# Business & Management Studies in the 2014 Research Excellence Framework

## Keywords

Research Assessment/2014/UK Research Performance

## Background

Academic departments in UK universities have been subject to periodic reviews of research quality since 1986. Initially known as Research Assessment Exercises (RAEs), they were previously conducted in 1986, 1989, 1992, 1996, 2001 and 2008. Cooper & Otley (1998) and Bessant et al (2003) describe the 1996 and 2001 exercises and summarise the state of business and management research as seen in the submissions to those RAEs. The exercises were organised by the national funding councils, which disburse public funds to universities. The latest review was renamed the Research Excellence Framework (REF), was completed in 2014 and was organised by Higher Education Funding Council for England (HEFCE) on behalf of the funding bodies for universities in Scotland, Wales and Northern Ireland. From hereon, the most recent review will be referred to as REF 2014. It is unlikely that the acronym REF was deliberately chosen to reflect the abbreviation used for a football referee who makes difficult, on-the-spot decisions and is unpopular with supporters of the losing team. Nevertheless, panel members are aware that their role may, at best, be thankless and may make them unpopular with those who feel they have not been judged kindly.

Research funding in most UK universities comes from 2 main streams, in a system known as dual support. Individual research projects and programmes are funded by Research Councils, Charities, Foundations, Industry and other bodies. In addition, universities receive a lump sum for general support from their funding council and are expected to use this to fund some staff time and to provide the infrastructure needed for research. The results of the exercises are used by the funding bodies to determine what funds will be distributed to each university for its general research support. The results are used by universities and pundits to construct hierarchies and league tables of research quality.

In this paper we are not concerned to defend the principles of UK research assessment or of the REF. We are also unable to comment on the decisions made by institutions about who to submit and what work to submit for assessment. We describe how the assessment was conducted, comment on the results and leave it to others to reflect on and evaluate the REF and UK research assessment in general. The paper provides personal reflections on the work submitted and the processes followed and stems from members of the Business & Management Studies sub-panel who were engaged in the assessment. We are aware that many others will contribute to debates about UK research assessment and intend our paper to be part of that discussion.

### Operational principles of the REF and previous RAEs

The methodologies employed in the 1992, 1996 and 2001 RAE’s were broadly similar. The REF built on RAE 2008, which introduced a radically different scoring system, in which each submission was awarded a profile rather than a single score. In RAE 2008, this overall profile was based on 3 separate sub-profiles for

* Research Outputs: each output was separately assessed and graded. In total, the output scores contributed 70% to the overall profile for Business & Management Studies
* The Research Environment : graded for the submission as a whole and contributing 20% of the overall profile
* Esteem: of the individuals included in a submission, but graded holistically for the submission and contributing 10% of the overall profile

The elements were graded as 1\*, 2\*, 3\* and 4\*. In the case of outputs, these individual scores were aggregated to produce an output sub-profile that showed the percentage at each star level. Each Environment submission and Esteem claim was also assessed using the same scale to produce the other two sub-profiles.

Full details of the principles and operation of RAE 2008 can be found on the HEFCE web-site (RAE, 2008). This web-site also includes the full results of RAE 2008 and the complete set of slightly redacted submissions made to RAE 2008 by university departments and units.

### Changes for REF 2014

As noted above, REF 2014 and it was underpinned by similar aims to the previous RAEs, and full details of REF 2014 can be found on the HEFCE web-site (REF, 2014a). Thus, it was intended to form the basis for the distribution of general research support funding by the funding councils, to demonstrate that public money is well-spent and to provide quality indicators to serve as benchmarks and yardsticks. The same grading scales were retained, though there were some major differences between RAE 2008 and REF 2014.

Possibly the most significant change was the removal of the Esteem element included in RAE 2008 and the requirement that submissions include evidence of Research Impact. The inclusion of research impact in REF 2014 was initially controversial and is seen as the response to demands from HM Treasury that the funding councils justify the public money that they invest in university research. Since this was the first time that research impact had been included in UK research assessment, the assessment methodology was, perhaps, a little crude. In particular it may have disadvantaged newer units, since impact had to be based on underpinning research published in the period 1993 to 2014. This may have disadvantaged units that began their work later on in this period. There is little doubt that subsequent assessment exercises will include research impact. Its inclusion should be relatively uncontroversial for Business & Management Studies, given our aspiration to be theoretically rigorous and practically relevant.

