Centres of Research Excellence in Economics in the Republic of Ireland*

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Abstract: Using publication, citation and h-numbers from the *Scopus* and *Web of Science* databases, we find that research output and academic influence of economists in the Republic of Ireland are heavily skewed by researcher and by institution. A subset of the results is confirmed by similar analyses based on *EconLit*, *Google Scholar* and *IDEAS/REPEC*. The analysis shows that while one university dominates in terms of numbers of economists, the more productive and most cited Irish research economists are spread across a range of institutions that are heavily concentrated in the Greater Dublin Area.

I INTRODUCTION

One of the key outcomes of the Lisbon Strategy in 2000 was the increased emphasis on knowledge as a competitive factor in achieving greater growth and development in European economies. This message has been enthusiastically accepted in Ireland and is evident in the government's commitment both to increased funds for research, and to the promotion of fourth-level education in Irish universities. A key part of current policy is to promote cooperation among researchers within and across disciplines, both in terms of research being undertaken and in the delivery of postgraduate programmes. While economists may argue about the merits of competition versus cooperation in Irish academic communities, the thrust of government policy at present is to foster cooperation as a modus operandi and this institutional feature is taken as the starting point for this paper. One driver of this approach is the desire to create critical mass in terms of centres of excellence, which can then begin to compete with larger centres across Europe and elsewhere.

In terms of international reputation and scale, it is difficult for any individual institution in the Republic of Ireland, hereafter referred to as Ireland, to have an internationally-competitive research profile that would be able to match the larger-scale international institutions. Furthermore, and equally important in terms of government strategy, and indeed for the future health of the profession, no single institution has the scale to mount a structured postgraduate programme that would be in the top ranks globally, and consequently to attract from the top rank of potential graduate students. Lubrano *et al.* (2003) suggest that ranking the research of Departments of Economics would impact on the choice of graduate students looking for a PhD programme in Europe: "He [sic] will be looking first for a supervisor (a person) and second for a scientific environment (an institution)" (p. 1367). To be credible, such a postgraduate programme or set of interrelated programmes would require a sizeable number of well-published researchers to deliver postgraduate courses and supervise PhD-level dissertations.

Who are the researchers who could deliver this ambitious agenda and where are they located? In the UK these questions are answered for the most part with reference to the Research Assessment Exercise (RAE), which has essentially identified centres of excellence in disciplines across the UK. In Ireland, no such exercise has been undertaken but the Higher Education Authority (HEA) has encouraged each institution in the university sector to prioritise areas of academic strength within its institutional strategy and to develop these, in cooperation with other institutions within Ireland. To this end, the HEA, under the 1999-2006 National Development Plan (NDP), has

funded a significant number of research institutes across the university system under its *Programme for Research in Third Level Institutions* (PRTLI). Economics as a discipline has featured in each of the first three rounds of the PRTLI with the creation of multi-disciplinary institutes in different universities.[1]

Under consideration now in Ireland is the development of fourth-level education, which is intended to underpin this research. In particular, consideration is being given to the creation of graduate schools, which would seek to run more formal PhD programmes along North-American lines. Since the option of creating a graduate programme that would involve economists across a range of institutions in Ireland is now possible, it is timely to look at the research output of Irish economists in these institutions in more detail. The planned rapid expansion of government research funding in Ireland over the next decade allows for a strengthening of research across all institutions, and the intention of government policy seems to be the creation of collaborative centres that can be among the best centres in the world or at least in Europe.[2]

This paper looks at economists across institutions in Ireland in terms of their publications in peer-reviewed journals using a number of rank indicators and databases. While some would see these publication metrics as a limited measure of output, in practice they are the main, if not the only, basis on which it possible to compare published outputs across large numbers of researchers. Furthermore, these metrics are typically those on which centres of excellence are internationally evaluated and compared. This paper *complements* earlier work, using *EconLit,* on the publication record of economists based in Ireland reported by Barrett and Lucey (2003) and Coupé and Walsh (2003), and we

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[1] The institutes with a social science dimension include: the Institute for International Integration Studies (IIIS) at Trinity College Dublin (TCD); the Geary Institute (formerly the Institute for the Study of Social Change) at University College Dublin (UCD); the Urban Institute at UCD; the National Institute for Regional and Spatial Analysis (NIRSA) at National University of Ireland Maynooth (NUIM); and the Centre for Innovation and Structural Change (CISC) at National University of Ireland Galway (NUIG). Each of these centres has a particular focus and its own modus operandi, with the result that the centres tend to be complementary in their coverage and quite different in how they develop their research agendas.

[2] Given the scale and teaching commitments in economics departments in Irish universities, the expected research outputs of such departments might be more appropriately compared with those of Liberal Arts Colleges in the US rather than with the large Research Universities. In Ireland, as in the rest of Europe, universities differ in the relative emphasis placed on research and education, as do individual departments within those universities. In contrast with the US, there is no distinction by name between such institutions and all have the right to grant advanced degrees. See Bodenhorn (2003).

encourage readers to view it in this context.[3] In particular, it gives greater coverage to younger economists and to economists who also publish outside economics, and it includes citations as well as publications. Using different databases and metrics allows us to test the robustness of the rankings.

One feature of this paper is that it looks at current affiliation – as of September 2007.[4] As will be apparent, many economists in Ireland have moved between institutions (see Table 1), so a study which used the affiliation at the time of publication (as, for example, in Kalaitzidakis *et al.*, 2003) would give a quite different ranking by institution.

The present paper differs in three respects from the earlier studies. First, it uses the well-established *Web of Science* and a new but increasingly popular database, *Scopus*, which is gaining credibility in measuring research output in disciplines that predominantly use peer-reviewed journals as a method of dissemination. *Scopus* is the largest abstract and citation database of research literature and quality web sources. It is designed to find the information scientists need to evaluate research institutions and researchers. *Scopus* covers over 15,000 peer-reviewed titles from more than 4,000 publishers, including over 12,850 academic journals. *Web of Science* covers approximately 8,500 journals, but this is not a subset of *Scopus*. Unlike the narrow subject base of *EconLit* used in the previous studies, *Scopus* and *Web of Science* cover papers from all disciplines.

Second, it assesses quality by the actual number of citations of an author's papers, rather than by the average citations of the journal in which the paper is published. *EconLit* does not contain information on citations. Third, it takes note of the considerable mobility of researchers across Irish institutions in recent years, by showing where they have been previously based, as well as where they are currently or soon to be based. It seeks to include all economists who are based in Ireland on a full-time basis (see below), and their particular institutional affiliation is determined by their strongest current professional link.[5] It does not include several researchers who are currently linked to Irish institutions on a part-time basis, but who are not located in Ireland

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[3] Since we are interested in centres of excellence in the Republic of Ireland, we do not include high-publishing Irish economists at institutions outside Ireland, with the exception of Peter Neary who is currently on leave from UCD at the University of Oxford. Neary is also used to highlight the impact of mobility. Tony Murphy would be an earlier example; he would have ranked 8th in *Scopus* and 19th in *Web of Science*. Although two would-be Top 10 economists left Ireland, three economists in the actual Top 10 are recent arrivals. Note also that this paper excludes Northern Ireland.

[4] The past year has seen unprecedented mobility of economists within the Greater Dublin Area.

[5] For example, while Margaret Hurley is a research associate at the IIIS, she is included as an NUIM economist since this is her main academic affiliation. Since Michael Harrison is now part-time at UCD, having been previously full-time at TCD, he is associated with UCD.

full-time.[6] The majority of economists included in our analysis are based in Departments of Economics, but we include a significant number of economists from outside economics departments (e.g., business schools) and from cross-disciplinary centres, as well as from The Economic and Social Research Institute and the Central Bank of Ireland.

Before proceeding further, it is important to note that, *a priori,* we would expect to find skewness rather than symmetry in the distribution of peer-reviewed journal publications across academics. Such differences arise naturally as academics are at very different stages of their careers. They can also be expected because of different publication patterns. For example, to the extent that some individuals have focused on the Irish economy, they have published extensively in the *The Economic and Social Review*, which has a modest readership outside Ireland and is consequently not widely cited. Because of the nature of their research, other researchers have published mostly in the form of books,[7] some of which have been subject to peer review while others have little or no refereeing. Furthermore, a large proportion of the research undertaken by some economists, particularly in the policy area, has been in the form of "grey publications" (that is, not formally peer-reviewed).

It is also to be expected that the distribution will be skewed by institution. Such skewness will reflect differences in the relative scale of economics within institutions and variations in the age profiles of academics across institutions. It will also reflect the other responsibilities of economists in their institutions. For example, in university departments, there are variations in the relative emphasis placed on research, post-graduate supervision, and undergraduate teaching, reflecting in part the geographical distribution of educational institutions and their response to local needs. The production of reports for government agencies is central to the work of economists in the ESRI, while economists at the Central Bank of Ireland (CBI) are similarly primarily engaged in producing analysis as input into the national and EU policy-making process.

In Section II, we discuss the methodology used to measure research output and describe how the economists were identified. In Section III, the results of the analysis using the *Scopus* and the *Web of Science* data are presented, and differences between them are discussed. Placing the new results in their context, Section IV compares the findings from *Scopus* and *Web of Science* with results obtained using data from *EconLit, Google Scholar, IDEAS/REPEC* and the two previous studies (Barrett and Lucey, 2003; Coupé and Walsh,

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[6] For example, James Heckman, James Markusen, and Ann Carlos.
[7] Note that we do not count citations to books either. This affects the citation rankings. For instance, the books by Kevin O'Rourke are cited more often than his papers.

2003). The comparison with *EconLit* is important, because it has traditionally been the database of choice. We argue below that *Scopus* and *Web of Science* have superior data and facilities. We include *IDEAS/REPEC* because it readily provides an up-to-date international context. Some 70 Irish economists are now registered at *IDEAS/REPEC*, a number that has risen markedly in recent months. *Google Scholar* is included because it may be the database of choice in the future; we did not put it centre stage because it does not distinguish peer-reviewed material, and because there are teething problems with author recognition. Section V sets the findings in Sections III and IV in a broader context using the international literature on rankings of economists and economics departments. Finally in Section VI, we make some concluding comments.

