

A RELATIVE IMPACT RANKING OF POLITICAL STUDIES IN IRELAND*

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Abstract

Against a background of the Irish government's concerns with Key Performance Indicators (KPIs) and the British government's wishes for a more quantitative RAE, our study conducts a relative impact assessment of the study of politics, government, political science, and international relations in Ireland. Impact is measured as citations from the publications of permanent staff in eight Irish politics departments, based on data compiled in April 2008 from three leading academic indexes: ISI's Web of Science, Scopus, and Google Scholar. We discuss some of the criticisms that naturally arise in a study of this nature. Then, following similar exercises in other disciplines (e.g. economics), we use the impact measures to compare and rank individual scholars as well as departments. We also explore the extent to which the choice of different indexes, and different measures, influences the results that we obtain. While there are differences, in particular between indexes based purely on articles and those that access books and other material, the results from the different indexes are strongly correlated.

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OVERVIEW

Measuring the impact of academic research has attracted heightened interest as governments in Europe and elsewhere formulate policies to allocate resources to this increasingly competitive area. While formal assessments such as the Research Assessment Exercise (RAE) in the United Kingdom are conducted to identify centres of research excellence, no such exercise currently exists in Ireland. A growing debate can be found in higher education in the Republic, however, about using Key Performance Indicators (KPIs) to assess the performance of third level institutions, and bibliometric methods feature in this debate. Several universities are planning their own exercise. Moreover, a renewed discussion can be found within UK about the value of different means of assessing research impact within the RAE. While there are many aspects to the debate, at its heart lies the issue of whether to use peer review methods to assess research impact, or instead to rely on bibliometric data, based principally on citations of published research. While the current RAE is based on peer review, interest in bibliometric methods is growing.

Our study takes the bibliometric approach, using citation data from several sources to assess the relative impact of academic scholarship in political studies in Ireland. In this regard, our analysis is very similar to recent studies carried out on the Economics profession in Ireland (e.g. Ruane and Tol 2007; Coupe and Walsh 2003), exercises that compared both individual scholars and different departments on the basis of bibliometric data. No such study has previously been conducted for political studies, however, a field that we take to include the study of politics, government, political science, and international relations. Our objective in this study is hence straightforward: to assess political studies scholarship in Ireland according to relative impact, as measured by citations of published research using a number of different indexes and sources. The scope of our study extends to eight departments in these areas in Ireland, including two universities in Northern Ireland, and also includes a top

British department as a benchmark. We included all permanent, full-time academic staff in each department working in the areas of politics, conducting the research during the month of April, 2008.

Our paper proceeds as follows. First, we discuss the main issues involved in using bibliometrics to assess research impact in the social sciences, and identify some of the broad choices we faced in conducting this study. Second, we discuss the four bibliometric sources we drew on for citation data, and describe our data collection strategy in detail. Third, we present the results of our analysis applied to both individuals and departments. We end with a discussion of the results in the context of research assessment exercises and what these entail for the evaluation of the social sciences in Ireland.

BIBLIOMETRICS IN THE SOCIAL SCIENCES

The use of bibliometric methods to assess scholarly output has grown considerably in recent years, particularly with the growth in easily available publication statistics through on-line sources. Of all of the methods of assessing scholarly impact, it is citations that provide the most widely acknowledged measure. Used for a variety of purposes, citations have long been used to trace scholarly debates and the dissemination of ideas and knowledge. The greatest value of bibliographic indexes, such as the Social Science Citation Index provided by the Web of Science, is that they allow us to trace ideas through time with an ease that is probably not appreciated by those who began their professional lives in the pre-Internet age. It was quickly seen that citations could also be used to assess the impact of published work in a more quantitative manner, giving rise initially to a rating of different journals in terms of the typical impact of work published within them. This was particularly convenient for those journals that could boast high impact scores, and has given rise to a plethora of alternative impact scores, all based on citations. What can be calculated for journals, however, can also be calculated for any other unit, and so countries, universities, departments and individuals

can also be treated in the same manner. Such measures are increasingly easy to obtain, but as always there are questions asked about what these measures actually mean, as well as concerns expressed about the various uses to which the citation has been put. Some of these are generic, and apply as much to the field of physics as to politics. Others are more specific, and stem from the particular characteristics of political studies as a discipline or collection of disciplines. General concerns include the inference that can be drawn from the fact of a citation – is a citation critical, or complimentary? – and what inference that can be drawn from the number of citations. Someone suggested to us that the easiest way to become famous in German studies would be to write a very bad book about Goethe, since it would be much cited as a useful peg on which to hang a rebuttal. This may be true, but surely only for a very brief period. It would be of little credit to a discipline if it were to be either necessary or acceptable to continue to take time and space rebutting ideas that never gained acceptance in the first place.¹ Goethe is, of course, a topic of great interest in German studies, and this helps to illustrate the second concern: more citations are likely where more people are interested in an area. A paper on US presidential elections certainly has the potential to generate more citations than one about Irish presidential elections, but against this it should be said that it is also easier for the vast community of scholars interested US elections to ignore yet another paper on the topic than it is for the few scholars interested in Irish presidential elections to ignore work in that area. It is also harder to say something new or remarkable about the former.²

¹ A research report carried out for UK Universities noted “There is frequent concern that some papers accumulate significant citation counts ‘because they are wrong’. There is little evidence of this.” Evidence Ltd 2007.

² “There is a widespread but mistaken belief that the size of the scientific community that a journal serves significantly affects the journal’s impact factor. This assumption overlooks the fact that while more authors produce more citations, these must be shared by a larger number of cited articles. Most articles in most fields are not well cited, whereas some articles in small fields may have unusual impact, especially where they have cross-disciplinary impact. It is well known that there is a skewed distribution of citations in most fields. The well-known 80/20 rule applies in that 20% of articles may account for 80% of the citations. To reiterate -- the key determinants in impact are not the number of authors or articles in the field but, rather, the citation density and the age of the literature cited. The average number of citations per article and the immediacy of

Part of the problem here lies in the difference between *impact* and *quality*.³ While impact is suggested by quality, the two are not equivalent, and in particular it is possible to imagine quality research with limited impact. It could be argued that a paper with very strong scholarly values was a good paper even if had little measurable impact, perhaps because it did little to extend a research frontier. A lesser paper in respect of these values, but perhaps with a new theoretical twist, could have a bigger impact. For some, that would make the latter paper of higher quality, because of a premium on originality, but there would surely not be universal agreement on this. Publication in high impact journals may be taken as a badge of quality because of the difficulty of getting a paper through the demanding double-blind referee process. But many papers published in the highest impact journals receive no citations, ever. When considering the impact of an individual article, therefore, the mere fact that it is published in a high-impact journal is no guarantee. Conversely, papers published in ‘lesser’ journals may garner far more citations, and in that sense have more impact.⁴ Our view is that citations are a sufficient, if not exhaustive, measure of research quality. While research quality may be interpreted many different ways, any research that makes a demonstrable impact through gaining numerous scholarly citations may be held to be of at least one type of quality simply by virtue of its impact on subsequent scholarship, whether or not citation is a necessary condition of quality.

Another set of generic concerns is more technical. These include the difficulty of adequately summarizing the data collected. Like wealth, citations tend to be unevenly

citations are the significant elements. The size of a field, however, will generally increase the number of “super-cited” papers.” (Garfield 2005: 6)

³ We would certainly not disagree with the comment of Eugene Garfield, the originator of the Science Citation Index, who warned against “promiscuous and careless use of quantitative citation data for . . . evaluation,” He went on to say, “It is preposterous to conclude blindly that the most cited author deserves a Nobel prize.” Quotations from Robert Merton’s preface to Eugene Garfield’s book, *Citation Indexing -- Its Theory and Application in Science, Technology, and Humanities*, Institute for Scientific Information, 1979. However, Garfield also argued that “When properly used, citation analysis can introduce a useful measure of objectivity into the evaluation process at relatively low financial cost.” (Garfield 1979).

⁴ For this reason, among others, the Australian Research Quality Framework rejected journal impact scores in favour of actual citation counts as one acceptable metric among many (Butler 2006).

distributed. The typical distribution of citation data means that relatively few publications account for most of the citations. The average, as a summary measure, is a poor guide to the whole record. The treatment of self-citations is another issue: should such citations ‘count’? And what about multiple-authored publications: should such work count equally with a single authored work? The citation window is a third issue: how long a period is necessary for impact to be evaluated adequately, and if no limit is set, does this not unfairly privilege older work relatively to more recent publications? We will deal with these below when explaining the methodology used in this paper. In each case we argue our position is a sensible one, but we freely admit that alternative choices are possible and of course anyone is free to conduct a similar analysis based on different choices.

Specific concerns have also been raised about the use of citation scores in the social sciences and humanities, and these concerns are germane to the exercise here. There are two major ones. (For a more extensive review see Nederhof 2006.) The first is that while science may be universalistic, the social sciences are not. Some studies take a national or local focus, while others look to more international topics; furthermore, a variety of different research paradigms tend to exist in social sciences and the humanities. These concerns in part go back to the general one raised earlier about how far anything of substance can be inferred from more or fewer citations, and our conclusions there can be applied again here. However, these observations about social science also lead to concerns about the adequacy of the databases that are available for bibliometric assessment. For a single discipline with a single ‘language’ we can expect the major journals all to be included in any decent database. But where a discipline is fragmented – with good reason perhaps – this is less likely to happen with the consequence that any counting exercise may be biased to such an extent that its results are of no value. We will return to this problem when explaining the databases that are used here.