Thus REF 2014 included sub-profiles for Outputs (weighted at 65%), Research Environment (weighted at 15%) and Research Impact (weighted at 20%).

Other, operational, changes were intended to ensure greater consistency in the assessment of different academic disciplines and to support international comparisons.

* RAE 2008 was based on peer review by 67 separate units of assessment, each covering a major subject area. These were grouped into 15 main panels charged with a rather gentle governance role. In RAE 2008, Business & Management Studies was a separate Unit of Assessment (UoA), as was Accounting & Finance. The same peer review principles applied in REF 2014, but there were only 36 UoAs, grouped under 4 main panels. In REF 2014, Business & Management Studies and Accounting & Finance formed a single UoA, named Business & Management Studies[[1]](#footnote-1). As in RAE 2008, Economics & Econometrics remained a separate UoA.
* The 4 main panels had a much stronger role in REF 2014. The UoAs within each main panel were all expected to operate to the same criteria and working methods and to the same timetable for their work, with only very minor exceptions (e.g. whether or not citation data would be used). During the assessment period (January to November 2014), the sub-panels for each UoA met 7 times, usually for multi-day meetings. Each set of such meetings was paralleled by an equivalent main panel meeting at which progress was reviewed and emerging results compared and justified.
* There was a much stronger role for international main panel members and research users in 2014, with each main panel including at least 6 international members and 6 users. Both of these groups were active in the assessment periods and made several visits to the meetings of each sub-panel.
* The resulting overall profiles were published in 1% steps, rather than the 5% steps used in RAE 2008.

Finally, equality and diversity measures were greatly strengthened in REF 2014 to ensure, as far as possible, that people were treated fairly. The aim was to ensure that University choices about who to include did not impact differentially on different groups of academics. A separate Equality and Diversity Advisory Panel (EDAP) was constituted to look at special circumstances across all submissions and details of its operation can be found at REF (2014b). Amongst other things, EDAP specifically addressed the issue of how to deal with maternity leave and absence due to illness or parental responsibilities, to ensure equality of treatment across the different panels.

There were other minor differences between RAE 2008 and REF 2014, and details can be found on the RAE 2008 and REF 2014 web-sites.

### Selection of panel members

Main panel chairs and sub-panel Chairs were appointed by the funding councils after seeking applications by open advertisement. The Main Panels consisted of sub-panel Chairs, plus international members and user members appointed by the funding councils in conjunction with the Main Panel Chairs. Sub-panel Chairs were also appointed following discussions between the funding council and Main Panel Chairs, based on applications received.

The funding councils sought nominations for sub-panel members from academic institutions and interested bodies. The latter included the Association of Business Schools and the British Academy of Management. Sub-panel Chairs were provided with a list of nominations and were required to propose the membership of their sub-panels and submit these for approval to the Main Panel Chairs and the funding councils. In composing their sub-panels, sub-panel Chairs were asked to aim at a balanced membership that included some members who were involved in RAE 2008 and some who were not, a spread of institutions, geographic balance and gender balance as well as academic expertise. Clearly, the academic sub-panel members needed to be people of good standing in the different academic communities. Full lists of membership were published on the REF web-site well in advance of the submission date.

## The work of the Business & Management Studies sub-panel

### Volume of work

Table 1 summarises the volume of work submitted to REF 2014 and compares it with that submitted to RAE 2008.

*<Insert table 1 about here>*

The Association of Business Schools lists 117 full members on its web-site. Some of the 101 submissions were from institutions that did not enter their Business & Management Studies research to RAE 2008. A comparable number that had submitted to RAE 2008 did not submit to the REF. The 3321.1 full-time equivalent (FTE) staff submitted amounted to 3603 on a headcount basis, of whom 731 were designated as Early Career Researchers (ECRs).

### Membership

As stated earlier, the funding councils employed 36 sub-panels, which included C19, appointed to assess work in the Business & Management UoA that included Accounting & Finance. There was a separate sub-panel for Economics and Econometrics (C18). C18 and C19 included a member who sat on both panels to ensure consistency, given that many Business & Management Studies submissions included work in economics.

