

Fundamental Review of Research Policy and Funding

In a knowledge age, the creation, dissemination and application of knowledge is vital for the development of a more competitive and wealth creating nation. Success in fostering know-how intensive enterprises provides the wealth which makes possible a more civilised, just and caring society.

Universities are in the knowledge business and the UK needs each of them to be thriving centres of excellence with diverse missions that reflect their own strengths. The funding of higher education needs to provide:

- ❑ a level of resources adequate to support international excellence;
- ❑ a focus on supporting and developing excellence in all its various forms and hence encouraging diversity (involving the encouragement of partnerships and cooperation across the sector and with other organisations);
- ❑ support for the development of individuals (academics and students) who can through their own brainpower and entrepreneurship create wealth.
- ❑ a level of resources adequate to support international excellence;

Wealth via Knowledge Transfer

Research (original investigation leading to the extension of knowledge and understanding) is a core function of higher education. HEIs undertake most of the UK's long-term fundamental and strategic research. They also carry out applied and near-market research often in collaboration with industry, government and other bodies. Via consultancy, spin-off companies, enterprise and incubator units and in other ways they are directly involved in exploiting and developing knowledge in the marketplace including locally and regionally. They develop researchers who are recruited by industry and other organisations (including academia itself) and individuals who transmit knowledge into organisations or establish their own wealth creating businesses.

There are therefore a variety of ways in which knowledge as the fruits of research is transferred for the benefit of the wider community. The funding mechanisms need to recognise these various forms. They need to support and reward excellence in each avenue. Government invests taxpayers' money to develop the knowledge and expertise that will enable the UK to build its capabilities to address the future. It needs to have the assurance that funds have been invested to good effect and are likely to achieve that objective. It is in the interest of higher education to provide the evidence that will support an increasing volume of public (and indeed private and other) funding.

The Current RAE and Funding Regime

If knowledge transfer takes a variety of forms, then how far does the current funding of higher education recognise these and support the principles suggested above?

The RAE has been increasingly successful at focusing funds on centres of international research excellence. This concentration is something that CIHE has long supported. The focus on departments and groups of researchers wherever they may be is also to be welcomed. The funding regime must always encourage innovation and excellence wherever it may arise and must not be inflexible or exclusive to a group of institutions. Given the retrospective nature of the current RAE this will remain a challenge.

There is some evidence (eg. a recent study from Leeds University) that the RAE has helped raise the quality and focus of much research and encouraged additional private sector involvement. There is evidently a high correlation between public and commercial funding (higher than in the US where calls on alumni funding from certain struggling departments inhibits the process of rationalisation). Our private sector members consider that the UK has now drawn ahead of the US in some areas of research with a world leadership position. Equally members note the probability of substantial increases (of the order of 15%) in Government funding of research in the US and Japan and look to the UK Government to raise its investment in the knowledge base of the future.

CIHE also notes the historic under-funding of infrastructure (only partially met by recent Government action), the not unrelated desire of institutions to maximise the amount of research being undertaken apparently sometimes irrespective of the long-term benefits or the effect on declining researcher salaries. It reiterates its view that

- ❑ funding from whatever source should provide for the full direct and indirect costs associated with the research project and ensure that it is placed on a secure long-term footing;
- ❑ there will need to be a still greater focus on excellence and encouraging excellent graduates to engage in research even if that implies a reduction in the overall volume of research that the UK undertakes.

Equally there has been criticism that the RAE is by the nature of its peer group approach conservative. The Funding Councils will want to ensure an appropriate balance of younger academics, external businesspeople (including with an international perspective) and other advisors on the teams as one way of addressing this. The Government said some time ago that it wanted to see

"a process for assessing the quality of research which enhances quality and innovation and which is open to a greater degree of influence than peer review, drawing on research expertise from outside the UK universities where this is appropriate and can be done in a cost effective way". (The Learning Age 5.16)

The funding of cross-discipline teams will also want to be made easier and encouraged in an age when the traditional boundaries between disciplines are more permeable and when many societal issues in particular need a more holistic approach.

