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UK: A Regional Analysis

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RAE Results And Research Funding in the UK : A Regional Analysis

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Abstract

A considerable sum of money is allocated to UK universities on the basis of Research Assessment Exercise performance. In this paper we analyse the impact of the two main funding models on the intra-regional allocation of funds. We also examine the effect of regional safety nets and discuss the impact of their removal. The major conclusion is that the safety net delivers well for Wales but poorly for Scotland.

JEL Classification : I2 Education

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I. Introduction

British academia has a very proud research record, whether it be in the physical sciences, the social sciences or the arts. The benefits that flow from this work are considerable. Dwarfing the academic and national pride that stems from being among the world's research elite, several of these advances – such as Alexander Fleming's discovery of penicillin or Tim Berners-Lee's invention of the world wide web - have had major impacts upon everyday life. The economic benefits to British industry of a strong research base are difficult to calculate, but research is a fundamental requirement for the jobs of millions of British workers and supports British export efforts. For a range of industries from defence equipment (e.g. British Aerospace) to pharmaceuticals (e.g. GlaxoSmithKline) Britain has achieved a global presence far in excess of that which one might expect for a middle-ranking country.

A major contributor to Britain's research effort is its academic sector. The extent of this effort can be gauged by the fact that in the recent 2001 Research Assessment Exercise (RAE) the full-time equivalent of 48,021 researchers were submitted for this peer review process. UK universities receive the bulk of their income from public funds administered by the four UK funding councils¹. Much of this income is to pay for teaching. Nonetheless, a sizeable proportion of the total income universities receive from their respective funding council is to support research. In 2002-3 the UK's four funding councils provided more than £1bn support for academic research - £940m from HEFCE, £132m from SHEFC, £60m from HEFCW and £26m from DELNI – in the case of HEFCE this £940m constitutes 18.5% of the £5,076m it distributed to English universities (an increase of 5.9% on the figure for 2001-2).

¹ These funding councils are the Higher Education Funding Council for England (HEFCE), the Scottish Higher Education Funding Council (SHEFC), the Higher Education Funding Council for Wales (HEFCW) and the Department of Employment and Learning for Northern Ireland (DELNI).

It is therefore clear that research excellence matters to British academia - the race for research funding is being ever more hotly contested. But the government has made it clear that extra funds from the taxpayer will only be provided to public services (including universities) in return for definite and specific *improvements* in quality and quantity. In his statements to the Treasury Select Committee on 19th July 2002 Chancellor Gordon Brown made it clear that these additional funds (£61bn over the period 2003-6) were being provided to fund *improvements* in the public sector, not to reward public sector workers with higher wages for the work they already do².

In order to accurately evaluate improvement in the provision of public services (including the research efforts of British academics) there is a need for an effective measurement system. In primary and secondary education the government has introduced (controversial) league tables that focus on exam performance and other indicators of school performance, whilst in the National Health Service (NHS) the government awards NHS Trusts between zero and three stars depending on the extent to which they meet standards set by central government relating to performance indicators such as patient waiting lists, cancelled operations, clinical outcomes and cleanliness. The teaching component of a funding council's payment to a university depends on how closely it meets its negotiated target for taking EU students and on assessments of its teaching quality.

For evaluating the research activities of Britain's academics the funding councils utilise the

² The importance of the views of the political paymasters to the decision-making by the four funding councils cannot be over-stated. Adopting an independently-determined set of objectives could well put at risk the large increases in public funding the government has promised. This acquiescence by the funding councils is apparent in their publications; for example, SHEFC (2002) stated the main influences affecting its decisions on resource allocation, and listed first of all "*Scottish Executive policies and priorities for Higher Education in 2002-03*".

periodic RAE³. This exercise, most recently conducted in 2001 but covering the period 1996-2001, requires that all departments whose research output is to be evaluated are assigned to one of the sixty-nine ‘units of assessment’ (henceforth ‘*subject areas*’) identified by the funding councils, such as ‘Economics and Econometrics’, ‘History’, ‘Chemistry’ and ‘Pure Mathematics’. For each subject area a panel is constituted with the responsibility for attaching to each department submitted to its panel a qualitative assessment of that department’s research output, using the ascending scale 1, 2, 3b, 3a, 4, 5 and 5*. It is for each university to decide to which subject areas it will make a submission, and which of its staff will be submitted in those submissions. In the 2001 RAE there were a total of 2,598 submissions from the 173 institutions taking part in the exercise.