The full membership of sub-panel C19 consisted of 23 academic staff and 1 user representative, all nominated by relevant bodies. Of the 23 academic members, 13 had served on either the Business & Management Studies or Accounting & Finance sub-panels in RAE 2008, offering continuity in terms of standards and methods of working.

The sub-panel was supported by a further eight practitioners and research users who acted as impact assessors, and worked with sub-panel members to assess research impact. There were also three further academics who acted as output assessors, taking a share in the assessment of research outputs. The full list of participants can be found on the REF 2014 website (REF, 2015a).

The main areas of competence covered by the members of the sub-panel included: Accounting, Corporate Social Responsibility, Critical Management Studies, Econometrics, Economics, Employment Relations, Entrepreneurship, Finance, Information Systems, Innovation, International Business, Leadership, Management, Development Education & Learning, Management Science, Marketing, Operational Research, Operations Management, Organisational Psychology, Organisation Studies, Project Management, Public Management & Administration, Research Methods, Service Operations, Small Business, Strategic Management and Technology Management.

The sub-panel recognised that outputs could not always be characterised as falling neatly into these sub-fields and aimed to ensure that their distribution and assessment were sensitive to other categorisations such as theme, sector or function. The sub-panel was pleased to see work of an interdisciplinary nature not only across these sub-disciplinary fields but also across the social sciences more generally, and into science and medicine.

### Roles and responsibilities

The sub-panel Chair (Professor Pidd) and Deputy Chair (Professor Broadbent) worked closely together, ably assisted by the sub-panel secretary and advisor. Each full member of the sub-panel had 4 main roles.

1. The assessment of outputs within their competence. As in RAE 2008, research outputs that were judged to be economics were cross-referred for assessment to Sub-Panel C18, via the common panel member. SP18 then returned recommended grades to Sub-Panel C19.
2. Main coordinator for a set of submissions. This role involved taking the lead in assessing the quality of the research environment and ensuring that all work in their submissions was assessed in the time available.
3. Deputy coordinator for a set of submissions. This role involved working with the main coordinator to agree recommendations to the sub-panel.
4. Assessing the quality of research impact: working closely with the impact assessors to agree recommended grades for impact cases and impact templates.

As noted earlier, three additional output assessors were added to the sub-panel who read and recommended grades for the outputs assigned to them. The eight user assessors participated in the assessment of all impact templates and impact cases. In allocating these roles, due account was taken of major conflicts of interest as specified in the Panel Criteria and Working Methods for REF 2014.

### Ensuring consistent assessment

The sub-panel worked in co-operation with Main Panel C and both adopted an iterative approach to assessing all three elements: outputs, impact and the research environment. Members with major conflicts of interest left the meeting for the duration of any discussions of relevant institutions. All quality profiles were agreed unanimously after considerable debate by the sub-panel members who were present. The emphasis was on consistency of judgements and there was no attempt at normalisation.

For all three elements the sub-panel initially worked through a sub-set of submissions in plenary calibration sessions to establish common standards. Outputs were then assessed by sub-panel members based on expertise, operating in sub-groups wherever possible (e.g. marketing or accounting) and the resulting scores for each paper were aggregated using the REF data systems during the assessment period. To assess Environment and Impact submissions, after plenary calibration sessions, the sub-panel broke into sub-groups to discuss the remaining Environment and Impact submissions to agree recommend grades. These recommended grades were then debated further in plenary to ensure common standards. For all 3 elements of a submission, these debates focused on the evidence provided in a submission to ensure that judgements were not based on prior views of any institution.

The REF data systems enabled the sub-panel to monitor the profiles as they developed and the developing profiles were at both sub-panel and Main Panel meetings. The latter discussions enabled allowed comparison of standards across sub-panels. There was no requirement that sub-panels produce identical or similar average profiles, but sub-panel Chairs were required to justify the emerging profiles to provide assurance that similar standards were being applied.

International and user members of Main Panel C observed the assessment process and commented as invited. In addition, a sample of outputs was read and assessed by an appropriate International member of Main Panel C, without seeing the grades recommended by the relevant sub-panel members. When she was able to compare her grades with those awarded by the sub-panel members she declared herself confident in the standards being applied.

