

# Academic prospects in the 1990s

Richard Pearson

Traditional academic opportunities and freedoms are not the flavour of the nineties in Britain. What, then are the prospects?

EXPENDITURE on research in the United Kingdom appears to be on the rise again although the extent that funding increases in the public sector represent a real resource increase is debatable.

The level of new job opportunities in research is of course not just a function of expenditure. It also depends on how these funds are allocated between capital and staff costs, and the balance going to different types of employment and, in the case of the research councils, the amount going to postgraduate training. To assess future recruitment opportunities account also has to be taken of the age structure of the existing workforce, likely retirements, and movements to other types of work.

Higher education is still the key source of jobs for academics and at present student numbers is the key variable affecting its budget. Although these are forecast to grow in the next few years costs are continuing to be squeezed and staff: student ratios reduced. With further restructuring needed, the universities have been forecasting a further decline in overall staffing on permanent contracts over the period to 1991. As the expectations are for no massive growth in student numbers over the next decade (*Nature* 339, 80; 1989) the likelihood is that staffing levels will at best remain constant during the 1990s with the possibility of further decline.

## Recruitment

Data and models are available which allow us to project future recruitment levels to the universities which in the United Kingdom employ just over 20,000 permanent staff in science-related areas (see figure). To do this we have to make assumptions about overall staffing levels, age specific retirement and wastage rates and combine these with the known age structure, which is decidedly middle aged. Assuming future loss rates follow those of recent years, and no growth in overall staffing levels, we find that recruitment to the universities in the science related areas will grow over the next two decades by a quarter. However, this only represents an increase in job opportunities of about 400 jobs per annum. Indeed in the early 1990s we can only expect intakes to rise by less than 10 per cent to just over 800 per annum with a further increase to nearly 1,000 per annum in the second half of the 1990s.

At a more specific subject level we see recruitment to engineering and tech-

nology rising from about 150 per annum to just over 200 per annum by the end of the century while recruitment to the sciences is likely to grow at a rather faster rate because of an older age structure and likely lower voluntary wastage rates (see figure). The key influence on future intakes is likely to be the nature of retirement policies. Injections of new posts via a new blood type scheme will have to be massive and regular to have a major affect on job opportunities. Unfortunately,

Annual intakes to university science-related posts

	1986-90	91-95	96-00	01-05
Total*	740	825	995	1184
Engineers/ technology	150	175	205	230
Sciences	270	310	405	490

\*Totals include medicine; agriculture, administration, business and social sciences.

similar data are not available for the polytechnic sector, but their age structure suggests that they are unlikely to see significant overall increase in recruitment in the short-term.

While the universities have been reducing the number of their permanent staff there has, however, been a corresponding rise in the numbers on short-term contracts who now account for 1 in 3 academic staff. This reflects a number of changes. First, the rising levels of private sector funding, principally from industry and the charities, the latter being particularly important funders of medical related research. Second, the more general switch away from long-term to contract specific funding by the research councils and other public sector bodies. And finally, policy decisions by universities, and polytechnics, to move away from tenured to short-term contracts so that staffing can be adjusted in the light of changing funding priorities.

The research councils between them directly employ over 7,000 research staff in their establishments, the largest employers being the AFRC although they, along with NERC, have seen significant staff reductions in recent years. These are expected to continue into the future and staffing in this sector is expected to have fallen by about a further 10 per cent over the five years to 1991 despite the rising level of their cash grants. Here again, there is a shift to more short-term contract staff to allow for the rising proportion of short-term funding and to enable staffing to be adjusted in the light of changing

funding levels and priorities.

In the government establishments the pattern is one of retrenchment with a general shift toward a more explicit customer contractor relationship and away from core towards shorter-term funding horizons. Much of the limited recruitment that does take place is also likely to be on a contract basis. They are also being set up to compete for private sector contracts and in some cases privatisation.

In the private sector the picture is less clear with more of an overlap between research and development, but it is clear that many companies are funding pure research with, for example, major expansions being announced by ICI and Glaxo in the pharmaceutical sector while Hitachi have just announced a new laboratory linked in with the Cavendish at Cambridge. The flourishing of the science parks is further testimony to the growing private sector involvement in research although the parks embrace a wide range of activities including marketing, production and development as well as research. We are also seeing a growing internationalisation of private sector research with US and Japanese companies setting up in the UK to access Europe, while some of the international electronics firms are setting up in the South of France offering a package of the latest facilities and good location which they believe will be attractive to the best researchers from throughout the world.

## Public and private

European Commission money through programmes such as ESPRIT as well as commercial considerations are also extending links across frontiers and between higher education and the private sector, further blurring organisational boundaries. In contrast to the public sector there is little evidence of a growing use of short-term contracts as these are seen as a deterrent to attracting the best staff.

In conclusion, we see a decline in academic research opportunities in the public sector with many of the new jobs, where they are available, being offered on a short-term contract basis. By way of contrast prospects are improving in the private sector where more permanent opportunities are on offer and with an increasingly international flavour although with potentially less academic freedom. □

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