The second major difference between the sciences and the social sciences is that while the “hard” scientific community relies overwhelmingly on journals, social science publication depends much more heavily on other media. This includes, most importantly, books, but also in some areas a variety of reports and other ‘grey’ publications that are not included in the usual data sources.⁵ If publication of high-impact scholarly research in a field primarily occurs in books, then standard article-based citation indexes will fail to register this kind of research. In our approach to measuring research impact in political studies described below, we try to take this issue into account by including two measures that cover book citations as well as the more standard metrics based on journal articles.

CITATION INDEXES USED IN OUR STUDY

Given the very real possibility that reliance on a single citation index would likely influence our results in a particular direction, we draw on four distinct sources of bibliometric data to compile our assessment. These consisted of two sets of citation data drawn from the Social Science Citation Index available through the ISI Web of Science, maintained by Thomson Scientific; citation data going back to 1996 from Elsevier’s Scopus database; and citation data on articles, books, and other web-available sources such as conference and working papers from Google Scholar. Rather than belabor the main paper with the excruciating details of our data collection procedure, we have moved this description to the Appendix. What follows below is rather a more general description of the four data sources we drew upon in collecting our data.

⁵ “The observed publication culture in some of the social sciences disciplines clearly indicates that the interpretation of bibliometric scores based on the limited output in SSCI-covered journals is at least vulnerable for over interpretation. However, as long as it is clear to the users of bibliometric results to what extent the results are based on ISI-covered material, the bibliometric data can be useful in any evaluation process, because it is better to know at least something of a small portion of the output, than to have no insight in the impact of these papers at all.” (van Leeuwen 2006)

ISI Web of Science SSCI Index

The Social Science Citation index is the database most widely and traditionally used for citation analysis. Its primary strengths are its reputation for accuracy and its extensive coverage in time of a wide range of journals. Its major weakness for our purposes is that ISI does not include books or chapters in books, but only articles in ISI-listed journals that cite articles in other ISI-listed journals. Another weakness is that even while its coverage of journals is extensive (and improving; see van Leeuwen 2006)⁶, its limitations may be significant. Particularly germane to our study is the fact that the two main journals in Irish political studies are not included: *Irish Political Studies* and (at least since 2000 when it was dropped from both ISI and Scopus) the *Economic and Social Review*. ISI claims it does not want universal coverage, only universal coverage in terms of the ‘A’ ranked journals. We looked at ISI coverage of the top 40 journals as assessed in a recent expert survey of political scientists carried out by Iain McLean and others (McLean et al 2008). Even though most/all of these are included now, not all back issues are referenced. *West European Politics*, for instance, was first included only in 2001. It is instructive to assess ISI coverage against a recent ranking of journals by UK and by North American academics in political studies from McLean *et al*. Of the 92 journals ranked in the survey, ISI includes 78% of the top 92 journals and excludes only 2 of the UKs top 30 and 4 of the US top 30, only one of which is rated relatively highly in both the US *and* the UK. (This is *Politics and Society*, ranked 29th in the US and 34th in the UK.)

The ISI Web of Science database also provides an additional search facility called the “Cited Reference Search” (CRS). For each reference cited in any ISI-indexed journal article, an additional entry is recorded by ISI, even when the cited item is not itself an ISI-indexed journal article. In the CRS data we collected, for instance, just over 60% of the cited

⁶ It is also the case that the share of the journal output of non-US scientists has increased since 1990 in the

references were to books. In addition, because the CRS citations include references to non-ISI journals, it would also include significant journals for Irish political studies, such as *Irish Political Studies* and the *Economic and Social Review*. The major downside of the CRS is the unreliability of the data caused by the failure to enter second and subsequent authors, as well as the apparently haphazard manner in which article and journal titles are recorded in the database. So, to ensure Marsh as well as Gallagher gets due credit for *Days of Blue Loyalty* it is necessary when compiling total citations for Marsh also to search for work by Gallagher. This is particularly serious when it comes to co-authored chapters in edited books. CRS cannot separate the citation count that should be due to Sinnott for a chapter written by Sinnott and Marsh if Marsh is an editor of the volume itself, because CRS will record the book title and not the separate chapter title. Even more so than with Google Scholar (see below), furthermore, the CRS tends to list multiple, ostensibly separate entries for the same publication, based on minor differences in spelling of the title or different formats used to enter journal titles. Only by checking each citing article for the precise wording of the reference can we tell exactly what is being referenced. We made the decision to credit book editors with all references to the book. We probably understate these citations, as we did not check ISI-CRS for all the name of chapter authors.

Scopus

Scopus⁷ is similar to ISI. It currently serves as the basis for the *Times Higher Education Supplement* rankings of the research output of universities worldwide. Again, it is very reputable, but has similar weaknesses to ISI. However, it accesses a slightly different set of journals and some studies have shown it picks up more citations than does ISI (Dess 2006, reported in Norris and Oppenheim 2007). Among top-ranked political science journals, it provides significantly more inclusive coverage than ISI, with 100% coverage of both the UK

social sciences, as covered by the SSCI (van Leeuwen 2006).

and US top 40 and 94% of the top 92 (based on McLean et al 2008), although like ISI, it does not include *Irish Political Studies*, although it does index *Economic and Social Review*. Its main limitation is the fact that its coverage extends only to 1996. While Scopus is reportedly planning to add coverage of earlier years, it only covered citations since 1996 at the time of our study.

Google Scholar

A recent assessment of the value of a bibliometric approach to evaluation in the social sciences suggested that “perhaps the most promising option concerning bibliometric monitoring combines analysis of both articles in ISI source journals and non-ISI publications” (Nederhof 2006). Herein lies the great advantage of Google Scholar⁸: in addition to the fact that it is fast and freely available, it literally combs through everything on the Web to include almost every publication possible, including those found in ISI and Scopus but also covering many more. Google Scholar has by far the largest database in terms of scope of coverage, including not only published articles but also books, book chapters, and conference papers. Critically for our purposes in measuring the impact of books, Google Scholar includes not only citations to books from articles but also, in many cases, citations to books in other books. Unlike CRS, it also picks up co-authors and co-editors without any difficulty and distinguished chapters in edited books. Its principal weakness is that its results make no distinctions based on the location of the citation, for example including those from the *American Political Science Review* alongside those from working papers posted on individual scholars’ websites.⁹ While the reliability of its searches has improved markedly in

⁷ <http://www.scopus.com>

⁸ <http://scholar.google.com>

⁹ “Given the newness of *Scopus* and *Google Scholar*, these two databases have been frequently reviewed and compared and in several cases they have been compared to the *Web of Science*. In a number of papers, Jacso (2005a, pp. 208–214, 2005b, pp. 1537–1547) has discussed the limitations of *Google Scholar*. He has concluded that it is unreliable and unpredictable in the results it returns, both in its links to the sources it has found and in its coverage. This view of *Google Scholar* is also shared, generally, by others who have also found significant omissions in the coverage and recall from this database (Myhill, 2005; Notess, 2005). It is evident, however,

recent years, the degree of centralized quality control Google exercises over its citation data is unknown – perhaps one of the reasons that its service is still officially listed as “Beta” despite being several years old. Finally, Google’s results – and those compiled by the software we used to collect these results, Harzing’s *Publish or Perish* (see Appendix for details) – often split a single publication as separate listings of slightly differently recorded items, rendering unreliable the unit-based summary statistics produced by *Publish or Perish* (such as the *H*-index, described below).

DATA COLLECTION METHODOLOGY AND MEASURES

Our data collection consisted of three steps. First, we identified all universities in Ireland (North and South) that had departments in political studies, defined as the fields of political science, politics, government, or international relations. While the two universities in Northern Ireland inhabit a different higher educational system and have their own (UK-based) RAE, it was felt that their scholarship was sufficiently similar to that in the Republic of Ireland both in focus and in structure to warrant inclusion. Table 1 lists the institutions, departments, and web pages of the units included in our study. Our second step was to identify all individual scholars in each unit, from a combination of the unit’s web page and in several cases contacting administrative officers or secretaries working in the units. The key criterion for inclusion was that a scholar be employed on a full-time and permanent basis in each unit. (This decision excluded scholars working on contracts of limited duration.) In all, this led to the inclusion of 107 individuals from the eight departments. Finally, we searched each of the four databases for citations of each persons work.

[TABLE 1 ABOUT HERE]

that most reviewers feel that *Google Scholar* has the potential to become a useful source of scholarly information provided its shortcomings are addressed” (Norris and Oppenheim 2007).