## Some comments on the submissions

### Outputs

Journal articles comprised over 95% of the outputs (11665) submitted for assessment. Other types of research output included 167 authored books, 179 book chapters and 104 working papers. As in the previous RAEs, journal articles were published in a very wide range of outlets, this time numbering in excess of 1000. All outputs were read in sufficient detail to enable a grade to be established. If the same article was submitted more than once by authors included in different submissions, the sub-panel ensured that all instances received the same grade. The sub-panel received just eight requests for outputs to be double-weighted and was able to agree to all but one, for which the reserve output (an extra output that submitted, but only examined if a request for double-weighting was declined) was assessed. Items accepted as double-weighted were awarded grades that ranged from 2\* to 4\*.

More than 1300 of the research outputs submitted to the sub-panel were economics and were cross-referred to the Economics & Econometrics sub-panel. Professor David Blackaby, a full member of the sub-panel, was also a full member of sub-panel C18 (Economics and Econometrics) and acted as a conduit for research outputs cross-referred between the two sub-panels. A small proportion of research outputs was cross-referred to other sub-panels, mainly within Main Panel C. Members of the Business & Management Studies sub-panel who received recommended scores for cross-referred items used their own professional judgement to assign a final grade.

Table 2 compares the weighted average output profile for the 101 submissions made to the sub-panel, with the comparable profiles for RAE 2008. The improvement in the weighted average profile is when compared with those submitted to RAE 2008. There may be several reasons for this improvement, including better and more ambitious research, an increased emphasis on internationalisation, greater receptiveness of international journals to European research and increased selectivity in submissions when compared to RAE 2008.

*<Insert table 2 about here>*

It is important to realise that in RAE 2008 and REF 2014, institutions were able to decide how selective they would be in including staff whose research outputs would be submitted for assessment. Therefore the output quality sub-profile relates only to those staff included.

### Journal lists

As stated in its working methods published on the REF web-site, the sub-panel based its assessment of the quality of outputs on the criteria of originality, significance and rigour and did not use journal lists for this purpose. Once the output assessment was complete, a sample of 1000 outputs submitted to C19 was taken and the grades awarded compared with the Association of Business School’s rankings of the journals in which they appeared, using version 4 of the then current ABS list (ABS, 2010). These 1000 outputs came from 8 different institutions and are highly likely to be representative of the broad range of outputs submitted to the sub-panel. Table 3 shows the results of this analysis.

*<Insert table 3 about here>*

Table 3 shows that about half the sample of outputs were awarded the same REF grade as their ABS journal rank. Slightly more than one third scored below and about one in seven scored above. Since most outputs were in ABS 3 or 4\* journals, there was more room on the scale to score them lower than their ABS ranking than there was to score them higher. The difference is particularly marked for outputs published in journals ranked 4 in the ABS list. Within this sample, ABS 2s have about a 30% chance of being a 3, and only a 10% chance of a 1, and ABS 3s had a 67% chance of scoring at least a 3\*.

There is, of course, no known true state of nature for any of these papers. The REF grading could be wrong as could reliance on the ABS journal list. Within the REF the same three criteria of originality, significance and rigour were applied to all submitted outputs; it less clear that different academic areas apply common criteria when producing journal lists. The dangers of sole reliance on the ABS list or any other list for the full range of work covered by the sub-panel are very clear.

Relatively few books and book chapters were submitted to the sub-panel for assessment. There is, of course, no list that ranks publishers in the way that the ABS list ranks journals. It would be dangerous to read too much into Table 3, but the proportion of books rated as 4\* in the REF is very close to the proportion of papers published in ABS 4 journals that were also rated as 4\* in the REF. This may suggest that an inappropriate emphasis on journal papers leads to the non-submission of very highly quality research written up in books and monographs. In short, the sub-panel welcomed the inclusion of high quality books and monographs.

### Research impact

Research impact was a new element in REF2014, so a comparison with the previous RAEs is impossible. Sub-panel members worked closely with the impact assessors to agree grades for the impact templates, which described the approach of a unit to creating impact, together with the impact case studies. Each template and case study was read by a core group that consisted of the primary and deputy coordinators for the relevant submission, plus an impact assessor. In many instances the group was enlarged in order to compare and contrast cases and ensure appropriate relative grades. Where particular expertise was needed, two user assessors were part of some of these impact assessment groups. All scores were discussed and finally agreed in plenary. The weighted average impact sub-profile for the sub panel is shown in Table 4.