II DATA AND METHODS

Our main data sources are Elsevier's *Scopus* (www.scopus.com) and Thomson Scientific's *Web of Science* (www.isiknowledge.com). Compared to the *Web of Science* and *EconLit*, *Scopus* is well-recognised as having a better coverage of journals after 1996 (e.g., de Moya Anegon *et al.*, 2007). However, for the period before 1996 *Scopus* has relatively poor coverage, which is essentially limited to Elsevier journals. Compared to *IDEAS/REPEC*, *Scopus* and *Web of Science* have a much better coverage of journals,[8] but working papers are not included, whereas *IDEAS/REPEC* covers working papers. Furthermore, *EconLit* does not provide information on citations, in contrast with *IDEAS/REPEC, Scopus* and *Web of Science*; obviously, only citations in listed journals to papers in listed journals are included. Section III presents the *Scopus* and the *Web of Science* results. Section IV compares these results with the results for the other databases, that is *EconLit, Google Scholar*[9] and *IDEAS/REPEC*.[10]

We begin by recognising that all rankings are somewhat arbitrary and suggest that we may need several different indices to ensure that we have a balanced overall picture. From *Scopus* and *Web of Science*, we can generate

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[8] For example, *The Economic and Social Review* is listed in *Scopus* and *Web of Science* (until 2000), but not in *IDEAS/REPEC*.
[9] We used Anne-Wil Harzing's (2007) *Publish or Perish*, a *Google Scholar* add-on that is easier to use and computes additional characteristics of authors. See http://www.harzing.com/pop.htm. We are grateful to an anonymous referee for alerting us to this.
[10] We omitted the Social Science Research Network (www.ssrn.com). Its database is dominated by working papers, with only a few journals. There are no data on citations. Rankings are confined to business and finance, and cannot be customised per country.

four ranking indices. In the first three indices, economists are ranked by their number of publications, the number of citations of those papers, and the number of citations of their most influential paper, respectively. The fourth index, referred to as their h-index, is a relatively new metric (Hirsch, 2005), which is gaining increased recognition as an important measure of productivity, impact and influence.[11] An author's h-index equals h if one has written h papers that were cited at least h times. See Jolink (2006) for an application to Dutch economists.

In the analysis, the number of publications is not adjusted for the quality of impact of the journal itself. The quality of a journal is difficult to assess. Recently, subjective rankings have been replaced with objective rankings, the *Journal Impact Factor* being the most prominent. The 2006 impact factor of a journal equals the number of citations in 2006 to papers published in 2004 and 2005, divided by the number of papers published in those years. The impact factor of a journal, is therefore, highly variable as it is based on citations over a short period of time only. Indeed, impact factors are subject to fashion (e.g., the impact factor of all energy journals is currently rising rapidly) and journals with a short review time and publication lag – indicative of a lack of quality in some disciplines – can have a high impact factor. Impact factors are also subject to manipulation. Some editors encourage authors to refer to their journal, or write survey articles on topics covered in their journal. Furthermore, a *Journal's Impact Factor* is often determined by a small number of papers only. Indeed, many papers in high impact journals are never cited (e.g., 15 per cent in the *American Economic Review* according to *Scopus*). The *Journal Impact Factor* is a measure of the quality of the cover of a paper, not of the paper itself. See Glaenzel and Moed (2002), Vinkler (2002), and Maier (2006) for further critiques. As a measure of quality, therefore, the number of citations of an author's paper is counted rather than the *Journals' Impact*. Put differently, quality is measured on the basis of the citations of that paper rather than on the basis of the overall impact of the journal in which it is published.

As with any set of metrics, there are particular features over which people may quite reasonably disagree. For example, the number of citations of publications is not adjusted for the number of authors. This assumption is made for practical reasons and we recognise that collaborative practices are not uniform among economists in different fields and that, with international

[11] The fact that almost the entire issue of a recent edition of the influential journal *Scientometrics* was devoted to the h-index is an indication of the growing importance and value of this metric. There is also a proliferation of refinements of the h-index, but it is not clear yet which of these will gain general acceptance. We here only report the h_1^Δ-index of Ruane and Tol (forthcoming) and the g-index of Egghe (2006).

research consortia, variations in the degree of collaboration are growing. Collaborations are relatively more common in empirical papers, for example. It is not possible to say what effect this would have on our results, but we note that a similar approach was taken by Barrett and Lucey (2003) and by Coupé and Walsh (2003). It is to be expected that names are not assigned to papers unless there is a contribution from each of the authors, and while the contribution of each might not be equal in terms of time effort, it may be the case that a person's relatively minor input in time is in fact highly valuable. However, Neary *et al.* (2003) note that if rankings ignore co-authorships, "authors would face incentives to 'swap' co-authorship with colleagues in order to raise their total score" (p.1242). On the other hand, if rankings were adjusted for co-authorship, there would be an incentive to deny authorship, presumably at the expense of junior researchers. We are not aware of empirical evidence on the relative strengths of these effects. It also happens that a senior author could have written the same, or even a better paper in a shorter time period, but prefers to co-author with less experienced researchers as part of their education and professional development. We recognise that this is a limitation in our analysis, while at the same time noting that any simple adjustment for author number may, arguably, be as arbitrary as no adjustment at all.[12]

In this paper we do not adjust for the number of pages, which is an assumption that some might dispute. We take the view that shorter papers do not necessarily involve less effort, and longer papers are not necessarily better or even more informative.[13] The metric also includes self-citations, which clearly favours prolific researchers. We recognise that there may be some distortion to the extent that authors differ in the degree to which they self-cite, *ceteris paribus*; we return to this issue in Section IV. It also favours those whose research is concentrated in a single research area over those whose research spans a number of different areas. Researchers who publish say, in the area of tax theory only, are more likely to have reason to cite their own

[12] *IDEAS/REPEC* presents rankings for the number of publications and the number of publications adjusted for author number. The rank correlation is 76.9 per cent, for the top 5 per cent of the world. Note that four Irish authors rank *higher* on the author number-adjusted score (Patrick Honohan 391 rather than 488; Philip Lane 310 rather than 474; Kevin O'Rourke 392 rather than 474 (Lane and O'Rourke are tied); Peter Neary 86 rather than 95), and one *lower* (Richard Tol, 231 rather than 74). That is, Neary and Tol switch rank, and Honohan and O'Rourke switch rank. Still, the rank correlation is 65 per cent for these five authors.

[13] In a sense this assumption echoes the spirit of the famous quotation attributed to George Bernard Shaw (circa 1905): "Forgive me for the long letter. I don't have time to write a short one." The same idea is also linked, at a much earlier date (1657), to the French physicist Blaise Pascal: "I have made this [letter] longer, because I have not had the time to make it shorter".

research than researchers whose publications span several areas, e.g., tax theory, trade theory and industrial organisation. Self-citation also increases citations by others (Aksnes, 2003; Medoff, 2006). *Scopus* covers English language journals only,[14] which favours authors who publish solely in the English language and disadvantages those who publish in non-English language journals. While the inclusion of journals in *Scopus* is extensive, it does not include all journals. Nevertheless, the coverage of *Scopus* is broader than that of the alternative sources. Furthermore, coverage of *Scopus* and *Web of Science* is not restricted to economics, which works to the advantage of applied economists and economists who also work in fields outside economics, an increasingly common occurrence as research becomes more multidisciplinary.

The analysis is based on a total of 142 economic researchers who were identified across nine Irish institutions – seven universities, The Economic and Social Research Institute (ESRI) and the Central Bank of Ireland (CBI) using institutional web sites as the primary source.[15] The full list is available on request. In addition, using websites, we identified some 50 economists at post-doctoral level and higher without any publications recorded in *Scopus*. As noted above, the university researchers are primarily employed by Departments of Economics. However, there are increasing numbers of economists working in Business Schools,[16] multidisciplinary research centres, and other humanities and social science departments.[17]

The definition of what constitutes an economist is of course to some degree arbitrary. Some people with a PhD in economics have drifted away from the core interests of a traditional economist, while the discipline of economics itself is constantly changing and expanding – two recent examples are the emergence of neuro-economics (Glimcher, 2003) and general equilibrium theory for other animals and plants (Tschirhart, 2000). People trained in other disciplines also contribute to economics. Examples include Jan Tinbergen, Dan Kahneman, and, in the Irish context, Roy Geary. We have included people who have published in economic journals on economic issues.[18] We assumed that individuals on the academic staff in an economics department are economists.

[14] Note that *Scopus* also has a good coverage of Chinese language journals. No economist in Ireland appears to have published in Chinese.
[15] The names of economists at the Central Bank of Ireland (CBI) were kindly supplied by the CBI.
[16] Dublin City University is the only university that does not have an economics department per se. We are grateful to David Jacobson for providing us with a list of its economists.
[17] This is particularly the case at UCD. We have sought to include all of the economists, and apologise to anyone we inadvertently overlooked. We are grateful to Elaine Hutson for identifying the economists in the Smurfit School.
[18] Thus, we excluded Richard Layte (ESRI), an economic sociologist who would have ranked third (*Scopus*) had he been included.

Note that the inclusion of "non-economists" does not affect the individual ranking. If a reader argues that someone with a higher rank is not an economist, that reader is welcome to increase her rank. The institutional ranking is affected, of course, and we offer two rankings below, one based on an inclusive definition, and one based on an exclusive definition of an economist.