As indicated above we were confronted with a number of choices about measurement. We made no provision for self-citation; nor did we make any adjustments in the case of co-authored work. Both Scopus and ISI do allow adjustment for self-citations easily (although whether this is always accurate we don't know) but there is no such provision within either Google Scholar or the CRS. In doing so we followed the argument made in a major report of bibliometric methods for UK universities that there is nothing undesirable about either of these features and so to adjust in some way for them would itself be undesirable (Evidence Ltd 2007, 25). In summarising the data on citations we adopted a number of different methods. First, we relied in part on total citation counts, over the lifetime to date of publications. This is not universally accepted as a useful measure because it reflects, in part, total output. However, we use it along with other methods that make some allowance for this. Second, where possible, as it is for Scopus and ISI records, we used the calculated Hirsch 'H-index' (Hirsch 2005). The H-index is defined as h if h of a scholar's N papers have at least h citations each, and the other $(N - h)$ papers have at most h citations each. In other words, a scholar with an index of h has published h papers each of which has been cited by others at least h times. The H -index thus reflects both the number of publications and the number of citations per publication, and is widely used in bibliometrics (although not without criticism: see Evidence Ltd 2007, p. 18) as a better summary measure than total citations.¹⁰ The average is also a very poor way to summarise impact, since it is well known that citations invariably follow a very skewed distribution with a small proportion of papers accounting for most citations in a discipline in general and usually in the record of an individual. Third, we made an attempt to adjust total citations by a measure of the length of a person's professional life, defined as the time since their first publication. The date when a PhD was conferred was

¹⁰ Because of the widespread problems of mis-specified citations indicated above, the 'h scores' provided by Publish or Perish were not used.

considered as an alternative, but as PhD date was unavailable for a high proportion of academics included in this exercise, this choice was not feasible.

[TABLE 2 ABOUT HERE]

Our measures led to the creation of four distinct sets of scores used to rank both individual scholars and departments. All scores consist of the sum of several components (detailed below), where higher numbers indicate greater impact, and are divided by the top-ranking score in each index and multiplied by 100 to scale the range from 0 to 100, where 100 is defined by the first-ranked scholar or department in each index. The indexes and their components are summarized as follows:

Overall score. This is calculated as the sum of all of constituent citation measures in Table 2: total ISI and Scopus, the ISI and Scopus H-indexes, total Google Scholar citations, total productivity (Google Scholar citations per year, see below), and the total number of book citations from ISI's Cited Reference Search. Given that this compound measure yielded raw values whose interpretation was not readily apparent, we rescaled the score from 0-100 where the top-ranked individual or department's score was given a value of 100.

Article Score. The article score includes total ISI citations, total Scopus citations, ISI H-index, and the Scopus H-index. This score was also rescaled from 0-100. For scoring departments on the article index, H-indexes were not used.

Book score. The book score is simply the book citations from the Cited Reference Search.

Productivity score. This is measured as the total Google Scholar citations divided by the total year span of the Google Scholar-listed publications (where the latter also appears in Table 2).

A rank column was also added to the total Google Scholar publications, to indicate overall performance on citations of any kind, whether articles, books, or web-based publications.

RESULTS

Our results can be looked at in three different ways: by individual scholar, by department, and finally, using the data on book citations from the Cited Reference Search, a ranking of the top-cited books.

[TABLE 2 ABOUT HERE]

Individuals

To score and rank individuals, we constructed a total score based on all of our constituent measures, and rescaled this to a 0-100 metric where the top-ranked individual was given the score of 100. Table 2 lists the top 30 political studies scholars in Ireland according to our ranking, along with the four other rankings based on articles, books, productivity, and total Google Scholar citations. Several patterns are worth noting in these results.

First, with the exception of the book scores based only on book citations in the Cited Reference Search, the top-ranked scholars are reasonably stable across different rankings, with the top ten overall scholars being ranked generally in the top 10 of each constituent ranking. The exception is the citation count ranking for books based on the Cited Reference Search, which gave a quite different picture; in particular, the first-ranked scholar overall ranks only 33rd on the book measure.

Second, the values for each ranking show marked inequalities, with the top handful of scholars being responsible for most of the citations, a pattern echoing similar findings from other fields and contexts. Garfield (2005) notes the fact that typically 80% of citations come from 20% of the papers and Katz (1999) shows how across a number of subject areas (largely in Science) in the UK, 50% of citations come from between 5-10% of papers, 5.5% in the

Economics/Business area and a similar figure in Education/Psychology. In every ranking, only the top five scholars exceed a score of 50% of the maximum value. In total Google Citations, the top 10-ranked scholars (or 9.3% of the total) on this index were responsible for nearly half (49.2%) of all citations. For Scopus and ISI citations respectively, this inequality was even more pronounced: the top 10-ranked scholars in each index were responsible for 59% and 66% respectively. In general, our results showed that citations and citation-based measures followed power-law distributions similar to those found in other fields (Gupta et. al. 2005). This pattern is clearly seen in Figure 1, which plots the productivity scores by rank for the top 50% of scholars ranked according to productivity, and whose slope increases sharply as it approaches the upper percentiles in the ranking. Similar plots of the other data exhibit nearly identical curvatures. The conclusion is that in Ireland, as has been shown in other contexts, the work of a relatively small proportion of scholars receives the vast bulk of scholarly citations.

[FIGURE 1 ABOUT HERE]

Third, the academic positions of the top-ranked scholars correspond well to their rank in the overall index. Of the top 30 scholars in the overall index, nearly all are Senior Lecturers or higher. Of the top ten, all are professors except for Thomson and Garry (ranked 7th and 9th respectively), both Lecturers in April 2008, although Thomson was recently promoted to Senior Lecturer. Of the top seventeen ranked scholars, all were at least Associate Professor or Reader, with the two exceptions already noted.

[FIGURE 2 ABOUT HERE]

Figure 2 examines article publications in more detail, plotting Scopus total citations by ISI Total Citations. The axes are shown on a base 10 logarithmic scale to reduce the extreme skew found in the data, and the counts have been augmented by adding one so that the zero counts are also plotted. Finally, a small amount of jitter was added to the points so that

overlapping values would display distinctly. The pattern confirms the article ranking from the table and shows the top-ranked overall scholars clearly inhabiting the upper region of the graph. Because the scale is logarithmic, actual citation distances are further apart than they appear. The main reason for scholars scoring differently on Scopus versus ISI has to do with the 1996 cut off date with Scopus: scholars whose large numbers of citations in ISI occurred before 1996, such as Gallagher and Garvin, did not show up in Scopus because the articles producing these citations were published prior to 1996. The other remarkable feature of Figure 2 is the large cluster of zeros shown at the lower left of the graph: of the 107 scholars in our study, 44% (47) had zero ISI citations, and 49% (52) had zero Scopus citations.

[FIGURE 3 ABOUT HERE]

While high citation numbers for an individual can be driven by a few very highly cited publications, the *H*-index is designed to characterize the distribution of publications with high citation frequency. Figure 3 portrays the two-dimensional Scopus versus ISI *H*-indexes for all scholars in our study. The patterns echo those from Figure 2 in terms of the placement of individual scholars' values. Figure 3 also exhibits a large cluster of values at zero on both indexes, reflecting the zero citations already mentioned by a large proportion of respondents. In all, 38 scholars or well over a third of all scholars in political studies in Ireland have not received a single citation for any article in either index.

Departments

In addition to individual scholars, we also scored and ranked the departmental units listed in Table 1, by aggregating the results of the individual scholars listed in April 2008 as being permanent, full-time staff in each unit included in the survey. Departmental performance can be assessed in several ways.¹¹ Here we chose the two simplest: one based on total citations

¹¹ An alternative, easily accomplished with Scopus and ISI, is the assess departments by the institutional affiliation of authors *at the time of publication*, taking a fixed time window. We suggest that this would make

(the sum from all scholars in a department) as well as a per capita measure. The latter controls for size, necessary since departments differ widely in their numbers of staff: from 6 at DCU to 33 at Queen's in our sample. Table 3 presents the results of both the total and per capita departmental scores and rankings.

[TABLE 3 ABOUT HERE]

When total citations only are considered – the top panel in Table 3 – then Trinity College ranks first, followed by UCD and Queen's, on both overall indexes and on the article index. When book citations alone are examined, however, Queen's ranks first, followed by UCD. UCD also ranked first in total Google Scholar Citations. Of course, total numbers are strongly influenced by size, and since size varies widely among different departments, we regard the per capita measures as a more appropriate means of profiling the different departments. The bottom panel of Table 3 compares departmental impact scores where the total has been divided by the number of staff listed in the third column. In per capita terms, the top-ranked department on every measure was Trinity College. The second-ranked department was Ulster, which like Trinity had eight full-time, permanent staff in politics at the time of our survey. Ulster also ranked second in both book citations per capita and median productivity measures by Google citations/year. UCD ranked second when the overall score excluded books, and second in per capita articles and in Google Scholar citations.

As a benchmark we have also included data compiled in our exercise on the Department of Government at the University of Essex. As Essex is considered by many to be the best politics department in Britain, and did receive the maximum score in the last RAE, using this department for a reference is setting the bar quite high. In addition, with 25 full-time, permanent staff, it is also larger than all of the departments in our study except Queen's.

little difference here as almost all of the more highly cited scholars have spent most of their professional lives

Because we did not compile CRS data for Essex, we have constructed a separate “overall” score to compare Essex with the Irish departments without the book citation counts. In per capita terms, Essex is ahead of TCD, but just barely, with 103.5% of TCD’s score. Its score is also higher on articles, but again not by much, at 117.8%. On Google Scholar-based measures, TCD is actually higher per capita than Essex: almost 2 Google cites/year higher than Essex, and about 22 Google citations higher per capita. When just total values are considered, Essex has a clear lead in the overall score, which is to be expected from its size. Once again however, TCD leads in the productivity value, which is the total Google citations for the department divided by the total years of all staff members.

