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The following essay outlines some of the major structures, policies, issues, and challenges in managing research and gaining research funding in the U.K., especially England. It follows up on a previous article about managing research in Australia. The funding bodies for higher education in the U.K. are separate in England, Northern Ireland, Scotland, and Wales, so direct comparisons are challenging, though there are some similarities and commonalities. If you find this article to be relevant or appealing, please write me so that the scope of interest can be gauged. [Miles G. Nicholls, [miles.nicholls@rmit.edu.au](mailto:miles.nicholls@rmit.edu.au)]

# The Management of Research and Research Funding in the U.K.

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There are a number of factors and agencies that influence research, research funding, and research output in the U.K. It is our contention that the focus is on research funding and outputs as opposed to research per se. It is hoped that this may become apparent in this feature. To avoid repetition, please note that this article refers to the U.K. unless otherwise stated.

Research outputs can take many forms. In general those of most value are refereed papers in good quality journals. Note that the papers do not necessarily need to be of good quality. The medium of publication tends to be the more important factor. One might argue that a good quality journal will publish good quality papers, and as a rule of thumb that is true. It is, however, a rule of thumb, and we have all seen papers of lesser quality in 'good' journals and papers of good quality in lower-ranked journals.

The potential and reality of research outputs are very much affected by the management of universities in general. All universities are equal but some are more equal than others. Research deliverables are strongly connected to teaching loads, and these loads vary enormously from institution to institution. Research

deliverables also vary enormously and more funding goes to universities with greater quantities and quality of deliverables. There are a number of structural factors that affect these issues and these should be understood if research and its management are to be understood. These structural factors are related to the development of universities, and a brief history of this development will be discussed in the next section.

## Brief History

The oldest university in the English-speaking world is Oxford, founded in 1167, with Cambridge founded in 1209 and St Andrews in 1410. The University of London was formed in 1836 (and was the first to admit women). Following this a number of civic universities were formed in the Victorian era, and these became known as the Redbrick universities. The original six Redbricks were Birmingham, Bristol, Leeds, Liverpool, Manchester, and Sheffield. Subsequently the term *Redbrick* has become more nebulous and would typically include pre-Robbins universities founded in the late 1940s and 1950s, such as Hull, Nottingham, and Southampton.

Following World War II, there were only nine universities and less than 1,000

full-time university students in Britain. Based on the Robbins Report on higher education in the early 1960s, a number of other universities (so-called Plateglass universities) were formed. These included Essex, Kent, Lancaster, and Warwick. The expansion of higher education in the 1960s also led to the formation of a number of polytechnics. These institutions' degrees were not self-regulated but were under the validation authority of the Council for National Academic Awards. In 1969 the Open University was formed to provide wider access and distance learning.

From 1992 the binary divide between polytechnics and universities was removed and polytechnics (with certain other higher education institutions) became universities. These institutions are often referred to as 'new universities,' though this term was originally applied to the Plateglass universities. There are now around 160 universities, 7 university colleges, and 30 colleges of higher education, which totals approximately 200 higher education institutions with degree-awarding powers. The term 'approximately' is used because the exact figure depends on how the count is done. For example, the University of London could count individually as one university, but London has a number of autonomous affiliates such as London School of Economics, Birkbeck, Goldsmiths, and London Business School. Each of these could also count as a university in its own right.

Given this diverse history, it is not surprising that there is a wide range of organizational structures and cultures across universities. This is compounded by an array of government agencies, with a plethora of remits. It is further compounded by huge disparities in institutional sizes, with the University of Buckingham having around 750 students, Abertay around 4,000 students, Coventry and Hull Universities around 19,000 students each, and the University of Manchester with around 40,000 students. The Open University is the largest with around 160,000 students, but is not directly comparable because of its scope and remit. The University of

London has around 135,000 students, but again is not directly comparable because of its structure. To add to the complication, governments, regardless of political party, have tended to introduce legislation that significantly affects the funding of universities and of their students, with the result that it is difficult to form coherent and cohesive strategies.

These structural issues create all sorts of challenges and tensions in the sector and will be discussed next.

### **Structures**

The following is a glossary of some structural features that are relevant to this article. How these affect research, research outputs and the management of research will emerge as the article progresses.

### **Student and University Funding**

The funding system in the U.K. has changed considerably over the past 20 years. Previously, students could receive government grants. Now, students must pay what are called 'top up fees,' but these are not necessarily payable on entry to a course. To complicate matters, students may receive government financial support through various means-tested schemes. In addition, international students pay full fees. 'Home' students are classed as those from anywhere within the European Community. There is a government-sponsored student loan scheme that assists home students with fees in various ways. It is too early to determine the impact of these funding differences, but it may be apparent that universities that tend to take students from higher socio-economic groups will be least affected by the changes. A counter to this is that those students who come from lower socio-economic groups are most supported by funding schemes, so universities that have a higher proportion from these groups will benefit.