The *Scopus* data relate to December 2006, the *Web of Science* data to April 2007.[19] The data are available on request. Note that there are inevitable errors in the data. Some are our mistakes, and hopefully limited to previous versions of this paper. Some are mistakes in the underlying databases; for example, some of Olive Sweetman's papers are recorded under S. Olive. Some people have problematic names (e.g., John D. Fitz Gerald, Cormac Ó Gráda). Some people have used several versions of their names on different publications (e.g., D. Rodney Thom) or switched from their maiden name to their married name (e.g., Tuvana Demirden/Pastine), while people with double names can also be hard to trace (e.g., Aisling Reynolds-Feighan). People with common names are hard to assess too, particularly if they have one major specialisation and a few minor ones (e.g., Alan Barrett) or if one of their namesakes works in the same field (e.g., David Duffy). We investigated every one using *Scopus* (which has chronological precedence in our research, is easier to use and access, and has superior author identification), while we restricted the *Web of Science* search to the top 65 of the *Scopus* analysis plus 14 senior people whose ranking is likely to be misrepresented by the shorter time span of *Scopus*.

In the next section we present the results of our analysis for *Scopus* and *Web of Science* respectively. We do not claim that this analysis is superior to other possible analyses of research output. As will be evident from the previous papers by Barrett and Lucey (2003) and Coupé and Walsh (2003), and from Sections IV and V below, the different data and methods produce largely the same results, though there are some exceptions. The most notable exception is Frank Browne, who ranks joint 15th on the *EconLit* metric (and 23rd on the overall *Web of Science* score) but close to the bottom of the *Scopus* measure because his publication record is concentrated in the years before 1995 in journals with a poor coverage as yet in *Scopus*.

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[19] Publication and citation data increase daily. In *Scopus*, the database is not only updated with new journal issues (as in *Web of Science*), but journals are also added retrospectively. Note that searches for so many authors cannot be automated.

III RESULTS FROM *SCOPUS* AND *WEB OF SCIENCE*

We begin with the analysis using *Scopus*. Table 1 sets out the names and metrics for the Top 40 economists in Ireland, as measured by their performance in publishing peer-reviewed journal articles, generated from *Scopus*. The Top 40 covers just under 30 per cent of the 142 publishing economists. The score of economists ranked 41st and lower is less than 10 per cent of the top economists. Tables 6-8, which are discussed further below, show the top 15 per individual metric.

It is apparent that the four metrics are in broad agreement with each other, particularly at the upper end of the list. Table 1 also contains an aggregate ranking, which is calculated as follows: the score of each economist under a particular metric is divided by the score of the highest-ranking economist on that metric, so that the score is normalised between 0 and 1. The aggregate ranking is then the sum of the normalised scores for the four individual metrics. If one economist were top of all of these metrics, the top mark would be 4. Not surprisingly, it corresponds reasonably well to the individual rankings. Rank correlations vary between 86.0 per cent (publications) and 97.4 per cent (citations). We also computed overall rankings based on the rankings for the individual scores, rather than the scores themselves, using average, highest and lowest ranks. Rank correlations vary between 95.5 per cent (lowest rank) and 99.8 per cent (harmonic mean rank) in this case.

The distribution of the aggregate score within the Top 40 is very skewed, with, for example, those ranked in places 2-4 having between 56 and 69 per cent of the value of the top ranked economist, while those ranked 5-11 have a value between 26 and 39 per cent. Of all publications 24 per cent are by the five most productive economists; and 48 per cent of citations are produced by the five most-cited individuals. To illustrate this, we show an Engel curve in Figure 1 for all included researchers. It has an associated Gini Coefficient of 62 per cent.

Inspection of Table 1 shows the strong concentration of the Top 40 economists in five institutions in the Greater Dublin area: the four universities (DCU, NUIM, TCD and UCD), and the ESRI. Some 68 per cent of *all* economists in Ireland are in or near Dublin, but 90 per cent of *top* economists. Using the Top 40 economists as the reference point, Table 2 shows that the top institutions in terms of research economists are UCD (15), ESRI (9) and TCD (7). But there are different ways of looking at this. UCD has the largest number of economists in the Top 40, but then there are more economists at UCD than at any of the other universities. If one divides the number of economists in the Top 40 by the number of research-active

Table 1: Top-40 Economists in Research Institutions in the Republic of Ireland According to Scopus (Life-time)

Rank	Name	Affiliation 2007	Affiliation Previous	Total[a]	Publications #	Publications Rank	Citations #	Citations Rank	h-index #	h-index Rank	Most Cited #	Most Cited Rank
1	Tol, R.S.J.	ESRI	Hamburg	3.77	89	1	750	1	17	1	70	5
–	Neary, J.P.	Oxford	UCD	2.60	32	3	422	2	12	2	88	2
2	Lane, P.R.	TCD	Colombia	2.32	29	5	393	3	8	4	91	1
3	Nolan, B.	UCD	ESRI	2.09	35	2	208	4	10	3	76	3
4	Barry, F.G.	TCD	UCD	1.46	27	7	150	5	6	6	55	7
5	Pecchenino, R.A.	NUIM	MSU	1.28	9	34	103	9	4	19	73	4
6	Kapur, K.	UCD	RAND	1.16	31	4	146	6	7	5	19	20
7	Whelan, C.T.	ESRI		1.12	24	8	128	7	6	6	30	14
8	Harmon, C.P.	UCD	NUIM	1.08	9	34	99	10	5	10	50	10
9	Bradley, J.	TCD	ESRI	1.02	6	48	78	16	4	19	56	6
10	Bergin, J.	UCD	Queen's	1.02	9	34	64	18	4	19	54	8
11	Leahy, D.M.	NUIM	UCD	0.98	11	24	87	13	5	10	41	11
12	Kelly, M.	UCD		0.98	13	16	104	8	6	6	31	13
13	Honohan, P.	TCD	WB, ESRI	0.97	28	6	83	14	5	10	23	18
14	O'Rourke, K.H.	TCD	UCD	0.91	15	11	95	11	5	10	29	17
15	O'Neill, D.	NUIM	Newcastle	0.82	10	26	66	17	5	10	30	14
16	Clinch, J.P.	UCD		0.78	19	9	79	15	5	10	15	29
17	Callan, T.	ESRI		0.76	10	26	63	19	4	19	30	14
18	Ruane, F.P.	ESRI	TCD	0.68	15	11	47	23	6	6	9	41
19	Ó Gráda, C.	UCD		0.67	14	13	57	20	5	10	13	33
20	Walsh, P.P.	UCD	TCD	0.64	13	16	51	22	5	10	12	35
21	Barrett, S.D.	TCD		0.62	7	42	47	23	4	19	22	19
22	Barrett, A.	ESRI		0.61	11	24	47	23	4	19	17	21
23	Reynolds-Feighan, A.	UCD		0.59	10	26	52	21	5	10	10	38
24	Harrison, M.J.	UCD	TCD	0.58	5	59	35	30	2	42	33	12
25	Maître, B.	ESRI		0.55	12	20	37	28	4	19	12	35
26	Walsh, B.	UCD		0.53	5	59	44	26	4	19	16	24
27	Keane, M.J.	UCG		0.52	12	20	32	32	4	19	10	38

Table 1: *Top-40 Economists in Research Institutions in the Republic of Ireland According to Scopus (Life-time)*
(contd.)

Rank/Name	Affiliation		Total[a]	Publications		Citations		h-index		Most Cited	
	2007	Previous		#	Rank	#	Rank	#	Rank	#	Rank
28 Whelan, K.T.	UCD	CBI	0.50	12	20	36	29	4	19	7	45
29 Farrell, L.	UCD	Melbourne	0.49	6	48	42	27	3	31	17	21
30 Boyle, G.E.	Teagasc	NUIM	0.48	8	40	31	33	3	31	16	24
31 Conniffe, D.	NUIM	ESRI	0.46	19	9	17	44	3	31	4	65
32 Morgenroth, E.L.W.	ESRI		0.45	4	67	34	31	3	31	17	21
33 Cotter, J.	UCD		0.44	13	16	19	41	2	42	14	30
34 Devereux, P.J.	UCD	UCLA	0.42	13	16	22	37	3	31	6	50
35 McGuinness, S.	ESRI	Melbourne	0.42	8	40	21	38	3	31	11	37
36 Andreosso-O'Callaghan, B.	UL		0.41	14	13	14	51	3	31	5	55
37 Fitz Gerald, J.D.	ESRI		0.40	7	42	26	34	4	19	5	55
38 Gallagher, L.A.	DCU	UCC	0.39	9	34	26	34	3	31	7	45
39 Matthews, A.	TCD		0.37	10	26	21	38	3	31	5	55
40 Kennelly, B.	NUIG		0.34	2	97	21	38	2	42	16	24

[a] The overall score equals the sum of the number of publications, citations, most-cited paper, and h-index, each divided by the score of the highest ranked individual.