[FIGURE 4 ABOUT HERE]

Differences between departmental profiles can be summarized graphically using box plots such as the one shown in Figure 4. Each box shows the inter-quartile range of the values for each department, along with a bar for the median value and additional markings outside the box showing some of the extreme values. For comparison, we have also plotted the distribution of Essex’s department of government. While Essex’s median total citations is higher than any Irish department’s, its interquartile range is slightly below TCD’s. Figure 4 plots this data for the total Google Scholar citations, a figure that takes into account every type of publication. Departments are plotting in increasing order, and the counts shown on the y-axis are logged to reduce skew. Trinity’s median value is highest, followed by Ulster whose relatively small department has a high per capita number of Google citations, and followed by UCD in third. In comparison with Essex, TCD has practically the same median value on productivity, with a slightly larger range.

[FIGURE 5 ABOUT HERE]

Different departments not only have different numbers of staff, they also have very different age profiles. Counting total citations clearly advantages departments with senior staff whose longer careers have provided more opportunity to accumulate citations. Figure 5 portrays the profiles of departments according to productivity, on a linear scale, according to the Google Scholar citations per year. Once again, the ranking puts TCD first, Ulster second, UCD third, and UCC last.

Books

As we emphasised earlier, a complete summary of the impact of research has to deal with the fact that many scholars publish much of their book in the form of edited books and monographs. Book citations do form an important part of impact in political science. The bibliometric problem is that books citations are not counted in standard sources and are very hard to measure. These are not included in either ISI or Scopus searches, and while they are included in Google Scholar we have made no distinction between books and other material. Examining the IS-CRS results, it is apparent that 60% of all citations were to books, a striking figure given that the ISI citing database is confined to non-book material. In Figure 5 we list some of the most cited books. The list is headed by Lodge's book *Black Politics in South Africa*, followed by a varied list including three books at least part written by Paul Bew, three by Michael Gallagher and two by Tom Garvin and by Richard Sinnott. The best cited book on Ireland is Ruane and Todd's *Dynamics of Conflict in Northern Ireland*.

[FIGURE 5 ABOUT HERE]

CROSS-VALIDATING DIFFERENT CITATION MEASURES

In addition to our results focusing on the departmental rankings, our analysis also revealed several interesting patterns from a comparison of the different measures. These different measures derive from different sources, and it is a matter of some debate in the bibliometric literature as to how dependent results are on the sources chosen. Figure 6 shows

the relationships between five different sources, taking in each case total citations: Google scholar, ISI, Scopus, ISI-CRS (books only) and ISI-CRS (all material).¹² ISI has been the most widely used source to date despite concerns about its coverage. We can see that its results correlate quite well with those from Scopus (0.73), and also with Google Scholar (0.70) but less well with the full ISI-CRS where the correlation is only 0.53. Most strikingly, it correlates at only 0.25 with the books only citations from ISI-CRS. Scopus provides pretty similar results, correlating modestly with ISI-CRS (total cites) and more strongly with Google Scholar, but also very poorly with the book only measure from ISI-CRS. It is very clear that measures based just on books will give different results to those based just on articles, although article based measures do correlate more highly with total measures than do book only measures, suggesting that a majority of citations are to articles.¹³ The two most inclusive measures, Google Scholar and the full ISI-CRS, provide the highest correlation in the whole matrix, 0.84. This is particularly remarkable given the concerns expressed about the unreliability and unpredictability of the former (Jacso 2005, Jacso 2006, Norris and Oppenheim 2007) and the more systematic problems raised here about the latter. In general the analysis here seems to “confirm” the worth of Google scholar. Not only does it correlate more highly with ISI and Scopus, but it also matches well with the total CRS citations (books and articles), suggesting that Google provides a valid aggregate measure that includes both books and articles. However, we should sound one note of caution here. Typically Google Scholar shows about double the number of citations thrown up by summing ISI articles and ISI-CRS books-only. However, in a few cases – Bew and Paterson most significantly, but also Garvin – the Google Scholar score is *smaller* than that. Indeed, for Bew and Patterson it

¹² Here we compare the *total* citations from the Cited Reference Search, which includes both books (represented in Tables 2-4) as well as citations to articles, which we did not count in our analysis.

¹³ We found that 40% of citations in ISI-CRS was for books as opposed to 60% for articles. This is much lower than the percentage of book citations found by (Lindholm-Romantschuk and Warner 1996), although the methodology used there was very different, with only a subsection of books being included for analysis.

is smaller than total book citations. We are undertaking further analyses to explore why this should be so.

[FIGURE 6 ABOUT HERE]

CONCLUSIONS

Our chief objective in this paper was to explore what bibliometric methods could tell us about the impact of research being carried out and published by those in departments of political studies in Ireland. While we were interested most in those departments in the Republic, where there has not been any kind of national level research ranking and review, we have also included other departments on the Island on the basis that taken together, these eight departments provide the bulk of the PSAI membership whose focus, in name and in activity, is Irish political studies. We also examined the department of Government at Essex University so that we could use it as benchmark of high quality. The main results of this exercise suggest that the department scoring most highly in this exercise, TCD's Department of Political Science, bears comparison to the best research departments in the UK in terms of per capita impact and overall productivity per scholar. There is, however, a big range of scores across the several departments included in this study, even controlling for the fact that some are much newer, with younger staff profiles than others. In terms just of the Republic of Ireland, there is an obvious Dublin concentration, with the strongest departments all located in the capital.

The analysis also looks at individuals, and the pattern here is similar, with most of the more highly cited staff being based in Dublin, a result which holds even when we look at the whole island with only three of the top dozen – calculated by a composite measure – based outside Dublin. We would argue that our measure gains added validity from the fact that most of the more highly ranked people are now senior academics, being Associate or Full Professors in the Republic or Professors in the UK.

As is expected in bibliometric results, the scores are highly skewed, with a small percentage of people obtaining most of the citations. However, less expected was the fact that quite a large proportion of those included in the survey had published no articles cited in either ISI or Scopus and that most people has an H index of no more than 1. It is possible that these low scores reflect a bias in those sources against work done by Irish based academics. As we have already said, key Irish-based politics journals do not feature in either database. Google scores are also very low for many people. It is important for Irish political science that where good work is done it is accessed easily by other scholars, and this is something that Irish universities can encourage, as Australian universities have done for some time. It is also important for Irish based scholars working on Irish politics – and particularly on politics in the Republic – to ensure their work is also relevant to the wider academic community. It was very clear from our work that there are very few works on the Republic attracting significant citations unless that work addressed questions of much more general interest. Most of the more highly ranked scholars, even where they have worked extensively on politics in the Republic, obtained their ranking with work done on the European Union or on more general issues.

A secondary question we wanted to explore was the extent to which the sources we used would affect the results obtained. This is particularly important given that social science is seen as less amenable to the sort of exercise we have conducted here because important published work is not confined to journals. In particular, books are very important. We chose two databases that focus on articles, one of which can also be used to examine a wider set of citations, including those to books, in those articles. We also used Google Scholar. In general we found a broad similarity between the stories that could be told using any of these data sources, apart from the fact that Google Scholar suggests everyone has a bigger impact that is suggested by Scopus or ISI. The rankings are much the same, as is evident in the substantial

correlations between those sources. However, it is also clear that including book citations do make a difference, as there are groups of scholars who have concentrated on books almost to the exclusion of articles and reliance on Scopus or ISI will thus ignore the sometimes-substantial impact of their work. We feel that if only a single source is used, Google Scholar (using *Publish or Perish*) is to be preferred to ISI-CRS, because it is far superior in picking up the sort of co-authored work that is increasing in importance, but that is not to dismiss the concerns many have about the quality of its data.

