



The Save British Science Society

SUPPORTING SCIENCE & THE APPLICATIONS OF SCIENCE

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Creating a sustainable career structure for young research scientists

SBS memorandum to the House of Commons Science & Technology Committee's Inquiry into Short Term Contracts

1. SBS is pleased to submit this response to the Committee's Inquiry into the use of short-term contracts in science and engineering. SBS is a voluntary organisation campaigning for the health of science and technology throughout UK society, and is supported by 1,500 individual members, and some 70 institutional members, including universities, learned societies, venture capitalists, financiers, industrial companies and publishers.

2. In addition to submitting this evidence, SBS has, at the suggestion of the Committee, circulated the call for evidence via electronic mail to many of the Society's members, requesting submissions from those who have direct experience of either employing people on short-term contracts or of being employed on them.

3. Our response follows the set of questions outlined in the call for evidence.

Does the preponderance of short-term contracts really matter? Why?

4. Yes.

5. In the abstract, there is nothing wrong with people from any workforce being on short-term contracts. Moreover, the increase in the use of such contracts in science and engineering has largely mirrored a more general trend in the labour market. Many workers in the City of London, for example, are employed on short-term contracts or under equivalent terms.

6. The problem for the academic research base is that the publicly-funded core – what used to be called the “well-found laboratory” – is no longer strong enough to bear the problems that accompany a preponderance of short-term contracts.

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7. For bright, active, young researchers, one or two short-term contracts may be a good way of allowing the opportunity to develop an independent research career without being too strongly tied to a single group or institution over a long period. But the system only works if the inevitable gaps between contracts can be filled from core funds, and if there is a reasonable chance of a more secure, longer term career in the future.

8. Because the growth of resources of the Funding Council leg of research investment (from which the core, well-found laboratory is supposed to be funded) has not kept pace with the growth of the Science Budget (which funds short-term grants) universities now find that their core budget is already so strained (implementing health and safety regulations, employing technicians etc.) that there is precious little money with which to bridge gaps between short-term contracts or with which to make forward commitments of employment to contract research staff.

9. In 1986, for every £1.00 of Research Council investment (mainly in short-term grants), universities received an average of £1.27 in core funding, a small percentage of which was used to ameliorate the negative consequences of the otherwise valuable system of short-term postdoctoral contracts. The equivalent figure today is 55p of core funding for every £1.00 of Research Council investment.ⁱ These core resources are spread so thinly that university administrators can no longer afford to relieve the negative effects of the short-term contract system.

10. This means that when postdoctoral researchers find themselves with temporary gaps in their employment, through no fault of their own (for example because the Natural Environment Research Council has cancelled an entire round of grants)ⁱⁱ, there is no leeway in the system.

11. Unlike workers in many other industries that rely heavily on short-term contracts, postdoctoral researchers are badly remunerated, and do not receive large salaries to compensate for the high risk of redundancy that they run.

What are the implications for researchers and their careers?

12. In extreme cases, excellent researchers find themselves without a job at the time that should be the height of their productive research careers. Others spend a decade or more on short-term contracts, only to become disillusioned with the system when it becomes clear that there is unlikely ever to be a job for them on the academic payroll.

13. In other cases, researchers find difficulties in such areas as obtaining a mortgage, because they have almost no security of income.

14. Other effects include the wastage of a great deal of time, as excellent researchers are constantly applying for their next contract rather than getting on with the job of producing high quality research.

15. Young researchers wishing to take a career break, especially young women wanting to have children, rarely have the chance to become established in an academic post before doing so, which exacerbates the difficulties of rejoining the research community at a later date. This is a ridiculous waste of talent.

16. Although we know of no study that has examined the issue, SBS suspects that the demoralising effects of these problems can affect the outlook and performance of those researchers who remain within the science and engineering research base.

17. As well as the problems for individual researchers, other people within research groups suffer, as far too many postdoctoral researchers end up spending a high proportion of their time learning skills that would once have been the preserve of technicians, only to leave a year or so later, leaving a gap in the technical capability of the team that must be filled by yet another short-term postdoctoral researcher learning the same skills.

18. In short, if one were to design an efficient research base that was both fair and honest to its staff, and optimised the potential for producing good research, it would not have the preponderance of short-term contracts that typify the current UK system.

Is there evidence that the present situation causes good researchers to leave?

19. Yes, although it is difficult to disentangle the effects of short-term contracts from other reasons for leaving.

20. The evidence comes in three types, namely:

(i) Anecdotal evidence

21. Anecdotally, many young researchers report to SBS that they are either thinking about leaving research careers in the UK (either to go abroad or to leave research altogether) or have indeed left.

(ii) Statistical studies of recruitment and retention

22. Statistical studies show that, in general, many of the best young researchers leave UK science and that universities are having increasing difficulties recruiting good people.

