

Enlightening the Constitutional Debate – Science and Higher Education

17 October 2013

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Research Councils UK (RCUK) is, as the name suggests, a UK-wide organisation. Its seven autonomous Councils distribute grants and awards to recognised Research Organisations (ROs). These comprise UK universities, but also research institutes (which are sometimes wholly or partially-owned by individual Research Councils), and some independent bodies, such as major museums, known as Independent Research Organisations or IROs.

The grants are awarded on the basis of open competition and decided through peer review by appropriate expert researchers on a project-specific basis. They are thus not allocated on the basis of location, either geographic or political. The distribution that arises does so naturally as a function of quality. By and large, ROs located in Scotland achieve success at a rate and to an extent that is above what one might notionally think of as an even distribution across the UK. This recognises the distinctive excellence of Scottish research.

Research Council funding is one part of the UK's 'dual support' system for distributing government provision for research. The other part – so-called QR (Quality of Research) money – is distributed as outcomes of the UK-wide exercise currently called the Research Excellent Framework (REF) conducted on behalf of the funding bodies of England, Northern Ireland, Scotland and Wales by HEFCE. There is thus commonality of standards. But each of the separate UK administrations decides the nature and volume of the awards it makes through annual block grants to individual HEIs on the basis of their achievements in REF. Alongside this, additional funding is distributed through charities, learned societies, national academies and other UK-wide bodies (such as the Technology Strategy Board and UK Space Agency). A few of these – for example the Royal Society of Edinburgh – are location specific, but most are not. The principles of award however remain the same and are grounded in recognised excellence. Again Scotland performs well in these awards.

The key point is that this is an interlocking system – an 'ecology' in the current jargon – with complex interdependences. These include: (1) judgement of excellence according to common standards and methods used UK-wide which are largely unchallenged; (2) nuanced methods for distributing by volume at a devolved level. There is one other factor to add: almost all measures of calculating relative global performance in research rank the UK very highly. Across most disciplines UK-based researchers do exceptionally well whether in terms of citations or impact. The UK also does superbly in terms of value for money, out-performing everyone else in terms of the bang derived from each buck spent. There is good reason to believe that the current system of support delivers excellent outcomes, but also that efficiency and value for money is obtained in the aggregate and across administrative boundaries. There may therefore be a question as to whether further separation would adversely impact

this overall performance by reducing critical mass, adding an additional layer of complexity and/or disturbing the interactions of researchers across borders.

It is important to recognise the extent of joint activity between Scottish researchers and ROs and their counterparts and collaborators in other parts of the UK. If the system is currently interdependent in methods of funding and assessment, it is so crucially in terms of the processes of research. This includes the activities of collaborative teams and projects who work across administrative boundaries and individuals who do likewise over their careers and during their training.

Many researchers also share research facilities. RCUK has been eager of late to encourage facility and equipment sharing and this tendency, for reasons of efficiency as well as scientific stimulus, will accelerate as money becomes even tighter. Again, Scotland has been particularly strong in this respect, starting and maintaining Scotland-wide initiatives in facilities and training. But there are cross-border arrangements also. Then there are the so-called 'national facilities', such as those operated by the Science and Technology Facilities Council (STFC) or the Natural Environment Research Council (NERC). Run on behalf of all UK researchers, these are very expensive scientific facilities based within the UK (largely in England, for example in lasers or neutron scattering), or overseas through international subscriptions established by UK-wide agreements (for example, CERN or Southern hemisphere telescopes). Research quality is dependent upon access to these; affordability is dependent upon arrangements for shared cost.

Discussion of the possible consequences of Scottish independence need to weigh the flexible merits of a current system that, in some respects, can be nuanced to reflect devolved interests but relies on common standards and methods, shared facilities, ease of passage in careers and collaborative endeavor, and whose aggregate achievements are impressive. Disturbance of the ecology may carry risks to be discussed:

- How might independence affect the current infrastructure of facilities, personnel, careers and assessment?
- If there is increasing global competition, how will a dis-United Kingdom fare?
- If the dominant trend in research is for increasing partnership and collaborative work on a peer-to-peer basis, will separation of powers inhibit this?
- Will greater complexity and disaggregation help or hinder research policy, innovation and investment?