REFERENCES

- Coupe and Walsh. Coupé, Tom and P. Paul Walsh. 2003. "Quality Based Rankings of Irish Economists 1990-2000." *Economic and Social Review* 34(2): 145-149.
- Evidence Ltd 2007. "The use of bibliometrics to measure research quality in UK higher education institutions." Published by Universities UK.
- Dess, H. (2006). "Database reviews and reports: Scopus." *Issues in Science and Technology Librarianship*. Available from <http://www.istl.org/06-winter/databases4.html>.
- Garfield, E. 1979. "Is citation analysis a legitimate evaluation tool?" *Scientometrics* 1(4): 359-75.
- Garfield, E. 2005. "The Agony and the Ecstasy: The History and Meaning of the Journal Impact Factor". International Congress on Peer Review And Biomedical Publication, Chicago, September 16.
- Gupta, Hari M., José R. Campanha, and Rosana A. G. Pesce. 2005. "Power-Law Distributions for the Citation Index of Scientific Publications and Scientists." *Brazilian Journal of Physics* 35(4A, December) 981-986.
- Hirsch, J. E. 2005. "An index to quantify an individual's scientific research output." *Proceedings of the National Academy of Sciences* 102(46, Nov 15): 16569-16572.
- Katz, J. Sylvan 1999. *Bibliometric indicators and the social sciences*. Report Prepared for the ESRC.
- Jacso, Peter 2005. "As we may search – Comparison of major features of the *Web of Science*, *Scopus*, and *Google Scholar* citation-based and citation-enhanced databases", *Current Science*, 89(9): 1537-47.
- Jacso, Peter 2006. "Deflated, inflated and phantom citation counts" *Online Information Revue*, 30(3):208-214.
- Lindholm-Romantschuk, Ylva and Julian Warner 1996. "The role of monographs in scholarly communication. An empirical study of Philosophy, Sociology and Economics", *Journal of Documentation* 52(4): 389-404.
- McLean, Iain, André Blais, James C. Garand and Micheal Giles. 2008. "Comparative journal rankings: a survey report." Nuffield College Working Papers in Politics, 2008-W1 (05 April 2008). Available from <http://www.nuffield.ox.ac.uk/politics/papers/>.
- Norris, Michael and Charles Oppenheim 2007. "Comparing alternatives to the Web of Science for coverage of the social sciences' literature." *Journal of Informatics* 1: 161–169.
- Ruane, Frances P. and Richard S. J. Tols. 2007. "Centres of Research Excellence in Economics in the Republic of Ireland." *Economic and Social Review* 38(3, Winter): 289–322.

**APPENDIX:
Exact Details on Usage of ISI, Scopus, and Publish or Perish**

The full dataset of our citation measures collected in April 2008 can be available from <http://www.kenbenoit.net>. All code used to produce the analyses in this paper are also available from that source.

ISI / Social Science Citation Index

ISI is a subscription-only service provided by Thomson Scientific. We were able to access it through the Trinity College network at the following address:

http://apps.isiknowledge.com/WOS_GeneralSearch_input.do?product=WOS&search_mode=GeneralSearch&SID=Q1leaCC@49JJkbMAB47&preferencesSaved=. From this search page,

we selected the **Current Limits: [Hide Limits and Settings]** link, and made sure that only the *Social Science Citation Index* was checked. In the **Search For:** fields, we then entered the author's last name and first initial, making sure the "In" drop-down list displayed **Author**. Our results included all publications except Book Reviews which we excluded from the search results.

To search for "Simon Hix", for example, we input "Hix S" into the author field, and clicked on **Search**. This led to 28 results displayed across three pages. After verifying that the author of each publication was indeed Professor Simon Hix of the London School of Economics and Political Science (<http://personal.lse.ac.uk/HIX/>), we checked only *Article*, *Editorial Material*, and *Review* under **Document Types**, and clicked on the **Refine** button. **This step excluded book reviews from the results**, leaving 23 total results. From there we clicked the link Create Citation Report, which summarized the information including the H-index computation of 10.

SSCI “Cited Reference Search”

When running a Cited Reference Search on the *ISI Web of Science* search engine, the name of the scholar was entered into the ‘author’ field as *Hix S**, where the ‘*’ allowed for the fact that there were some scholars who published using more than one initial. The results were then examined to filter out false positives. First, any well-known works were marked and included in our overall dataset. Second, we consulted each scholar’s individual webpage, and if there was a list of publications on that webpage, it was used to identify those works that qualified for inclusion in our dataset. Third, where there was a list of selected publications, we used the research interests as stated for each scholar to judge whether or not a particular work should have been included in our dataset. Finally, where we were unsure as to whether or not a particular work should have been included in the dataset, we used *Google Scholar* to help us match cited references to scholars.

This method does not perfectly account for those works that were co-authored, since the CRS routinely lists cited references authored by two or more scholars only using the first author’s last name. In these cases we added information about known coauthored works based on our readings of individual web pages and CVs, and searched for cited references to these coauthored works in the CRS using the first author’s name.

To identify whether works were books or not, we used scholars’ webpages and the Trinity on-line library catalogue.

Once we had attained this information on each scholar, we placed each individual scholar’s citation information in a single worksheet that in turn was contained in an individual workbook, identified by each institution on the island of Ireland. This was then collated into a master-sheet which corrected all *ISI* errors in the names of individual scholars, as well as making sure that those works that were counted as separate entries were identified using a unique code so that citations for the separate entries could be aggregated into a single

work. For example, an extra space could make ‘Book A’ seem as two entries. As such, the total amount of citations for ‘Book A’ might not be reflected adequately without running a Cited Reference Search. Not doing so would have consequences for the construction of those indices used to measure academic impact.

Scopus

Scopus is a subscription-based service from Elsevier, which also required access from the Trinity College network. The Author Search page can be found from http://www.scopus.com/scopus/search/form.url?display=authorLookup&clear=t&txGid=GyIwov16EBJy80VfkZn_UdP%3a3. To look up Simon Hix for this example, we input “Hix” into *Last Name*, “Simon” into *First Name*, and unchecked the boxes for *Life Sciences*, *Health Sciences*, and *Physical Sciences*, leaving only *Social Sciences* checked. We then clicked the **Search** button. This returns seven author results, all of which can be verified as Simon Hix of the LSE. Checking **All** to select all authors, we then click the button **Citation Tracker** to generate the citation statistics. This results in a summary of the 25 cited documents recorded by Scopus and their citations, including the H-index of 11. As with ISI, we excluded book reviews from the search results.

Google Scholar / Publish or Perish

Publish or Perish is software available for Windows and Linux from [Harzing.com](http://harzing.com), and provides an interface for searching citation data from [Scholar.Google.com](http://scholar.google.com). We used the Windows version of the software. Once the program is started, we unchecked all of the subject fields except for “Business, Administration, Finance, Economics” and “Social Sciences, Arts, Humanities.” We followed the recommended Author Search method which is to use the full name of the author enclosed in quotation marks, but we also explored separately using first initial and name which for some people threw up additional work. Each resulting list was then checked and apparently false positives dropped. In some cases on-line

CVs were used to help with this process. The search is confined to material in social sciences, including Economics and Commerce as well as Arts and Humanities, but no other filter was used.

To continue our running example, in the **Author's Name** field we entered “Simon Hix”, enclosed in quotation marks. This results in 176 papers that have received a total of 2,983 citations (April 15, 2008) over a 16 year span, for an H-index of 25 (although we did not use the H-index from *Publish or Perish* in our analysis).

Because Publish or Perish tends to result in many “false positives” – although not for relatively uncommon names such as “Simon Hix” – we found the following steps helpful to filter out results:

- Sort by year, since it will become clear that results from very early years are not the person searched for. For instance, we can safely exclude the articles dated in 1934 from a search for “Michael Gallagher”.
- Sort by name, since it then becomes easier to sort out other people with different initials, for instance “M Gallagher” will be okay, but “MJ Gallagher” will not be.
- Sorting by Publication and Publisher also helps filter out false positives.

The final resort in difficult cases is simply to examine each article in the results list one-by-one, comparing them to items listed on authors' web pages or CVs.

Table 1. Institutions and Units Considered in the Assessment Exercise.

Institution	Unit	Web Site
Trinity College	Department of Political Science	http://www.politics.tcd.ie/staff.php
University College Dublin	School of Politics and International Relations	http://www.ucd.ie/spire/staff.html
Dublin City University	School of Law and Government, Government Group	http://www.dcu.ie/info/staff.php3?query=law
NUI Cork	Government (College of Business and Law)	http://www.ucc.ie/en/government/Staff/
Queen's University Belfast	School of Politics, International Studies and Philosophy	http://www.qub.ac.uk/schools/SchoolofPoliticsInternationalStudiesandPhilosophy/Staff/
University of Ulster	School of Economics and Politics	http://www2.ulster.ac.uk/staff/dept-ecp.html
University of Limerick	Department of Politics and Public Administration	http://www.ul.ie/ppa/Politics/Faculty.htm
NUI Galway	Department of Political Science and Sociology	http://www.nuigalway.ie/soc/staff/index.html
For comparison:		
University of Essex	Department of Government	http://www.essex.ac.uk/government/