*<Insert table 4 about here>*

The impact assessors were a great boon to the sub-panel, offering well-informed views that were sensitive to the aims of the REF and the opportunities available to Business & Management Studies researchers, whilst also aware of the time and other constraints faced by UK academics. It is pleasing that almost all submissions showed elements of very impressive impact and clear relevance to policy or practice or both.

At least some of the work submitted by about 80% of the units was assessed as demonstrating outstanding impact, with 4\* scores ranging from over 80% to under 10%. A very small proportion of impact cases were given an unclassified grade because the underpinning research cited in the submission was not judged to reach an international standard of excellence. Half or more of the impact work described in almost 30% of submissions was rated as outstanding, which is a real credit to those institutions and to the field of business and management studies.

Each impact case was separately assessed and awarded a grade. The impact cases covered a very wide range of impact types, including impacts within organisations, on national policy, on international agreements and on the public. There was no evidence that any particular type of impact was easier to judge or achieved higher scores than any other. The high scoring impact cases typically provided clear evidence of the reach and significance of the impact (as defined in the published criteria), the underpinning research that was cited clearly met the threshold requirement of international excellence and there was a strong narrative that described how the research led to the impact. High scoring impact was found in both smaller and larger submissions and the number of cases to be submitted did not appear to advantage or disadvantage particular institutions. In smaller submissions, in which the profile might be based on only two or three cases, this could lead to a rather lumpy profile. In a larger submission with six or more impact cases, this could lead to a spread of assessment grades and a smoother profile.

In general, the impact templates were rated lower than the impact cases and it seemed that some institutions were uncertain what to say in this section of their submission. A particular problem was that some submissions merely used the final section of the template (Relationship to case studies) to summarise each impact case study rather than to relate them to the historic or current strategy of the unit.

### Research environment

The criteria used to assess the environment submissions focused on the degree to which the submission demonstrated clear evidence of vitality and sustainability that was conducive to producing research of world-leading, internationally excellent, internationally recognised or nationally recognised quality. Environment submissions were assessed independently of research outputs and research impact. Environment submissions were written to a five part template of which four were assessed (b. to e. below):

1. an overview, which was not assessed
2. the research strategy,
3. people: including staffing structure, staff development and research students
4. income, infrastructure and facilities
5. collaboration and contribution to the discipline

Each of the four assessed elements was awarded a grade and these grades were aggregated to provide the environment sub-profile. The use of vitality and sustainability as the criteria for assessing the research environment was welcomed by the sub-panel. In essence, it enabled assessors to ask a basic question: does this sound like a great place to work in which senior and junior researchers should thrive and that will move the discipline forwards? The sub-panel had no a priori views about whether this would be best based on a top-down or bottom-up organisation or that very large units were needed. Rather it looked for clear **evidence** that the four elements (b. to e.) were feasible, well-considered and convincing. The inclusion of element e. (collaboration and contribution to the discipline) enabled the sub-panel to assess a submission in the wider context of UK and international research activity.

Table 5 compares the weighted average sub-profile for research environment with the sub-profiles in RAE 2008 and demonstrates the improvement that has occurred over the period. It should be noted that the assessment criteria of REF 2014 required the sub-panel to assess environment statements in a different manner from that used in RAE 2008. In RAE 2008, the sub-panel members read the environment statements and took a holistic view to develop a profile. In REF 2014, sub-panels were required to separately score four elements of the statement and these were combined arithmetically to give an environment profile.

*<Insert table 5 about here>*

REF sub-panels were provided with data from the UK’s High Education Statistics Agency (HESA) for each submission, which showed the number of doctoral degrees awarded in each year of the REF period and external research income, categorised by type, also for each year of the REF period. The REF data systems analysed this information to compute median values for each panel, including statistics based on headcount and FTE’s included. Since each institution could determine which of its eligible staff were included, institutions varied in their selectivity. Hence it should be no surprise that interpreting these statistics on a per capita or per FTE basis was difficult and probably not meaningful. However, the gross values and their patterns over the years of the REF period were useful in giving some idea of the underlying scale of activity in each submission.

The report of the Business and Management Studies sub-panel after RAE 2008 commented that total research income had risen considerably since the previous RAE in 2001. Total HESA-reported research income for the institutions submitted to REF 2014 amounted to over £340M. The figure reported for sub-panel I36 in RAE 2008 was approximately £360M. RAE 2008 covered a period one year longer than REF2014, which suggests that the average total annual research income has risen slightly in REF 2014 when compared to RAE 2008. Note, though, that these figures are not adjusted for inflation.