Table 2: Research Quality Indicators for the Nine Institutions: Number of People, Number of Published Researcher (act), and the Ratio of the Two; Total and Average Number of Publications and Citations; h_1^Δ-index[b] and Average h-index; Absolute and Relative Number in the Top 40; All Data are from Scopus, except the Top 40 which is shown for Scopus and Web of Science

Score[a]		People			Publications		Citations		h-index		Top 40 (S)		Top 40 (WoS)	
		#	Act	Act/#	#	Avg	#	Avg	h_1^Δ	Avg	#	Avg	#	Avg
						September 2007									
1.000	UCD	39	34	0.87	293	7.5	1,159	34.1	5.6	2.7	15	0.45	14	0.42
.981	ESRI	19	17	0.89	200	10.5	1,193	70.2	4.8	3.4	9	0.53	7	0.41
.825	TCD	21	18	0.86	170	8.1	918	51.0	4.9	2.7	7	0.39	8	0.44
.515	NUIM	22	16	0.73	91	4.1	337	21.1	3.9	2.1	4	0.25	5	0.31
.354	NUIG	25	19	0.76	69	2.8	154	8.1	2.6	1.2	2	0.11	5	0.26
.265	UL	11	5	0.45	32	2.9	34	6.8	2.4	1.4	1	0.20	0	0.00
.235	DCU	13	8	0.62	26	2.0	40	5.0	2.4	0.8	1	0.13	0	0.00
.170	UCC	23	11	0.48	26	1.1	31	2.8	2.2	0.9	0	0.00	0	0.00
.167	CBI	15	10	0.67	21	1.4	21	2.1	1.3	0.5	0	0.00	1	0.10
						September 2006									
1.000	UCD	37	32	0.86	296	8.0	1,482	46.3	5.8	2.9	15	0.47	13	0.41
.980	ESRI	16	14	0.88	209	13.1	1,327	94.8	4.7	4.1	8	0.57	7	0.50
.706	TCD	24	20	0.83	144	6.0	742	37.1	4.9	2.4	7	0.35	10	0.50
.377	NUIM	17	14	0.82	71	4.2	147	10.5	2.8	1.7	2	0.14	3	0.21
.363	NUIG	24	18	0.75	67	2.8	154	8.6	2.6	1.2	3	0.17	5	0.28
.315	UL	13	7	0.54	41	3.2	65	9.3	2.8	1.4	2	0.29	1	0.14
.223	DCU	14	9	0.64	27	1.9	40	4.4	2.4	0.7	1	0.11	0	0.00
.168	UCC	22	11	0.50	26	1.2	31	2.8	2.2	0.9	0	0.00	0	0.00
.226	CBI	16	11	0.69	33	2.1	57	5.2	1.7	0.8	1	0.09	1	0.09

Table 2: Research Quality Indicators for the Nine Institutions: Number of People, Number of Published Researcher (act), and the Ratio of the Two; Total and Average Number of Publications and Citations; h_1^Δ-index[b] and Average h-index; Absolute and Relative Number in the Top 40; All Data are from Scopus, except the Top 40 which is shown for Scopus and Web of Science (contd.)

Score[a]		People			Publications		Citations		h-index		Top 40 (S)		Top 40 (WoS)	
		#	Act	Act/#	#	Avg	#	Avg	h_1^Δ	Avg	#	Avg	#	Avg
					Core Economists Only, September 2007									
1.000	UCD	26	24	0.92	188	7.2	788	32.8	5.6	2.8	15	0.63	12	0.50
.948	ESRI	17	15	0.88	170	10.0	1,042	69.5	4.7	3.3	8	0.53	7	0.47
.846	TCD	18	14	0.78	138	7.7	813	58.1	4.9	2.8	7	0.50	8	0.57
.593	NUIM	19	16	0.84	91	4.8	337	21.1	3.9	2.1	5	0.31	6	0.38
.405	NUIG	21	15	0.71	54	2.6	140	9.3	2.6	1.2	3	0.20	6	0.40
.276	UL	11	5	0.45	32	2.9	34	6.8	2.4	1.4	1	0.20	0	0.00
.250	DCU	13	8	0.62	26	2.0	40	5.0	2.4	0.8	1	0.13	0	0.00
.184	UCC	21	10	0.48	24	1.1	31	3.1	2.2	1.0	0	0.00	0	0.00
.182	CBI	15	10	0.67	21	1.4	21	2.1	1.3	0.5	0	0.00	1	0.10

[a] The sum of the scores divided by the maximum score, normalised so that UCD = 1.
[b] Ruane and Tol, forthcoming.

Figure 1: *Engel Curve of the Aggregate Score (cf. Table 1) of All 142*
*Ireland-based Research-active Economists Based on Scopus*
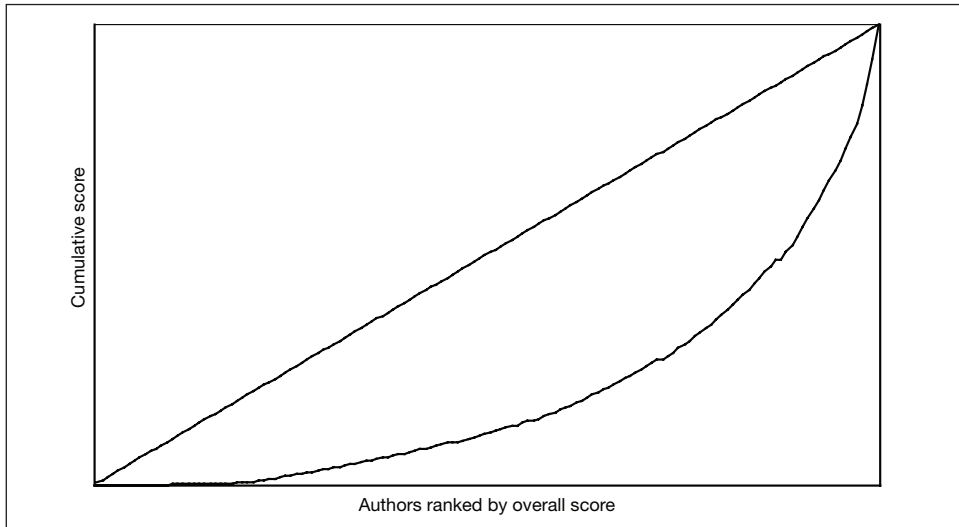
economists (Table 2), ESRI scores 0.53, UCD scores 0.45 and TCD scores 0.39; the other institutions score 0.25 (NUIM) or less. If one looks at the h_1 index (Prathap, 2006; Schubert, 2007),[20] we find UCD has 5, while TCD and the ESRI have 4, NUIM has 3 and the remaining institutions have 2 or less. Similar results emerge when one looks at the number of publications or the number of citations. See Table 2. We note that the lower ranked departments may of course have a world-class presence in some specific areas of economics; the current analysis is limited to the aggregate field of economics.

Recent mobility obviously has an influence on the scores in Table 2. This is shown in Figure 2. People have left or joined the country – and others have moved between institutions in Ireland, and especially within the Greater Dublin Area. Table 2 therefore shows the same metrics using the affiliations as of September 2006. In this period, all of the Greater Dublin Area institutions, with the exception of the CBI, improved their positions relative to the rest of the country. NUIM has improved considerably, and the gap between TCD and the ESRI and UCD has narrowed.

Table 2 also shows the institutional scores if the assessment is restricted to economists in the narrow sense of the word. For the universities, we excluded those who are not faculty in the economics department. For the ESRI, we included only those who are in the macro- and resource economics

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[20] That is, there are five department members with an *h* index of at least 5.

Figure 2: *The Overall Institutional Score, in September 2006 (All Economists) and in September 2007 (all Economists, and Core Economists Only)*
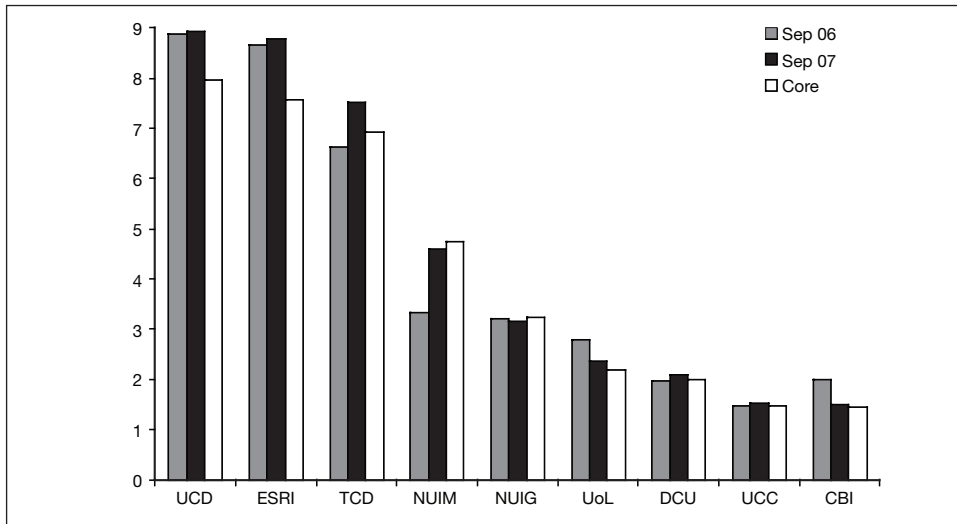
division or have a PhD in economics. Figure 2 shows that this particularly affects UCD, as some very productive environmental, finance and health economists are excluded, and the ESRI, as Chris Whelan is no longer counted. TCD is negatively affected too, as it has a number of influential affiliates. The main beneficiary in this comparison is NUIM, as all its top people are "real" economists and in the economics department.

To acknowledge the limitations of *Scopus*, Table 3 shows the Top 40 economists according to *Web of Science* data. (Again, Tables 6-8, which are discussed further below, show the Top 15 for the individual metrics.) Publication and citation numbers are clearly different between the two databases. If our purpose had been to compare *Scopus* and *Web of Science*, we would have limited the *Web of Science* analysis to 1996 and later. However, we want to test whether the more recent coverage of *Scopus* biases our assessment of the research quality of economists and institutions. For younger authors, numbers are generally lower, because *Web of Science* covers fewer journals than does *Scopus* (but it is not a subset). Elaine Hutson is affected most, as none of her seven publications listed in *Scopus* is in *Web of Science*. Because *Web of Science* goes back further in time, longer-established authors generally record a higher number of publications. The ranking in Table 3 can be seen as giving greater emphasis to historic strength, while Table 1 reflects current excellence to a greater extent. Nonetheless, the overall rankings have a rank correlation of 0.71.

