costs. This recommendation was subsequently accepted and implemented by the research councils.

Terms of reference for the present study

12 In announcing the dual support transfer the Secretary of State gave an undertaking that the operation of the new arrangements would be subject to an early review to ensure that they were working as intended.

13 Coopers & Lybrand were selected by competitive tender to contribute to this review, the terms of reference of which are as follows:

> "To examine the operation of the new funding arrangements which followed from the dual support transfer in 1992, to assess whether these are working as intended, and to make recommendations on any changes deemed necessary or desirable for the advance of agreed government policy. In particular:
>
> - to examine whether or not the financial neutrality intended for the dual support transfer has been achieved, including a comparison of the levels of funding provided since 1 August 1992 with those levels notional indicated in the original dual support arrangements - in respect of (i) direct (direct staff and non-staff) costs and (ii) indirect costs;
>
> - to examine how different research council committees have applied the new dual support arrangements when determining grant allocations;
>
> - to consider whether higher education institutions have used the funds resulting from the research councils' contribution to indirect costs for the purposes

intended, in line with the guidance issued to higher education institutions by the research councils;

- to clarify the boundary between the respective responsibilities of institutions and the research councils (the main boundary is fixed as a matter of policy, but there may be scope for better definition/clarification in certain areas - eg central computing);

- within costs met by the research councils, to examine the boundary between direct and indirect costs, and to review the percentage addition for indirect costs.

The work programme

14 The work programme was overseen by a Steering Group consisting of representatives of the universities, the Research and Funding Councils, the Education Departments, the Royal Society, the Royal Society of Edinburgh and the British Academy. It is chaired by the Office of Science and Technology (OST) with a joint OST/CVCP secretariat. The programme which we undertook had the following components:

- an initial round of interviews and discussions with representatives of national organisations which have an interest in this area (interviewees are listed at Appendix A);

- discussions with officers of research councils, including secretaries of grant committees as well as finance staff (also listed at Appendix A). In the course of these visits we reviewed records related to research grant applications;

- collection and analysis of financial data related to the approval and disbursement of expenditure by the research councils;

- the design and distribution of a questionnaire to all institutions in receipt of research council awards and analysis of the resulting data. This questionnaire sought information on the extent to which institutions had been successful in recovering post transfer costs;

- visits to twelve institutions (listed in Appendix B) to discuss the operation of the new arrangements with academic and administrative staff involved in applying for research council grants.

Structure of this report

15 This report sets out the result of our review. It is structured as follows:

- **Awareness of the costs of research** - an objective of the transfer. A discussion of the evidence that the transfer had led to greater awareness of the costs of research (Section II).

- **Financial neutrality** - a constraint on the transfer arrangements. A review of the concept of neutrality and of the evidence as to whether financial neutrality has been achieved (Section III).

- **Clarity of responsibility for funding** - the other objective of the transfer. A discussion of (i) the extent to which the dual support transfer has led to improved clarity of respective responsibilities for funding research and (ii) the feasibility and desirability of redefining the boundary between direct and indirect costs in order to improve clarity further (Section IV).

- **Indirect costs**. A discussion of the method used to determine the allocation of indirect cost funding to institutions and how institutions have used the research councils' funding for indirect costs (Section V).

II Awareness of the costs of research

16 One of the (two) objectives of the dual support transfer was to raise awareness of the full costs of research. During the course of our visits to research councils and institutions (and other organisations represented on the steering group) we explored whether those who were concerned with submitting and appraising applications for research grants were more aware of the costs of research than they had been before the transfer. We also sought to determine whether there had been any change in the behaviour of researchers - in terms of identifying costs associated with research projects - which could be seen as resulting from the dual support transfer.

17 We found a view amongst officers of research councils that the dual support transfer has contributed to an improved awareness of the costs of research among principal investigators and among members of research grant committees (in some cases these are, of course, the same individuals).

18 However on the ground, at the level of individual institutions, we found a more mixed picture. Some principal investigators said that they were more aware of the full costs of research following the dual support transfer than they had been previously. Others claimed that they were equally aware before the transfer and hence that the transfer itself had had little to add to their awareness of cost. However in many cases we found that the claim of awareness still fell well short of reality - often due to misconceptions about the costs.

19 In particular we found that academic staff often believed that the 40% indirect costs funding from the research councils represented the total indirect cost associated with research council projects; this indicates that the (continuing) principle of **dual support** is still not fully understood by all principal investigators. Further, when discussing the full costs of research, we found academic staff who did not think to include the costs of their own time in the total costs. As a check, we asked such staff to estimate the proportion of the full cost of a research project which was represented by the research council grant. We received a wide range of answers - although the answers were consistent in that they generally underestimated the total costs (by a very wide margin). Such perceptions have sometimes made it difficult to persuade academic staff to price research work for non research council clients on a truly full cost basis.

20 This problem is compounded because institutions often have difficulty in persuading non research council bodies to pay overhead rates in excess of 40% (or even up to this amount). This occurs either because such bodies do not appreciate the nature of the dual support mechanism and hence that the true overhead rate is considerably higher than 40% or, even more mistakenly, because they argue that an institution is already funded for its baseline and that other contributors should pay only marginal costs. In some cases therefore the 40% benchmark has been unhelpful to those institutions which are able to calculate and then willing to seek recovery of their full overhead cost. On the other hand, a number of institutions argued that the figure of 40% had been helpful as ammunition in persuading some external organisations that they should make some contribution towards overheads (where none had been made previously) - even though this contribution fell short of full cost.

21 We also found that, even where principal investigators are aware of the full costs of a particular project, they are often reluctant to include all the fundable costs in their grant application (to a research council) because of a concern that the grant will appear "too expensive" and hence will not get funded at all. In our discussions at the research councils (and at individual institutions) we found no evidence to suggest that research councils sought to fund "cheaper" grants in preference to more "expensive" ones. Nevertheless the perception that this is the case is widespread among investigators.

22 In terms of difference between institutions, we found that in those which had introduced devolved budgeting systems, there was greater emphasis on identifying direct costs associated with research projects so that these could be recovered from the research councils (and others). However, even where budgets have been devolved to academic departments, there appear to be three factors which dilute the effectiveness of the delegation.

23 The first of these factors is that, in most departments, principal investigators do not have to account for the use of resources such as non-academic staff time and equipment. Thus, there is no direct imperative for them to include such costs in their research grant (or other) applications other than a general desire to bring as much funding into the department as possible. We found that the procedures at departmental level for scrutinising grant applications to ensure that they were properly costed were weak in some institutions.

24 The second factor is that in some institutions with delegated budgeting, the reduction in funding council grant arising from the dual support transfer had been deducted from departmental allocations as an incentive for departments to recover these costs from the research councils. While this is in principle a logical means of encouraging departments to recover direct costs, in some instances we found that the reduction in departmental funding was so large that it had the paradoxical effect of discouraging academic staff from attempting to recover the deficit from the research councils. This was partly because of the desire to keep their grant bid modest (see para 21 above) and partly because the staff concerned believed that other universities would not be adding these amounts on to their bids and so would appear better value for money.

25 Finally the perception that some research grants committees routinely excise some categories of costs from grant applications on an arbitrary basis discourages many principal investigators from seeking to identify all the direct costs associated with a particular project. They soon learn what a particular committee's policy is on such questions (this point is discussed in more detail in Section III). The fact that some research grant committees have adopted standard formulae for some kinds of costs (eg a standard percentage add-on for secretarial support) also means that principal investigators are unlikely to focus on the true costs of these resources.

Summary of issues

26 It appears that the dual support transfer has made some contribution towards an increased understanding among academic staff that the costs of research are higher than they had previously thought. This understanding appears to be more developed in those institutions that have devolved the responsibility for resource management down to academic department level; but weak accounting for the use of resources in many academic departments coupled with the perception that some research grant committees arbitrarily refuse to fund legitimate direct costs tends to act against this.

27 In the institutions we visited, premises and academic staff costs (and their associated indirect costs) related to research council grants were not explicitly identified as they should be in relation to other externally commissioned or sponsored projects. As a result the total costs associated with the research council grants are neither clear nor understood. This possibly explains why some of the academic staff to whom we spoke are now under the misapprehension that the 40% of salary costs provided by the research councils represents the total indirect costs associated with research projects over and above the direct costs claimed from research councils.

28 In conclusion, our review has identified a number of specific issues that have an impact on awareness of research costs:

- not all institutions routinely provide information for the academic staff that would enable them to understand the total costs of any one research project (including the elements funded from block grant). As a result, principal investigators and other staff within institutions are not in a position to understand fully the level of support provided to research projects by the institution over and above the costs reclaimed from research councils;

- some external funders of research (ie non research council) are using the 40% indirect cost addition payable on research council grants as a benchmark for their own overhead contributions. Whilst in the short term this might be helpful in levering some overhead contribution from organisations that have not previously paid any, in the longer term, institutions will need to ensure that all funders are aware of the **total** costs of research not just those that are paid by the research councils;

- we found that there was a widespread perception amongst principal investigators that the "cheaper" the grant the more likely it was to be funded by the research councils. Consequently there is a reluctance among principal investigators to acknowledge or expose the full costs of a project.

III Financial neutrality

29 When the Secretary of State for Education and Science announced the dual support transfer he made it clear that his intention was that:

the shift in the boundary of responsibilities within the dual support system should be financially neutral and that in particular it should not lead to any changes in the volume of research which research councils sponsor in higher education institutions [and that he] would be looking for clear evidence that the sums transferred were being used for the purpose for which they were intended". Allocations Advice: Secretary of State's letter of 20 November 1991.

30 There are a number of possible interpretations of the term financial neutrality. These are discussed in Appendix C. For the purpose of evaluating the dual support transfer, we think that there are two valid definitions of neutrality. These are:

- global financial neutrality;
- volume neutrality.

We discuss each in turn.

Global financial neutrality

31 Global financial neutrality would have been achieved if the total amount of money provided by the government for the support of research in higher education institutions was unaffected by the transfer of resources from the funding councils to the research councils.

32 We sought to determine whether global neutrality has been achieved by calculating whether the so-called 'irreducible minimum' was distributed to higher education institutions by the research councils. The irreducible minimum is:

> the amount of money that the research councils planned in 1991-92 (the year before the transfer) to distribute to higher education institutions in 1992-93, 1993-94 and 1994-95 respectively
>
> plus
>
> the amount of money transferred from the funding councils to the research councils in 1992-93, 1993-94 and 1994-95 respectively.

33 The overall figures for the irreducible minimum set out in the 1992-95 Allocations of the Science Budget[4] are as follows:

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[4] Allocation of the Science budget 1992-95 - Advice to the Secretary of State for Education and Science from the Advisory Board for the Research Councils.

Year	£(million)
1992-93	303.3
1993-94	388.5
1994-95	425.5

Information supplied by the research councils indicates that the total amount of funding distributed to higher education institutions for the support of research projects in 1992-93, 1993-94 and 1994-95 was as follows:

Year	£(million)
1992-93	317
1993-94	405
1994-95	471

34 This demonstrates that the irreducible minimum has been distributed for research to higher education institutions in the first three years following the transfer and therefore that global financial neutrality has been achieved. Indeed, in the course of our work we did not meet anyone who suggested that this was not the case. Furthermore, research council expenditure in higher education institutions exceeded the irreducible minimum by 4% in 1992-93 and 1993-94 and 11% in 1994-95.

Volume neutrality

35 Volume neutrality would have been achieved if the transfer of funding from the funding councils to the research councils did not lead to a change in the volume of research activity undertaken by institutions. The hypothesis underlying this definition is that if the total volume of research increased as a result of the dual support transfer, then institutions would have had to use more of their own resources to fund research work (or rather the infrastructure costs associated with research work).

36 There was a clear perception amongst all the institutions that we visited that the volume of research activity in institutions had increased since the dual support transfer and most of those to whom we spoke attributed at least some of this increase to the dual support transfer itself. The general view was that a greater proportion of the total available research council funding was being spent on direct costs than previously, thus at the expense of funding infrastructure. Not all institutions were able to provide valid quantitative evidence to support this view. We therefore sought quantifiable evidence across the sector to examine whether or not volume has increased, and if so whether some or all of the increase can be attributed to the dual support transfer itself.

37 In broad terms, research volume may be correlated with the number of research personnel within an institution. Changes in the volume of research personnel sponsored by the research councils might occur either as a result of:

- deliberate policy decisions by the research councils to increase or reduce spending in higher education institutions or to change the pattern of support within their grants;

- unintentional changes in the level of spending in higher education institutions or in the pattern of support within grants.

38 There have been a number of policy decisions each of which will have had the effect of increasing the volume of research since the dual support transfer took place. The main ones are:

- AFRC/BBSRC's declared policy of increasing its support for research in HEIs and reducing that at its own institutes;

- a real increase in the level of funding available to MRC and ESRC over the period;

- SERC's decision to close the Nuclear Structure Facility and to reduce its contribution to the Institut Laué Langevin and SERC laboratory staff numbers and to channel this funding into grants.

39 The net effect of each of these changes has been to increase the level of research council expenditure in higher education institutions and hence the volume of research activity. This shift in funding is illustrated by the comfortable margin by which the research councils have exceeded the irreducible minimum.

40 Consequently, evaluation of the extent to which the dual support transfer has had an (unintended) impact on volume must be carried out against a background of an increase in the level of research council spend in higher education institutions which has come about as a result of explicit policy decisions and which is itself difficult to quantify accurately. In order to try to disentangle and quantify the impact that the dual support transfer has had on volume (as distinct from the effect of other policy changes since the dual support transfer) we examined a number of possible indicators of volume:

- number of awards - an increase in volume might be expected to be accompanied by an increase in the number of awards, but this would have to be checked against whether the average size of award has changed;

- numbers of research assistants funded on research council grants;

- the pattern of expenditure on grants - a shift in the pattern of expenditure from non-staff to staff costs or within staff costs (ie an increase in research personnel) might indicate an increase in volume even if the overall level of expenditure had remained constant.

41 These indicators are reviewed in detail in Appendix D. The review is based on data provided by the research councils and on data collected from HEI's on a large sample of grants for the 1993/94 and 1994/95 academic years.

42 Based on this analysis, it is clear that the volume of research activity has increased since the dual support transfer took place. It is also clear that some of this increase is unrelated to the dual support transfer. Research council expenditure in HEIs has increased by 4% in 1992-93 and 1993-94 and 11% in 1994-95. Even allowing for the effects of inflation, this indicates a significant real increase in expenditure and hence volume.

43 This increase aside, there is evidence to support the conclusion that the dual support transfer has also led to an increase in research volume. In particular:

- principal investigators have not been applying for as much post transfer direct cost as it was assumed they would when the transfer amounts were calculated; consequently, resources transferred for post transfer direct costs (ie technicians, other support staff etc) have been spent on pre transfer type costs (research assistants);

- there are significant increases in the numbers of research assistants post transfer and in the numbers of research assistants awarded per grant;

- there has been a post transfer shift in the pattern of support on grants from direct non-staff costs to staff costs and within staff costs, from technicians and other support staff to research assistants.

44 It is possible to estimate (see Appendix D) that between £9 and £29 million of the £67.5 million transferred to cover post transfer costs has been spent on pre transfer costs (largely research assistants) and possibly on additional grants. The higher of these two amounts (£29 million) is based on the data from our sample. Institutions that provided sample data had difficulty in distinguishing between pre and post transfer non-staff costs and tended to allocate most non-staff cost to the pre-transfer category. As a result the pre transfer non-staff costs shown in our sample are almost certainly overestimated and consequently the figure of £29 million for dual support money spent on pre-transfer costs is also likely to be overestimated.