The HESA data shows that the total doctoral degrees awarded over the REF period was 4810, compared with a figure of 3450 for the longer period of RAE 2008 for sub-panel I36. This suggests that PhD enrolment and graduation numbers have risen since 2008, though the sub-panel was concerned that some submissions included far too many PhD enrolments for the number of staff included in the submission. Such apparent over-recruitment suggests that submitted staff have very heavy supervision loads, or that much supervision is undertaken by staff not included in the submission, both of which raised issues of the sustainability of the research environment. Such concerns typically led to a lower score for that section of the environment template.

The number of ECRs included in the submissions amounted to about 20% of staff included on a headcount basis. This suggests that there has been significant recruitment of ECRs across the units that submitted their work to the sub-panel, which implies that the sector is taking succession planning seriously. It will be a challenge for the Business & Management Studies community to ensure that these new recruits are properly mentored and supported as they develop as independent researchers, whilst coping with significant teaching loads in most institutions.

The strongest environment statements paid clear attention to all sections of the environment template. Their strategies were clearly articulated, were ambitious and appeared feasible in the light of conditions in the UK. Their section b. (people) had a clear relationship with the research strategy, demonstrated that staff development was a priority and provided a clear rationale for the doctoral work of the unit. Section c. (Income infrastructure and facilities) clearly described the support given to researchers and the success of the unit in gaining external funding and its link to excellent research. The final section d. (Collaboration or contributions to the discipline or research base) demonstrated that the unit was not isolated and attending purely to its own internal needs but was a major player in the wider development of the discipline and was taken seriously by researchers elsewhere.

However, a significant proportion of environment statements were weak enough to suggest that excellent performance by individuals has been achieved against the odds in some institutions. The environment statements given very high scores describe units that evidence vitality and have sustainable plans. In these, staff have access to support and resources that enable and sustain very high quality research and which staff development, from ECRs onwards, is taken very seriously. Others, sadly, suggest research environments with limited or unconvincing evidence of vitality, in which very few staff receive support to develop their research potential.

The sub-panel was delighted to be able to award 100% 4\* to several submissions. It should be noted that this does not mean that they describe perfect research environments, but they do provide clear evidence of environments conducive to world-leading research.

### Inclusion of internationally-based part-time faculty

The sub-panel was concerned that some submissions included a relatively high proportion of staff with main contracts in universities in other countries. It was particularly concerned that some of these staff were appointed within a year of the REF staffing deadline on 20% contracts and some had contracts that were due to terminate within the year following the deadline. Many of these internationally-based part-timers were eminent in their fields and contributed very high quality outputs to the REF.

It is clear that eminent, internationally-based part-timers can be very valuable assets who make important contributions to the research environment of UK institution. For example, they may mentor UK colleagues, run seminar series, co-operate in research projects and form part of supervision teams for PhD students. Where an environment submission clearly demonstrated that these faculty had an active role in the institution, the sub-panel welcomed their inclusion.

There were, though submissions in which there was no obvious role for the recently employed international part-timers whose outputs were included in the submission. Where no such evidence was apparent, the sub-panel assessments of the research environment reflected its concerns about sustainability. It is important to realise that sub-panel members were nominated by the academic community for their knowledge of current research and of the UK academic scene. Inappropriate inclusion of such faculty was not rewarded in the REF because this will lead to an unfair allocation of resources between institutions and, possibly, within an institution.

## The state of Business and Management Studies research as seen by the sub-panel

Table 6 compares the average overall profile, weighted by size of submission, which emerged from REF 2014, with comparable statistics from RAE 2008. Note that the RAE 2008 sub-profiles for each submission were based on 5% units, whereas the granularity was 1% in REF 2014. Table SP19.2 shows that research performance has improved significantly since 2008 and that almost 70% of work was assessed as 3\* or 4\*. This is clear evidence of the increasingly high quality of UK research submitted in business and management studies.

*<Insert table 6 about here>*

The improved performance, as measured in the REF sub-profiles for outputs and the research environment, seems to be based on higher quality research and better deployment of resources, though increased selectivity may also have played a part. Researchers in UK business and management studies can certainly be proud of their work, much of which is of world-class quality. The high scores for impact also reflect well on the community and will help end concerns expressed by some, that research within UK business schools takes little or no heed to real-world issues. The case studies demonstrate the multiple ways in which business and management research has made an impact across the economy, policy, environment and society.