Table 3: *Top-40 Economists in Research Institutions in the Republic of Ireland According to Web of Science (Lifetime)*

Rank/Name	Affiliation		Total[a]	Publica-tions		Citations		h-index		Most Cited	
	2007	Previous		#	Rank	#	Rank	#	Rank	#	Rank
1 Neary, J.P.	Oxford	UCD	3.69	65	3	1218	1	17	1	248	1
1 Tol, R.S.J.	ESRI	Hamburg	2.13	71	2	514	2	13	2	46	9
2 Ó Gráda, C.	UCD		1.62	94	1	134	8	7	6	25	19
3 Nolan, B.	UCD	ESRI	1.60	56	5	346	3	8	3	63	5
4 Conniffe, D.	NUIM	ESRI	1.41	57	4	249	5	8	3	33	16
5 Lane, P.R.	TCD		1.35	37	8	290	4	7	6	76	2
6 Whelan, C.T.	ESRI		1.22	34	11	233	6	8	3	48	8
7 Barry, F.G.	TCD	UCD	0.98	41	7	110	14	5	11	40	11
8 Honohan, P.	TCD	WB, ESRI	0.93	54	6	83	19	4	21	13	34
9 Pecchenino, R.A.	NUIM	MSU	0.93	20	18	176	7	5	11	69	4
10 O'Rourke, K.H.	TCD	UCD	0.89	31	12	134	8	6	8	24	20
11 McAleese, D.	TCD		0.84	37	8	63	22	4	21	40	11
12 Bradley, J.	TCD	ESRI	0.84	21	17	125	11	6	8	40	11
13 Kapur, K.	UCD	RAND	0.82	27	14	130	10	6	8	18	24
14 Bergin, J.	UCD		0.81	20	18	111	13	5	11	52	6
15 Geary, P.T.	NUIM		0.80	16	25	112	12	4	21	74	3
16 Harrison, M.J.	UCD	TCD	0.78	24	15	108	16	5	11	35	15
17 Velupillai, K..	NUIG		0.72	37	8	47	29	4	21	13	34
18 Harmon, C.P.	UCD		0.69	11	40	91	17	5	11	51	7
19 Callan, T.	ESRI		0.68	17	24	86	18	5	11	33	16
20 Thom, D.R.	UCD		0.65	31	12	52	27	4	21	11	43
21 Ruane, F.P.	ESRI	TCD	0.61	20	18	62	23	5	11	12	37
22 Leahy, D.M.	NUIM	UCD	0.60	15	28	69	21	4	21	37	14
23 Walsh, B.	UCD		0.57	24	15	42	31	4	21	12	37
24 Kelly, M.	UCD		0.56	13	34	71	20	5	11	16	27
25 Boyle, G.E.	Teagasc	UL	0.54	16	25	37	37	5	11	12	37
26 Browne, F.X.	CBI		0.54	19	21	57	25	4	21	13	34
27 Whelan, K.T.	UCD	CBI	0.52	16	25	44	30	5	11	6	57
28 O'Neill, D.	NUIM	Newcastle	0.49	9	47	60	24	4	21	28	18
29 Boylan, T.A.	NUIG		0.47	12	37	38	34	4	21	20	22
30 Clinch, J.P.	UCD		0.47	14	31	54	26	4	21	11	43
31 Fitz Gerald, J.D.	ESRI		0.46	9	47	50	28	4	21	21	21
32 O'Shea, E.	NUIG		0.44	11	40	41	32	4	21	14	29
33 Whelan, B.J.	ESRI		0.44	15	28	39	33	3	37	17	26
34 Keane, M.J.	NUIG		0.43	13	34	36	38	4	21	6	57
35 Devereux, P.J.	UCD	UCLA	0.41	12	37	25	45	4	21	6	57
36 Kearney, C.	TCD	DCU	0.40	14	31	38	34	3	37	12	37
37 Maître, B.	ESRI		0.40	10	43	30	40	4	21	8	50
38 Cuddy, M.P.	NUIG		0.38	9	47	38	34	3	37	20	22
39 Walsh, P.P.	UCD	TCD	0.38	13	34	28	44	3	37	10	46
40 Madden, D.	UCD		0.36	12	37	29	42	3	37	7	53

[a] The overall score equals the sum of the number of publications, citations, most-cited paper, and *h*-index, each divided by the score of the highest ranked individual.

Tables 1 and 3 are about life-time achievement, and obviously favour those who are further along in their careers. To complement this analysis, in Table 4, we repeat Table 3 but now adjusted for stage of career. We do not know the physical age of most authors, nor the year in which they obtained their PhDs. Besides, not everyone has a PhD, including some senior people. Furthermore, some researchers published their first papers well before obtaining their PhDs. To account for differences in 'stage of career', we divide all scores by 2007 minus the year of publication of the first paper, recognising that this (dis)favours researchers who published their first papers at an early (late) stage.

The rank correlation of the overall scores in Tables 3 and 4 is 0.57. Some people appear at the top of both leagues, evidence of having upheld an impressive productivity rate for three decades or more (e.g., Peter Neary and Brian Nolan). Other people are at the top of Table 3 by virtue of a long career rather than a high annual productivity. The impact of adjusting for 'stage of career' can be particularly dramatic in the case of younger researchers. For example, Alan Ahearne, Peter Clinch, Paul Devereux and Kanika Kapur are ranked 66th, 29th, 34th and 13th in Table 3, but when adjusted for career length as defined above, they rise to 8th, 7th, 10th and 3rd place, respectively, in Table 4.

The ranking of institutes that emerges from Table 3 is roughly the same as that for Table 1 and this is shown in Table 2. The main difference is NUIG, which scores considerably better according to *Web of Science*. Although the individual ranking is different between Tables 3 and 4, the institutional ranking changes slightly. UCD has 15 economists in the stage-of-career adjusted Top 40, followed by ESRI with 9 and TCD with 6; NUIM has 5, NUIG has 4, and DCU 1. This suggests that TCD has caught up with UCD and ESRI by hiring well-established researchers, but it is falling behind in annual productivity.

One may argue that the above analysis is flawed because it does not adjust for journal quality, and because it uses an inclusive definition of economics. We count, for instance, a publication on the economics of health care in *Milbank Quarterly*, but do not account for the fact that this journal is in the top 10 for medicine in general and number 1 for health care. In the next section, by comparing our results to other studies, we show that, in practice, such adjustments make a difference only for a few individuals. But to complete the discussion here, Table 5 repeats the *Scopus* and *Web of Science* analyses where the journals included are restricted to the top journals in economics. The top journals were identified from four sources, which show considerable overlap. These are set out in Table A1.

Table 5 confirms the top ranks of a number of economists (Lane,

Table 4: *Top-40 Economists in Research Institutions in the Republic of Ireland According to Web of Science (Per Career-Year)*

Rank/Name	Affilia-tion	First Publ.	Total[a]	Publica-tions		Cita-tions		h-index		Most Cited	
				#	Rank	#	Rank	#	Rank	#	Rank
1 Tol, R.S.J.	ESRI	1993	3.39	5.1	1	36.7	1	0.9	2	3.3	7
2 Lane, P.R.	TCD	1996	2.99	3.4	2	26.4	3	0.6	4	6.9	2
– Neary, J.P.	Oxford	1972	2.80	1.9	7	34.8	2	0.5	8	7.1	1
3 Kapur, K.	UCD	1998	1.93	3.0	3	14.4	4	0.7	3	2.0	13
4 Bargain, O.	UCD	2006	1.37	1.0	17	1.0	54	1.0	1	1.0	28
5 Nolan, B.	UCD	1978	1.29	1.9	5	11.9	5	0.3	20	2.2	11
6 Pecchenino, R.A.	NUIM	1988	1.24	1.1	16	9.3	6	0.3	21	3.6	5
7 Clinch, J.P.	UCD	1999	1.22	1.8	8	6.8	9	0.5	7	1.4	19
8 Harmon, C.P.	UCD	1993	1.20	0.8	33	6.5	10	0.4	9	3.6	4
9 Ahearne, A.G.	NUIG	2004	1.18	0.3	72	4.7	16	0.3	10	4.7	3
10 Maître, B.	ESRI	2000	1.13	1.4	12	4.3	18	0.6	5	1.1	25
11 Devereux, P.J.	UCD	2000	1.13	1.7	10	3.6	20	0.6	5	0.9	33
12 Bergin, J.	UCD	1989	1.07	1.1	14	6.2	12	0.3	18	2.9	8
13 O'Rourke, K.H.	TCD	1989	1.06	1.7	9	7.4	7	0.3	10	1.3	20
14 Barry, F.G.	TCD	1985	0.99	1.9	6	5.0	13	0.2	26	1.8	15
15 Garvey, E.	NUIG	2003	0.99	0.8	34	3.5	22	0.3	22	3.5	6
16 O'Neill, D.	NUIM	1995	0.95	0.8	34	5.0	13	0.3	10	2.3	9
17 Leahy, D.M.	NUIM	1991	0.88	0.9	29	4.3	17	0.3	22	2.3	10
18 Ó Gráda, C.	UCD	1969	0.86	2.5	4	3.5	21	0.2	35	0.7	42
19 Callan, T.	ESRI	1989	0.85	0.9	27	4.8	15	0.3	18	1.8	14
20 Whelan, C.T.	ESRI	1973	0.82	1.0	17	6.9	8	0.2	25	1.4	18
21 Conniffe, D.	NUIM	1967	0.77	1.4	13	6.2	11	0.2	28	0.8	34
22 Traistaru-Siedschlag, I.	ESRI	2004	0.70	1.0	17	1.0	54	0.3	10	1.0	28
23 Reynolds-Feighan, A.	UCD	2000	0.70	1.0	17	2.0	35	0.3	17	1.1	25
24 McGuinness, S.	ESRI	1998	0.69	1.0	17	2.0	35	0.3	10	0.8	36
25 Farrell, L.	UCD	1997	0.66	0.7	37	3.0	28	0.3	16	1.0	28
26 Morgenroth, E.L.W.	ESRI	1999	0.65	0.5	56	3.1	25	0.3	22	1.5	16
27 Bradley, J.	TCD	1977	0.64	0.7	37	4.2	19	0.2	28	1.3	20
28 Whelan, K.T.	CBI	1991	0.64	1.0	17	2.8	29	0.3	15	0.4	60
29 Geary, P.T.	NUIM	1972	0.59	0.5	59	3.2	23	0.1	59	2.1	12
30 Barrett, A.	ESRI	1996	0.58	0.8	32	2.3	32	0.2	36	1.3	23
31 Honohan, P.	TCD	1974	0.57	1.6	11	2.5	31	0.1	56	0.4	57
32 Cotter, J.	UCD	1998	0.54	1.0	17	1.4	45	0.1	60	1.3	20
33 Gallagher, L.A.	DCU	1997	0.53	0.9	31	1.6	42	0.2	28	0.8	35
34 Kelly, M.	UCD	1984	0.51	0.6	49	3.1	26	0.2	27	0.7	41
35 McAleese, D.	TCD	1970	0.50	1.0	17	1.7	40	0.1	62	1.1	27
36 Harrison, M.J.	UCD	1972	0.50	0.7	39	3.1	27	0.1	48	1.0	28
37 O'Shea, E.	NUIG	1987	0.46	0.6	50	2.1	34	0.2	28	0.7	40
38 Fitz Gerald, J.D.	ESRI	1984	0.44	0.4	68	2.2	33	0.2	39	0.9	32
39 Walsh, P.P.	UCD	1989	0.43	0.7	36	1.6	44	0.2	40	0.6	43
40 Velupillai, K.V.	NUIG	1973	0.42	1.1	15	1.4	48	0.1	58	0.4	59

[a] The overall score equals the sum of the number of publications, citations, most-cited paper, and *h*-index, each divided by the score of the highest ranked individual.