45 In order to estimate the maximum amount by which our sample data might overstate the level of post-transfer funds spent on pre-transfer costs; we adjusted the balance between pre and post transfer direct non-staff costs in our sample up to the levels assumed in the transfer.[5] We then recalculated the total percentages of additional direct costs recovered across our sample using the adjusted values. This in turn enabled us to calculate the **minimum** level of post transfer funds spent on pre-transfer costs as £9 million.

46 In the absence of reliable data on the current balance between pre-transfer and post transfer direct non staff costs there is no hard evidence to enable us to either narrow this range or fix a point within it. There is no further source from which better data could be obtained - this issue of identifying the split between pre and post direct non staff costs was also identified as a problem in the BUFORG report prepared in 1993.

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5 See Annex 1 to Appendix D for an explanation of the transfer assumptions.

47 There are however two factors that might support a conclusion that the actual level of post transfer direct costs spent on pre-transfer costs and additional grants is closer to the lower end of the range than the upper end. The first is that anecdotal evidence collected during our visits to institutions indicated that, apart from exceptional items and some major items of equipment, institutions had not experienced particular difficulties in securing awards for non-staff direct costs following the dual support transfer. Secondly the overall level of non-staff costs recovered (ie both pre and post transfer costs) as indicated by the sample date is not dramatically lower than the levels assumed in the original transfer calculation (see Table D15 in Appendix D). However given that it is not possible to obtain better information on the actual split between pre and post transfer direct non-staff costs, this conclusion cannot be validated. Whatever the precise sum involved, 40% should be added for indirect costs associated with the proportion of the sum that has been spent on staff.

48 There are a number of possible explanations for why the dual support transfer has led to an increase in volume.

49 The first is that principal investigators may have been "underclaiming" post transfer costs, and so some of the resources transferred for post transfer costs have been available to support pre transfer costs and possibly more grants. Although there is some evidence to suggest that this was the case in the first year following the transfer, in the second year, the figures suggest that the extent of such underclaiming is much reduced. Most of the institutions we talked to during this study appear to have taken steps to address this issue. It is therefore unlikely that underclaiming by principal investigators is the main reason why volume has increased.

50 A second possible explanation is that research councils may have been disallowing legitimate direct costs and hence deliberately squeezing the level of support on individual grants - the effect of which would have been to enable them to fund a greater volume. We found no evidence to suggest that this was the case. Our sample data indicates that research councils on average award about 80% of the direct costs that principal investigators apply for. They appear to disallow slightly more post transfer direct cost than pre transfer cost, but this seems to relate to a difference in interpretation between the research councils and institutions as to what constitutes a legitimate direct cost rather than any squeeze on the level of support.

51 A third possible reason why volume may have increased as a result of the dual support transfer is that, in calculating the amount to be transferred from the funding councils to the research councils, the level of post transfer costs was overestimated. In this case institutions would not have been able to reclaim all of the transferred amounts. The fact that applications for post transfer costs are lower than the levels estimated at the time of the transfer tends to support this conclusion.

52 Finally, the profile of spend on grants may have changed as a result of principal investigators' decisions about the level and type of support they require. Our interviewees suggested that now that principal investigators have more control over the recovery of costs for technical and support staff they tend to prefer to claim for and then obtain additional (new) staff rather than seek to recover the costs of existing staff. If some of these additional staff are research assistants engaged in research activity then the volume of activity would have increased. Further, institutions will potentially be left with a group of technicians on permanent contracts who were (and probably still are) supporting research activity but for whom no specific funding is now available. The funding for these staff will have been transferred to the research councils, but principal investigators may be using it to fund the costs of their preferred staff.

Summary of issues

53 It is clear that there has been an increase in the volume of research activity since the dual support transfer. Some of the increase relates to deliberate policy decisions to increase the level of research council expenditure in higher education institutions.

54 It is also clear that some of the increase has been caused by the dual support transfer. It seems likely that the main reason why this increase has occurred is that the original assumptions on which the amount to be transferred was based were wrong and hence that more was transferred in respect of post transfer direct costs than was required for that purpose. However, at least some of the increase relates to principal investigators applying for a different balance of activity between technical and direct research staff and to underclaiming by principal investigators. It is also not unreasonable to assume that the transfer has produced some efficiency savings which in turn would have had an impact on volume.

55 The consequence of providing principal investigators with a greater degree of control over the acquisition of resources for research is that in exercising that control their decisions are likely to be made in the interests of the individual research programmes rather than those of the institution as a whole. This is clearly a management issue that individual institutions will need to address.

56 Positive signals from the research councils that it is not their policy or intention to favour "cheap" grants over "expensive" ones would be helpful in persuading principal investigators to identify all relevant costs to the institution on their grants.

57 A decision is required on whether or not to take specific steps to redress the balance on volume neutrality. The consequence of a reduction in volume would be a reduction in the number of research council grants and an increase in the amount of infrastructural support available in higher education institutions. Because of the variety of factors that have contributed to the current position, it is difficult to make a firm estimate of the extent to which the balance on volume neutrality should be redressed. If a decision is taken to do so there are two main options for achieving it:

- to transfer some amount back from the research councils to the funding councils;

- to increase the level of indirect cost funding.

58 To transfer an amount back would of course require decisions to be made about the total sum to be transferred from the research councils, to the funding councils, and on how these amounts should be distributed. Calculation of the amount to be transferred would be a complex issue.

59 The alternative route would be to increase the level of indirect costs funding. This would have the effect of compensating institutions for a higher proportion of the underlying infrastructure costs associated with research grants. This would avoid the need to estimate amounts to be transferred at the level of the individual research council. There is an additional advantage in that it would be possible to include within the indirect cost uplift the types of cost that institutions are currently finding it difficult to claim as direct costs. The main disadvantage is the loss of clarity in the relationship between the indirect cost payments made by the research councils and the envelope of resource they are intended to compensate within institutions. However, as we argue in section IV, given the nature of indirect costs, this link is not clear at present in any case.

60 A third alternative would be to adopt an approach that was a combination of the two options outlined above.

IV Clarity of funding responsibility

61 One of the (two) main purposes behind the dual support transfer was that it should increase the clarity of funding responsibilities. We examined this in relation to the clarity of the dividing lines:

- between the categories of costs which are now intended to be funded by the institutions and those which are intended to be funded by the research councils;

- within the costs which are the responsibility of the research councils, between indirect costs and direct costs.

62 We also look at the scope for redefining the dividing lines in order to improve clarity further.

Central computing costs

63 When the dual support transfer was made, the question of how central computing costs should be treated was the subject of specific analysis by the Committee of Vice-Chancellors and Principals (CVCP) in consultation with the research councils, through which they identified several options for handling these costs. The CVCP argued that they should remain with the institutions because the move towards distributed computing systems meant that they would be most appropriately treated with other forms of communication as general premises costs. The Advisory Board for Research Councils (ABRC) preferred a further transfer of funds to the research councils to allow them to cover these costs as part of the percentage addition to the direct staffing costs of research projects. At that time it was decided that the costs should remain with the institutions but that the issue should be looked at again when the dual support transfer was reviewed.

64 There was a strong and consistent view among those we met in institutions that the nature of computing facilities has changed greatly in recent years and was continuing to change. It is now relatively uncommon for central computing facilities to be used for data processing and most institutions have moved to a pattern of provision based on distributed systems. This means that central computing facilities are becoming increasingly like the telephone network and hence simply an 'overhead'.

65 Only one of the institutions which we visited was intending to introduce a system of charging for central computing facilities, this would involve:

- the identification of the costs of the various facilities and services which constitute the central computing service;

- distinguishing between those services/facilities for which charges can be raised on the basis of usage and those for which costs will need to be attributed on the basis of proxies (such as the numbers of academic staff in each department).

In this institution, it appeared that most of the costs will be attributed by means of proxies rather than charged on the basis of usage.

66 It is clear from our investigations that the majority of the costs of central computing facilities which are associated with research projects are indirect costs. Thus, the question which arises is: should these costs continue to be funded by the institution from funding council resources or should they be funded as an indirect cost by the research councils? The rationale for making the research councils responsible is that more of the indirect costs associated with research council projects would be apparent to the investigator (and hence the institution). This would require a further transfer of resource from the funding councils to the research councils.

67 We see little advantage in moving responsibility for this kind of indirect cost from the funding councils to the research councils while the funding councils continue to be responsible for major costs associated with research council projects ie premises and "permanent" academic staff. There would be two other disadvantages in transferring responsibility to the research councils:

- any further change in the rules could lead to further confusion (and complaint);
- there is little information available on which to calculate the proportion of the total funding of central computing to be transferred from the funding councils to the research councils.

68 Where central computing facilities are used extensively for a particular project, we see no reason why the principal investigator's institution should not include the **marginal** cost in the application to the research council. In this context marginal costs would include any additional direct costs associated with a particular project. Given that the institution receives public funding for the facility through the funding council route, we do not think that it would be appropriate for the institution to claim for the full economic cost.

Equipment

69 Equipment is funded both through the funding councils' route and the research councils' route. Given that some items of equipment are used for both teaching and research, there is inevitably some lack of clarity as to who should pay for what. However, the dual support transfer deliberately dropped the concept of the "well-found laboratory" which means that research council grants committees should not refuse to fund the purchase of new equipment on the basis that it should already be in place, unless they themselves have already funded it.

70 In some cases research grant committees have refused to provide funding for the purchase of new equipment on the grounds that one or more members of the committee believe that the department in question already has access to the necessary equipment. This is directly counter to the intention of the new dual support arrangements, further, on the whole, such judgements seem to have been based on anecdotal evidence, which is most unreasonable given the random nature of such knowledge.

71 We were also told of instances where committees have faced the dilemma of whether to fund the purchase of a piece of new, expensive equipment which is essential for the conduct of research project but which would not be used for a significant proportion of the time available. Institutions have reported that in such circumstances it is not uncommon for the research councils to try to negotiate a deal whereby the institution makes a contribution towards the capital cost. This creates problems where equipment is not of a type that the institution would invest in if it were not conducting the research concerned.

72 There are a number of possible strategies which might be considered to improve clarity in this area, including the following:

- To provide research council grant committees with more comprehensive information on the availability of specialist equipment. While this would mean that the decisions of research grants committees would be based on better information, it could lead to an increase in the administrative costs of the whole process.

- For research councils to consider planning and funding the provision of some (perhaps particularly expensive) items of equipment outside the normal grant funding ie not, in general, providing for the purchase of such equipment purchase as part of grant funding. Research councils already do this to a certain extent via infrastructure grants or other specific equipment grants. An extension of this type of funding for equipment would tend to lead to the concentration of resources at major centres. This may be beneficial, but would need to be accompanied by clear rules concerning the rights of other grant holders to the facility (and any charging arrangements for it).

- For institutions to fund the capital costs of equipment and then recover the cost through "rental" charges to research councils. This would mean that institutions would have to take a view in advance about the likelihood of recovering the costs of the equipment from research councils and other funding sources. We have been told that some research grants committees have refused to pay rental charges for equipment. We do not understand the logic of this and think it is positively unhelpful.

- For equipment to be funded through initiatives such as leasing. This would probably only be possible for some kinds of equipment and again raises the rental question.

73 The issues involved in the funding of equipment are complex and span the boundary between the research councils and the funding councils. For these reasons it has not been possible to resolve them within the scope of this study. We therefore suggest that a full study of the funding of equipment in higher education institutions should be considered in the light of the outcome of the study of the equipment needs of universities currently being undertaken jointly by the Committee of Vice Chancellors and Principals (CVCP) and the Funding Councils.

Dividing line between direct and indirect costs

74 There is some lack of clarity between research councils and institutions about the dividing line between direct and indirect costs. This is mainly related to relatively small amounts of non-academic staff time and some kinds of consumables.

75 Some research grants committees frequently provide less funding than requested for these items or refuse to fund them at all. The picture is very uneven across research councils and, in some cases across research grant committees within the same research council. There are three possible reasons why requested funding is not provided for these items.

76 The first is that the grant claim includes resources which are not judged by the committee to be necessary for the satisfactory conduct of the research project. In some instances, members of research grants committees identify items which, in their view, are not needed for the conduct of the project. Often it is claimed that the request for funding was not fully substantiated in the application - although the requirement for justification may be unclear. This may indicate that the applicant has not thought through the need for the resource; but in some cases it seems that principal investigators are trying to claim as a direct cost a resource which is more akin to an indirect cost.

77 This issue appears to have arisen as a consequence of the abolition of thresholds. Principal investigators are now seeking to recover costs associated with departmental technical and support staff contributions which previously would have been subsumed under the threshold. In principle they should be entitled to do so. In practice they find it extremely difficult to identify and justify the costs associated with these staff as a direct cost because they often provide general rather than specific support services. We were told that even where serious attempts are made to identify and cost them, the costs are still usually disallowed by the relevant research council committee on the grounds that they are "insufficiently" justified, this may reflect the prejudices of individual research council committees. Consequently a number of the principal investigators we spoke to no longer bother to claim.

78 A second reason why some direct cost items applied for by principal investigators are not funded is that research grants committees take the view that these should be covered by the indirect costs funding. We have been told about a small number of incidents where a research council grants committee has attempted to specify that indirect costs funding should be used to pay for specific costs associated with a particular research project. In our view, where a specific requirement in relation to a research project has been identified, and can be directly costed and justified, then the research councils should fund this as a direct cost. Where this is not the case, or where a research council decides not to fund these costs, it should not be entitled to seek to make it a condition of grant that an institution should fund them from indirect costs.

79 Finally, there is a perception amongst investigators that the desire of research grants committees to fund as many projects as possible leads them to reduce the amount given to individual applicants in order to fund more projects overall. If this were occurring then it would indicate that the research grants committees were not operating the system as intended. Our survey of grants indicates that principal investigators are not applying for as much post transfer cost as it was anticipated they would. There are a number of possible reasons for this which are discussed in Appendix D.

80 During our visits to research councils we examined a small number of grant applications and awards. Our purpose in examining these grants was to provide information to support the anecdotal evidence, collected during interviews with the research councils and institutions, about the basis of the decisions on the final allocation of grant. The sample chosen was not intended to be representative of the total population of grants. Our examination of decisions on these grant applications revealed the following:

- post transfer direct costs had not been granted in full in a little under half of the cases;
- in the great majority of cases, the reason cited was either that the application was excessive or that the applications were not sufficiently justified; in one case the research grants committee had said that it would be "so much the better" if the institution could cover the costs of an item which the research grants committee decided not to fund;
- in a small number of cases, funding for direct costs had been pruned on the basis that the items in question should be funded from the indirect costs funding element;
- in a small number of cases, some costs were not funded on the basis that it was the research council's policy not to fund such costs - eg informant fees (ESRC) and page charges (NERC).

81 It is worth noting that, in our small sample of applications, about a quarter were funded in full[6] and about a quarter had pre transfer direct costs reduced.

82 We conclude from the above that there is a case for revising the boundaries between direct costs and indirect costs because:

- there is some ambiguity about whether some of the costs should be regarded as direct costs or indirect costs;
- the current system requires principal investigators to try to identify and justify costs which are more akin to indirect costs than direct costs.