Each of the four funding councils awards research funds largely on the basis of research performance as measured on this seven-point qualitative scale, though there are important distinctions between them in terms of the specific relationship between RAE performance and funding. In each case political considerations play a crucial role in determining the link between funding and performance⁴.

It is this issue of how RAE performance – as measured by the RAE panels - is rewarded by research funding payments by the funding councils that is the focus of this paper. All funding councils insist on the principle of payment by quality but there is no unique way of constructing a mapping from RAE performance to payout which respects the payment by quality principle. As we have argued elsewhere (Chatterji & Seaman (2003)), different methods of operationalising the ‘payment by quality’ principle can lead to very different

³ The RAE is owned and controlled by the four funding councils.

⁴ Thus, for instance, SHEFC decided to remove all research funding from the pre-1992 departments scoring 3a or less in the 2001 RAE, though HEFCE decided that a large reduction (that still left some research funding for such departments) was a sufficient penalty. The more hard-line attitude on the part of SHEFC reflects the more marked pronouncements about supporting research *excellence* issued by the Scottish Executive.

payouts.

In this paper our primary concern is rather different. Institutions in the four regions are judged by common standards by the same RAE panels. However, when it comes to payout, the situation is very different. Each of the four funding councils sets its total payout level *independently*. There is no direct competition for research funds between institutions in Wales and those in Scotland, England or Northern Ireland. As far as payout is concerned, there is no inter-regional competition, only intra-regional competition.

At least two interpretations of this arrangement are possible. First, having four separate funds can act as a rudimentary safety net to ensure that the good universities in Scotland, Wales and N. Ireland still receive reasonable levels of research funding even though the large, globally-respected universities in England (e.g. Oxford, Cambridge, LSE) receive the kind of generous research funding that their excellent research output warrants. This is, however, nothing more than a limited safety net for the lesser stars of British academia since the other *English* universities are still competing with the aforementioned titans for their share of the *English* research fund.

Second, having independently-determined total payout levels for the four regions may reflect differing perceptions (on the part of the relevant funding council or its political paymaster) of the externalities that flow from academic research within their region. The greater and more localised are the positive externalities of academic research, the more willing will be the funding councils and their political paymasters to fund academic research more generously (thus, for example, SHEFC would be more willing to support Scottish academic research if in doing it was fostering the development of high-technology clusters within Scotland, but

would not be so willing if the benefits were distributed more widely across the UK). The link between academic research funding and local business development would be determined by the nature of academic research being undertaken and local business environment, including the sectoral composition of the local economy.

Whether or not safety-netting matters may well depend on which funding model is used. In this paper we focus on two funding models only – the one used by HEFCE⁵ and that used by SHEFC. We study the impact of imposing a level playing field with direct competition for research funding on a non-regional basis. The analysis is carried out using both HEFCE and SHEFC funding models. In Section 2 we outline the HEFCE and SHEFC funding models and show how they can be extended to produce funding allocations that have no regional safety net built into them. In Section 3 we use the RAE data to actually calculate payouts under an alternative level playing field model and compare them to the actual payouts based on regional safety nets. Section 4 concludes.

II. A General Funding Model

Given that the government's stated aim is to link research funding to research excellence, the main purpose of the research funding model adopted should be to provide an unambiguous mapping from the qualitative RAE scores to the consequent monetary payout. There has been very considerable debate, both within and outwith British academia, concerning the research funding outcomes of the current research funding models and the implications that are likely to follow for the development of Britain's academic sector. This debate has been all the more contentious in light of the government's aim (stated in its White Paper on Higher Education)

⁵ DELNI uses this 'HEFCE' method for allocating research funding to N. Ireland universities but does so on its separate research fund.

to concentrate research funding, and thus research itself, in a more limited set of universities than is currently the case. This has led to the real prospect of universities merging in order to achieve the scale required to keep research funds coming in, and the re-emergence of the stark dichotomy between ‘teaching-only’ universities and ‘research universities’ that existed prior to reform to Britain’s academic sector in 1992.