The other disciplines covered by Main Panel C, which are predominantly social science based, also showed improvement over RAE 2008. The full set of results for all disciples covered by the REF is available from the REF 2014 web-site.

### League tables: who came top?

The lure of league tables is hard to resist, despite their well-known limitations (Pidd, 2012, chapter 10). However, the design of REF 2014 makes their construction and interpretation less than straightforward.

League tables provide a ranking based on a single dimensional, single measure of performance, but the REF is multi-dimensional and offers multiple measures of performance. The REF contains 3, supposedly independent, elements each of which is assessed against a profile, which itself has 5 components. There is no need for great expertise in statistics to recognise that combining these into a uni-dimensional, single measure is simply asking for trouble. The Guardian captured this nicely in its subtitle “When 25 university departments can each prove that they came in the top three, rankings are over” on a piece by Jonathan Wolfe published on January 27th, 2015 (Wolfe, 2015). Nevertheless, universities are very fond of leagues tables, especially if appearing near the top, or doing better than some previous version.

The problem is well-illustrated by the league tables constructed by Stewart Robinson for the Association of Business Schools (ABS, 2015), which includes no fewer than 5 variations as follows.

1. GPA: constructed by taking the proportion of work awarded at each quality level and multiplying this by the quality level across the 5 quality levels.
2. GPA x Volume: this sometimes called research power, and is the above GPA multiplied by the number of FTE staff submitted.
3. GPA x % Intensity: This the above GPA multiplied by the of number staff reported to HESA as employed in the department and eligible for submission to the REF.
4. GPA X Volume x % Intensity: a combination of 2 and 3 above.
5. Sum of ranks: a ranking based on the sum of the ranks in tables 1 to 4 above.

If we rank the top 10 institutions as measured by the above 5 tables, we have the ranks shown in Table 7.

*<Insert table 7 about here>*

Which of these is correct? This is probably the wrong question since it seems highly likely that staff at the LSE, Lancaster, Imperial College and LBS will, understandably enough, give different answers.

### Selectivity

As stated earlier, institutions were not required to submit the publications of all their academic staff, but could decide who to include and who exclude. This selectivity means that care should be taken in interpreting the results of both RAE 2008 and REF 2014. The profiles for research output refer solely to the staff submitted. The ABS league tables discussed in the previous section make an attempt to allow for this in their GPA x % Intensity version. The % Intensity refers to the ratio of number staff submitted and the number in post, the latter figure coming from a survey by HESA.

Sadly, it may also be best to take and use the HESA data with a pinch of salt. The use of different categorisations of staff in different institutions makes the interpretation of these data very difficult indeed. The ABS tables (op cit) show one institution as having submitted 104% of its staff. This could be due to the different times at which the REF submission and the HESA survey were made, but in this case (and probably many others) there may be another explanation. The web-site of the 104% institution, which shall remain anonymous here, lists over 40 academic staff, whereas just over 7 FTEs were entered in the REF. As a second example, the % Intensity of another institution is shown as 98% and slightly fewer than 12 staff were submitted. The institution’s web-site claims that it has over 3500 students and, it is hard to reconcile these figures, even if many of the students are part-time. It seems reasonable, therefore, to be sceptical of the accuracy of the HESA data and any adjustments made using it.

If we do use the HESA staffing figures, which are unlikely to be over-estimates of staff in post, it seems that about 30 institutions submitted the work of less than 20% of their eligible academic staff. Based on these figures, the arithmetic mean of % Intensity is 47% and the median value is 51%. We should, therefore, be careful in claiming that x% of UK research in Business & Management Studies, or any other area of the REF, is world leading. The percentages refer only to the work actually submitted for assessment.

### Use of the Higher Education Statistics Agency data

HESA data was provided to all sub-panels, but it proved difficult to use the statistics except as crude indicators of overall activity. Sub-panels were not provided with HESA statistics showing the number of staff eligible for submission to the REF in each UoA, which were published after the REF assessment was complete. Would it have been better to have this data available during the assessment process? Yes, it would, though not for use in mechanistic way. Why the caveat?