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6 Some grant awards are larger than the applications because of adjustments to the salaries paid the research assistants. In one case, the grant was larger than the application because the research grants committee had applied standard formulae to determine post transfer direct costs funding.

83 One way of doing this would be to reclassify as indirect costs some of the costs which institutions are currently trying to claim as direct - eg secretarial support and "general" technical support (the bottlewashers etc). A variant on this approach would be for research grants committees to provide funding for some of such costs on a formula basis (a number of committees already do this). We think that each type of resource should normally be treated consistently either as a direct cost or as an indirect cost. Thus, if secretarial support is classified as an indirect cost, then institutions should not be able to claim for it as a direct cost except, perhaps, under very exceptional circumstances.

84 If this strategy were to be adopted, then it would imply an increase in indirect costs funding.

85 The types of costs which would be involved could vary between different subject areas and, if this were the case, then there might also be a case for varying the amount of indirect costs funding between subjects. However, there are practical difficulties associated with developing different indirect cost rates for different subjects which we discuss in more detail in section V. We conclude that the difficulties outweigh the potential benefits and would therefore not recommend the introduction of differential overhead rates by subject.

86 The advantages of redefining the boundary between direct and indirect costs in the way suggested above would be:

- the process would be administratively more simple both for the applicant and for the research council;

- the boundary between direct and indirect costs should be clearer.

87 It would also reduce the danger that research grants committees might inadvertently or deliberately not provide funding for legitimate costs associated with projects that they approve.

88 The main disadvantage of this approach would be that the principal investigator would not need to identify as many of the costs of the research proposal and, therefore, awareness of the full costs could be reduced. However we have already concluded (in Section II) that awareness of the total costs of research can best be improved by developing better information for academic staff on the costs of research at the level of the institution. Moving the basis of **funding** (ie from direct to indirect) for such a small element of cost is unlikely to have a material impact on awareness given the very large current omissions.

89 In summary, we think that there are considerable attractions in adopting an approach such as the one described above. We think that moving a limited number of costs from the direct costs category to the indirect costs category would have little effect on the awareness of the full costs of research. It could, however, have an effect on the volume of research funded. If more costs were met through the indirect costs funding route, there would be less scope for research grants committees to "skim" individual grant awards in order to find funding for additional projects. In our discussions with the research community we found ambivalent attitudes on this issue, even among those who felt that research grants committees were under-funding projects.

Summary of issues

90 We conclude that:

- the responsibility for funding central computing should remain with higher education institutions;

- the research councils might attempt to define circumstances in which they would be willing to fund the marginal costs (ie the additional direct costs and the associated indirect costs) associated with using central computing facilities for a particular project, eg where this offers a cost effective alternative to providing a dedicated work station;

- the issues involved in the funding of equipment are complex and therefore we suggest that they should be the subject of further consideration in the light of the outcome of the current review of the equipment needs of universities being carried out by the CVCP and the funding councils;

- there are differences in interpretation between the research councils and institutions about the boundary between direct and indirect costs. As a result institutions are attempting to apply for items as direct costs which are more akin to indirect costs; this last issue might be addressed by reclassifying as indirect some of the costs that institutions are currently trying to claim as direct costs and increasing the percentage payment for indirect costs.

V Indirect costs

91 Research councils pay a contribution towards the indirect costs associated with research projects. Their contribution is calculated on the basis of a 40% addition to (direct) staff costs on each award, and is intended to compensate institutions for the costs of providing central and departmental services required to support the research activity. These support services include:

- financial services (finance, accounting, tendering, marketing);
- personnel services;
- recruitment costs;
- staff facilities (transport, health and safety, welfare services, laundry);
- staff development (including training);
- public relations;
- central institutional libraries;
- departmental services (administration and secretarial staff not included in direct support, minor consumables, workshop support etc).

92 At the time the dual support transfer was made, the indirect cost addition was also intended to cover technical and support staff costs where the aggregated level of staff effort in any one category averaged less than 20% over the lifetime of the grant. These thresholds were dropped in 1993 on the recommendations of the BUFORG report and more of these small elements of staff costs become claimable as direct costs, provided they were unambiguously associated with specific project requirements and could be adequately justified. The (40%) indirect cost contribution is still assumed to contribute towards a general background level of departmental administrative, secretarial and technical support. Peer review bodies are required to exercise judgement as to what represents background support in this context.

93 In this section we consider two sets of issues related to the funding of the indirect costs of research:

- the appropriateness of providing the indirect costs as a percentage addition (and of 40% as that percentage);
- the use of these funds within institutions and the arrangements for accounting for their use.

The appropriateness of a percentage addition

94 Forty per cent of the salary costs of staff funded as direct costs does not represent the actual indirect costs associated with a research project or group of research projects, or even the average indirect cost, because:

- there are other indirect costs, such as premises costs, which remain the responsibility of the institutions;
- forty per cent is an average figure calculated on the basis of Form 3 statistical returns for 1988/89 and as such it does not take account of differences in indirect costs which may be associated with:
  - the costs of different subjects;
  - different types of grant;
  - different institutions;
- it is allocated on the basis of funded staff costs and hence may not adequately take account of indirect costs associated with non-staff costs.

95 The forty per cent is a broad estimate of the overheads across the system, excluding premises, permanent staff costs and central computing and is therefore a **contribution towards indirect costs rather than a real reflection of the costs in individual institutions**. The two main questions are:

- should the research council contribution to indirect costs more closely reflect actual costs?
- if a percentage addition is thought to be the most appropriate mechanism, at what level should it be set?

Alternative bases for allocating indirect costs

96 There are a number of approaches that might be adopted for providing for allocating indirect costs. These include:

- a separate rate for each institution - the model adopted in the US;
- different variable rates for different subjects or for different types of grant;
- an average percentage addition covering all types of grant and subject - the current approach.;

or a combination of the above.

97 The advantages and disadvantages of each approach are reviewed briefly below.

Indirect costs rate(s) per institution

98 At one end of the spectrum of options for dealing with indirect costs would be for each institution to define its own indirect costs rate based on its own costs and circumstances. Taken to the extreme, institutions might also define different rates for different subject areas or even different projects. A number of the institutions we talked to suggested this as a possible model.

99 The advantages of this approach are:

- it relates the funding for indirect costs to actual costs rather than averages;
- it enables genuine differences in cost between (and within) institutions to be taken into account;
- it helps promote an understanding both within and outside the institution of actual institutional indirect cost levels.

100 The main disadvantages are:

- It may support or even encourage inefficiency - this risk can partially be offset by ensuring that there are regular and thorough audits of the declared indirect cost levels and by introducing stringent penalties for those that over-claim. However, there would be increased administrative costs associated with the audit.
- It may promote "price" competition between institutions which would be unhelpful, in that it would focus attention on the cost of a proposal perhaps at the expense of the evaluation of scientific merit.
- It is a potentially complex and expensive approach to administer.

101 Implementing an approach based on actual costs at individual institutions would almost certainly require the whole concept of dual support to be reviewed. Under a dual support mechanism, it would be extremely difficult to verify the calculation of indirect cost rates for those costs funded through one side of the mechanism, unless the other side were also reviewed.

Indirect cost rates by subject or type of grant

102 The indirect cost addition is intended to cover both central and departmental overheads. From our discussions at individual institutions, we concluded that most kinds of centrally driven indirect costs do not vary by subject area or grant type. The main exception is library resources where researchers in some subject areas make greater demands on library resources than their colleagues in other subject areas.

103 On the other hand, the indirect costs which occur within departments will, to some extent, vary between subject areas. For example, it is possible that some social sciences research projects will, on average, require more secretarial assistance than those in, say, theoretical physics. If the dividing line between direct and indirect costs defines as many types of cost as possible as direct costs, then we think that there is no strong argument for varying the amount of indirect cost between subject areas. If on the other hand, the line is moved (as we suggest in Section IV) to include more cost in the indirect cost category, then there is a stronger case for differentiating by subject area.

104 The main advantage of differentiating indirect cost rates by subject area would be that it potentially represented a clear approximation to the actual indirect costs associated with a particular project rather than an average rate across all subjects and types of project. But there are a number of disadvantages:

- defining the rates for and the boundaries for each subject would be difficult and open to challenge - there may also be a tendency for projects to migrate from low indirect cost rate subject categories to high indirect cost rate categories;

- it would be administratively more complex than the present system;

- unless there were many different rates (which would add to the administrative complexity), defining different rates per subject would not necessarily introduce a more accurate reflection of the actual indirect costs in institutions.

105 In addition, for institutions which have a mixed portfolio of grant types and subjects the overall impact on indirect cost recovery rates of introducing different levels of indirect cost for different types of grant or subject would be little different from that achievable through the current average percentage addition.

Average percentage addition

106 Most of the institutions we visited were content with the current approach to allocating indirect costs via an average percentage addition. The advantages of this approach are:

- its administrative simplicity;

- transparency;

- the absence of any implicit "steers" in the direction of particular subjects or grant types.

107 The main disadvantage is that it is clearly an average figure and hence has no direct relationship to the actual costs it is intended to cover in any one institution.

108 In our discussions with institutions we found that, in the interests of simplicity, there was considerable support for continuing with the present approach. We therefore recommend that indirect costs should continue to be provided via a single average percentage addition to the direct staff costs.

Level of indirect costs

109 The amount transferred from the funding councils to the research councils in respect of indirect costs was calculated as 40% of the value of that part of the grant portfolio that was assumed to relate to staff costs. 40% was an average value which was intended to approximate to the costs of the activities that it was intended to fund. It was always recognised that 40% did not (and being an average figure - could not) represent the actual indirect costs associated with a research council grant.

110 As we have already demonstrated in Appendix D, the amount transferred to the research councils in respect of indirect costs has been returned to institutions as indirect cost funding. Consequently the sector as a whole has not "lost" any of its funding for indirect costs.

111 A number of the institutions we visited demonstrated to our satisfaction that their actual research council related indirect costs were considerably higher than forty percent. (Figures in the range of fifty five to sixty five percent were quoted). The issue then arises as to whether the indirect cost rate should be adjusted to be closer to the true cost.

112 Given that the amount originally transferred to the research councils for indirect costs was calculated on the basis of a 40% addition, and given that this amount has been returned to institutions as funding for overheads, raising the indirect cost rate would require an additional transfer of funds from the funding councils to the research councils. There may be a case for doing this if the overall clarity of the funding were to be improved.

113 However, we have already argued that the indirect cost funding provided by the research councils also represents a contribution to indirect rather than actual costs and that to move away from a contribution based on averages (the present system) towards compensating for actual costs would add greatly to the complexity of the funding arrangements. Consequently we think that there is little to be gained from an additional **transfer** in terms of clarity.

114 There may be a case for increasing the overhead rate from 40% if it is decided to use this as a mechanism for redressing the balance on volume or for increasing the percentage addition for low levels of support and consumable. In this case there would be no requirement for an additional transfer from the funding councils.

Institutions' use of funding for indirect costs

115 The funding provided for indirect costs is intended to cover the costs of central administration, some central facilities (eg libraries) and some departmental overheads. In most of the institutions we visited, a proportion of the indirect costs funding is allocated to the departments. In some departments in some institutions a share of the sum the department

receives for indirect costs is allocated to the relevant principal investigator to spend on consumable items and other direct costs. The rationale for allocating indirect costs funding in this way is that it is claimed that principal investigators require an incentive to persuade them to continue to seek research council funding.

116 Thus, in some of the institutions we visited, indirect costs funding is being used by individual principal investigators to contribute towards the direct costs of the research project in question or, indeed, towards the costs not associated with the particular research project eg to fund conference attendance.

117 We are struck by the fact that officers at four out of the six research councils told us that they think that institutions should be asked to account for the use of their indirect costs funding. We think that this demonstrates a fundamental misunderstanding of the concept of indirect costs:

- The fact that the costs are indirect means that they cannot readily be attributed to any particular type of activity. The purpose of indirect costs funding is to provide essential support services or infrastructure within which the research project is undertaken. A research council would have a legitimate concern only if a principal investigator complained that adequate support services was not forthcoming.

- Forty per cent is only a contribution to the indirect costs associated with research projects. In any particular case the indirect costs could be significantly higher or lower.

118 We think that any attempt to prescribe how institutional management should use indirect costs funding is misguided. It would unnecessarily restrict management flexibility to be required to use resources to provide for particular activities. There would also be a danger of hampering management attempts to improve efficiency.

119 Another misunderstanding which seems to be relatively common in the research community is that the indirect costs funding from the research councils is believed to be subsidising research work commissioned by charities. It is certainly the case that many charities will not pay any indirect costs in respect of the research projects which they commission. This means that charities projects are certainly being subsidised by the institutions undertaking the projects. But the subsidy is no more specifically drawn from the research councils' indirect costs funding than it is from the funding councils' research funding, which takes account in part of the research income from charities in the volume measure, or indeed from teaching funding. The same applies to EU funded research.

120 In summary, we have found considerable confusion about the purpose of the funding for indirect costs. We think that there would be considerable merit in clarifying the position and publicising it to principal investigators, some of whom seem to be under the impression that they should receive all or a substantial proportion of the indirect costs funding - possibly to be used for additional direct costs in the same way that funding council money was used before the transfer - when this is, in fact, intended as a contribution to the central institutional and departmental indirect costs.

Summary of issues

121 The indirect costs payable by the research councils should continue to be provided via a single average percentage addition calculated on the basis of direct staff costs. It should be recognised that an indirect cost amount calculated on this basis will not reflect the actual costs associated with the elements it is intended to cover in any one institution. It only represents a contribution to overheads .

122 The present contribution of 40% was calculated on the basis of a very broad estimate of the indirect costs across the higher education system excluding premises, permanent academic staff and central computing. The amount transferred to the research councils in respect of indirect costs has been returned for this purpose, consequently the sector has not "lost" any of its funding for indirect costs.

123 An increase in the indirect costs level from the current level of 40% is one of the options for addressing the issues raised in Section III, and the issues of applying for low levels of technician support (see Section IV).

124 Given that, within any single institution, the indirect costs provided by the research councils will represent only a contribution to total institutional overhead (rather than the actual indirect costs associated with the research project) such research councils contributions to indirect costs cannot be attributed to individual activities within institutions.

Officers of research councils and other national organisations interviewed in the course of the study

Other organisations

Professor Arbuthnott	- COSHEP
Morag Campbell	- Scottish Higher Education Funding Council
Rodney Eastwood	- Deputy Managing Director, Imperial College
Katherine Fleay	- Department for Education
Alice Frost	- Higher Education Funding Council for England
Marilyn Gallyer	- Director of Planning and Resources, University College London
Stephen Large	- Kings College London
Shekhar Nandy	- Higher Education Funding Council for England
Ben Newbound	- Office of Science and Technology
Michael Powell	- Committee of Vice-Chancellors and Principals
Rachel Tobell	- Royal Society
David Wann	- Scottish Higher Education Funding Council
Peter Warren	- Royal Society
David Wilkinson	- Office of Science and Technology
Rowland Wynne	- Higher Education Funding Council for Wales

Research Councils

Biotechnology and Biological Sciences Research Council (BBSRC)

Leslie Heppell
Scott Lawrie
Brenda Mortimer
Sue Riley
Steve Visscher
Nich Wingfield

Engineering and Physical Sciences Research Council (EPSRC)

Roger Burdett
David Clark
Mark Clayton-Smith
Tony Hughes
Peter Maxwell
Karen Morris
Vince Osgood

Geoff Richards
Alasdair Rose
Paul Tomsen

Economic and Social Research Council (ESRC)

Neil Cooper
Glyn Davies
Christine McCulloch
Martin Quinn

Medical Research Council (MRC)

David Cox
Diana Dunstan
Lindsay Green
Nick Winterton

Natural Environment Research Council (NERC)

Chris Baker
David Brown
Jenny King
Gordon Young

Particle Physics and Astronomy Research Council (PPARC)

Carol Armstrong
Clive Campbell
Alan Coates
Ian Corbett
Jeff Down
John Love

Institutions visited in the course of the study

Bristol University

Glasgow University

Heriot Watt University

Lancaster University

Leeds University

Nottingham University

Oxford University

Sheffield Hallam University

Southampton University

University College London

University of Wales, Cardiff

Warwick University

Interpretations of neutrality

1 When the Secretary of State for Education and Science announced the dual support transfer he made it clear that it was his intention that the shift in the boundary of responsibilities within the dual support system should be financially neutral and in particular should not lead to any changes in the volume of research which research councils sponsor in higher education institutions.