More fundamentally, some have argued that the dual approach to funding whereby Research Councils fund projects and the Funding Councils fund infrastructure is flawed because the latter's money merely chases the former but at vast bureaucratic cost. The resource costs do indeed appear considerable (current HEFCE research suggests that the total resource costs of the various forms of initiative funding is excessive). CIHE, however, supports the dual funding approach because:

- ❑ it encourages fundamental research and independent inquiry (even the sceptics accept that the link between fundamental research and wealth creation cannot be predicted and that speculative research is desirable)
- ❑ the HEFCE funds are not earmarked for specific purposes and are the only substantial form of discretionary funding currently available to an institution to develop new initiatives.

CIHE Concerns

CIHE is concerned that the various forms by which knowledge is developed and transferred (as noted above) are given appropriate recognition. The current RAE however

- ❑ over focuses on fundamental research
- ❑ over focuses in its evidence on articles in academic journals

The funding system needs to encourage the development, dissemination and application of knowledge in all its various forms (including those noted above). This requires developing relevant output measures and performance indicators. It implies funding against the achievement of those measures that are appropriate to the different missions of institutions (as reflected at the departmental level). It also suggests creating a balance between flexibility that will encourage change and longer-term funding, perhaps via a rolling five- year "contract" between the institution and the funding council, that will offer some reasonable stability and basis for longer-term planning and in-depth research.

Currently research funding via the RAE offers the only significant form of marginal and discretionary funding available to an institution. As such it is much sought after and achievement in the RAE has become the benchmark for much individual academic status, reward and promotion. The assessments for RAE are based to a large extent on articles in academic journals even though that indicator may not be the most appropriate for certain forms of research. Institutions and departments need to be judged on their own terms against their own missions through relevant output measures. The current RAE and wider funding approach does not achieve that.

Increasingly, however, relevant output measures are to hand. In the case of strategic research they might be:

- ❑ compatibility with the objectives of Foresight Panel programmes
- ❑ amount of private sector/charity/EU and other funds secured and renewed
- ❑ user perceptions and feed-through into applied research partnerships.

In the case of applied research they might be:

- ❑ compatibility with the regional strategies of the RDA
- ❑ the income derived from consultancy/IPR/spin-off companies/joint ventures and venture capital
- ❑ the number and quality of incubator and similar units established
- ❑ the number of and income from TCS/CASE and other Government and local schemes.

For the development of researchers, relevant criteria would include the acquisition of employability skills (including via work experience during their research).

Each mission needs to be valued. A department that sets out to raise the value-added in local companies through joint development work and knowledge transfer could well contribute as much to improving the international competitiveness of the nation as one engaged in blue-skies research. Both need to be valued.

The development of researchers and enabling them to contribute more to the organisations they will join is a particularly important objective that has not been given sufficient importance. CIHE considers that a substantial contribution to economic competitiveness and quality of life can be made through improving the quality of our human capital. Much knowledge transfer takes place through the movement of trained people. An emphasis on the appearance (or even use as Sir Robert May has proposed) of research articles and citations in academic journals does not capture or recognise this. Despite the charters of the Research Councils defining their two principle outputs as research results and trained people, the selection criteria for projects focuses on the former. The RAE has placed even less emphasis on this. It should reward the development of researchers and recognise their contribution to wealth creation through the skills and knowledge they are enabled to develop and transfer. There should also be recognition of the direct contribution they can make to wealth creation through entrepreneurial activity - including company start-ups.

A More Hands-Off Approach to Funding

This is not to argue for further initiative funding or the reduction of research and knowledge transfer funds into packages to be distributed according to specific output achievements. There is said to be initiative fatigue across higher education and the HEFCE work on the high resource costs involved in such an approach reinforces the view that an alternative funding regime needs to be considered.

CIHE has previously undertaken relevant work (eg. with Professor Gareth Williams) and will pursue ideas based on private sector experience that encourage:

- ❑ the analysis of strengths and setting of missions to build on those strengths
- ❑ the associated development of excellence in all its various forms
- ❑ the support of diverse departmental and institutional missions through a more hands-off block-grant approach to funding.

A modified RAE should play its part in a new more institutional and mission driven approach to supporting and encouraging diversity.