23. As an example of the former, SBS carried out a detailed bibliometric study of those people who had been awarded doctoral degrees in 1988, and found that those who emigrated to the USA in the succeeding decade had, on average, been publishing work of a higher quality when they were still in the UK than their colleagues who had remained.ⁱⁱⁱ

24. As an example of evidence for difficulties in recruitment, an SBS survey of the UK Deans of Science found that 57% of universities had left posts unfilled or returned research grants because they could not attract candidates of the right calibre, and 37% had actually been forced to appoint people who were not really good enough.^{iv}

(ii) Direct surveys of researchers' opinions

25. When directly questioned, researchers report that insecurity and a lack of the prospect of a permanent job are major factors in contributing to their decision to leave research. In 1997, the Dearing Committee found that, of those who thought they might leave the Higher Education sector, 34% of Research Assistants and those on Research Fellowships gave as the **main** factor in their decision to leave that academia was too insecure or that there were not enough jobs.^v Combined, these two manifestations of the same problem formed by far the greatest single main factor.

26. This was a substantial change from 1986, when a similar survey found that job insecurity did not feature in the top five factors affecting decisions to leave academia.^{vi}

27. When Dearing performed his survey, something like 50% of all research staff in universities (including those engaged in teaching and research) were on short-term contracts. When the previous study was conducted, the figure was approximately 30%. Ten years earlier it had been nearer 20%.^{vii,viii}

28. In other words, as the proportion of contract staff has risen inexorably, because of a deliberate policy to shift the balance of funding away from the Funding Councils, so there has been a simultaneous and dramatic rise in the number of researchers who report that job insecurity leads them seriously to consider leaving research. Correlation does not prove causation, but few who work in the university system believe that these two trends are not inextricably linked.

What would be the right balance between contract and permanent research staff in universities and research institutions?

29. Given that short-term contracts have significant benefits at the early stages of a research career, it would be foolish to swing the pendulum too far back towards permanent posts. It would probably

be unwise to go back to the days when 80% of people involved in university research enjoyed tenure.

30. Given that job insecurity did not figure in the list of reasons for leaving research in 1986, when about 30% of those engaged in research had short-term contracts, it is reasonable to assume that this balance did not lead to the kind of problems that now seem to be common.

31. However, the growth of fellowships, and the trend evident in the recent Roberts Report^{ix} for policy to move further in this direction, introduces a third element into the balance. Fellowships add a significant new constraint into the mix of funding, because they generally carry either a formal or an informal expectation that the holder will eventually be given an academic post, thus potentially reducing the number of such posts available for those on short-term grant-funded contracts.

Has the Concordat and the Research Careers Initiative made any difference?

32. The Research Careers Initiative (RCI), following the Concordat on short-term research contracts has made steady progress in examining the problems and making recommendations.^x

33. However, the RCI cannot solve the underlying problem, which is that the distribution of funds via the different legs of the dual support system is badly skewed. Recent large increases in the budget of the Office of Science & Technology have been extremely welcome, but if the research system is to continue to produce the world-class product it has hitherto generated, these increases must be matched by additional funding for the Higher Education Funding Councils.

How should policy move forward?

34. A substantial element of the required policy is the need for the resources of the Higher Education Funding Councils to keep pace with those of the Research Councils. However unfashionable it may have become to say so, it remains true that sufficient unencumbered funds, for use at the local discretion of Vice Chancellors and Heads of Department, in tandem with directed funds from the Research Councils, are one of the mainstays of genuinely effective management of the science base. By continuing to attach too many strings to funds, and thus limiting local freedom to deal directly with the problems of short-term contracts, the existing funding mechanisms have created the problems we now see in the career structures of many young scientists.

35. The work of the Research Careers Initiative, and of the Roberts Review, in identifying key areas for concern and potential solutions, is

valuable, but those solutions will only work if the funding mechanisms are suitable for the job.

36. This is not, in itself, a call for **more** money for the science base (although more money is needed, as pointed out by the Select Committee in its report on the Research Assessment Exercise)^{xi}, but a return to the principles (if not the details) of the ways in which the dual support system used to work. Two years ago, the Treasury identified the dual support system as an “effective” part of funding the science base but concluded that “[t]here is a need to maintain balance...to minimise the risk of over-determining” the use of funds.^{xii} If this policy were actually implemented, the problems currently associated with short-term contracts would be very considerably lessened.

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Notes & References

ⁱ ***Forward Look 2001: Government-funded science, engineering & technology***, The Stationery Office London (2001).

ⁱⁱ ***The Times***, 23 May 2002.

ⁱⁱⁱ ***Nature***, 7 September 2000, p.13.

^{iv} ***Recruitment of researchers in university science departments***, SBS, 2000. [SBS 00/20].

^v Report Number 3 of ***Higher education in the learning society***, Report of the National Committee into Higher Education, Stationery Office, 1997.

^{vi} ***Report on factors affecting the recruitment and retention of non-clinical academic staff***, PA Personnel Services, 1986.

^{vii} ***Academic research careers for graduate scientists***, Fourth Report of the House of Lords Select Committee on Science & Technology, Session 1994-1995. [HL Paper 60].

^{viii} ***Policy forum on contract research***, Institute of Physics, 2001. [IoP Policy Paper 2001/2].

^{ix} ***SET for Success: The supply of people with science, technology, engineering and mathematics skills***, HM Treasury, 2002.

^x SBS has a relevant interest to declare: the Chairman of the Executive Committee of SBS, Professor Richard Joyner, is a member of the Research Careers Initiative.

^{xi} ***The Research Assessment Exercise***, Second report of the House of Commons Science & Technology Committee, Session 2001-2002. [HoC 507]

^{xii} ***Cross-cutting study of science research funding: Analysis, arguments, and proposals***, HM Treasury, 2000.