O'Rourke). However, it also ranks highly some people that ranked only in the second tier in Tables 1 and 3, e.g., Gekker, Hogan, Kawakatsu, and McQuinn. Another striking feature of Table 5 is that some of the economists ranked very highly in Tables 1, 3 and 4 disappear from the list (Barry, Nolan, Tol). This outturn suggests differences in the research strategies of researchers, and possibly of the types of research they undertake. One interesting observation that emerges from considering the citation numbers in Table 5 is that publication in a top journal by no means guarantees that a paper is noticed in terms of general citations.

Table 5: *Ranking of Irish Economists, Top Journals Only (cf. Table A1)*

Rank/Name		Institution	#a	Scopus				Web of Science			
				Papers		Citations		Papers		Citations	
				#	Rank	#	Rank	#	Rank	#	Rank
1	Neary, J.P.	Oxford	2.00	2	4	44	2	12	1	301	1
2	Lane, P.R.	TCD	0.50	3	2	74	1	3	4	51	3
3	Kelly, M.	UCD	0.47	3	2	30	4	4	2	41	5
4	Whelan, K.T.	UCD	0.38	4	1	15	5	4	2	7	8
5	Leahy, D.M.	NUIM	0.32	1	5	42	3	2	7	46	4
6	Conniffe, D.	NUIM	0.30	0	–	–	–	3	4	15	7
7	O'Rourke, K.H.	TCD	0.27	1	5	2	7	3	4	7	8
8	Harmon, C.	UCD	0.26	0	–	–	–	1	10	52	2
9	Ó Gráda, C.	UCD	0.19	1	5	8	6	2	7	7	8
10	Devereux, P.J.	UCD	0.17	1	5	0	9	2	7	0	15
11	Sjostrom, W.	UCC	0.15	0	–	–	–	1	10	20	6
12	Geary, P.T.	NUIM	0.10	0	–	–	–	1	10	6	11
13	Pecchenino, R.A.	NUIM	0.10	0	–	–	–	1	10	4	12
14	Hogan, T.	DCU	0.09	1	5	2	7	1	10	2	13
14	Honohan, P.	TCD	0.09	0	–	–	–	1	10	2	13
16	Gekker, R.	NUIG	0.08	1	5	0	9	1	10	0	15
16	Harrison, M.J.	UCD	0.08	0	–	–	–	1	10	0	15
16	Kawakatsu, H.	DCU	0.08	1	5	0	9	1	10	0	15
16	McQuinn, K.	CBI	0.08	1	5	0	9	1	10	0	15
16	Somerville, R.A.	TCD	0.08	0	–	–	–	1	10	0	15

a The overall score is the maximum publication number plus the maximum citation number, each divided by the maximum score in that category.

IV COMPARISON WITH *ECONLIT*, *GOOGLE SCHOLAR* AND *IDEAS/REPEC*

In this section we focus on the Top 15 economists. Table 6 contrasts the ranking based on the *number of publications* according to *Scopus* and *Web of Science* with those in *EconLit*, the database used by Barrett and Lucey (2003)

and Coupé and Walsh (2003), and with those in *Google Scholar*. Twelve economists in the *Scopus* Top 15 appear also in the *EconLit* Top 15, and eleven in the *Web of Science* Top 15. The differences in the data bases are reflected very clearly in the positions of Denis Conniffe and Cormac Ó Gráda: *Scopus* does not record their earlier papers, and *EconLit* does not record their non-economics papers. *Web of Science* records both, and hence these two researchers are ranked much higher in this database.

Ten economists in the *Scopus* Top 15 appear in the *Google Scholar* Top 15, while eleven appear in the *Web of Science* Top 15. *Google Scholar* contains many more publications than the other databases, but it does not distinguish between peer-reviewed and other papers. This particularly benefits those whose research has been heavily linked to policy advice, such as Bradley, Callan, Honohan, Nolan and Traistaru-Siedschlag. Velupillai is another economist with a stronger presence on the internet than in academic journals.

The rank correlations for publications between the various databases differ widely: between *Scopus* and *EconLit* it is 0.57 for all assessed in both rankings for the number of publications; between *Scopus* and *Web of Science* it is 0.59, and between *EconLit* and *Web of Science* it is 0.83. The rank correlation between *Google Scholar* and *Scopus* is 0.68, between *Google Scholar* and *Web of Science* it is 0.64, and between *Google Scholar* and *EconLit* it is 0.68. These correlations point to the merit of using several databases rather than one single database. Henreksen and Waldenstroem (2007) reached the same conclusion for economists in Sweden. At the same time, the databases do not fundamentally disagree on productivity, reflecting instead differences in coverage as noted above. *EconLit* is more restrictive than *Scopus* with regard to the journals included, which places some of the more multidisciplinary researchers (e.g., Peter Clinch, Richard Tol, Chris Whelan) at a disadvantage, while it has a better historical cover, which favours economists with an earlier career start (e.g., Brendan Walsh, Frances Ruane, Frank Browne) over younger economists (e.g. Paul Devereux).

Table 7 shows the Top 15 based on *citations* for data from *Scopus, Web of Science* and *Google Scholar*. Nine researchers appear in all three rankings. The *Web of Science* Top 15 overlaps in 10 positions with the other two, and the *Scopus* and *Google Scholar* Top15s have 12 people in common. The rank correlation between *Scopus* and *Web of Science* is 0.74, 0.68 between *Scopus* and *Google Scholar*, and 0.67 between *Web of Science* and *Google Scholar*. In Table 7, the *Web of Science* ranking is shown with and without correcting for self-citations. Fourteen authors appear in both of these Top 15s, and the rank correlation is 0.99. In all cases, the correlations are greater for citations than for publications. Nonetheless, it is noteworthy that the practice of self-citation varies considerably. On the one hand, Bernadette Andreosso-O'Callaghan does

Table 6: *Ranking Based on the Number of Publications According to Scopus, EconLit, Web of Science and Google Scholar, Top 15 Only*

Scopus Rank/Name	Score	EconLit Rank/Name	Score	Web of Science Rank/Name	Score	Google Scholar Rank/Name	Score
1 Tol, R.S.J.	89	– Neary, J.P.	59	1 Ó Gráda, C.	94	1 Tol, R.S.J.	240
2 Nolan, B.	35	1 Honohan, P.	50	2 Tol, R.S.J.	71	2 Honohan, P.	227
– Neary, J.P.	32	2 Lane, P.R.	39	– Neary, J.P.	65	3 Nolan, B.	201
3 Kapur, K.	31	3 Barry, F.G.	38	3 Conniffe, D.	57	– Neary, J.P.	173
4 Lane, P.R.	29	4 Nolan, B.	35	4 Nolan, B.	56	4 Lane, P.R.	161
5 Honohan, P.	28	5 Walsh, B.	35	5 Honohan, P.	54	5 Ó Gráda, C.	148
6 Barry, F.G.	27	6 Tol, R.S.J.	30	6 Barry, F.G.	41	6 O'Rourke, K.H.	143
7 Whelan, C.T.	24	7 Conniffe, D.	25	7 Lane, P.R.	37	7 Barry, F.G.	134
8 Clinch, J.P.	19	7 Ó Gráda, C.	25	7 McAleese, D.	37	8 Walsh, B.	126
8 Conniffe, D.	19	9 Bradley, J.	24	7 Velupillai, K.V.	37	9 Velupillai, K.V.	125
10 O'Rourke, K.H.	15	9 Murphy, A.	24	10 Whelan, C.T.	34	10 Whelan, C.T.	114
10 Ruane, F.P.	15	9 O'Rourke, K.H.	24	11 O'Rourke, K.H.	31	11 Lucey, B.M.	103
12 Andreosso-O'Callaghan, B.	14	12 Ruane, F.P.	23	11 Thom, D.R.	31	12 Bradley, J.	93
12 Lucey, B.M.	14	13 Thom, D.R.	22	13 Kapur, K.	27	13 Kearney, C.	85
12 Ó Gráda, C.	14	14 Leahy, D.M.	19	14 Harrison, M.J.	24	14 Traistaru-Siedschlag, I.	77
15 Cotter, J	13	14 Lucey, B.M.	19	14 Walsh, B.	24	15 Callan, T.	76
15 Devereux, P.J.	13						
15 Kelly, M.	13						
15 Walsh, P.P.	13						

Table 7: *Ranking Based on the Number of Citations According to Scopus, Web of Science (With and Without Self-citations) and Google Scholar, Top 15 Only*