2 During the course of this study we became aware of a number of different interpretations of what was meant by "financial neutrality". In this appendix we discuss the various levels of neutrality and identify those which we think are valid interpretations in the context of the Secretary of State's declared aims for the dual support transfer.

3 We think that there are three possible definitions of the term financial neutrality:

- global neutrality;
- volume neutrality;
- institutional neutrality.

Global neutrality

4 Global neutrality would have been achieved if the total amount of money provided by the government for the support of research in higher education institutions was unaffected by the transfer of resources from the funding councils to the research councils.

5 The Secretary of State for Education and Science stated in a letter to the Chairman of the Advisory Board for Research Councils (ABRC) dated 22 November 1991, that it was his intention that the additional sums made available to councils via the dual support transfer should be returned to higher education institutions for research. The letter also made it clear that the research council grant spend under the new arrangements should be monitored to ensure that it equalled the baseline figures used to calculate the transfer, plus the transferred sums. This is the so called "irreducible minimum" below which research council spend in higher education institutions should not fall.

6 Clearly therefore, global neutrality (the "irreducible minimum") is a valid interpretation of financial neutrality in the context of the dual support transfer.

Volume neutrality

7 Volume neutrality would have been achieved if the transfer of funding from the funding councils to the research councils did not lead to a change in the volume of research activity undertaken by institutions.

8 The Secretary of State in his letter of 20 November 1991 confirmed that it was his intention that research councils should at least maintain the volume of HEI work which they had planned to support under the old arrangements. In his original announcement on the transfer arrangements he also made it clear that the transfer should not lead to any significant change (presumably in either direction) in the volume of research funded.

9 In our view therefore volume neutrality was intended in the context of the dual support transfer because if the volume of research were to increase then institutions would have needed to cross subsidise research work from other funding sources, (or rather the infrastructure costs associated with research work).

Institutional neutrality

10 Institutional neutrality would have been achieved if the transfer did not lead to any change in the distribution of research funding between institutions. In other words if the total amount of funding which each institution received for research from its funding council and research councils in 1992-93, 1993-94 and 1994-95 was exactly the same as it would have been if the dual support transfer had not occurred.

11 We do not think that this concept of financial neutrality can have been intended. Prior to the dual support transfer, funding for direct costs and indirect costs which subsequently became the responsibility of the research councils was channelled to institutions by the funding councils. The methodology which the funding council used to distribute this funding was retrospective and was not related to the actual costs incurred. The prime inherent purpose of the transfer was to ensure a much closer match between the allocation of resources to support research and the actual incidence of cost. This was bound to result in individual institutions receiving more or less funding for research in 1992-93, 1993-94 and 1994-95 than they would have done under the pre-transfer system.

12 In identifying the extent to which they have "lost out" under the transfer, many institutions have focused on the allocation tables published by the funding councils showing how the dual support transfer was taken into account in year to year comparisons. This seems to have led some institutions to believe that they are in some way entitled to receive this funding from the research councils. They were not so entitled because under the new arrangements these funds need to be "earned" through research council grants.

13 A number of institutions drew our attention to the fact that the implementation of the dual support transfer by the funding councils had a greater effect upon physics than upon other subjects. These institutions claimed that they had been able to recover substantially less for physics by way of additional direct costs from the research councils than they had for other subjects and that consequently the level of funding for physics was considerably reduced.

14 The funding councils deducted the amount to be transferred from each subject category pro-rata to the current value of research council grants in that subject. Two factors have contributed to the relatively low level of resource for physics after transfer:

- the volume and value of research council activity was higher for physics than for other subjects so a greater proportion of the funding for physics was deducted;

- the amount of money in each of the subject "pots" did not necessarily reflect the actual costs of that subject either before or after the transfer.

15 The funding councils are aware of this issue and have assured us that they are taking steps to address it where appropriate.

Review of volume neutrality

Contents

Review of volume neutrality

Introduction

1 The dual support transfer, which took effect from August 1992, involved the redefinition of responsibilities for meeting costs associated with research projects. Essentially, the research councils assumed responsibility for funding more of the costs associated with projects than they had hitherto. In particular the then Secretary of State for Education and Science decided that research councils should be responsible for funding all the direct costs (other than the costs of permanent academic staff) associated with the projects which they fund and that they should also fund some of the indirect costs. It would remain the responsibility of the institution receiving the grant to meet the following costs:

- accommodation and premises costs;
- the salary costs of "permanent" academic staff;
- the costs of central computing facilities.

2 One of the consequences of the Secretary of State's decision was the transfer of funds from the universities funding councils to the research councils. This transfer took place over a three year period from 1992-93 to 1994-95. In announcing the dual support transfer, the Secretary of State said that the intention was that the transfer would be financially neutral and in particular that it should not lead to any change in the volume of research sponsored by research councils in higher education institutions.

3 There was a clear perception amongst all the institutions that we visited that the volume of research activity had increased as a result of the dual support transfer. The view was that a far greater proportion of the total available funding was being spent on direct costs than had been the case previously and that this was at the expense of funding infrastructure. Not all individual institutions were in a position to provide quantifiable evidence to support this view. We therefore sought quantitative evidence across the sector to examine whether or not volume had changed and if so whether some or all of the change can be attributed to the dual support transfer.

4 This appendix examines whether the dual support transfer has had an impact on volume and attempts to quantify that impact. It examines:

- the **context** within which a review of volume neutrality needs to be set, in particular whether changes in research council policy since the dual support transfer have had an impact on volume;
- variations in **the number of grant awards** pre and post transfer and in the average value of grants;
- variations in the **number of research assistants** funded pre and post transfer and the number of research assistants per grant;

- the **pattern of support** within grants and whether this has changed post transfer in the way that was anticipated when the transfer was made;

- the extent to which institutions have recovered **post transfer direct** costs and how this compares with the levels that it was estimated they would recover when the transfer was made;

- the extent to which **volume has increased** as a result of the dual support transfer;

- **reasons for increases in volume** following the dual support transfer.

Context of the review

5 In broad terms, research volume is related to the number of research personnel within an institution. Changes in the volume of research personnel sponsored by the research councils might occur either as a result of:

- deliberate policy decisions to increase or reduce spending in higher education institutions or to change the pattern of support within grants;

- unintentional changes in the level of spending in higher education institutions or in the pattern of support within grants.

6 The research councils have made a number of policy decisions since the dual support transfer took place which will have had an impact on volume. The main ones are:

- AFRC/BBSRC's declared policy of increasing its support for research in HEIs and reducing that at its own institutes;

- a real increase in the level of funding available to MRC and ESRC over the period;

- SERC's decision to close the Nuclear Structure Facility and to reduce its contribution to the Institut Laué Langevin and SERC laboratory staff numbers and to channel this funding into grants.

7 The net effect of these changes has been to increase the level of research council expenditure in higher education institutions which in turn is likely to have increased volume. A simple measure of this increase in volume is the extent to which the research councils have exceeded the irreducible minimum. The irreducible minimum is the target level of annual expenditure in higher education institutions that research councils were set when the dual support transfer took place. Research councils must meet this target as one condition of maintaining volume at pre transfer levels. In 1992-93 and 1993-94 they exceeded the target by 4%, in 1994-95 the target was exceeded by 11%.

8 Not all of this increase of expenditure over target will necessarily have led to an increase in volume, some may have been invested in infrastructure, for example through equipment only grants.

9 Consequently, evaluation of the extent to which the dual support transfer has had an unintended impact on volume must be carried out against a background of an increase in volume which would have come about as a result of explicit policy decisions and which is itself difficult to quantify accurately. In the remainder of this Appendix a number of volume indicators are examined in order to try to disentangle and quantify the impact that the dual support transfer has had on volume as distinct from the effect of other policy changes since the dual support transfer.

10 There are a number of possible indicators of volume:

- **number of awards** - an increase in volume might be expected to be indicated by an increase in the number of awards, but this needs to be checked against whether the average size of grants has changed;

- **numbers of research assistants** funded on research council grants;

- **the pattern of expenditure on grants** - a shift in the pattern of expenditure from non-staff to staff costs or within staff costs (ie an increase in research personnel) would indicate an increase in volume even where the overall level of expenditure remains constant.

11 Each of these indicators is explored below.

Number of awards

12 The following table, derived from data provided by the research councils, shows the number of new awards funded in each academic year since 1988/89.

Table D1: Number of new awards

Research Council[1]	1988/89	1989/90	1990/91	1991/92	1992/93	1993/94
BBSRC	457	556	362	438	576	446
EPSRC	1756	1753	1316	1734	1847	2199
ESRC	430	287	366	356	357	438
MRC	482	528	453	504	492	473
NERC	139	206	165	211	208	155
PPARC	495	391	266	270	266	234
Total	3759	3721	2928	3513	3746	3945

[1] In April 1994 six research councils were created from the previous five. The activities of the former SERC were mainly split between EPSRC, PPARC and BBSRC (which also incorporates the former AFRC).

13 Table D1 shows that, with the exception of the figure for 1990/91, the overall number of research grants awarded each year since 1988/89 has not changed dramatically, although in 1993/94 the number of grants awarded was higher than in previous years. The number of grants awarded in 1990/91 was lower than in other years because SERC cancelled a grant round.

14 Table D2 compares the average number of new awards made per annum in the pre transfer years 1988/89 to 1991/92 with the average number of awards made per annum post transfer.

Table D2: Average number of new awards per annum - pre and post transfer

Research Council	Average number 1988/89 to 1991/92	Average number 1992/93 to 1993/94	% difference	% difference excluding 1991 data
BBSRC	453	511	+12%	+6%
EPSRC	1,640	2,023	+26%	+16%
ESRC	360	398	+11%	+11%
MRC	492	482	-2%	-4%
NERC	180	182	+7%	-2%
PPARC	356	250	-35%	-35%
Total	3,480	2,846	+11%	+5%

(* see para 16 below)

15 The numbers of new awards made by MRC, and NERC, whilst fluctuating year on year, have stayed at roughly the same level over the period. ESRC has increased its awards by about 11%, BBSRC by about 13% and EPSRC by 24%. The pre transfer average numbers for BBSRC and EPSRC include the figures for 1990/91, the year in which a grant round was cancelled. As a result the difference between the pre transfer and the post transfer grant numbers may be exaggerated. Recalculating the percentages for these two councils excluding the 1990/91 figures, results in percentages of 6% and 16% for BBSRC and EPSRC respectively. PPARC has reduced the number of new awards it makes each year by about 30%. This relates to a deliberate policy of consolidation by PPARC which is referred to again in paragraph 22.

16 Overall the number of new awards made by the research councils appears to have increased by about 11% (or 5% if the 1990/91 data is excluded). However, the number of projects funded is not a perfect indicator of changes in the volume of research. The number of projects might have changed for other reasons, ie because research projects were on average becoming smaller or larger due to changes in research council policy changes in the science or because the average grant spend was getting smaller.

17 In order to assess the extent to which changes in grant size have contributed to changes in the numbers of grants awarded we examined the average value of grants funded across each of the research councils between 1988/89 and 1993/94. The average values are shown in Table D3.

D3: Average grant value (cash prices)

Research Council	1988/89 £000	1989/90 £000	1990/91 £000	1991/92 £000	1992/93 £000	1993/94 £000	Expected value £000
BBSRC	74	82	42	50	66	94	102
EPSRC	106	77	78	86	114	138	134
ESRC	80	56	42	51	59	65	88
MRC	95	91	94	157	169	196	172
NERC	48	58	65	85	93	105	110
PPARC	66	89	62	205	210	333	151
Total	90	79	69	97	115	142	131

18 Table D3 shows that changes in the average value of an award are not necessarily consistent from year to year, for example average award values for ESRC and EPSRC are considerably higher in 1988/89 than for the following two years. From 1992/93 onwards post transfer costs are reflected in higher average grant values across all of the research councils.

19 In order to assess whether there is a difference between pre and post transfer average grant values, the post transfer values have been compared with **expected grant values** based on an assumption of an addition for post transfer direct and indirect costs. Expected values have therefore been calculated based on average pre transfer grant values (1988/89 to 1991/92) increased for post transfer direct costs and indirect costs. No adjustment has been made for inflation because the considerable differences in the profile of awards made each year means that the variability between averages is much greater than any inflationary signal.

20 Table D3 shows that PPARC has exceeded the expected average value of grant in each year since the transfer, this increase appears dramatic, but it relates to the consolidation of the number of awards made each year, referred to in paragraph 16 and taking these two factors together, it is difficult to assess whether there has been an increase in volume. MRC exceeded the expected average value in 1993/94. The higher than expected average grant spend for MRC coupled with relatively stable grant numbers may indicate an increase in volume if the increased spend has been invested in additional research assistants per grant.

21 Average grant values for BBSRC, EPSRC, ESRC and NERC were less in 1992/93 than expected post transfer. This was the first post transfer year and the shortfall probably relates in part to underclaiming by institutions. For ESRC, NERC and BBSRC average grant values were also below the expected value in 1993/94 and if we consider the effects of inflation, the same may also be true for EPSRC. This tends to indicate that a post transfer reduction in the average value of an award is partly responsible for the increase in the number of awards made. There are three possible explanations for this apparent reduction:

- institutions are not applying for as much as it was expected they would;
- research councils are squeezing the level of spend on awards;
- errors in the original estimates of how much, on average, the direct costs to the research councils of a project grant would increase.

22 We explore each of these possibilities in more detail later on in this appendix.

Number of research assistants

23 An alternative indicator for the volume of research activity is the number of new research assistant posts funded by the research councils each year. An increase in the number of research assistants, or more precisely the number of research assistants per grant, would indicate an increase in volume of the research personnel.

24 Table D4 is based on data provided by the research councils and shows the number of research assistants funded on new awards each year between 1988/89 and 1993/94. Whilst there is some evidence that numbers have increased overall across the period, the number of research assistants awarded by each council varies year on year both before and after the dual support transfer. Table D5 attempts to smooth out these variations by comparing the average pre transfer numbers of research assistants with the post transfer average.

Table D4: Numbers of research assistants awarded in each year

Research Councils	1988/89	1989/90	1990/91	1991/92	1992/93	1993/94
BBSRC	427	593	461	455	723	545
EPSRC	2241	1778	1482	2179	2491	2294
ESRC[1]	NA	NA	NA	284	313	400
MRC[2]	NA	NA	NA	NA	NA	NA
NERC	119	213	148	205	214	146
PPARC	252	328	143	437	291	470

[1] ESRC were unable to provide empirical data on research assistant numbers prior to 1991/92. The data are also not fully reliable after that year because of problems of data capture.