What has received much less attention is the issue of whether academic research, whether or not it is concentrated in fewer universities, should be funded in such a way as to ensure that it remains a UK-wide activity, or whether a ‘survival of the fittest’ environment (that allows the growth of research in some regions at the expense of research in other regions) could be used instead. Adopting a research funding model containing a single fund for which universities from across the UK would compete would be a significant move towards the ‘survival of the fittest’ environment. Whether such a move would be politically-acceptable given the recent devolution of power in Scotland, Wales and N. Ireland is another matter, and is outwith the scope of this paper. However, there is a need for policymakers (both politicians and funding councils) to be informed of the implications for research funding, and the location of research itself, and this important issue is the focus of this paper.

This paper utilises the two main research funding models used in the UK, the first by HEFCE (and DELNI) and the second by SHEFC. The detail of these two funding models is set out in Chatterji & Seaman (2003) and here we present only those elements necessary to develop our current argument.

Both HEFCE and SHEFC award research funds to subject areas based on what we might call ‘research funding points’; in its most general form the determination of research funding

points for subject area j (P_j) is given by:

$$P_j = Q_j \times V_j \times C_j, j = 1, 2, 3, \dots, J \quad \{1\}$$

where Q_j is relative quality index for subject area j , V_j is the volume indicator for subject area j , while C_j is the cost index for subject area j .

The relative quality index is a measure (derived from the RAE performance data) comparing the research quality of subject area j with the research quality of all the other subject areas in the RAE. The volume indicator depends primarily on the number of full-time academic staff submitted to the panel, though the number of postgraduate students and amount of research income will boost this figure modestly. The cost index is simply a crude way of factoring into the research funding allocation calculations the fact that research in some subjects areas (e.g. Physics) is more costly than in some other subject areas (e.g. Philosophy).

The main difference between the HEFCE and SHEFC models concerns the treatment of Q_j . In the SHEFC model this figure is calculated from the actual RAE performance data – thus, for each and every subject area SHEFC calculates how that subject area's quality compares to that of the other subject areas. An important (implicit) assumption in this method is that the different RAE panels score equivalent quality with equivalent RAE rankings, such that those submissions gaining a 5* in Physics are of equal quality as those submissions gaining a 5* in History; this may be the case but there is no evidence to prove it. HEFCE, on the other hand, sets Q_j equal to 1 for all the subject areas, implying that there are no differences in research quality between them (so, *average* research quality in Physics is the same as *average* research quality in History) and so avoiding potential problems associated with the above assumption.

Once P_j has been determined the payouts to the individual departments submitted (P_{ij}) can be calculated on the basis of their contribution to the subject area's research funding points, such that:

$$\sum_{i=1}^I P_{ij} = P_j \quad \{2\}$$

where i denotes the university from which the submission is made.

At this second stage all three of the right-hand-side terms in {1} are incorporated into the analysis, not just in the SHEFC model but also in the HEFCE model as well. Therefore, in the SHEFC model relative research quality affects both the payout to the subject area as a whole as well as the subsequent distribution of those research funds between the submissions made to that subject area panel. For the HEFCE model, however, relative research quality affects only the second stage in this process.

Now that the 'research funding points' for each submission have been calculated, the research funding won by each submission (S_{ij}) can be calculated as:

$$S_{ij} = \frac{P_{ij}}{\sum_{ij} P_{ij}} S \quad \{3\}$$

where S is the total research fund.

How does the distinction between the one UK-wide fund (presented above) and four separate regional funds factor into this analysis? There are two changes to the research funding models described above:

1. Rather than one UK-wide fund (S) there are four separate funds (S_E, S_S, S_W & S_{NI}). It is possible that the single fund is the aggregate of the four separate funds, but it does not need to be so – the size of each of the four separate funds is determined by that region’s funding council but for a UK-wide fund the decision wouldn’t lie solely with one of the existing funding councils. It is possible that the UK-wide fund would be proportional to the dominant (English) fund, but in the absence of an indication to the contrary we will assume in our empirical analysis that the UK-wide fund is simply the aggregation of the four regional funds.
2. With four regional funds there are four distinct, mutually-exclusive vectors (I_E, I_S, I_W & I_{NI}) of universities rather than the all-encompassing, UK-wide vector I ; naturally, it is the case that vector I encompasses the four region-specific vectors; when examining the distribution of the region-specific funds it is necessary to use the region-specific fund and the region-specific vector of universities.