Scopus		Web of Science		WoS, No Self-Citations		Google Scholar	
Rank/Name	Score	Rank/Name	Score	Rank/Name	Score	Rank/Name	Score
1 Tol, R.S.J.	750	– Neary, J.P.	1,218	– Neary, J.P.	955	– Neary, J.P.	2,856
– Neary, J.P.	422	1 Tol, R.S.J.	514	1 Nolan, B.	281	1 Tol, R.S.J.	2,594
2 Lane, P.R.	393	2 Nolan, B.	346	2 Tol, R.S.J.	271	2 Lane, P.R.	2,515
3 Nolan, B.	208	3 Lane, P.R.	290	3 Lane, P.R.	236	3 Honohan, P.	1,630
4 Barry, F.G.	150	4 Conniffe, D.	249	4 Conniffe, D.	177	4 O'Rourke, K.H.	1,527
5 Kapur, K.	146	5 Whelan, C.T.	233	5 Whelan, C.T.	171	5 Nolan, B.	1,220
6 Whelan, C.T.	128	6 Pecchenino, R.A.	176	6 Pecchenino, R.A.	169	6 Whelan, C.T.	899
7 Kelly, M.	104	7 Ó Gráda, C.	134	7 Kapur, K.	111	7 Whelan, K.T.	813
8 Pecchenino, R.A.	103	8 O'Rourke, K.H.	134	8 Ó Gráda, C.	106	8 Barry, F.G.	769
9 Harmon, C.P.	99	8 Kapur, K.	130	9 Murphy, A.	104	9 Harmon, C.P.	749
10 O'Rourke, K.H.	95	10 Bradley, J.	125	10 Geary, P.T.	101	10 Bradley, J.	644
11 Murphy, A.	88	11 Geary, P.T.	112	11 Bergin, J.	96	11 Walsh, B.	498
12 Leahy, D.M.	87	12 Bergin, J.	111	12 O'Rourke, K.H.	90	12 Ruane, F.P.	476
13 Honohan, P.	83	13 Barry, F.G.	110	13 Harrison, M.J.	87	13 Callan, T.	469
14 Clinch, J.P.	79	13 Murphy, A.	110	14 Bradley, J.	85	14 Leahy, D.M.	421
15 Bradley, J.	78	15 Harrison, M.J.	108	15 Callan, T.	77	15 Devereux, P.J.	373

not appear to have ever cited her own papers and Brendan Walsh appears to cite himself only in every 10th paper. On the other hand, Peter Neary's self-citation rate is on average 4.2 times per paper, and self-citations make up 22 per cent of his total citations, while Richard Tol cites himself on average 3.4 times per paper, with self-citations accounting for 47 per cent of his total citations.

Table 8 explores the Top 15 again, by calculating the h-index for data from *Scopus* and *Web of Science*. Recall that the h-index, which effectively brings both publications and citations together, is the largest h for which it is true that an author has h publications that are cited at least h times. One way of finding the h-index is to rank publications according to citations, and see where the citation line and rank line cross. Using this approach, 10 authors appear in all three rankings; 12 are shared between *Scopus* and *Web of Science*; 13 between *Scopus* and *Google Scholar*, and 15 between *Web of Science* and *Google Scholar*. The rank correlation between *Google Scholar* and *Web of Science* is 0.67, while it is 0.68 between *Scopus* and the other two databases.

To take account of the limitations of the h-index, Table 9 shows Egghe's (2006) g-index. The g-index also ranks publications, but checks where the *cumulative* citations equal the *squared* rank. The h-index solves

$$\max_{h} c_h \geq h \tag{1}$$

where c_i is a series of publications, denoted by their number of citations, in declining order. The g-index solves

$$\max_{g} \sum_{i=1}^{g} c_i \geq g^2 \tag{2}$$

The g-index rewards highly-cited papers. *Publish or Perish@Google Scholar* is the only tool that routinely shows the g-index. The results are shown in Table 8. The g-index and the h-index largely agree, with a rank correlation of 0.94. (Most authors shift at most one or two ranks up or down.) Among the Top 15, Cormac Ó Gráda, who has a large number of frequently cited papers but no real topper, scores lower on the g- than on the h-index, while the reverse is true for Colm Harmon, whose best paper is cited much more often than any of his other publications.

Finally, Table 9 presents an analysis of the ordering of the top ten economists based on five sources: *Scopus* (using each of the four rankings in Table 1), the *EconLit* data (as used in Table 6), the *Web of Science* data (four

Table 8: *Ranking Based on the h-index According to Scopus, Web of Science, and Google Scholar, and the g-index According to Google Scholar, Top 15 Only*

	Scopus		Web of Science		Google Scholar (h)		Google Scholar (g)	
	Rank/Name	Score	Rank/Name	Score	Rank/Name	Score	Rank/Name	Score
	1 Tol, R.S.J.	17	– Neary, J.P.	17	– Neary, J.P.	28	– Neary, J.P.	51
	– Neary, J.P.	12	1 Tol, R.S.J.	13	1 Tol, R.S.J.	27	1 Lane, P.R.	48
	2 Nolan, B.	10	2 Conniffe, D.	8	2 Lane, P.R.	23	2 Tol, R.S.J.	43
	3 Lane, P.R.	8	2 Nolan, B.	8	3 Honohan, P.	21	3 O'Rourke, K.H.	37
	4 Kapur, K.	7	2 Whelan, C.T.	8	4 O'Rourke, K.H.	19	4 Honohan, P.	35
	5 Barry, F.G.	6	5 Lane, P.R.	7	5 Nolan, B.	18	5 Nolan, B.	28
	5 Kelly, M.	6	5 Ó Gráda, C.	7	6 Whelan, C.T.	16	5 Whelan, K.T.	28
	5 Ruane, F.P.	6	7 Bradley, J.	6	7 Whelan, K.T.	14	7 Harmon, C.P.	26
	5 Whelan, C.T.	6	7 Kapur, K.	6	8 Barry, F.G.	13	7 Whelan, C.T.	26
	9 Clinch, J.P.	5	7 O'Rourke, K.H.	6	8 Bradley, J.	13	8 Barry, F.G.	24
	9 Harmon, C.P.	5	10 Barry, F.G.	5	8 Ruane, F.P.	13	10 Bradley, J.	23
	9 Honohan, P.	5	10 Bergin, J.	5	8 Walsh, B.	13	11 Leahy, D.M.	20
	9 Leahy, D.M.	5	10 Boyle, G.E.	5	12 Harmon, C.P.	12	12 Ruane, F.P.	19
	9 Ó Gráda, C.	5	10 Callan, T.	5	13 Callan, T	11	13 Ahearne, A.G.	18
	9 O'Neill, D.	5	10 Harmon, C.P.	5	14 Barrett, A.	9	13 Callan, T.	18
	9 O'Rourke, K.H.	5	10 Harrison, M.J.	5	14 FitzGerald, J.D.	9	13 Devereux, P.J.	18
	9 Reynolds-Feighan, A.	5	10 Kelly, M.	5	14 Kapur, K.	9	13 Walsh, B.	18
	9 Walsh, P.P.	5	10 Pecchenino, R.A.	5	14 Leahy, D.M.	9		
			10 Ruane, F.P.	5	14 Ó Gráda, C.	9		
			10 Whelan, K.T.	5	14 O'Donoghue, C.	9		
					14 O'Hagan, J.	9		

rankings each from Tables 3 and 4) the two Barrett and Lucey (2003) rankings, the six Coupé and Walsh (2003) rankings, and the *IDEAS/REPEC* ranking (Table A2). Those listed 1st, 2nd, and 3rd places confirm the results in Tables 1 and 3. Kanika Kapur is the only woman in this "hall of fame", and the highest ranked who is not a full professor.

Under all of the different rankings based on all the different databases, Philip Lane, Peter Neary, Brian Nolan, and Richard Tol are among the top 3 in more than half of the rankings.[21] The other economists at the top of Table 9 also do consistently well, regardless of the data source or the evaluation method. What is very clear from Table 9, reinforcing what was evident in

Table 9: *Irish Economists Ranked 1st, 2nd, and 3rd Place in 27 Alternative Rankings*[a]

Person	Institute	1st	2nd	3rd
Neary, Peter	*Oxford*	*14*	*10*	*3*
Lane, Philip	TCD	7	9	5
Tol, Richard	ESRI	10	4	1
Nolan, Brian	UCD	1	6	3
Honohan, Patrick	TCD	3	3	2
Kelly, Morgan	UCD	4	1	2
O'Rourke, Kevin	TCD	2	3	1
Whelan, Karl	UCD	2	0	0
Kapur, Kanika	UCD	0	0	4
Conniffe, Denis	NUIM	0	1	2
Leahy, Dermot	NUIM	0	1	2
O'Neill, Donal	NUIM	0	1	2
Harmon, Colm	UCD	1	0	1
Bargain, Olivier	UCD	1	0	0
Ó Gráda, Cormac	UCD	1	0	0
Barry, Frank	TCD	0	0	2
Ahearne, Alan	NUIG	0	1	0
Geary, Paddy	NUIM	0	1	0
Kearney, Colm	TCD	0	1	0
Whelan, Chris	ESRI	0	1	0
Walsh, Brendan	UCD	0	0	1

[a] First, second and third place are without Peter Neary. For comparison, Neary's scores are shown nonetheless. As Neary is among the top 3 in 27 out of 31 rankings, inclusion of Neary affects the scores of all others. The rankings include *IDEAS/REPEC* (1; cf. Table A2), Barrett and Lucey (2), Coupé and Walsh (6), *EconLit* (1; cf. Table 2), *Web of Science* (cf. Tables 2-4), *Scopus* (4; cf. Table 1, 4), and *Google Scholar* (cf. Tables 4-6). The ranking here is based on 3 points for 1st place, 2 points for 2nd, and 1 point for 3rd; ties are resolved by the number of medals, first, and name, second.

[21] Richard Tol was not included in the earlier studies, but then he does not rank highly in *EconLit*.

Tables 1 and 3, is that Ireland's top economists are not located in any single institution but rather are spread over four institutions in the Greater Dublin Area. Therefore unless they are seen as part of a collective to the outside world, Ireland is not likely to viewed as attractive to prospective graduate students, academics looking for jobs, or potential research funders.