Table 2. Ranking of Top 30 Impact Politics Scholars in Ireland

Overall Rank	Name	Insti-tution	Title	Articles		Books		Productivity		Google Scholar							
				Overall Score	Total (Google) Years	Rank	Score	Rank	Ref. Search Citations	Rank	Cites per yr	Rank	Total Citations	ISI Citations	ISI H-Index	Scopus Citations	Scopus H-Index
1	Benoit, Kenneth	TCD	Professor	100.0	15	1	100.0	33	34	1	47.47	5	712	146	7	183	7
2	Gallagher, Michael	TCD	Professor	91.1	34	3	61.0	1	349	2	33.09	1	1125	176	7	20	2
3	Marsh, Michael	TCD	Professor	90.9	30	2	83.4	6	175	3	28.27	2	848	200	6	99	5
4	Laffan, Brigid	UCD	Professor	67.8	26	4	56.5	8	129	4	27.69	4	720	74	4	83	5
5	Sinnott, Richard	UCD	Professor	61.0	30	8	43.4	5	181	6	25.00	3	750	35	5	29	4
6	Elgie, Robert	DCU	Professor	47.4	18	9	39.2	11	111	9	21.83	7	393	29	4	32	4
7	Thomson, Robert	TCD	Lecturer	46.2	10	6	45.4	25	44	7	23.50	15	235	48	4	57	4
8	Walsh, Paul Patrick	UCD	Professor	46.0	20	5	47.3	76	0	10	19.30	9	386	31	4	59	5
9	Garry, John	QUB	Lecturer	45.1	14	7	44.6	42	12	8	22.86	10	320	75	3	79	3
10	Lodge, Tom	UL	Professor	41.5	31	14	25.7	4	227	11	13.48	6	418	26	3	21	2
11	Barry, John	QUB	Reader	41.0	14	13	26.8	13	110	5	27.64	8	387	21	2	33	3
12	Wilford, Richard	QUB	Professor	30.6	33	12	27.3	19	67	19	9.12	11	301	14	3	17	3
13	Todd, Jennifer	UCD	Ass. Professor	29.7	27	19	22.2	10	113	14	10.41	12	281	13	1	35	3
14	Guelke, Adrian	QUB	Professor	28.3	36	15	24.4	9	121	33	5.47	18	197	14	2	23	3
15	Bew, Paul	QUB	Professor	28.3	31	60	4.1	1	349	21	8.03	14	249	2	1	0	0
16	Coakley, John	UCD	Ass. Professor	26.8	29	16	23.5	23	47	17	9.69	12	281	26	3	6	2
17	Garvin, Tom	UCD	Professor	25.9	39	20	21.1	7	148	45	3.69	26	144	43	4	0	0
18	Edmondson, Ricca	Galway	Sr. Lecturer	25.7	28	10	30.3	39	16	39	4.86	28	136	32	4	21	2
19	Hainsworth, Paul	Ulster	Sr. Lecturer	22.5	28	25	17.8	15	91	26	6.61	19	185	11	2	7	2
20	McCall, Cathal	QUB	Lecturer	22.1	19	11	29.2	43	11	60	2.26	51	43	16	3	28	3
21	Patterson, Henry	Ulster	Professor	22.0	30	65	4.0	3	248	25	7.13	17	214	1	1	0	0
22	Robinson, Neil	UL	Sr. Lecturer	19.9	18	17	23.2	36	22	40	4.28	41	77	16	3	13	2
23	Cottey, Andrew	UCC	Sr. Lecturer	18.2	15	34	14.5	35	23	13	11.20	21	168	7	1	14	2
24	McGowan, Lee	QUB	Sr. Lecturer	18.1	16	29	16.3	54	5	15	10.31	22	165	22	2	13	1
25	Phinnemore, David	QUB	Sr. Lecturer	17.8	15	23	18.0	52	6	20	8.20	30	123	11	2	8	2
26	McMenamin, Iain	DCU	Sr. Lecturer	17.7	11	18	22.8	64	1	44	3.73	52	41	11	2	15	3
27	Arthur, Paul	Ulster	Professor	17.4	37	37	13.4	16	84	43	3.89	26	144	12	2	2	1
28	Thain, Colin	Ulster	Professor	16.9	25	36	14.2	20	59	35	5.20	29	130	20	3	0	0
29	Galligan, Yvonne	QUB	Reader	16.4	17	31	15.3	30	35	27	6.18	35	105	0	0	0	4
30	Collins, Neil	UCC	Professor	16.0	31	38	13.3	52	6	24	7.42	16	230	9	2	4	1

Table 3. Rankings of Departments

TOTAL

Overall Rank with Books	Institution	Total Staff	Overall Score with Books	Overall Rank without Books	Overall Score without Books	Articles		Books		Productivity		Google Scholar Citations			
						Rank	Score	Rank	Cited Ref. Search Citations	Rank	Total Google cites/Total years)	Rank	Total Citations	ISI Citations	Scopus Citations
1	TCD	8	100.0	1	100.0	1	100.0	3	636	1	21.27	2	3042	583	386
2	UCD	20	72.2	2	66.2	2	57.7	2	733	2	9.30	1	3320	250	280
3	QUB	33	71.3	3	55.7	3	53.8	1	1158	5	5.00	3	2899	228	264
4	UL	12	26.3	4	20.9	4	15.6	5	416	4	5.03	4	891	64	78
6	DCU	6	17.7	5	17.5	6	11.6	7	121	3	6.59	6	481	46	59
5	Ulster	8	24.8	6	15.2	7	5.6	4	590	7	4.63	5	885	50	10
7	Galway	10	14.1	7	12.8	5	14.3	6	149	8	2.22	8	370	67	66
8	UCC	10	10.1	8	10.9	8	3.8	8	30	6	4.77	7	420	17	18

PER CAPITA

Overall Rank with Books	Institution	Total Staff	Overall Score with Books	Overall Rank without Books	Overall Score without Books	Articles		Books		Productivity		Google Scholar Citations			
						Rank	Score	Rank	Cited Ref. Search Citations	Rank	Median Google cites/yr	Rank	Total Citations	ISI Citations	Scopus Citations
-	Essex	25	103.5	-	103.5	-	117.8	-	-	-	12.82	-	358.4	82.9	58.9
1	TCD	8	100.0	1	100.0	1	100.0	1	79.50	1	14.50	1	380.3	72.9	48.3
2	Ulster	8	34.7	3	19.0	7	5.7	2	73.75	2	4.55	3	110.6	6.3	1.3
3	UCD	20	33.2	2	29.7	2	22.9	3	36.65	3	3.95	2	166.0	12.5	14.0
4	QUB	33	22.9	4	17.1	4	12.9	4	35.09	4	2.67	4	87.8	6.9	8.0
5	UL	12	20.5	6	14.3	6	10.3	5	34.67	5	2.28	6	74.3	5.3	6.5
6	DCU	6	18.4	5	16.6	3	15.3	6	20.17	6	2.07	5	80.2	7.7	9.8
7	Galway	10	12.0	7	10.2	5	11.4	7	14.90	7	1.24	8	37.0	6.7	6.6
8	UCC	10	4.7	8	5.0	8	3.0	8	3.00	8	0.33	7	42.0	1.7	1.8

Overall and article scores consist of the sum of insitution's value on each included measure divided by the top-ranked score in that measure, x 100

"Overall rank without books includes the scores for Productivity, Google Citations, ISI Citations, and Scopus Citations

"Overall rank with books" includes components of Overall rank (non-CRS) plus Total CRS Book citations

Article score includes ISI and Scopus citations

Book rank is total CRS book citations

Productivity score is based on the median staff member's Google citations/Google years (for per capita), and the Total Google cites by Total Google years for the department for Total table

Table 4. Top-Cited Books According to ISI's Cited Reference Search

Author	Institution	Cita- tions Title	Year(s)
Lodge, Tom	UL	171 <i>Black Politics in South Africa since 1945</i>	1983
Gallagher, Michael, M. Laver and P. Mair	TCD	88 <i>Representative Government in Modern Europe</i>	1991-2005
Gallagher, Michael and Michael Marsh	TCD/TCD	86 <i>Candidate Selection in Comparative Perspective</i>	1988
Todd, Jennifer	UCD	73 <i>The Dynamics of Conflict in Northern Ireland</i>	1996
Sinnott, Richard	UCD	63 <i>Public Opinion and Internationalized Governance</i>	1995
Garvin, Tom	UCD	62 <i>The Evolution of Irish Nationalist Politics</i>	1981
Bew, Paul, P. Gibbon and Henry Patterson	QUB/Ulster	57 <i>The State in Northern Ireland, 1921-1972</i>	1980
Bew, Paul	QUB	54 <i>Land and the National Question in Ireland, 1858-82</i>	1979
Morriss, Peter	Galway	49 <i>Power: A Philosophical Analysis</i>	1987
Barry, John	QUB	43 <i>Rethinking Green Politics: Nature, Virtue and Progress</i>	1999
Patterson, Henry	Ulster	41 <i>Class Conflict and Sectarianism</i>	1980
Moxon-Browne, Edward	UL	41 <i>Nation, Class, and Creed in Northern Ireland</i>	1983
Gallagher, Michael	TCD	40 <i>The Referendum Experience in Europe</i>	1996
Sinnott, Richard	UCD	39 <i>People and Parliament in the European Union</i>	1998
Bew, Paul	QUB	38 <i>Conflict and Conciliation in Ireland, 1890-1910</i>	1987
Thain, Colin	Ulster	36 <i>The Treasury and Whitehall</i>	1995
Garvin, Tom	UCD	36 <i>Nationalist Revolutionaries in Ireland, 1858-1928</i>	1987
Walker, Brian	QUB	36 <i>Parliamentary Election Results in Ireland, 1801-1922</i>	1978
Thomson, Robert et. al.	TCD	34 <i>The European Union Decides</i>	2006
English, Richard	QUB	33 <i>Armed Struggle: The History of the IRA</i>	2003

Note: Years may be plural because multiple editions are counted as one work.

Figure 1: Productivity Profile of Top 50% of Individual Scholars.