[2] MRC were unable to provide information on the number of research assistants awarded in each year (but see paragraph 29).

[3] The PPARC data shows a greater variation year on year than the data for the other research councils. This reflects the fact that PPARC rolling grants are on a five year cycle rather than the three year cycle that is typical of the other research councils.

Table D5: Average number of research assistants awarded in each year - pre and post transfer

Research councils	Average 1988/89 to 1991/92	Average 1992/93 to 1993/94	% difference	% difference ex 1990/91 data
BBSRC	484	634	31%	29%
EPSRC	1920	2393	25%	16%
ESRC	284	357	26%	NA
MRC	NA	NA	NA	NA
NERC	171	180	5%	1%
PPARC	290	381	31%	12%

25 Table D5 indicates that with the exception of NERC (and MRC for which comparable data are not available) the research councils have increased the number of research assistants on new awards by more than 25% post transfer. The results for the ex SERC research councils (EPSRC, BBSRC and PPARC) are probably overstated because the pre transfer comparator includes the data for 1990/91 when there was a moratorium on new grants.

26 The final column in Table D5 shows the difference between the pre transfer and post transfer average number of research assistants excluding the 1990/91 data for EPSRC, BBSRC and PPARC. This shows that even allowing for the reductions in that year, there has been a significant increase in research assistant numbers across the board. The reason for the PPARC increase is explored below in paragraph 28.

27 MRC was able to provide data on the total number of research staff (not full time equivalents) supported through its grants. Analysis of this data indicates that there has been an increase in the number of research assistants post transfer and that the difference between pre transfer and post transfer numbers is in the order of 5%.

28 The figures show an apparent increase in the number of research assistants supported by PPARC post dual support transfer. These figures need to be qualified. Before the transfer a number of support staff (engineers, programmes etc) associated with particle physics rolling grants were funded by the relevant institution but on research assistant rather than technician salary scales. These staff were not research assistants in the conventional sense but funding them on RA scales enabled institutions to pay higher salaries in recognition of qualifications and specialised skills which were generally higher than those required of a conventional technician. It also enabled institutions to allow for a reasonable amount of progression up the salary scales for staff working on long term rolling programme grants. Following the transfer, the responsibility for funding these staff transferred to SERC (later PPARC). Thus the number of staff supported by PPARC on research assistant pay scales increased (by 40 posts) immediately after the transfer.

29 This issue aside increases in the number of research assistants will relate in part to the increase in research council expenditure in HEIs referred to in paragraph 7. However, the scale of the increases across three of the remaining research councils (BBSRC, EPSRC and ESRC) appears to be higher than the increase in expenditure and cannot be explained in the same way as the PPARC figures. This tends to suggest that some of the increase is attributable to the dual support transfer. SERC has acknowledged, in its response to the BUFORG Working Group report on the dual support transfer, that research assistant numbers increased sharply in 1992/93, the year following the transfer, and steps were taken to reduce numbers in 1993/94.

30 The percentage increases in the number of research assistants appears to be rather lower for NERC and MRC. This does not rule out the possibility that some of the increase relates to the dual support transfer. The review of grant numbers and average grants values indicated that NERC has not increased its number and average value of grants significantly. Consequently the increase in the number of research assistants cannot immediately be explained by an overall increase in expenditure.

31 Table D6 shows the average number of research assistants awarded per grant pre and post transfer. This shows that the number of research assistants per grant has increased for all research councils for which we have data, although the increases are marginal for EPSRC and NERC and at least some of the PPARC increase can be explained by the transfer of technicians or research assistant scales referred to in paragraph 28.

Table D6: Average number of research assistants per grant

Research Council	Pre Transfer 1989-1992	Post transfer 1992-1994
BBSRC	1.07	1.24
EPSRC	1.17	1.18
ESRC[1]	0.80	0.90
NERC	0.95	0.99
PPARC[2]	0.82	1.52
Overall	**1.08**	**1.17**

[1] ESRC data was only available for 1991/92 - 1993/94

[2] PPARC increase reflects the policy of consolidation on grants

32 This increase in the number of research assistants per grant indicates a shift in the pattern of expenditure within grants. It would appear that resources have been switched from non-staff and/or support staff expenditure heads to fund an increase in the number of research assistants. This switch seems to have taken place after the dual support transfer. In order to explore this in more detail we need to look more closely at the pattern of expenditure within grants.

The pattern of support within grants

33 In determining the amounts to be transferred from the funding councils to the research councils, calculations were made about the average increase in costs to the research councils of a typical project grant and the pattern of support within grants both pre and post transfer. The methodology and the calculations underlying the transfer were set out in the ABRC/CVCP report - Changing the Boundaries of Dual Support, 1992. The main elements of the calculation are summarised below.

34 The ABRC/CVCP Working Group reviewed a sample of 175 grants at ten institutions and estimated that on average the **direct** costs to each council of a project grant would increase as follows:

AFRC	35%
ESRC	15%
MRC	25%
NERC	35%
SERC	25%
Overall	**25%**

35 Of these uplifts, 50% was estimated to be required to cover additional staff costs (mainly technicians) with the other 50% for additional non-staff items (including those items previously allowed in research council grant applications, but which had been "subsidised" by the HEIs, as well as certain previously disallowed direct costs).

36 From the study of research grants it was estimated that staff costs on average accounted for 63% of the pre-transfer grant spend. The split between staff and non-staff cost for each research council was estimated as:

	Staff cost	**Non-staff cost**
AFRC	59%	41%
ESRC	79%	21%
MRC	68%	32%
NERC	62%	38%
SERC	59%	41%
Overall	**63%**	**37%**

37 These estimates were combined with the estimates of additional staff costs to arrive at the overall post transfer split between staff and non-staff costs based on the following calculation:

$$\text{For staff costs} \quad (63\% + 12.5\%) \times \frac{100}{125} = 60\%$$

$$\text{For non-staff costs} \quad (37\% + 12.5\%) \times \frac{100}{125} = 40\%$$

On these assumptions, the resultant split of direct costs post transfer for each research council was calculated to be as follows:

	Staff costs	Non-staff costs
AFRC	57%	43%
ESRC	75%	25%
MRC	64%	36%
NERC	59%	41%
SERC	57%	43%
Overall	**60%**	**40%**

38 In addition indirect costs attributable to the research councils post transfer were estimated to be equivalent to 40% of the direct staff element of the grant. A more detailed explanation of the calculations underlying the transfer and details of the amounts transferred is provided in Annex I to this Appendix, together with a glossary of the assumptions underlying the dual support transfer.

39 If the amounts transferred on the basis of the ABRC/CVCP study were calculated correctly (ie they represented on average the value of additional direct cost items and indirect costs claimable from research councils) and if the dual support mechanism was operating as intended then it would be reasonable to expect that:

- the percentage amounts of additional direct costs (referred to hereafter as "post transfer" costs) that institutions are applying for from research councils and the percentages that the research councils are awarding, would broadly coincide with the percentages indicated at the time of the transfer;

- the split between direct staff and non-staff costs and the percentage amounts of indirect costs would be in line with the proportions estimated in the original transfer calculations.

40 If the balance between staff and non-staff costs differs from that assumed in the transfer and if institutions are recovering a lower proportion of "post transfer" cost than was assumed in the transfer, then this would tend to suggest that there has been an overall change in the volume of research activity. The research councils have exceeded the irreducible minimum and therefore (more than) the total amount transferred from the funding councils to the research councils has been distributed to higher education institutions. If proportionally on a grant less of this than expected has been awarded as "post transfer" direct costs, then the only other place that it could legitimately be allocated to would be to "pre transfer" direct cost ie research assistants or additional equipment.

Survey of grants

41 In order to review the balance between direct staff and non-staff costs and to assess the extent to which post transfer direct costs have been applied for and awarded, we collected and analysed data on a sample of individual grants from ninety one institutions across the UK for the 1993/94 and 1994/95 academic years. An explanation of the survey methodology and details of the number and value of grants surveyed is set out in Annex II. Copies of the survey questionnaire are at Annex III and a list of the institutions that contributed to the survey is at Annex IV.

42 We used the survey data supported by information collected from the research councils to determine:

- the extent to which institutions have succeeded in recovering post transfer additional direct costs (both staff and non-staff) and how this compares with the amounts it was assumed they would recover at the time of the transfer;

- the extent to which institutions have recovered indirect costs and how this compares with the amounts assumed at the time of the transfer.

43 Tables D7-D10 show the results of the questionnaire analysed across cost categories and by research council for each of the two years sampled. Institutions were asked to provide information on grants applied for and awarded in 1993/94 and 1994/95. We analysed the questionnaire data for grants in our sample into pre and post transfer staff and non-staff costs as follows:

- pre transfer staff costs were calculated by combining research assistant staff costs and the technical staff costs that institutions estimated they would have been able to claim pre transfer;

- post transfer costs were assumed to include all remaining technical staff and all support staff costs;

- for all research councils except ESRC pre transfer non-staff costs were taken to be all travel and subsistence costs and the equipment and consumables costs that institutions had identified as being claimable from the research councils pre-transfer;

- for all research councils except ESRC post transfer non-staff costs were assumed to include all equipment and consumables costs identified by the institutions as only being claimable from the research councils post transfer, plus all exceptional items.

Table D7: Sample data: applications - 1993/94 academic year

	Research assistant costs	Technician costs pre transfer	Technician costs post transfer	Other staff costs	Total staff costs	Travel/ subsistence	Equipment/ consumable pre transfer	Equipment/ consumables post transfer	Exceptional items	Total non-staff costs	Indirect costs (40%)	Total
BBSRC	13,361,626	1,395,666	1,391,017	346,836	16,495,145	457,286	9,216,842	320,097	196,492	10,190,717	6,598,058	33,283,920
EPSRC	69,374,084	4,908,315	7,018,628	6,334,761	87,635,788	5,456,789	38,422,596	6,890,109	775,702	51,545,196	35,054,315	174,235,299
ESRC	7,979,645	118,005	49,741	413,152	8,560,543	868,900	1,358,926	258,542	0*	2,486,368	3,424,217	14,471,128
MRC	26,927,719	4,761,789	2,372,874	1,538,536	35,600,918	952,879	18,833,128	1,097,643	726,704	21,610,354	14,240,367	71,451,638
NERC	5,340,014	459,636	489,866	244,574	6,534,090	679,225	2,812,358	428,337	120,804	4,040,724	2,613,636	13,188,450
PPARC	8,838,999	2,402,576	600,156	553,789	12,395,520	1,129,269	4,519,263	777,479	392,734	6,818,745	4,958,208	24,172,473
TOTAL	131,822,087	14,045,987	11,922,282	9,431,648	167,222,004	9,544,348	75,163,113	9,772,207	2,212,436	96,692,104	66,888,802	330,802,910

* This figure has been apportioned across pre and post transfer equipment and consumable costs

Pre transfer costs are those direct costs that the research councils were responsible for before the transfer.

Post transfer costs are the additional direct costs that the research councils were responsible for after the transfer.

Table D8: Sample data: awards - 1993/94

	Research assistant costs	Technician costs pre transfer	Technician costs post transfer	Other staff costs	Total staff costs	Travel/ subsistence	Equipment/ consumable pre transfer	Equipment/ consumables post transfer	Exceptional items	Total non-staff costs	Indirect costs (40%)	Total
BBSRC	10,920,198	1,124,258	927,110	914,671	13,886,237	357,947	6,484,729	239,127	88,318	7,170,121	5,554,495	26,610,835
EPSRC	60,678,695	3,465,783	5,500,169	5,513,090	75,157,737	4,145,067	30,328,361	5,274,028	357,911	40,105,367	30,063,095	145,326,199
ESRC	7,777,127	73,190	37,590	373,082	8,260,989	838,743	1,273,368	238,705	0*	2,350,816	3,304,396	13,916,201
MRC	23,267,993	3,562,772	1,628,766	1,119,078	29,578,609	889,559	17,883,500	787,694	244,660	19 815,413	11,831,444	61,225,466
NERC	4,671,453	383,232	410,204	187,182	5,652,071	533,740	2,313,118	353,225	140,980	3,341,063	2,260,828	11,253,962
PPARC	6,543,220	2,046,391	262,252	436,024	9,287,887	646,074	2,770,011	338,126	189,360	3,943,571	3,715,155	16,946,613
TOTAL	113,858,686	10,655,626	8,766,091	8,543,127	141,823,530	7,421,130	61,053,087	7,230,905	1,021,229	76,726,351	56,729,412	275,279,293

* This figure has been apportioned across pre and post transfer equipment and consumable costs

Pre transfer costs are those direct costs that the research councils were responsible for before the transfer.

Post transfer costs are the additional direct costs that the research councils were responsible for after the transfer.

Table D9: Sample data: applications 1994/95

	Research assistant costs	Technician costs pre transfer	Technician costs post transfer	Other staff costs	Total staff costs	Travel/ subsistence	Equipment/ consumable pre transfer	Equipment/ consumables post transfer	Exceptional items	Total non-staff costs	Indirect costs (40%)	Total
BBSRC	9,096,419	745,199	1,119,707	99,068	11,060,393	294,243	5,212,901	872,568	27,600	6,407,312	4,424,157	21,891,862
EPSRC	35,669,243	1,555,523	3,744,678	2,314,848	43,284,292	2,883,047	19,675,760	4,740,621	449,931	27,749,359	17,313,717	88,347,368
ESRC	6,216,943	153,698	14,643	444,850	6,830,134	851,006	742,051	280,269	0*	1,873,326	2,732,054	11,435,514
MRC	16,001,979	1,977,470	849,483	946,934	19,775,866	486,465	7,487,203	508,589	80,852	8,563,109	7,910,346	36,249,321
NERC	3,091,901	273,295	138,784	186,856	3,690,836	358,367	1,770,358	308,908	112,507	2,550,140	1,476,334	7,717,310
PPARC	6,543,555	2,278,769	905,534	559,379	10,287,237	341,255	2,368,722	211,066	21,071	2,942,114	4,114,895	17,344,246
Total	76,620,040	6,983,954	6,772,829	4,551,935	94,928,758	5,214,383	37,256,995	6,922,021	691,961	50,085,360	37,971,503	182,985,621

* This figure has been apportioned across pre and post transfer equipment and consumable costs.

Pre transfer costs are those direct costs that the research councils were responsible for before the transfer.

Post transfer costs are the additional direct costs that the research councils were responsible for after the transfer.

Table D10: Sample data: awards - 1994/95

	Research assistant costs	Technician costs pre transfer	Technician costs new style	Other staff costs	Total staff costs	Travel/ subsistence	Equipment/ consumable pre transfer	Equipment/ consumables post transfer	Exceptional items	Total non-staff costs	Indirect costs (40%)	Total
BBSRC	8,286,128	579,861	649,138	36,729	9,551,856	261,482	4,275,263	490,878	6,500	5,034,123	3,820,742	18,406,721
EPSRC	29,523,988	1,223,249	2,546,288	1,903,073	35,196,598	2,003,816	15,328,366	2,908,100	219,342	20,459,624	14,078,639	69,734,861
ESRC	5,303,927	113,564	15,620	326,890	5,760,001	672,069	759,067	125,192	0*	1,556,328	2,304,000	9,620,329
MRC	12,542,505	1,651,003	659,539	885,472	15,738,519	457,191	6,049,150	376,575	34,718	6,917,634	6,295,408	28,951,561
NERC	2,806,049	188,835	107,557	61,559	3,164,000	304,091	1,407,464	204,195	113,767	20,295,517	1,265,600	6,459,117
PPARC	6,631,242	1,528,498	599,573	66,828	8,826,141	194,760	1,154,231	97,240	5,000	1,451,231	3,530,456	13,807,828
Total	65,093,839	5,285,010	4,577,715	3,280,551	78,237,115	3,893,409	28,973,541	4,202,180	379,327	37,448,457	31,294,846	146,980,418

* This figure has been apportioned across pre and post transfer equipment and consumables cost.