The funding gains and losses for individual submissions (and hence, by aggregation, regions) arising from the move towards one UK-wide fund from the current region-specific funds fall under one of the following categories:

1. Submissions from institutions in regions with relatively more (less) generous research funding will lose (gain) research funds when competing for the less (more) generous

UK-wide fund.

2. Submissions from departments with higher (lower) quality research than submissions to the same RAE panel from the rest of the UK will gain (lose) research funds as a result of being able to increase their share of their subject area's research funding⁶.

The potential for dramatically changing the research funding of individual institutions, and in turn their respective regions, is greater in the smaller, non-English parts of the UK than is the case in England since (1) the UK-wide and the English-specific funds are likely to be broadly similar in terms of generosity and (2) there is less scope for English submissions to benefit as a result of having a relatively larger number of lower quality submissions from the other three regions. As in many aspects of British governance it would be the English dog wagging the Scottish, Welsh and N. Irish tails.

This completes our discussion of the two main research funding models currently used in the UK. The next section uses the 2001 RAE data to calculate the payouts that would result under the HEFCE and SHEFC models under the two scenarios we discussed above – a single UK-wide fund and four separate regional funds.

III. Empirical Analysis Of The Research Funding Implications Of The Two Scenarios

Table 1 below summarises the empirical results obtained when running our two scenarios (a

⁶ In the case of the HEFCE model in particular, this effect can be reinforced as follows; a quality submission from one of the non-English universities can result in significantly higher research funding for itself if the lower quality English submissions generate research funds for the subject area in the first stage of the process (since Q_j is set to one in $\{1\}$) but these English submissions benefit little from the distribution of research funds to the submissions (since at this second stage research quality, at the level of the submission, *does* matter).

UK-wide fund and four region-specific funds) under the HEFCE and SHEFC models⁷. Where we have separate regional funds it naturally follows that each region receives exactly those research funds that their respective funding council makes available. However, using a UK-wide funding scenario there are substantial changes in the funds on offer in different regions of the UK. Thus, for example, whether using the HEFCE or the SHEFC model England gains around £10m, while Scotland gains around £4m under the HEFCE model and it gains around £7m under the SHEFC model. Both Wales and N. Ireland lose heavily, irrespective of which model is used.

<Insert Table 1 Here>

It should be noted that these are aggregate flows of funds between the four regions, and that for each of the four regions the aggregate gains or losses are the net effect of combining gains and losses at the level of the subject area. Thus, though the focus of this paper is primarily on the aggregate regional flows of funds as a result of moving to a UK-wide fund, these numbers do not indicate the full extent to which such a move would impact upon the research activities of individual departments and individual universities. This is an issue we will return to later.

The full significance of these transfers of research funding are more apparent when expressed as a perception of the funds available under the existing regional funds scenario. These results are presented in Table 2 below. From this we can see that though English universities are the biggest gainers in absolute terms, this is only a small proportion (1%) of their overall funding. In relative terms the main winners from such a move would be Scottish universities for whom a UK-wide fund would increase funds by more than 3% under the HEFCE model

⁷ To operationalise the models we need to adopt a mapping from the qualitative RAE results to a cardinal scale. The results presented in this section use the mapping used by HEFCE; 1=0, 2=0, 3b=0, 3a=0.31, 4=1, 5=1.89, 5*=2.71. Furthermore, we also adopt the HEFCE cost index; low cost=1.0, medium cost=1.3, high cost=1.6.

and more than 5% under the SHEFC model.

<Insert Table 2 Here>

However, for Wales the funding implications of moving to a UK-wide fund would be serious, if not catastrophic. Their lost funding of £13m under the HEFCE model and £14m under the SHEFC model would amount to 22% and 23% respectively of their existing funding level. It is difficult to see how such a loss of funding would not severely diminish research activity in Welsh universities. For N. Ireland the move to a UK-wide fund would result in losses of £1m (4%) under the HEFCE model and £2.5m (10%) under the SHEFC model; though damaging these losses would not be the body blow that would impact upon Welsh academic research.