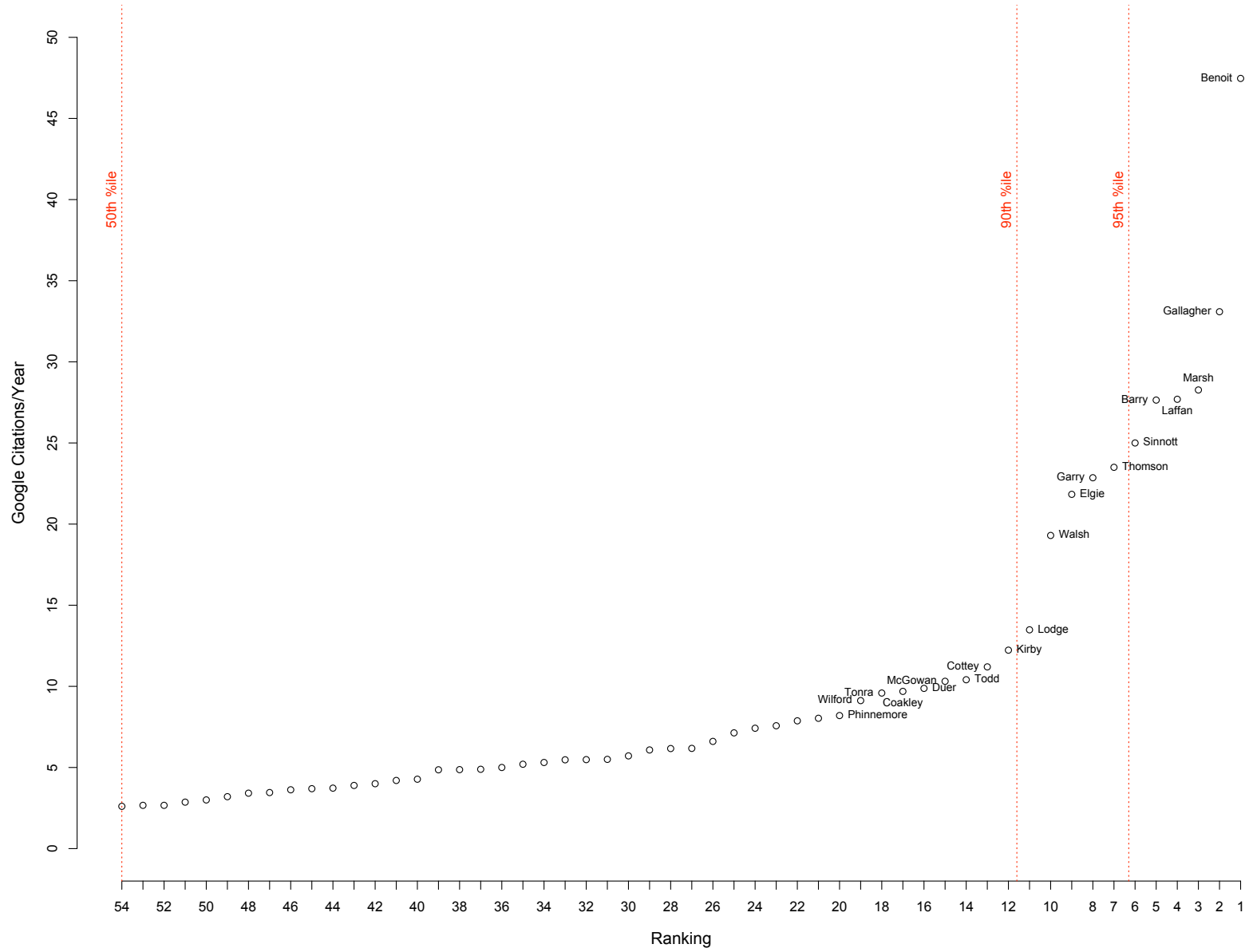


Figure 2: Citations Measured on Scopus and ISI by Individual Scholar.

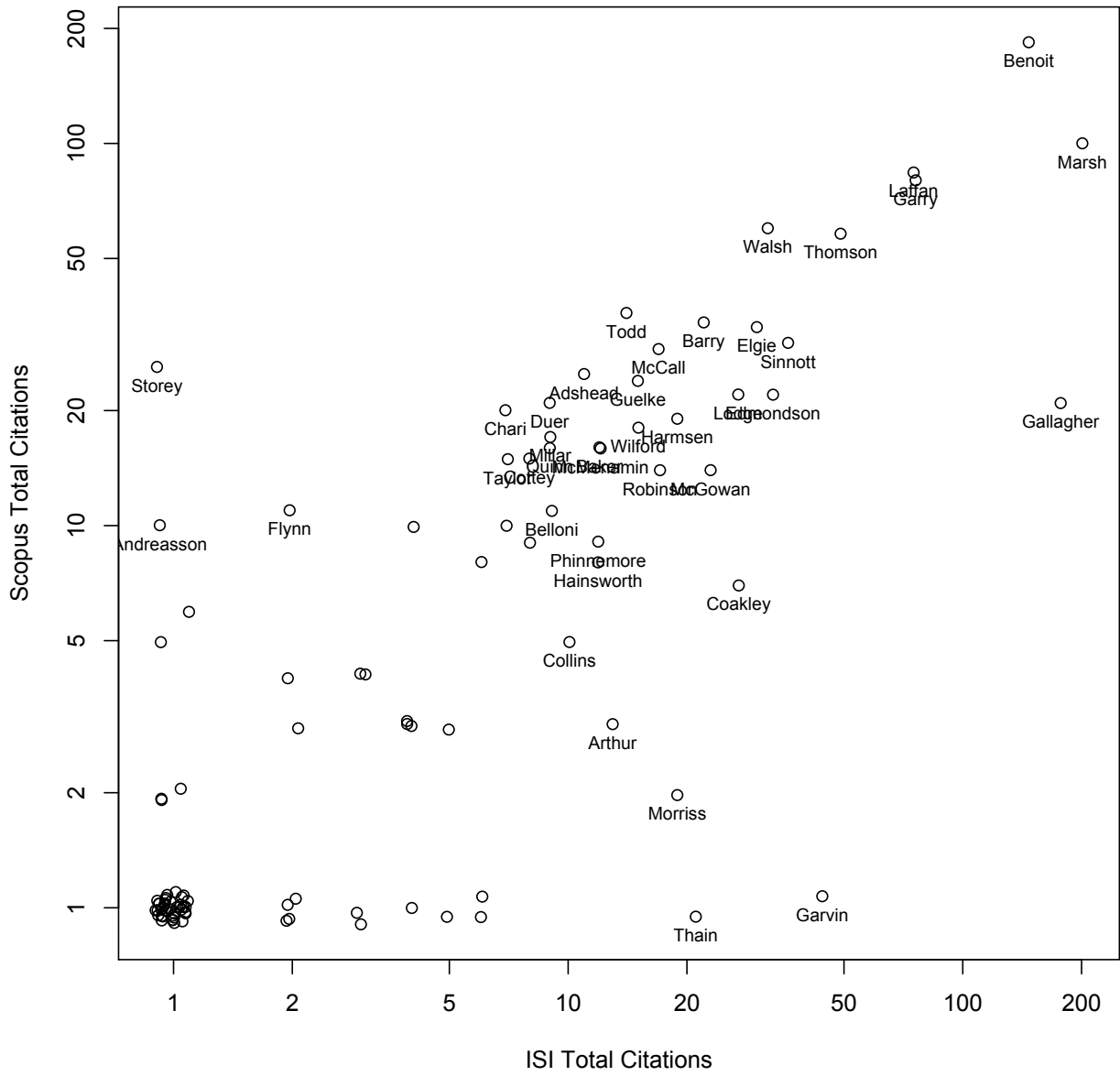


Figure 3: H-Index Profiles, Scopus v. ISI, Individual Scholars.