Pre transfer costs are those direct costs that the research councils were responsible for before the transfer.

Post transfer costs are the additional direct costs that the research councils were responsible for after the transfer.

44 For ESRC we calculated the value of pre transfer and post transfer non-staff costs differently. ESRC revised the boundary between equipment and consumables cost and exceptional items at the time of the transfer. A number of items that had previously been classified under equipment and consumables (and for which grants had been awarded pre-transfer) were reclassified as exceptional items. Consequently including all exceptional items as post transfer non-staff costs for ESRC, would be to overstate the value of these costs. We therefore apportioned the value of exceptional items across pre and post transfer consumables and equipment costs in proportion to the value of those costs.

45 Table D11 shows the post transfer direct costs applied for and awarded as a percentage of pre-transfer direct costs. The results of the two years sampled have been combined to smooth out variations between them.

Table D11: Additional direct costs on applications and awards

Research Council	Additional direct costs assumed in transfer	Additional direct costs on applications	Additional direct costs on awards
BBSRC[1]	30%	11%	10%
EPSRC	25%	18%	17%
ESRC	15%	8%	7%
MRC	25%	10%	9%
NERC	35%	14%	13%
PPARC	25%	14%	9%
Overall	25%	15%	13%

[1] Following the reorganisation of the research councils in April 1994, BBSRC was created from the old AFRC and part of SERC. The assumed recovery rate for BBSRC is therefore a combination of the AFRC rate (35%) and the SERC rate (25%).

Discussion of potential limitations in the data

46 There are some potential limitations in the quality of the survey data which may have had an impact on the results. These are:

- that the sample surveyed may not be representative of the whole population;
- difficulties in allocating staff costs between pre and post transfer costs;
- difficulties in allocating non-staff costs between pre and post transfer costs.

Validity of the sample

47 If the sample of grants that we surveyed was unrepresentative of the total population then the results may be over or under stated. Given that the overall size of our sample included nearly 50% of the new awards, in the relevant years and represented over 50% by value of new awards, we think that this is unlikely. The consistency of the results across institutions and research councils also tends to support this view, although it should be noted that the sample sizes for individual research councils varied. In particular the PPARC sample was smaller, 22% by value, than were the samples for the other councils.

Difficulties in allocating staff costs

48 Our survey depended on institutions being able to identify the staff costs on a sample of grants which would have been paid by the research councils pre transfer (ie research assistant and technical staff employed directly on the grant) separately from those that would only have been eligible for grant post transfer. Any difficulties in the allocation of cost between post and pre transfer would potentially distort the result.

49 We checked the basis on which staff costs had been allocated at a number of the institutions we visited. We found that institutions had been able to identify research assistant (pre transfer) costs and support staff (predominantly post transfer) costs without much difficulty based on the grant applications and notifications of amounts awarded. Technician costs had to be allocated between pre and post transfer but this was also reasonably easy to do in most cases on the basis that staff appointed directly to the project would be counted as pre transfer, whilst those not directly appointed as a consequence of the grant award and part-time staff were classified as post transfer.

50 The allocation of technicians to pre and post transfer groups was difficult to do in respect of PPARC grants. These grants are characterised by a high level of technical support and the boundary between the level of support that was allowable pre transfer and that provided for post transfer was less easy to define. The relatively low recovery rate for additional staff costs on PPARC grants may therefore reflect an understatement of the true position.

51 Set against this the allocation of all support staff and all part-time technicians to post transfer costs may have had the effect of **over stating** the value of post transfer staff costs although there is no suitable data on which to estimate the extent of any possible overstatement (see Annex II for an explanation of the methodology used in analysing the questionnaire). Information supplied by the research councils on the numbers of support staff included in grant awards both pre and post transfer (set out in Table D12) shows that there were significant numbers of full time equivalent (FTE) support staff (excluding technicians) supported through research council grants prior to the dual support transfer. Table D13 shows the number of FTE technicians supported through research council grants both pre and post transfer.

Table D12: Number of support staff (FTE) awarded in each year on research council grants

Research council	1988/89	1989/90	1990/91	1991/92	1992/93	1993/94
BBSRC[1]	5	4	16	12	37	4
EPSRC	230	198	221	346	427	669
ESRC[2]	NA	NA	NA	38	34	36
MRC[3]	NA	NA	NA	NA	NA	NA
NERC	7	11	0	16	10	5
PPARC	22	5	16	37	103	77
Total (excl ESRC)	264	218	253	411	577	755

1 Ex SERC grants only

2 ESRC was only able to provide reliable staff number data from 1991/92 onwards.

3 MRC was unable to provide staff numbers.

Table D13: Number of technicians (FTE) awarded in each year on research council grants

Research council	1988/89	1989/90	1990/91	1991/92	1992/93	1993/94
BBSRC	33	31	33	59	184	83
EPSRC	279	279	211	458	801	979
ESRC	NA	NA	NA	0	7	6
MRC	NA	NA	NA	NA	NA	NA
NERC	11	25	22	36	40	41
PPARC	40	87	21	145	100	243
Total (excl ESRC)	363	383	287	698	1,125	1,346

52 Table D13 shows that since the dual support transfer there has been a significant increase in the number of technicians supported by research councils. There was a consistent view across the institutions we visited that the level of technician support for research has reduced over the past few years partly because changes in the way in which research is carried out has reduced the requirement. Statistics on the number of technicians employed in the university sector show that full time equivalent staff numbers have reduced steadily over the ten year period from 1985 - 1994, from 13,560 to 11,780.

Difficulties in allocating non-staff costs

53 Institutions found it considerably more difficult to identify additional non-staff costs. The definitions of what was claimable prior to the transfer and therefore what the additional costs were post transfer is much less clear than for staff costs. Our review of the questionnaire data at the institutions we visited indicated that there is a considerable risk that the post transfer equipment and consumable costs were wrongly stated in the survey data.

54 In order to test whether our figure for post transfer non-staff costs, derived from the survey data, was in fact understated, we reviewed the extent to which, in our sample, the overall recovery of total non-staff costs as a percentage of the total direct costs matched that assumed in the transfer. The results of the comparison are set out in Table D14.

Table D14: Non-staff cost recoveries as a percentage of total direct costs - survey data

Research Council	Assumed level of recovery	Sample recovery - Applications	Sample recovery - Awards
BBSRC	43%	38%	34%
ESRC	25%	22%	22%
EPSRC	43%	38%	35%
MRC	36%	35%	37%
NERC	41%	39%	38%
PPARC	43%	30%	23%
Overall	40%	36%	34%

55 Table D14 shows that BBSRC, EPSRC, NERC and MRC have received applications for and awarded a slightly lower proportion of grant for non-staff costs than it was assumed they would following the transfer. PPARC appears to have received applications for and awarded considerably less non-staff costs than it was assumed it would, however, the number of PPARC grants included in our sample was relatively small and so this apparent anomaly may be the result of unrepresentative data.

56 Information provided by the research councils on the profile of grant expenditure, set out in Table D15, confirms that a slightly lower proportion of grant has been awarded for non-staff costs than was assumed in the transfer. In 1992/93 and 1993/94 37% of the grant awarded was for non staff costs in 1994/95 it was 38%, compared to an assumed recovery level of 40%.

Table D15: Direct non-staff costs - as a proportion of direct costs for research council data

Research Council	Assumed in the transfer	Awarded in 1992/93	Awarded in 1993/94	Awarded in 1994/95[1]
BBSRC[2]	43%	40%	NA	NA
ESRC	25%	26%	25%	24%
EPSRC	43%	40%	40%	38%
MRC	36%	34%	NA	NA
NERC	41%	33%	33%	36%
PPARC	43%	36%	36%	38%
Overall	40%	37%	37%	38%

[1] Part year data

[2] Figures were not available for BBSRC and MRC for 1993/94 and 1994/95

57 The overall recovery on non-staff costs post transfer is therefore less than it was assumed it would be when the transfer was made, although the difference is not dramatic. Against this background it is likely that the post transfer non-staff costs declared in our sample are understated.

58 It is difficult to estimate the scale of the understatement because we have no basis for estimating the balance between pre and post transfer non-staff costs other than the data provided in our sample. To estimate the **maximum** amount by which our survey data might be understated we adjusted the balance between pre and post transfer direct non-staff costs in our sample up to the levels assumed in the transfer set out in Annex 1 of this Appendix. We then recalculated the total percentages of additional direct costs recovered across our sample using the adjusted values. The results are set out in Table D16.

Table D16: Adjusted additional direct cost recoveries

Research Council	Assumed in transfer	Adjusted additional direct costs - Applications	Adjusted additional direct costs - Awards
BBSRC	30%	23%	23%
EPSRC	25%	24%	23%
ESRC	15%	12%	11%
MRC	25%	20%	19%
NERC	35%	22%	21%
PPARC	25%	22%	19%
All	25%	22%	21%

Discussion of survey results for additional direct costs

59 Taking the results in Tables D11, the additional direct cost recoveries indicated by our sample and D16, the additional direct costs adjusted for potential errors in the sample, together enables us to show ranges of values for the additional direct cost recoveries. These ranges are shown in Table D17.

Table D17: Minimum and maximum levels of additional direct cost recoveries.

Research Council	Additional direct costs assumed in transfer	Additional direct costs on applications	Additional direct costs on awards
BBSRC	30%	11% - 23%	10% - 23%
EPSRC	25%	18% - 24%	17% - 23%
ESRC	15%	8% - 12%	7% - 11%
MRC	25%	10% - 20%	9% - 19%
NERC	35%	14% - 22%	13% - 21%
PPARC	25%	14% - 22%	9% - 19%
Overall	25%	15% - 22%	13% - 21%

60 Table D17 shows that overall, institutions have applied for between 15% - 22% additional direct costs and have been awarded between 13% and 21%. This is rather less than the 25% it was predicted they would be awarded. The pattern across each of the research councils is similar, each indicating that the amounts actually awarded are less than those predicted at the time of the transfer. There is no basis on which we can further narrow down these ranges to determine a more precise figure.

61 The uncertainty relates to difficulties in allocating non-staff costs into pre transfer and post transfer categories, and there is no better information which can be obtained to do this. There are however two factors that might support a conclusion that the actual level of post transfer costs and additional grants is closer to the lower end of the range than the upper end. The first is that anecdotal evidence collected during our visits to institutions indicated that apart from exceptional items and some major items of equipment, institutions had not

experienced particular difficulties in securing awards for non-staff direct costs following the dual support transfer. Secondly, the overall level of non-staff costs recovered (ie both pre and post transfer costs) is not dramatically lower than the level assumed in the original transfer calculation (see Table D15). However, given that it is not possible to obtain better information on the actual split between pre and post transfer direct non-staff costs, this conclusion cannot be validated.

62 Despite these uncertainties it is clear that proportionally less has been spent on post transfer direct costs than it was predicted would be spent at the time the transfer was made. Consequently some of what was transferred for post transfer additional direct costs has been spent on pre transfer costs. If we assume that staff costs have been recovered at about, or a little above, the level that was expected when the transfer was made (an assumption supported by the data in table D15) then these additional **pre transfer** costs must have been spent on staff (additional research assistants.)

Summary of evidence

63 At the start of this Appendix (paragraph 10) we identified a number of possible indicators of volume. The first of these was the number of grant awards made (together with the average size of grant). Information provided by the research councils shows that overall the number of new awards made by the research councils is at least 5% higher, and perhaps as much as 11% higher, post transfer than it was pre transfer. However average grant values for ESRC, BBSRC, NERC and ESPRC in 1993/94 were a little below their expected post transfer values which perhaps indicates that a reduction in the average value of an award is partly responsible for the increase in the number of awards made.

64 The second indicator of volume was the number of new research assistant posts funded by the research councils each year. Data supplied by the research councils indicates that the number of new research assistants supported since the dual support transfer has increased. Increases in the number of research assistants will relate in part to the increase in research council expenditure in HEIs referred to in paragraph 7. However the scale of the increases in BBSRC, EPSRC and ESRC tends to suggest that at least some of it is attributable to the dual support transfer.

65 Review of the average number of research assistants awarded per grant shows that the number of research assistants per grant has increased post transfer for all the research councils for which we have data. This, together with the evidence that the average size of award has not increased, tends to suggest that there has been a shift in the pattern of expenditure within grants.

66 The final indicator of volume that we reviewed was the pattern of expenditure on grants. A shift in the pattern of expenditure from non-staff to staff costs, or within staff costs (ie an increase in research personnel) would indicate an increase in volume even where the overall level of expenditure remains constant. Based on evidence collected across a large sample of grants it is clear that some of the funds transferred for post transfer direct costs have been spent on pre-transfer costs (eg additional research assistants).

67 Taking all the evidence together we conclude that there has been an increase in the volume of research activity as a result of the dual support transfer.

Quantifying the increase in volume as a result of the dual support transfer

68 An understanding of the extent of the increase in volume that has arisen as a result of the dual support transfer can be gained by calculating the difference between the amount actually transferred in respect of additional direct costs and the amount that would have been transferred on the basis of the levels of additional direct cost recovery indicated by our sample.

69 Table D17 shows that the sample's upper bound for additional direct cost recoveries is 21% and the lower bound 13%. If the system had worked as intended then additional direct cost recoveries would have been 25% of pre transfer direct costs. Pre transfer direct costs were calculated to be £270 million and therefore the additional direct costs were assumed to be 25% of that figure - £67.5 million. This is the amount that was transferred from the funding councils to the research councils in respect of additional direct costs.

70 Figure 1 sets out a calculation which takes account of increases in pre transfer costs (eg RAs) and also allows for an increase in grants.

Figure 1: Calculation of volume increase

Let R = pre transfer staff costs Let X = pre transfer non-staff costs Let T = post transfer staff costs Let Y = post transfer non-staff costs Let P = post transfer additional pre-transfer type costs	
Ideally if the system had worked as predicted:	T + Y = 0.25 (R + X) = £67.5m
However we know there has been an increase in additional pre-transfer type cost per grant so:	T + Y + P = £67.5m
We know from Table D17 that the upper bound for additional direct cost recoveries is 21% so:	T + Y = 0.21 (R + X + P)
	0.21 (R + X + P) = £67.5m - P
From original dual support transfer calculation:	R + X = £270m (in 1993/94 prices)
Therefore:	1.21P = £67.5 - 0.21x£270m
	P = £10.8/1.21m
The value of the increase in additional pre-transfer type cost taking the upper bound of additional direct cost recoveries is:	£8.93 million
The same calculation for the lower bound of additional pre-transfer cost recoveries yields a value of:	£28.67 million

71 Figure 1 indicates that between £8.93 and £28.67 million of the £67.5 million transferred to cover post transfer direct costs has been spent on pre transfer costs (mainly research assistants). Whatever the precise sum involved 40% should be added for indirect costs associated with the proportion of the sum that has been spent on staff.