HESA statistics are collected nationally from all higher education establishments and, as far as possible, are consistent. However, their interpretation requires some care in the context of the REF. Consider again, staffing levels, for which there are two reasons why this data should be used with care. First, there is no requirement for all UK HE establishments to use the same employment contracts. Some institutions make great use of adjunct staff, who may do a significant proportion of teaching and may also make some contribution to research, but who may be on quite different contracts from other colleagues. Other institutions may employ the vast majority of staff on contracts that require both teaching and research. The total staff numbers reported as eligible for entry in the REF depends, in part, on these contracts.

Secondly, as well as this contractual issue, each university decides which REF UoA to which each staff member is best allocated. This is sensible, because research often does not fit neatly within particular academic boundaries. Just because a staff member works in the Nossex Business School does not mean that she must be included in the staff eligible for submission to the Business & Management Studies UoA. She might, for example, be legitimately allocated to the Social Work and Social Policy UoA instead. Presumably staff will be reported as eligible for the UoA thought most likely to be favourable towards their research outputs or research impact. This decision must be made for all eligible staff in returning HESA statistics, including those entered in the REF. This is the second reason for care in interpreting HESA staffing numbers. However, this does not mean they are useless.

As discussed earlier, the data on research income and PhD numbers supplied to the sub-panel was based on the total staff nominated as eligible for that UoA and not on the number of staff included in the submission. Sub-panels did not have access to the HESA staffing numbers, which were published after the REF assessment period. So, for example, if the University of Nossex Business School reported to HESA that it had 94 eligible staff, but only entered the outputs of 36, the sub-panel only knew of the 36 staff who were entered, though the income and PhD numbers related to the 94. This made interpretation of the data highly problematic.

There is, it seems no perfect solution to this problem because of the discretion rightly given to institutions. However, though the HESA staffing numbers need careful interpretation, it would have been helpful for them to be part of the dataset supplied to sub-panels, accompanied by a health warning.

### Some concluding comments

In common with all other sub-panels engaged in REF 2014, the Business & Management Studies sub-panel produced a report that summarises its views of the state of research in Business & Management Studies as evident in the REF submissions. This includes detailed subject specific information prepared by the relevant members of the sub-panel and covers the main areas of work received by the sub-panel. This Business & Management Studies forms part of the Main Panel C Overview report (REF, 2015b).

It seems clear that the quality of research in UK Business & Management Studies has risen since RAE 2008 and colleagues in UK Business and Management Schools are due hearty congratulations for this. We should, though be careful about the claims that we make, whether referring to the percentages cited in the profiles or the minutiae of positions in this or that league table. The REF shows us that the UK has Business & Management Schools that produce significant research that is world leading or internationally excellent, and we should celebrate this.

As discussed earlier, the results of REF 2014 have funding consequence for universities. In general, the better their REF performance, the more funding they will receive for the general support of research under the UK’s dual support system. Understandably enough, the UK funding councils do not reveal the exact funding consequences of research assessment before the results are known. All institutions knew in advance, though, that the percentage of 4\* and 3\* work, along with the number staff whose research outputs were submitted, would form the primary determinants of how the funding is distributed. Thus, the sub-panel knew the rough parameters within which funding will be distributed from 2015 onwards, but was in no position to know what the funding would be for any institution that made a submission to the REF.

It has been a privilege and a responsibility for all of us to take part in the assessment exercises. All sub-panel members are chosen from the nominations made by a range of professional and academic associations and recognise their responsibility for an exercise that has great implications for the disciplines involved. Those who engage in the assessment of others’ work in the context of REF undertake an onerous role and our observation of the sub-panel is that they undertook this task with diligence and integrity. In applying the criteria that have been developed great care has been taken to ensure comparability. There will likely be much debate about the rights and wrongs of the REF process and its outcomes, some of which will be in the context of designing the nature of the next assessment of research, which is likely to be scheduled for the year 2020. However, we are confident that the sub-panel has undertaken a robust exercise within the agreed criteria for REF 2014 and we trust that the account provided here demonstrates this.

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1. In 2008 many of the larger accounting and finance units had chosen to submit to Business and Management so that the final assessment provided was of the unit as whole. The Accounting and Finance sub-panel nevertheless assessed the outputs and gave grade recommendations to the Business and Management sub-panel. [↑](#footnote-ref-1)