In Section II we identified two possible sources of gain/loss from moving to a UK-wide fund from the present situation of separate regional funds – namely, the UK-wide fund could be a more/less generous fund than the current regional fund you have access to, and you may be a stronger/weaker institution/region than the others you are joining in the UK-wide competition for funds.

Table 3 below seeks to shed some light onto these potential sources of gains and losses. For each of the four regions the table shows how many ‘research funding points’ were amassed (column 2), how generously these research funding points were funded in the actual payout (column 3) and the total payout (column 4). The figures are quite revealing, showing that a research funding point obtained £22,900 in funding from the generous Welsh funding council and a much more modest £18,194 from the less generous Scottish funding council. Thus, one of the reasons why a UK-wide fund is good (bad) for Scotland (Wales) is that their regional

funding council is less (more) generous than is typical for the UK (the Welsh funding rate is nearly 27% more generous than the Scottish funding rate).

<Insert Table 3 Here>

If all funding councils supported research at the same rate as HEFCE, then there would be nearly £17m more for the Scottish universities, more than £6m less for the Welsh universities and more than £1m more for N. Irish universities (giving an overall rise of just over £12m⁸).

However, in Section II we noted that there was also the potential for large transfers from one region to another when we moved to UK-wide competition for whatever funds were on offer. In Table 4 below we present a decomposition of the two effects using the HEFCE model. In column 2 we have our starting point – the actual funds distributed to each region. In column 3 we have those funds restated on the basis of £20,525 per research funding point (the average for England). In column 4 we calculate the funds on the basis of UK-wide competition for the UK-wide fund. In column 5 we calculate the difference between columns 3 and 4 (in absolute and percentage terms) which represents the effect of moving to UK-wide competition for the funds.

<Insert Table 4 Here>

A revealing pattern emerges from the results in Table 4. The concentration of the UK's world class institutions within England (e.g. Oxford, Cambridge, Imperial College, etc.) means that though there is no possibility of additional funding due to changes in the funding per research

⁸ This figure of just over £12m amounts to just 1.04% of the existing UK-wide level of research funding; thus, the net effect is not great but when considering the three non-English regions separately the differences between them are quite marked.

point (England itself is the benchmark), more than £20m of additional funding for the English universities is obtained because of the competitive strength of these academic giants. For the three other regions the picture is less rosy. Although Scottish universities would welcome the raising in funding levels for research funding points (£19m), more than £11m would be taken by the more research competitive English universities leaving the Scottish universities only £5.5m better off in net terms. For N. Ireland this financial penalty from UK-wide competition would be enough to bring about an overall reduction in research funding of just under £1m. It is, however, once more the Welsh institutions that have the most to fear; their aggregate loss of almost £13m is almost equally due to (1) their universities no longer having access to their more generous regional fund and (2) their universities losing out under competitive pressure from the global players within the English university sector.

The conclusion to be drawn from the analysis thus far presented is that moving to a UK-wide system would generate positive results for English universities (though the sums gained are relatively small when considered in the context of their existing funding), mixed results for Scottish universities, poor results for the N. Irish universities and disastrous results for Welsh universities. However, these results, aggregated at the regional level and across all the subject areas, conceals significant gains and losses at the subject area level within each region. Table 5 below indicates the extent of the gains and losses that would occur as a result of the change to a UK-wide fund.

The first point to note about these results is that despite the aggregate gains or losses seen for the four regions at the regional level, at this more disaggregated level there are from each of the four regions examples of both significant gainers and significant losers. Thus, in Wales the subject area Other Studies and Professions Allied to Medicine would nearly double their

level of research funding while in England the subject area Town and Country Planning would lose more than 15% of its research funding. In the former case the competitive gains would outweigh the less generous fund losses; the reverse would be true for the latter case.

It should also be noticed that the percentage gains (for the winners) and the percentage losses (for the losers) are most significant in Scotland, Wales and N. Ireland – the three smaller components of the UK. Many of these gains / losses account for 80% or more of the existing research funding. The logic for these higher gains / losses is quite simple – England has a research budget of £940m compared to a research budget of £218m for Scotland, Wales and N. Ireland combined, and consequently, any reallocations of research funding in the direction of Scotland, Wales or N. Ireland are likely to represent a larger proportion of their smaller existing research funding than is the case with reallocations of research funding in the direction of England.