72 As discussed in paragraph 61, there is no basis on which we can either narrow down these ranges or determine a more precise figure. There is anecdotal evidence that might support a conclusion that the actual level of post transfer direct cost funds spent on pre-transfer costs and possibly additional grants is closer to the lower end of the range than the upper end.

Recovery of indirect costs

73 The amount to be transferred for indirect costs was calculated by estimating the percentage of pre transfer grant that on average accounted for staff costs. This was estimated to be 63%. The staff related element of the additional direct costs was estimated to be 50% of total additional direct costs. The amount transferred in respect of indirect costs was therefore calculated by combining these two figures, to arrive at a percentage split between staff and non-staff direct costs post transfer of 60:40.

74 We can use this percentage to calculate how the indirect costs actually recovered across our sample of grants, compares with those that would have been recovered based on the assumptions underlying the transfer. Table D18 shows this comparison and indicates that the actual indirect recoveries are slightly higher than those assumed in the transfer. This is consistent with our conclusion in paragraph 57, that the recoveries of direct non-staff costs have been slightly less than those assumed in the transfer and hence that direct staff costs overall have been a little higher than it was assumed they would be.

75 If a decision is taken to reduce volume, then the adjustments to funding would need to take indirect costs into account. Given that the amount transferred to support technicians appears to have been more than was required and more than has actually been spent on them, it follows that too much was transferred to take account of associated indirect costs. This can be quantified by taking the upper and lower bands identified in Figure 1 (£8.93 million - £28.67 million), assuming that all the spend on pre-transfer costs is on staff (research assistants), and calculating the value of indirect costs as 40% of these figures. This shows that between £3.57 and £11.47 million of the funding transferred from the funding councils to the research councils has been used to support indirect costs associated with additional research assistants.

Table D18: Comparison of actual and notional indirect cost recoveries across sample of grants

Research Council	Awarded in 1993/94 (£000)	Awarded in 1994/95 (£000)
Actual indirect cost recovery	56,729	31,292
"Notional" indirect cost recovery	52,452	27,765
Difference	4,277	3,530

Conclusion

76 The complexity of the policy decisions underlying the grant portfolios and the difficulties in estimating the proportion of direct expenditure that relates to post transfer costs means that the data must be interpreted with caution. However some reasonably firm conclusions can be drawn from the information presented in this Appendix.

77 It is clear that the volume of research activity has increased since the dual support transfer took place. It is also clear that some of this increase is unrelated to the dual support transfer. Research council expenditure in HEIs has increased by 4% in 1992-93 and 1993-94 and 11% in 1994-95. Even allowing for the effects of inflation, this indicates a significant real increase in expenditure and hence in volume.

78 This increase aside, there is clear evidence to support the conclusion that the dual support transfer has also led to an increase in research volume. In particular:

- principal investigators have not been applying for as much additional direct cost as it was assumed they would when the transfer amounts were calculated; consequently, resources transferred for additional direct costs (ie technicians, other support staff etc) have been invested in pre transfer type costs (eg research assistants);

- there is a significant increase in the number of research assistants post transfer and in the number of research assistants awarded per grant;

- as a result there has been a post transfer shift in the pattern of support from direct non-staff costs to staff costs and within staff costs, from technicians and other support staff to research assistants.

79 Consequently, it appears that between £8.93 and £28.67 million of the £67.5 million transferred to cover additional direct costs has been spent on pre transfer costs (mainly research assistants) and possibly on additional grants. Whatever the precise sum involved 40% should be added for indirect costs associated with the proportion of these sums that has been spent on staff (ie additional research assistants).

80 There are a number of possible explanations for why the dual support transfer has led to an increase in volume:

- "under- claiming" by principal investigators;

- research councils "disallowing" legitimate costs;

- the transfer assumptions may not have held true.

81 These reasons are explored below.

Under-claiming by principal investigators

82 In the course of our visits to institutions we were told on numerous occasions that principal investigators have not been including all legitimate direct costs in their research grant applications. The reasons cited for this are:

- a fear that applications will be turned down if too expensive. While we were told that this was a common fear among principal investigators we found no evidence that this has occurred;

- that principal investigators have difficulty in identifying and justifying some kinds of costs included in the direct cost category because they are more akin to indirect costs (this issue is discussed in Section III in the main report);

- there is no incentive for principal investigators to identify and claim these costs (also see Section III).

83 It is clear that principal investigators were not claiming all that they were entitled to in the first year following the dual support transfer. This issue was highlighted in the BUFORG survey and is confirmed by the relatively low average grant values for 1992/93, compared with expected levels (Table D3). All of the institutions we visited were aware that underclaiming had been a problem and either had or were in the process of taking steps to address it. The increase in average grant values for 1993/94 indicates that institutions have had some success in this.

84 Although underclaiming is undoubtedly still a problem for some institutions, particularly for non specific technical support, it is difficult to believe that it is at a level which explains the shortfall in applications for additional direct costs across our sample. It is therefore likely that institutions failure to apply for the expected level of direct costs indicates that the actual balance between pre and post transfer costs does not match the original assumptions.

Research councils "disallowing" legitimate cost

85 A review of the amounts awarded by individual councils shows that the research councils have awarded slightly less additional direct costs overall than was applied for. It is also clear that research councils have not been consistently disallowing legitimate direct costs.

86 A review of the amounts of additional direct costs applied for compared with the amounts awarded in our survey sample is summarised in Table D19. There is evidence that research councils are disallowing slightly more post transfer than pre transfer cost. There are some differences in interpretation between institutions and research councils as to what constitutes a legitimate direct cost which probably accounts for this. This boundary between direct and indirect cost is discussed in Section IV of the main report. Overall these differences in interpretation are at the margin and should not significantly affect the final outcome.

Table D19: Comparison of awards/applications (%)

Research Council	Research assistants	Pre transfer technicians	Post transfer Technicians	Other staff costs	Total staff costs	Travel costs	Pre transfer equipment/ consumables	Post transfer equipment/ consumables	Exceptional items	Total non-staff costs
1993/94	86	76	74	91	85	78	81	74	46	80
1994/95	85	76	68	72	82	75	78	61	55	75

Transfer assumptions

87 There are two possible explanations for why some of the original transfer assumptions may not have held true. The first is that the average level of additional direct costs on project grants were overestimated at the time the transfer was made. The second is that the balance between pre and post transfer costs has changed since the transfer took place.

88 In theory, the fact that more of the costs associated with research projects now have to be explicitly identified may lead some principal investigators to look for different ways to achieve research outcomes, for example by transferring some of the activities previously undertaken by technicians to research assistants, or by employing new types of support staff with skills different from those available from the "traditional" technicians already employed within the institution. If these changes have led to a more efficient and effective delivery of research activity, then one of the principal objectives of the transfer would have been achieved. However it does imply a shift in the balance of support from post transfer style costs to pre transfer style costs.

89 During our visits to institutions we found some evidence to support the view that the emphasis was shifting from "traditional" technicians to research assistants and "new " types of support staff eg information technology support, and that this was (at least in part) the result of the dual support transfer; now that principal investigators have more control over the recovery of costs for technical and support staff they appear to be tending to claim for additional staff rather than to try to recover costs of existing staff. There are three possible explanations for this:

- that the skills offered by these "new" staff are more specific to the principal investigators' requirements than the skills of existing staff in the institution (and can be accessed more easily ie because there is no requirement for retraining);

- that principal investigators think there is a better chance of securing these resources if they claim them from the research councils as pre transfer costs;

- that principal investigators find it difficult to specify research support requirements separately from research assistant requirements and so specify them together.

90 All of these factors are probably relevant and are very difficult to analyse even at the individual department level. The consequence of providing principal investigators with a greater degree of control over the acquisition of resources for research is that, in exercising that control, their decisions are likely to be in the interests of their individual research programmes rather than those of the institution as a whole.

91 The difficulty for the institution is that it is, potentially, left with a group of technicians on permanent contracts, for whom there is no specific funding either from the research councils or the funding councils. The funding for these staff has been transferred to the research councils but has been reclaimed by principal investigators to fund the costs of

new staff. This is clearly a management issue that individual institutions will need to address, but which has arisen as a consequence of the dual support transfer.

Summary

92 All of these factors appear to have some validity and each supports the conclusion that some of the funding transferred to the research councils in respect of post transfer costs has been used to fund an increase in the volume of research activity.

The basis of the dual support transfer

1 The ABRC/CVCP Working Group Report "Changing the Boundary of Dual Support" which dates from July 1991, was prepared by Research Council and CVCP officials for the Advisory Board for the Research Councils (ABRC). It was prepared on the basis of two parallel exercises, in which the Research Councils and the CVCP collaborated, to establish an operational framework for the new regime and to assess the additional direct costs for which the Research Councils were to become responsible.

2 The ABRC/CVCP Working Group study concluded that on average across all the councils the direct costs of a project grant would increase by 25%. Of this uplift, it was estimated that 50% would cover the additional staff costs (mainly technicians) and 50% would cover other direct items (including those items previously allowed in Research Council grant applications, but which had been "subsidised" by the HEIs, as well as certain previously disallowed direct costs). Of the grant spend before the dual support transfer, 63% of grant spend was estimated on average to account for staff costs. Councils would meet the 40% addition to the overall staff costs element as their contribution to indirect costs.

3 Using the basic methodology established in the report, the full-year additional costs faced by the Research Council, based on an approximate projected expenditure of £270 million for 1993-94 under the "old" arrangements (before dual support transfer) can be calculated as follows:

additional direct costs	=	25% x £270 million
	=	£67.5 million
indirect costs	=	0.4 x (63% x £270m + 50% x £67.5m)
(40% addition on staffing	=	0.4 x (170.1m + £33.75m)
element of direct costs)	=	£81.54m
TOTAL	=	£149.04m

4 Because of the way the dual support transfer was phased in, only £124.5 million was transferred to the Research Councils for 1993-94. Certain schemes run by the Royal Society were deemed to be analogous to the Research Council grant schemes covered by the transfer, and consequently, the dual support transfer was also applied to the Royal Society (the transfer sum amounted to £0.5 million in 1993-94).

Glossary of global assumptions for the dual support transfer

Let x = pre-transfer direct costs

Post-transfer direct costs = 0.25x

Post-transfer staff costs = 0.125x

Post-transfer non-staff costs = 0.125x

Pre-transfer staff costs = 0.63x

Pre-transfer non-staff costs = 0.37x

Total direct costs = 1.25x

All this implies that:

Post-transfer direct costs/pre-transfer direct costs = 25%

Post-transfer staff costs/pre-transfer staff costs = 0.125/0.63 = 19.8%

Post-transfer non-staff costs/pre-transfer non-staff costs = 0.125/0.37 = 33.8%

Pre-transfer staff costs/pre-transfer direct costs = 63%

Post-transfer staff costs/total post-transfer direct costs = 0.125/0.25 = 50%

Total staff costs/total direct costs - (0.63 + 0.125)/1.25 = 60.4%

Questionnaire survey methodology

Purpose

Approach to sampling

1 The purpose of the questionnaire was to collect information from institutions on the vaue of the additional direct and indirect costs achieved under the dual support arrangements since 1 August 1992 compared with what might have been achieved from the arrangements which were in place prior to that date.

Approach to sampling

2 We asked institutions in receipt of research council grants under the dual support arrangements to complete a questionnaire for grants awarded in the 1993/95 award period (1 August 1993 to 31 July 1994) and in the 1994/95 award period (1 August 1994 to end January 1995 - the date of the questionnaire). The questionnaire was distributed to all higher education institutions in the UK, a total of 170 institutions in all.

3 We asked institutions to provide information for all grants awarded with a start date during the relevant periods. Where information on all grants was not available, we asked institutions to provide it for a sample of at least 25 grants in each of the relevant periods.

4 Institutions were asked to select their samples with a view to ensuring that all research councils represented at the institution were covered, together with a mix of subjects and grant types eg both research council funded and co-funded schemes. Institutions were also asked to include both capital equipment intensive and staff intensive grants and a distribution of grant sizes covering, as far as possible, small grants (defined as awards of less than £100,000), medium sized grants (between £100,000 and £500,000) and large grants (in excess of £500,000).

Information sought in the questionnaire

5 The questionnaire asked for details of the costs applied for on the selected sample of grants and of the amounts subsequently awarded. Institutions were asked to allocate costs across the following categories:

- research assistants;
- pre transfer technicians - ie those technician costs that would have been funded by the research councils pre-transfer;

- post transfer technician costs - ie those costs that became the responsibility of the research councils post transfer;

- other staff costs funded as direct costs - the secretarial and admin support, assumed for the purpose of this exercise to be "new style" costs;

- travel and subsistence costs;

- pre transfer equipment and consumables - ie those items that would have been funded by the research councils pre-transfer;

- post transfer equipment and consumables costs - ie those items that became the responsibility of the research councils post-transfer;

- exceptional items.

6 In addition we asked institutions to provide brief comments on:

- the impact of the transfer on the institution as a whole - including any hard information on the extent to which additional direct and indirect costs have been recovered;

- the extent to which the original objectives of the transfer have been achieved to improve clarity of research funding and to increase awareness of the true costs of research.

7 A copy of the questionnaire and the detailed notes for completion is attached at Annex III.

Response to the questionnaire

8 We received responses from 91 institutions. Most of those that did not respond were colleges of higher education which did not have any research council funded activity. A list of the institutions that responded is shown at Annex IV.

9 The number of grants for which we received a complete set of data was as follows.[1]

[1] A number of institutions returned questionnaires that were incomplete. These were excluded from the sample before the analysis was carried out.

Table 1: Number of grants sampled

Research Council	1993/94		1994/95	
	Number of Grants	Value £'000	Number of Grants	Value £'000
BBSRC	152	26,610	140	18,407
EPSRC	936	145,326	598	69,735
ESRC	192	13,916	117	9,620
MRC	274	61,225	168	28,952
NERC	145	11,254	82	6,459
PPARC	44	16,945	40	13,808
Total	1,743	275,279	1,152	146,980

10 Table 2 compares the number and value of awards sampled for 1993/94 with the total number and value of awards made. This shows that for 1993/94 our sample represented about 50% of the total.

Table 2: Size of sample compared to total new awards for 1993/94

Research Council	Sample		Total New Awards		Percentage	
	Number of Grants	£'000	Number of Grants	£'000	Grants	Value
BBSRC	152	26,610	207	26,500	71%	*[1]
EPSRC	936	145,326	2,199	303,042	43%	48%
ESRC	192	13,916	438	28,351	44%	49%
MRC	274	61,225	473	92,822	60%	66%
NERC	145	11,254	155	16,308	93%	70%
PPARC	44	16,945	234	77,963	19%	22%
Total	1,743	275,279	3,706	544,986	47%	51%

[1] In 1993/94 a number of the grants now administered by BBSRC were the responsibility of the former SERC. We have attempted to allocate the SERC grants in our sample to the current relevant research council, but as the details provided about the grants were limited this has not been easy to do particularly for ex SERC grants now the responsibility of BBSRC. The BBSRC figure shown here for our sample, therefore probably includes a number of grants which should properly be included in the EPSRC figures. This explains the apparently high percentage by value of BBSRC grants sampled.