V IRISH ECONOMICS IN AN INTERNATIONAL CONTEXT

In addition to deriving measures of the research outputs of Irish researchers, it is useful to set these results in a broader context using the international literature on rankings. For example, *IDEAS/REPEC* provides global and European ranks. It ranks Ireland at 42nd place among countries and US states, with a score comparable to Austria, Portugal and New Zealand. It should be noted, however, that Austria and Portugal have much larger populations, which should lead one to expect them to have higher positions, but against this, their researchers may publish in German or Portuguese, which would reduce their expected ranking in these indices.

To contextualise this, we use the analysis in Lubrano *et al.* (2003). In the 1990s, Ireland published 121 papers in economics journals per million of population. The EU-15 average is 100, with a wide variance; for example, Spain produced only 40, while the UK produced 223. However, Ireland has 67 economists per million population, compared to an EU-15 average of 53. Again there is a wide variation across EU countries, with Italy the lowest (at 23 economists per million of population), while the Netherlands is the highest at 112. Ireland-based authors published 1.8 papers per person (per decade) – note that this average includes all those who published a single paper and then left academia. This is slightly below the EU-15 average of 1.9; the EU range is from 1.5 in Spain to 2.1 in Greece. Lubrano *et al.* (2003) also show that Ireland has 2.1 economics departments per million people, while the EU-15 average is 1.3. Only Finland (3.5) and Sweden (2.4) have a higher department density than Ireland, while the Netherlands has only 0.6 departments per million population. Combes and Linnemer (2003) confirm that economics departments in Ireland are small compared to the rest of Europe.

According to Thomson Scientific's *Essential Science Indicators*, Ireland ranks a respectable 26th out of 79 countries in terms of citations per paper published in economics and business. This amounts to a rate of 3.3 citations per paper, which compares with 4.6 citations per paper for England (9th) and 6.5 citations for the USA (3rd). Harzing (2005) places Ireland 26th out of 26 countries for number of publications, and 15th for number of citations per paper, which suggest higher relative quality. According to Eichenberger and

Frey (2000), Ireland ranks 8th among 16 European countries if one counts "eminent economists", corrected for population or GDP. Combes and Linnemer (2003) rank Ireland between 11th and 16th place (out of 18 European countries), but between 4th and 7th place on a per capita basis.

Lubrano *et al.* (2003) show that 63 per cent of Irish papers are published in national journals. This is the highest number among small EU-15 countries. Finland is a distant second at 53 per cent, and the Netherlands has only 8 per cent. In this sense, Ireland is more similar to larger than smaller European countries. France-based authors, for instance, publish 85 per cent of their papers in France-based journals, while the corresponding figures for Germany and the UK are 66 per cent and 40 per cent. The EU-15 average is 48 per cent. Publication on local issues in local journals generally reduces the readership and consequently the likely citations rates of published papers. This is particularly the case where the journal language is not English.

IDEAS/REPEC counts only two or three Irish economists amongst its Global Top 5 per cent, but seven or eight amongst its European Top 5 per cent. Again, these people are spread over 5 different institutions, and do not appear as a collective; see Table A2. The Geary Institute is the highest ranking Irish institute among the *IDEAS/REPEC* Global Top Institutes at 82nd place, while the IIIS ranks 153rd (out of 3,210). The position of the Geary Institute is helped by the presence, on a part-time basis, of James Heckman, who is ranked number 4 on the *IDEAS/REPEC* individual ranking. Lubrano *et al.* (2003) confirms this, including only UCD in the European Top 100 (at place 58 or 63, depending on the method). Kalaitzidakis *et al.* (2003) similarly rank only UCD, 135th (out of 200) in the world and 49th (out of 120) in Europe. Combes and Linnemer (2003) show that the Department of Economics at UCD is the only economics department in Ireland included in the top 75 of European economics departments, and it is listed in only 1 out of 21 alternative rankings.

Thus while UCD is clearly the dominant institution according to these metrics, the above survey shows that "Ireland Economics" scores consistently better than its constituent parts. Therefore, the combined research institutions in the Greater Dublin Area would register a much higher status and would be more attractive to prospective PhD students as a collective than as individual institutions for the simple reason that the collective would have more top-level researchers, and would be able to compete in Europe. Operating as a collective, such a research conglomeration would be seen more positively in terms of producing trained postgraduates for research and academic posts, and for posts in the financial and service sectors. The Scottish Graduate Programme in Economics, a collaboration of eight universities, and the Tinbergen Institute, a collaboration of three universities in Amsterdam and Rotterdam, may serve as examples.

VI CONCLUSION

In Ireland in recent years there has been increased emphasis on research and fourth-level education in Irish universities as well as increased expenditure on research institutes in universities. Furthermore, in the coming years, further expenditure is required if the government is to achieve its stated goal of having world-class research undertaken in Ireland. In this context, and where policy is explicitly encouraging cross-institutional cooperation in order to ensure critical mass, the distribution of research across researchers and research institutions is important.

This paper sets out to examine the current research output of economists based at these institutions in Ireland using data from both *Scopus* and *Web of Science*, and relates the outcomes to previous studies. Whilst cooperation is needed for the critical mass required to compete at a European scale, evaluation and competition is needed to improve quality. Raising both at the same time is a challenge, but necessary if Ireland wishes to raise its standing in international economics.

Several results are apparent. First, the results are reasonably consistent with those of earlier Irish studies, allowing for the differences in coverage. The results are also roughly the same between the different data sources and different metrics used here. Since the analysis in this paper demonstrates considerable robustness, intermediate updates of the results presented here could rely on a less labour-intensive approach. Second, as might be expected, the distribution of research is skewed by academics, partly due to the fact that they are at different stages of their careers; this is evident in the differences in ranking between Tables 3 and 4. The issue of stage of career is discussed in greater detail in Barrett and Lucey (2003). The skewness also reflects different research agendas and patterns, and different levels of responsibility for activities other than producing peer-reviewed journal articles.

Third, the distribution of research is skewed by institution, which reflects the scale of economics in the different institutions, the age distribution within those institutions, and other demands on the time of researchers. However, it is clear that the research-active economists publishing in peer-reviewed journals are heavily concentrated in four institutions in the Greater Dublin area, which is where the largest numbers of economists are based. While it would not be possible for any one of these institutions at its current scale, including UCD which has the largest number of economists, to make the claim that it is a significant and competitive centre for broad research and post-graduate teaching on a global scale, the institutions in the Greater Dublin Area in collaboration could aspire to such a claim. (Of course, it is possible for an institution to aspire to and achieve significant international status in a

particular field of economics.) Put in a national context, where education is heavily funded by the state and where cross-institutional cooperation is being promoted, it may not be relevant to Ireland that any one institution ranks particularly strongly on any one of the international or European metrics of research activity, but rather how Ireland overall ranks compared with appropriate comparator countries.

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APPENDIX

Table A1: *Top Economic Journals*[a]

Journal	Kalaitzid-akis	Tin-bergen	Kodrzycki and Yu	Web of Science	Papers[b] Scopus	WoS
Econometrica	X	X	X	X	0	3
Journal of Political Economy	X	X	X	X	0	1
Quarterly Journal of Economics	X	X	X	X	0	4
American Economic Review	X	X	X		5	11
Journal of Econometrics	X	X	X		1	4
Review of Economic Studies	X	X	X		0	4
Journal of Economic Theory	X		X		1	1
Journal of Financial Economics			X	X	0	0
Econometric Theory	X				0	0
Journal of Accounting and Economics				X	0	0
Journal of Business and Economic Statistics	X				3[c]	3[c]
Journal of Economic Geography				X	0	0
Journal of Economic Growth				X	4	3
Journal of Economic Literature				X	0	3
Journal of Economic Perspectives				X	1	1
Journal of Finance			X		0	0
Journal of Monetary Economics	X				1	3
Review of Financial Studies			X		0	0
World Bank Economic Observer				X	0	0

[a] Top 10 journals from Kalaitzidakis *et al.* (2003) and Kodrycki and Yu (2006); Top 10 journals based on the 2006 Journal Impact Factor of *Web of Science*; and the six AA journals according to the Tinbergen Institute (http://www.tinbergen.nl/research/ranking2.html)

[b] Number of papers by authors based in Ireland, including Peter Neary.

[c] This includes a paper by Jane Horgan, a statistician lecturing in computing at Dublin City University.

Table A2: *Ranking[a] of Irish Economists According to IDEAS/REPEC, April 2007*

	Rank[b]			Name	Institute
Ireland	EU[c]	Europe[c]	World		
1	44	46	178	Philip Lane	TCD
–	55	58	228	J. Peter Neary	Oxford
2	200	211	>698	Kevin H. O'Rourke	TCD
3	218	230	>698	Karl T. Whelan	UCD
4	262	275	>698	Patrick Honohan	TCD
5	309	323	>698	Richard S.J. Tol	ESRI
6	512	537	>698	Paul J. Devereux	UCD
7	516	541	>698	Colm P. Harmon	UCD
8	>686	>745	>698	Rowena Pecchenino	NUIM
9	>686	>745	>698	Alan Ahearne	NUIG
10	>686	>745	>698	Frances P. Ruane	ESRI
11	>686	>745	>698	Patrick Paul Walsh	UCD
12	>686	>745	>698	Donal O'Neill	NUIM
13	>686	>745	>698	Brian M. Lucey	TCD

[a] The *IDEAS/REPEC* ranking is of self-registered economists only (13,939 worldwide), and uses 639 journals and 1,837 working paper series. The ranking is based on the harmonic average of the rankings on 12 productivity scores (7 counting the number of works, 6 counting the number of pages), 14 citation scores, the *h*-index, and 4 scores on the number of downloads.

[b] *IDEAS/REPE*C only ranks the top 5 per cent (world), 10 per cent (EU, Europe), 20 per cent (Ireland).

[c] Note that members of virtual research centres with a European base (e.g., CEPR, CESIfo, IZA) are counted as European, regardless of their actual allocation. Many top economists from the US are with CEPR and IZA, and this influences the ranking considerably. If such people are removed from the list, Philip Lane, for instance, rises to 31st place in the EU.