Why these gains / losses should be as high as 80% or more of existing research funding becomes more clear when we examine the outcomes for individual subject areas. Let us take as an example the Middle Eastern and African Studies subject area. This is Scotland's top winner (a gain of 73.10%) and Wales's third-worst loser (a loss of 83.92%). A crucial factor here for the amount of research funding allocated to this unit of assessment is how Scottish and Welsh RAE performance compares to that of the English universities who make up the majority of the submissions to this panel (there were 11 submissions in total, comprising nine from the English universities, one from the Scottish universities and one from the Welsh universities). The English submissions were fairly large, including submissions of about 50 staff each from Cambridge, Oxford and UCL (amongst others). Therefore, since under the HEFCE mechanism the research funding for a subject area depends only upon the number of

staff submitted and the cost factor (thus RAE performance has no effect provided a minimum threshold (3a) is met), the English submissions ensured a sizeable fund to be distributed. However, the distribution of funds between the contributing universities does depend on RAE performance. Of the nine English submissions, one achieved a 5* rating, five achieved a 5 rating, two achieved a 4 rating while the other achieved a 3a rating. In contrast the lone Scottish submission achieved a 5* rating while the lone Welsh submission achieved a 3* rating. Thus, the Scottish submission achieved a large share of a large cake while the Welsh submission achieved a miniscule share of this same large cake.

Although the English universities would be the primary winners from a move to a UK-wide competition for research funds, there are examples in Table 5 of subject areas where the non-English universities would benefit from competing with weaker English submissions to the RAE panels. Thus, Social Work submissions from Scottish universities, Town and Regional Planning submissions from Welsh universities and Other Studies and Professions Allied to Medicine submissions from both Welsh and N. Irish submissions would all benefit from UK-wide competition at the expense of weaker English submissions.

Thus, where relative quality does exist in the non-English universities the introduction of a UK-wide competition for funds can bring increased funding. However, in light of the fact that English universities stand to gain more than £20m from their non-English counterparts, these success stories for the non-English universities are very much the exception rather than the rule – the bigger picture is a flow of money into England rather than a flow out of it.

This bleak picture (from the perspective of the non-English universities) becomes even more bleak when one takes account of the fact that implementing such a decision would change the

geographical pattern of research quality across the UK. The reallocation of £20m of research funding in favour of English universities would make research quality comparisons even less favourable for the non-English universities than is currently the case, and hence it would be likely to lead to further transfers of research funding to the English universities in the future.

V. Conclusions

The UK's academic research plays a crucial role in the development of its economy, and the funds provided by the government via the funding councils significantly affect what research is undertaken, and where that research is carried out. The current method of allocating these funds owes a great deal to the 'traditional' manner in which government spending in general has tended to be allocated with little or no thought as to whether this mechanism makes sense in this particular case. The analysis we have presented here undoubtedly demonstrates that an alternative funding environment (UK-wide, rather than just region-wide, competition) would result in dramatic changes in the regional allocations of research funds. Given the large sums that are involved (£1,158 in 2002-03) this is an issue that deserves more consideration than is currently afforded it.

The current system provides markedly different rates of return to research excellence in the four regions, with the Welsh funding council being 26% more generous than the Scottish one. This inequality would lead many economists to argue for an alternative system such as that of interest in this paper – if one is of the opinion that value for money is best ensured by relating funding as closely as possible to research excellence then the case for UK-wide competition is strong. However, even putting to one side political arguments relating to the devolution of political power in the non-English regions, the answer is not completely clear cut. There may

be perfectly sound economic reasons for differential rates of return to research excellence; as previously noted, differences in the localness or magnitude of the externalities that flow from the research may justify these differing rates of return⁹. Maintaining these differential rates of return to research excellence in the absence of separate regional funds would be difficult to say the least, and it is difficult to see how UK-wide competition would not lead to the greater of academic research activity within the English universities, particularly its ‘global elite’.