Annex III

University ______________________

Coopers & Lybrand questionnaire - Dual support transfer

Part A:

Award year 1993/94

Applications

Research Council	Panel name	Grant Ref	Grant Application Date	Duration	Staff costs					Non staff costs				40% addition to staff cost	Grant total
					Research Assistants cost	"old style" Technical staff cost	"new style" technical staff cost	Other staff cost	Total staff cost	Travel & subsistence	"old style" equipment & consumables cost	"new style" equipment & consumables cost	Exceptional items		
									0					0	0
									0					0	0
									0					0	0
									0					0	0
									0					0	0
									0					0	0
									0					0	0
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									0					0	0
									0					0	0
									0					0	0
									0					0	0
Total for sample					0	0	0	0	0	0	0	0	0	0	0

University ______________________

Coopers & Lybrand questionnaire - Dual support transfer

Part B:
Award year 1993/94

Awards

Research Council	Panel name	Grant Ref	Grant Application Date	Duration	Staff costs					Non staff costs				40% addition to staff cost	Grant total
					Research Assistants cost	"old style" Technical staff cost	"new style" technical staff cost	Other staff cost	Total staff cost	Travel & subsistence	"old style" equipment & consumables cost	"new style" equipment & consumables cost	Exceptional items		
									0					0	0
									0					0	0
									0					0	0
									0					0	0
									0					0	0
									0					0	0
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									0					0	0
Total for sample					0	0	0	0	0	0	0	0	0	0	0

University ______________________________

Coopers & Lybrand questionnaire - Dual support transfer

Part C:
Award year 1994/95

Applications

Research Council	Panel name	Grant Ref	Grant Application Date	Duration	Staff costs					Non staff costs				40% addition to staff cost	Grant total
					Research Assistants cost	"old style" Technical staff cost	"new style" technical staff cost	Other staff cost	Total staff cost	Travel & subsistence	"old style" equipment & consumables cost	"new style" equipment & consumables cost	Exceptional items		
									0					0	0
									0					0	0
									0					0	0
									0					0	0
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									0					0	0
									0					0	0
Total for sample					0	0	0	0	0	0	0	0	0	0	0

University ____

Coopers & Lybrand questionnaire - Dual support transfer

Part D:
Award year 1994/95

Awards

Research Council	Panel name	Grant Ref	Grant Application Date	Duration	Staff costs					Non staff costs				40% addition to staff cost	Grant total
					Research Assistants cost	"old style" Technical staff cost	"new style" technical staff cost	Other staff cost	Total staff cost	Travel & subsistence	"old style" equipment & consumables cost	"new style" equipment & consumables cost	Exceptional items		
									0					0	0
									0					0	0
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									0					0	0
									0					0	0
Total for sample					0	0	0	0	0	0	0	0	0	0	0

Universities and colleges of higher education which replied to the questionnaire

Aberdeen
Anglia
Aston
Bath
Birmingham
Bradford
Brighton
Bristol
Brunel
Cambridge
Central Lancashire
City
de Montfort
Derby
East Anglia
East Lancashire CHE
Eastman Dental Institute
Edinburgh
Essex
Glasgow
Goldsmiths
Greenwich
Heriot Watt
Hertfordshire
Huddersfield
Hull
Inst of Education
Inst of Neurology
Inst Child Health
Imperial
Keele
Kent
Kings
Lancaster
London Business School
Leeds
Leeds Metropolitan
Leicester
London Hospital Medical School
Liverpool
Loughborough
LSEPS
London School of Hygiene and Typical Medicine
Manchester

Napier University
Nene College
Newcastle
North East Wales Institute
Nottingham
Northumbria
Open University
Oxford
Oxford Brookes
Portsmouth
Queens Belfast
Reading
Robert Gordon
Royal Holloway
Royal Veterinary
Royal Postgraduate Medical School
Salford
Sheffield
Sheffield Hallam
School of Oriental and African Studies
Southampton
St Andrews
St Bartholomews Medical College
St Georges Medical School
Staffordshire
Stirling
Strathclyde
Sunderland
Surrey
Sussex
Teeside
Trent
Univ Wales (Aberystwyth)
Univ Wales (Bangor)
Univ Wales (Cardiff)
Univ Wales (Med School)
Univ Wales (Swansea)
University of the West of England
University College London
Ulster
United Medical and Dental School
UMIST
Warwick
Westminster
Wolverhampton
Wye
York
Total 91 Institutions

Office of Science and Technology
Albany House 84-86 Petty France London SW1H 9ST
Telephone 0171 270 1234 Direct Line 0171 271 Fax 0171 271

To: **All recipients of the Coopers & Lybrand report on the the dual support transfer**

From: **The Chief Scientific Adviser**

1. I am writing to share with you some thoughts I had on reading the consultants' report. I should like to highlight some issues which are raised by the consultants' report and which in my view, based on my experience of the US system (as Vice-President for Research at Princeton University for 11 years), bear further examination/airing.

2. To begin with, I wonder about the point made in paragraph 30 of the Executive Summary and further developed in paragraphs 87-91 of Appendix D. If there has indeed been a tendency to apply for new staff (as RAs) rather than for the support of existing staff (eg technicians) for individual projects, or to substitute specific equipment for tasks previously carried out by technical support staff, then in this respect one can argue that the volume of research supported by the Research Councils at institutions has not changed, and that therefore the transfer has been neutral. It has not, however, been neutral for the institutions, who, as the report says, are potentially "left with a group of technicians on permanent contracts, for whom there is no specific funding either from the research councils or funding councils". This to me is a different problem and requires a different solution from those suggested by the consultants which focus on dealing with a breach of volume neutrality.

3. Secondly, UK institutions do not strike me as being as sophisticated as their US counterparts, and I would like to explore the consequences of this relative lack of sophistication. Could it be that institutions have allowed principal investigators to follow what I believe to be their natural instincts to maximise the funding flowing directly into their laboratories for the direct costs of research, without due regard to infrastructural needs? Institutions are well aware of the need for adequate underpinning research infrastructure, but have they been sufficiently vigilant with their principal investigators' applications? Should institutions as a result of the review of the dual support transfer be required to manage their research more thoughtfully? A place like Princeton put some effort into addressing these issues effectively, but with as little fuss as possible.

4. Finally, I consider that calculating the contribution towards indirect costs as a percentage of staff costs encourages principal investigators to ask for staff in preference to non-staff costs, and I would suggest that indirect costs might be calculated as a percentage of total direct costs (modified to exclude major items of equipment, say over £10,000).

Sir Robert May
January 1996

Office of Science and Technology
Albany House 84-86 Petty France London SW1H 9ST

Department of Trade and Industry

CVCP
Committee of Vice-Chancellors and Principals of the Universities of the United Kingdom

29 Tavistock Square London WC1H 9EZ

Review of the Dual Support Transfer: a report by Coopers & Lybrand

Action: For consideration and discussion, and for responses by institutions and other bodies to Philippa Lloyd at OST by 29 February 1996.

Of interest to: Vice-Chancellors and Principals, Pro-Vice-Chancellors, Directors of Research, Directors of Finance, Planning Officers, Heads of Departments, Principal Investigators, and learned societies.

Summary: Comments are invited on the attached report by Coopers & Lybrand on the operation of the current funding arrangements for Research Council sponsored research in higher education institutions.

Attached: Report by Coopers & Lybrand

Enquiries to and additional copies available from: Michael Powell at CVCP Tel: 0171 387 9231; Fax: 0171 388 8649
Philippa Lloyd at OST Tel: 0171 271 2011; Fax: 0171 271 2016

1. **Comments are invited by 29 February 1996** on the attached report and particularly on the issues summarised at the end of Chapters II to V of the main report.

2. Your attention is drawn to the section on financial neutrality, and the results of the survey of higher education institutions and examination of Research Council data (Chapter III of the report and Appendix D).

3. The Research Councils demonstrated to the consultants' satisfaction that the funds transferred to the Research Councils have been returned to the HE sector. The total amount of grant expenditure distributed to higher education institutions in 1992-93, 1993-94 and 1994-95 was significantly higher than the minimum to which they were committed by the Secretary of State at the time of the transfer.

4. Despite this, from a survey of grant data submitted by 91 institutions, the report shows that in comparison with what was anticipated at the time of the transfer:

   a. principal investigators are applying for and being awarded proportionally less **additional** direct costs than anticipated at the time of the transfer. These additional direct costs are referred to in the report as **post-transfer costs;**

   b. more of the transferred funds are being spent on the direct costs (eg research assistants) for which Research Councils were responsible before the transfer and for which they are still responsible (referred to in the report as **pre-transfer costs**);

   c. less is being spent on **infrastructural costs** (eg technicians) than expected.

5. The consultants conclude from their analysis that the volume of research activity has increased in higher education institutions as a result of the transfer, and that therefore the effect of the transfer has not been neutral.

6. The consultants consider that the most likely explanation for the shortfall in the demand for post-transfer costs is that the original transfer assumptions may not have held true because:

   a. the average level of post-transfer direct costs was overestimated in the original calculation of the amount to be transferred, and that consequently more was transferred in respect of direct costs than was being spent on those costs from the Funding Council block grant;

   and

   b. the balance between pre- and post-transfer direct costs may have changed, reflecting either a change in the nature of research or estimates from principal investigators which do not take full account of the intended change in responsibility for costs.

7. Views are particularly sought on how to achieve the intended neutrality of the dual support transfer. Options discussed in the report are either a transfer of funds from the Research Councils back to the Funding Councils to be added to the research block grant; or an increase in the level of the percentage addition presently added to staff costs for indirect costs; or some combination of these two options.

8. The Research Councils and Funding Councils are keen to work together with institutions to address this issue. Views would be welcomed on possible specific steps that might be taken, including those discussed in the report.

9. Any action taken is likely to result in a reduction in the number of Research Council grants and an increase in the amount of infrastructural support available in higher education institutions.

10. As background we attach the membership of the Steering Group which oversaw the consultants' work, and a copy of the Secretary of State's letter of 20 November 1991.

PHILIPPA LLOYD & MICHAEL POWELL

Office of Science & Technology
DTI, Albany House
Petty France
London SW1H 9ST

Committee of Vice-Chancellors and Principals
29 Tavistock Square
London
WC1H 9EZ

REVIEW OF DUAL SUPPORT TRANSFER

STEERING GROUP MEMBERS

NAME	ORGANISATION
Dr Keith Root	Chair (OST)
Ms Katherine Fleay	Department for Education (DFE)
Mr Peter Holmes	Department of Education, Northern Ireland (DENI)
Mr Tom Kelly	Scottish Office (SO)
Mr Derek Adams	Welsh Office (WO)
Ms Alice Frost	Higher Education Funding Council for England (HEFCE)
Dr Rowland Wynne	Higher Education Funding Council for Wales (HEFCW)
Ms Morag Campbell	Scottish Higher Education Funding Council (SHEFC)
Mr Scott Lawrie	Biotechnology & Biological Sciences Research Council (BBSRC)
Dr Geoff Richards	Engineering & Physical Sciences Research Council (EPSRC)
Mr Glyn Davies	Economic & Social Research Council (ESRC)
Mr Nick Winterton	Medical Research Council (MRC)
Prof Bryan Ellis	Natural Environment Research Council (NERC)
Mr Jeff Down	Particle Physics & Astronomy Research Council (PPARC)
Dr Peter Mathias	The British Academy
Ms Marilyn Gallyer	University College London
Mr Tony Knapp	University of Surrey
Mr James Wright	Vice-Chancellor, University of Newcastle
Prof Arbuthnott	Principal, Strathclyde University
Ms Rachel Tobell	The Royal Society
Sir Lewis Robertson	The Royal Society of Edinburgh

SECRETARIAT

Dr Philippa Lloyd	(OST)
Mr Michael Powell	Committee of Vice-Chancellors and Principals (CVCP)

ANNEX A.

ELIZABETH HOUSE YORK ROAD LONDON SE1 7PH
TELEPHONE 071-934 9000

The Rt Hon KENNETH CLARKE QC MP

Sir David Phillips KBE FRS
Chairman
Advisory Board for the Research Councils
Elizabeth House
York Road
LONDON SE1 7PH

Dear David,

20 NOV 1991

MONITORING OF THE NEW DUAL SUPPORT ARRANGEMENTS

In my letter to you of 6 November on provision for science 1992-93 to 1994-95, I gave details of the sums which had been added to the science budget to allow for the additional costs to the Research Councils and Royal Society of the new dual support arrangements.

I noted my intention that the shift in the boundary of responsibilities within the dual support system should not lead to any change in the volume of research which Research Councils sponsor in Higher Education Institutions. I said that I would be looking for clear evidence that the sums transferred were being used for the purpose for which they were intended; and invited the Board's assistance in achieving that objective.

It may help the Board if I spell out in more detail the calculation underlying the additional provision now made available and the kind of evidence I will expect to see in future reports on the way in which these funds are being spent.

In estimating the costs to the Research Councils of the new dual support arrangements, the starting point was the joint HORCs/CVCP Report which you forwarded to me earlier this year. The report estimated the additional direct and indirect costs which would flow from each £ of grant support in moving from the current to the new boundary.

It assumed that by 1993-94 the Research Councils would be spending approximately £270m on supporting grants to Higher Education Institutions; on this basis the HORCs estimated that the additional costs to them of the new boundary would be £150m in a full year. Your letter to me of 15 May confirmed the Board's view that a transfer of this size was required.

The additions to the science budget notified in my last letter are based on these calculations, allowing for the phasing in of the new arrangements. The calculation is illustrated in the simplified model at Annex A. The figures for the total planned Research Council grants in each of the three years are based on the figures supplied to the Department by Council finance officers and reflect Councils' plans for baseline expenditure put to the Department and the ABRC earlier this year.

The additional sums now made available are predicated on the assumption that Councils will at least maintain the volume of HEI work which they had planned to support under the old arrangements. The monitoring I now expect to see will therefore need to relate to the total grant spend of Councils under the new arrangements - ie the baseline figures used to calculate the transfer and costed on the old basis, plus the transferred sums representing the additional costs of that volume of work under the new arrangements.

The run of cash figures for each of the three PES years is as follows:

	1992-93 £m	1993-94 £m	1994-95 £m
Planned grants (old arrangements)	256	265	273
Additional costs of new arrangements for this volume of work	48	125	154
Total expected grant support (new arrangements)	304	390	427

I will be looking at Councils plans' to see that collectively their planned spending on grants to HEIs is maintained at or above this level. I recognise that to achieve this objective individual Research Councils will need to consider their priorities carefully. There may also be circumstances where some variation is justified on wider grounds; that would need to be considered on its merits at the time, and I would welcome the Board's advice should such circumstances arise.

K CLARKE

ANNEX A

PHASING IN OF DUAL SUPPORT TRANSFER (simplified model)

		1992-93	1993-94	1994-95
A.	Total Research Council/ Royal Society Grants (planned spending from baseline under old arrangements) £m	256	265	273
B.	of which, approx % new grants (ie grants starting after 1 August 1992)	40%	70%	100%
C.	New grants (B% of A) £m	100	186	273
D.	Additional direct costs £m (25% of C, as indicated by joint HORCs/CVCP report)	25	47	68
E.	Total direct costs (A + D) £m	281	312	341
F.	Pay element (63%) of E £m	177	196	215
G.	Additional indirect cost (40% of F) £m	71	78	86
H.	Total additional cost (full year)(D + G)	96	125	154
I.	Part year effect in year 1 (50%)	48		