Universities obtain HEFCE (see below) funding for each home (EC) student enrolled. International students pay full fees and no HECE funding is received for such students.

### **Student Staff Ratios and Teaching Versus Research**

Student Staff Ratios (SSRs) affect workloads. It is not simply the teaching of students that matters, but also the preparation, assessment, marking, and administration that matter. 'Administration' is used here in the British sense of clerical work rather than the American sense of management. SSRs vary enormously from institution to institution. Official figures show a range from 1:1 to around 30:1. The practice is different. Very often a new university may have a nominal SSR of 30:1, but the student experience is anything from 45:1 to 60:1. Why does this happen? Very simply, the SSR is calculated on nominal staff and students. If four full-time equivalent members of staff from a department of 15 are involved in other duties, such as program management, overseas delivery, timetabling, and so on, the reality is that only 11 members of staff are actually available to teach the students at the home institution. The official (nominal) calculation is based on all 15 members being available. The higher the SSR the more time members of staff have to spend on teaching and the less time there is available for research. Since research funding follows research outputs, the institutions that produce the research outputs gain higher research funding and those that do not get less. This tends to preserve the status quo.

### **Higher Education Statistics Agency**

The Higher Education Statistics Agency (HESA) was established as the central source for the collection and publication of higher education statistics. These include numbers of students, nature of students (gender, disability, etc), and performance indicators. Universities tend to have information systems that are geared towards providing this data. These information systems are not the same as those that might be required to support teaching and research. Typically, the information system that is used to provide HESA data is the one that will be used ostensibly to support academic work. There are obvious issues with this.

The Higher Education Information Database for Institutions (HEIDI) is a web-based management information service that provides quantitative data about higher education. HEIDI is run by HEFCE.

### **Higher Education Funding Council for England**

The Higher Education Funding Council for England (HEFCE) has been responsible for the distribution of funding to universities and colleges of higher and further education in England since 1992. In 2007-08 HEFCE allocated £7.1 billion in public funds from the U.K. government to universities and colleges in England. HEFCE funds the institutions and does not give grants or loans to individual students. It also helps develop and implement higher education policy. HEFCE's remit includes widening participation; developing links between higher education institutions and business and the community; and enhancing leadership, governance, and management within the sector. Unistats is a source of statistics that is run and owned by HEFCE.

### **Quality Assurance Agency**

The Quality Assurance Agency (QAA) has a remit to ensure the quality of education delivered in universities and other institutions of higher education. This is carried out by means of institutional and subject reviews. These reviews involve the production of self-evaluation documents by the institutions and audit visits of the institution by QAA auditors. The work involved in producing such documentation cannot be underestimated.

### **UCAS**

UCAS administers the centralized undergraduate admissions service, with over half a million potential students per annum. Potential students wishing to study for first degrees in the U.K. must apply through UCAS. This applies to all applicants, whether home or international students. Applicants submit a single application via UCAS with a list of up to five courses for which they are applying, in no order of preference. All five choices are confidential during

the application process so universities and colleges considering an application cannot see any of the candidate's other choices. Applications must be completed by the middle of the January of the year that the student wishes to start university (in September).

### **Research Councils**

There are seven research councils:

- Arts and Humanities Research Council
- Biotechnology and Biological Sciences Research Council
- Engineering and Physical Sciences Research Council
- Economic and Social Research Council
- Medical Research Council
- Natural Environment Research Council
- Science and Technology Facilities Council

The research councils are government agencies responsible for co-ordinating and funding their individual areas of research. They have a number of functions, but for academics a main area of interest is that they provide grants for research. These grants are competitive. Universities that have low SSRs, are funded well by RAE (see following section) and by previous research council grants have the resources and the reputation to make stronger cases. Universities with high SSRs and less of a track record find gaining research council grants difficult. The councils have a combined annual budget of around £2.8 billion. Of this over £1 billion is spent on research grants and training in higher education institutions. Research council grants currently support around 50,000 researchers through 18,000 grants, and about 8,000 PhDs are awarded annually as a result of their funding. The councils employ around 13,000 people directly, of which 9,000 are researchers and technicians working in institutes.

### **Research Assessment Exercise**

The Research Assessment Exercise (RAE) is undertaken approximately every five years on behalf of the four U.K. higher

education funding councils (HEFCE, SHEFC, HEFCEW, DELNI – England, Scotland, Wales, and Northern Ireland) to evaluate the quality of research undertaken by higher education institutions. RAE submissions from each unit of assessment (subject) are given a rank by a review panel. The rankings are used to inform the allocation of quality weighted research funding each higher education institution receives from its national funding council. The decision as to how funds will be allocated is taken after the rankings have been decided. Previous RAEs took place in 1986, 1989, 1992, 1996, and 2001. The current allocation is set for 2008 and the future is dependant upon government decisions.