However, just as important as the distribution of the available research funds is determination of the funds available for distribution. For whatever reason it is undeniably the case that there is no common view among the funding councils over the ‘appropriate’ rate of funding. There is a large degree of political influence in operation here (not least because it is politicians that set the funding councils’ budgets) and the level of funds available to universities, whether it be for teaching or research purposes, is the outcome of battles between the government’s big spending departments. In such a scenario, where decisions are often reached on the basis of political expediency, it is unlikely that university funding decisions are going to be taken on the basis of sound economic analysis of the relevant costs and benefits¹⁰.

⁹ Although one could argue that such a contrast is most likely to exist when comparing non-English universities with the English university elite, rather than with comparisons between the Welsh and Scottish universities.

¹⁰ Neither is there any evidence that comparisons with the UK’s international peers form the basis for funding decisions – though comparing the funding decisions of the non-English funding councils with their English counterpart may provide some form of ‘pseudo-international’ measure for these smaller funding councils, this is not an ideal substitute for a real international benchmark for research funding. Failure to address this problem leaves the UK vulnerable to an accelerated brain drain and the economic costs this would entail for the nation.

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The data utilised in this analysis was provided in electronic form as part of the SHEFC circular letter above.

	HEFCE		SHEFC	
	Separate funds (£000)	UK-wide fund (£000)	Separate funds (£000)	UK-wide fund (£000)
England	940,000	950,151	940,000	949,499
Scotland	132,000	136,137	132,000	138,945
Wales	60,000	46,783	60,000	46,089
N. Ireland	26,000	24,928	26,000	23,466

	HEFCE		SHEFC	
	Gain / Loss (£000)	Percentage	Gain / Loss	Percentage
England	+10,151	+1.08	+9,499	+1.01
Scotland	+4,137	+3.13	+6,945	+5.26
Wales	-13,217	-22.03	-13,911	-23.18
N. Ireland	-1,072	-4.12	-2,534	-9.75

	Actual Total Points	Actual Payout Per Point (£)	Actual Total Payout (£000)	Total Payout (£000): £20,525 per point
England	45,798	20,525	940,000	940,000
Scotland	7,255	18,194	132,000	148,909
Wales	2,620	22,900	60,000	53,776
N. Ireland	1,333	19,501	26,000	27,360

	Separate funds (£000)	Separate funds (£000): £20,525 per point	UK-wide fund (£000): £20,525 per point	Effect of competition (£000)
England	940,000	940,000	960,033	+20,033 (+2.13%)
Scotland	132,000	148,909	137,533	-11,376 (-7.64%)
Wales	60,000	53,776	47,270	-6,506 (-12.10%)
N. Ireland	26,000	27,360	25,187	-2,173 (-7.94)

Table 5 : Research funding levels – top winners and losers by region and subject area (using the HEFC method)			
<i>Top 3 Winners per region (ranked by percentage gain)</i>			
Country	Subject area	Percentage Gain	Gain (£000)
England	Food Science and Technology	20.18	400
	Environmental Sciences	13.12	1,019
	Library and Information Management	12.23	570
Scotland	Middle Eastern and African Studies	73.10	94
	Social Work	53.40	437
	Communication, Cultural and Media Studies	43.66	159
Wales	Other Studies & Professions Allied to Medicine	94.01	532
	Town and Country Planning	80.05	602
	Communication, Cultural and Media Studies	54.50	198
N. Ireland	Other Studies & Professions Allied to Medicine	118.71	1,526
	Art and Design	102.52	824
	Mech, Aero & Manufacturing Engineering	74.66	353
<i>Top 3 Losers per region (ranked by percentage loss)</i>			
Country	Subject area	Percentage Loss	Loss (£000)
England	Town and Country Planning	15.22	738
	Other Studies & Professions Allied to Medicine	9.52	1,667
	Social Work	9.39	464
Scotland	Metallurgy and Minerals	80.02	94
	Nursing	64.07	345
	Environmental Sciences	52.80	599
Wales	Anthropology	84.26	267
	Philosophy	84.05	171
	Middle Eastern and African Studies	83.92	19
N. Ireland	Pure Mathematics	81.47	176
	Hospital-based Clinical Subjects	81.09	564
	Philosophy	80.40	76