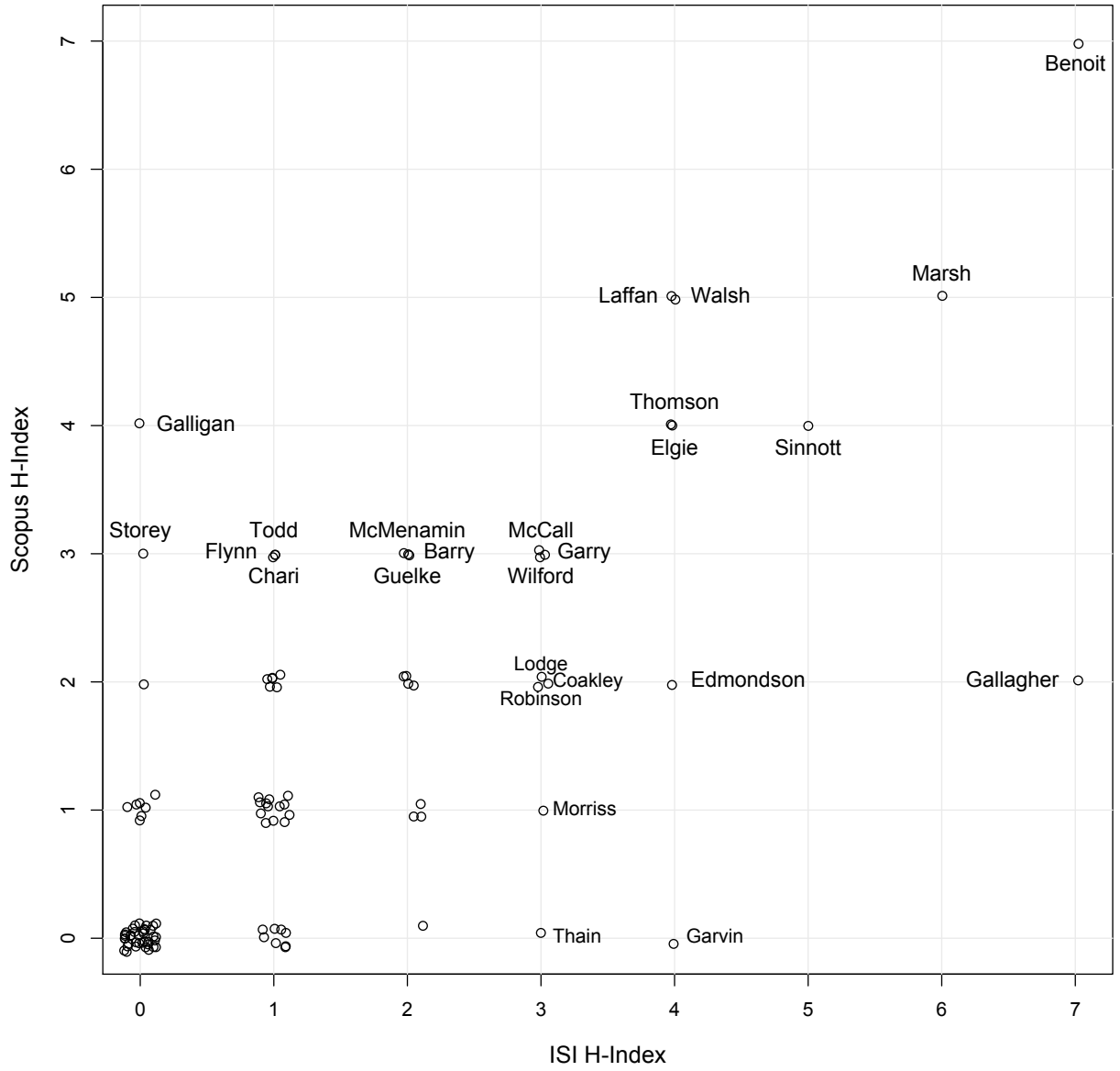


Figure 4: Citation Profile of Departments on Google Scholar.

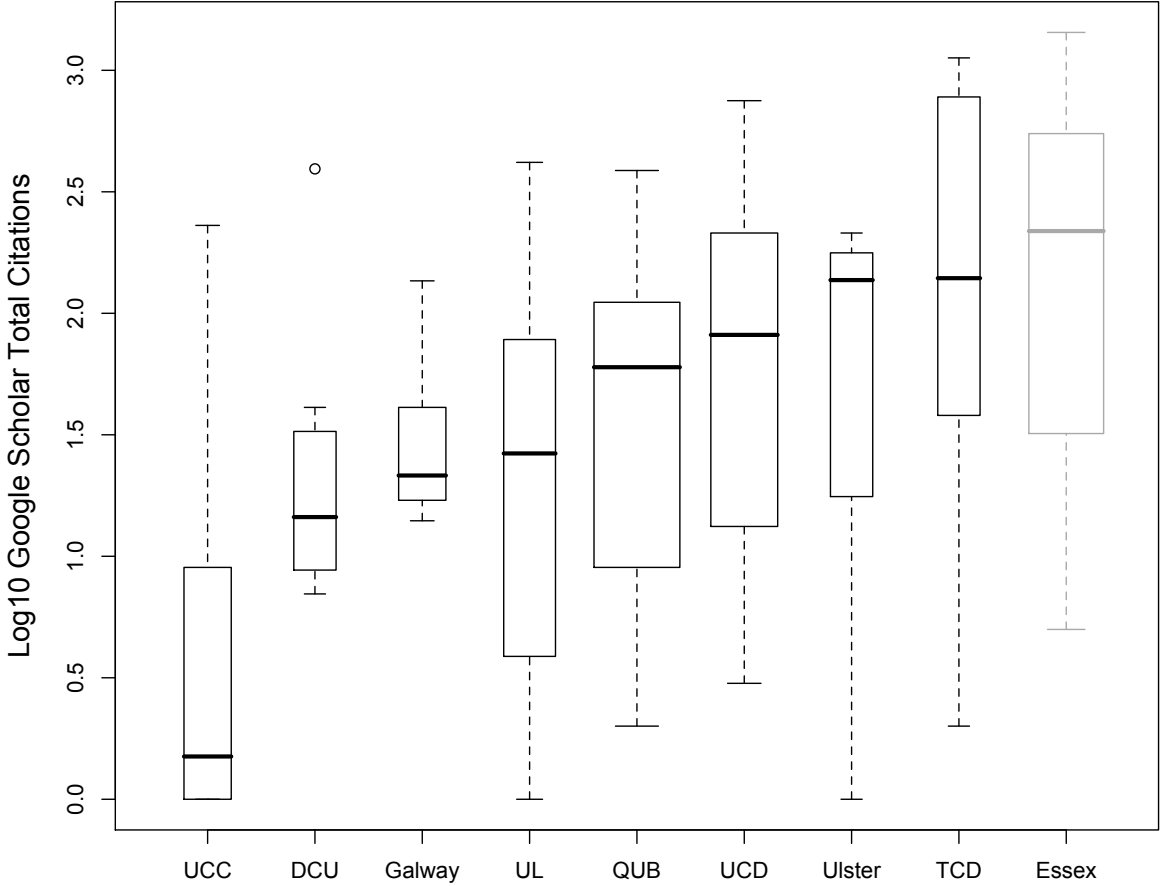


Figure 5: Productivity Profile of Departments, Google Scholar Citations Per Year.

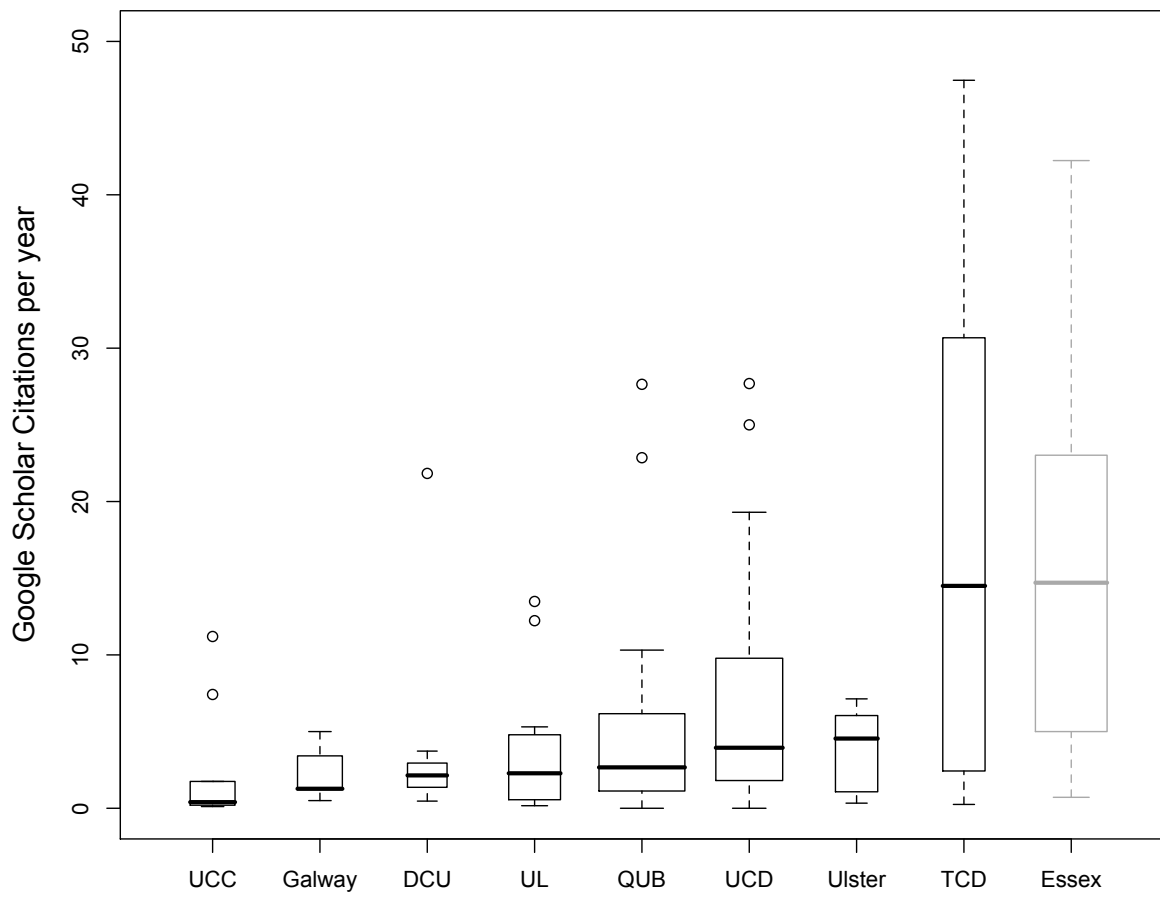


Figure 6: Correlations Between Citations Measures.