One of the outcomes of the RAE is the way it affects the position of research-active staff in the U.K. For each RAE up to 2008, research outputs have been judged on the basis of four outputs (which in general terms may be journal papers, book chapters, or books) from each nominated member of staff. Clearly, any academic with four high-quality outputs is going to be of value to an institution, and a lot of effort goes into ensuring that staff have the requisite publications. While this may in many ways be seen as positive (encouraging quality and so on), it has also been argued that it can distort research in academia. In the simplest sense, this distortion can result from an overemphasis on quality outputs at the expense of other research activity to which the RAE gives less weight (for example, income from research projects), but at its worst it gives rise to the "poaching" of "high quality" researchers just prior to the RAE. Since research assessment is based on the outputs of those staff in post on a given date, the rewards for engaging staff just before an assessment date may be out of all proportion to the costs involved.

We know from our many contacts with researchers from other parts of the world that this is often seen as a very odd way of managing research!

### **European Community Funding**

European Community (EC) funding is largely considered via the Seventh

Framework Programme (FP7), which is the EC's main program for funding research over the period 2007 to 2013. It aims to:

- gain leadership in key scientific and technology areas,
- stimulate the creativity and excellence of European research,
- develop and strengthen the human potential of European research, and
- enhance research and innovation capacity throughout Europe.

The total budget for FP7, including the non-nuclear research of the Joint Research Centre, is 51 billion euros over seven years.

### **Individual Institutions**

The term 'faculty' is used here in the British sense of a group of cohesive academic departments rather than the American sense of a group of academically cohesive individuals.

Having provided some history and sector context, how is research managed in individual institutions? This is not a major problem for the older universities, in that they tend to do well in the RAE: they have significant reserves, funding opportunities come to those who already have funding, and the SSRs of older universities tend to be much lower than those of new universities with the concomitant enabling of time for research. As an indication of this, in new universities it would be typical that 15-25 percent of academic members of staff enter material for the RAE. In older universities this may be as much as 100 percent.

The issue for new universities is how to manage the relatively large SSRs and the lack of reserves, while attempting to encourage research outputs. This is not an easy task, but it does require a clear message from senior management and clear structures and lines of reporting. In fact, the messages are often mixed and the structures blurred. Research deliverables are often simply a matter of individual choice.

A typical new university structure would have something like the following: a vice chancellor, three pro vice-

chancellors, seven deans of faculty, four associate deans per faculty, eight heads of department within each faculty, and fifteen academic members of staff reporting to each head. In addition, the infrastructure will have various functions such as registry, marketing, international office, and so on. Each faculty will have a registrar, who might well report to the university registrar rather than to the dean. The associate dean for research will have a remit to deliver for RAE but will have no line management control over the members of staff who are to provide the outputs. To add to the complexity there will be research centers, with directors, located within faculties, which draw on departmental resources but with no means for the department to claim back any resource drawn in this way—with the result being that heads may well be inclined to hang on to their resources for teaching, rather than letting them go to engage in research.

To add to the challenges, the U.K. has a number of higher education league tables. Students and their parents and advisors are now very used to using these to help select a university. Typically league tables weight research highly, as a result of which students with higher entry grades will tend to go to the universities higher in the league table. The knock-on effect of this is to increase or maintain the position in the league table as entry points are also used to determine positioning. The higher the entry grades the more likely it is that students can work independently and the less teaching required. The converse is also true, and the new universities face the difficult challenge of freeing time for research while teaching less-motivated and less-qualified students.

### **Summary**

It is difficult to summarize what is a complicated historical and institutional mix. The history of the sector and its funding is such that bigger players remain as bigger players. New universities struggle to resource teaching and are caught between the desire to achieve research

outputs and the necessity to have someone in front of a class. The complexity of organizational structures within new universities exacerbates the situation, as does the confusion of mixed messages from senior management.

In essence, it is a very challenging area with very few new universities breaking through and the older universities using existing reserves and reputations to maintain their positions in the research hierarchy.

### **Related Links**

Individual university websites may be accessed by using

[www.universityname.ac.uk](http://www.universityname.ac.uk)

(e.g., [www.brunel.ac.uk](http://www.brunel.ac.uk)). Other sites that may be of interest include the following:

[www.qaa.ac.uk](http://www.qaa.ac.uk)

[www.hefce.ac.uk](http://www.hefce.ac.uk)

[www.cordis.lu](http://www.cordis.lu)

[www.rae.ac.uk](http://www.rae.ac.uk)

[www.ucas.ac.uk](http://www.ucas.ac.uk)

[www.hesa.ac.uk](http://www.hesa.ac.uk) ■

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[www.decisionsciences.org/annualmeeting/](http://www.decisionsciences.org/annualmeeting/)