January 2006

Ranking Australian Economics Departments by Research Productivity

F. V. Neri
University of Wollongong, fneri@uow.edu.au

Joan R. Rodgers
University of Wollongong, jrrodger@uow.edu.au

Ranking Australian Economics Departments by Research Productivity

Abstract

This study ranks Australian economics departments according to their average research productivity during 1998-2002. The highest ranked departments are those at ANU, JCU, Melbourne, Tasmania and UWA. We also rank departments according to the variability of research productivity among their members, the assumption being that, other things being equal, the less variable is productivity within a department, the better. Research productivity is found to be highly skewed within all departments. However, in general, research productivity is more (less) evenly distributed within those departments that have relatively high (low) average research productivity.

Keywords

research productivity, rankings, economics departments

Disciplines

Business | Social and Behavioral Sciences

Publication Details

This article was originally published as Neri, FV and Rodgers, JR, Ranking Australian Economics Departments by Research Productivity, Economic Record, 2006, 82. Original journal available here.

Ranking Australian Economics Departments by Research Productivity

Frank Neri

and

Joan R. Rodgers

School of Economics and Information Systems
University of Wollongong
Wollongong NSW 2522

Corresponding Author's Address:

Dr Frank Neri
School of Economics and Information Systems
University of Wollongong,
Wollongong NSW 2522,

Email: fneri@uow.edu.au
Tel: 02-4221 4671
Fax: 02-4221 3725

Ranking Australian Economics Departments by Research Productivity

Abstract

This study ranks Australian economics departments according to their average research productivity during 1998-2002. The highest ranked departments are those at ANU, JCU, Melbourne, Tasmania and UWA. We also rank departments according to the variability of research productivity among their members, the assumption being that, other things being equal, the less variable is productivity within a department, the better. Research productivity is found to be highly skewed within all departments. However, in general, research productivity is more (less) evenly distributed within those departments that have relatively high (low) average research productivity.

Keywords: research productivity rankings, variability of research productivity

JEL Classification: A19, C81, J24

I Introduction

Several studies have ranked university economics departments in Australia and other countries on the basis of aggregate research output. These studies are of inherent interest because of a natural curiosity to see how one's department 'stacks up' against comparable others. Such studies may also be useful to bureaucrats making decisions on the allocation of research funds, to prospective postgraduate students trying to select an institution and/or supervisor, to academics in the job market, and to department heads engaged in the process of hiring new staff. This paper adds to this literature by analysing the research productivity of academic economists who were employed for at least one year at one or more of 29 Australian universities between 1996 and 2002.

This study contributes to the Australian literature in four ways. Firstly, we are primarily interested in departmental productivity and so rank departments on the basis of research output per person year. But we are also interested in the variability of research productivity within departments. Other things being equal, research students, potential applicants for academic positions and department heads would all likely prefer departments where mean research productivity is high and variance is low. Such departments would be less susceptible to the loss of a highly productive researcher, would more likely be committed to research and benefit from positive research externalities resulting from academic synergies (Faria, 2000). Hence we also rank departments according to research inequality among their academic staff.

Secondly, we take a different methodological approach than recent Australian studies by measuring research productivity in terms of flows rather than stocks.[1] The only other Australian studies to measure research flows, Harris (1988, 1990), are now dated. Thirdly, we assume a publication lag of two years, as did Harris (1988), but test the sensitivity of our results to this assumption. As far as we know, this has not been done before. Finally, this study counts publications in more than 600 refereed journals compared to 400 or so in Sinha and Macri (2002) and 88 in Pomfret and Wang (2003).

In the next section we discuss the approaches and findings of recent Australian studies. Section III outlines our data and methodology and distinguishes our approach from those of existing Australian studies. In Sections IV and V we present our rankings based on research productivity and research variability, respectively. Section VI concludes.

II Prior Australian studies

One of the first Australian studies of university economics research was Harris (1988) who calculated the aggregate and *per capita* number of quality adjusted journal, book and chapter publications produced by 18 economics departments from 1974 to 1983. Harris concluded that the top five departments in terms of aggregate output were (in order) ANU, Newcastle, Queensland, La Trobe and NSW. When output was measured in *per capita* terms, the top five departments were ANU, ADFA, Newcastle, Macquarie and La Trobe.

Harris also found that from 1974-78 to 1979-83 five departments more than doubled their *per capita* output whilst three departments experienced

reductions of 25% or more. Such volatility suggests that, in many departments, research output was heavily skewed. This was confirmed by Harris (1990) where, for the period 1984-88, the leading researcher in each of twelve departments accounted for between 12% and 51% of their department's respective publication points. With the most productive individual in each department excluded, *per capita* publications fell by an average across all departments of 23.3%, the smallest decrease being 9.6% at Melbourne with the largest decrease being 68.7% at Flinders.[2]

Towe and Wright (1995) ranked 23 Australian economics departments on the basis of the stock of *per capita* pages published. Publications were counted from 1988 to 1993 in the 332 journals that appeared in the printed version of the *Journal of Economic Literature*, plus some others. The authors classified these journals into four (descending) quality groupings and compared departments on the basis of *per capita* size-adjusted pages published in Group 1-2 journals, in Group 1-3 journals and in Group 1-4 journals.[3] Irrespective of which amalgam of journals was used, the authors found that the departments at Melbourne, Monash, Sydney and Tasmania were consistently in the top third and that research output across departments was heavily skewed, with the median number of adjusted pages published in Group 1-3 journals being zero for all departments except Tasmania and Griffith.

Sinha and Macri (2002) was the first Australian study that adjusted for differences in individual journal quality. They ranked 27 departments according to the stock of research output from 1988 to 2000. The authors adjusted for

differences in page size for 391 journals and for journal quality using two sets of weights, one based on citation counts (Laband and Piette, 1994; Kalaitzidakis, Mamuneas and Stengos, 2001) and another based on perceptions (Mason, Steagall and Fabritius, 1997). Their major source of publications data was the Econlit database of March 2001. The authors found that the top ten departments in terms of *per capita*[4] (citations based) pages were those at ANU, Sydney, UWA, UNSW, Melbourne, Monash, Griffith, Tasmania, La Trobe and UNE. When perceptions were used as the quality metric, Queensland made the top ten at the expense of Griffith. Overall, the two different quality weights produced comparable results, with the correlation coefficient between rankings based on them being 0.83.

Also of interest is the finding that, between 1988-94 and 1994-2000, seventeen departments experienced increases, whilst ten departments experienced decreases, in (citation based) *per capita* pages published. These changes had some large impacts on rankings over the two sub-periods and suggest that heavy reliance on one or two mobile 'superstars' may have been important in some cases.

Pomfret and Wang (2003) measured, for the 27 economics departments in Australia with eight or more academic staff members in April 2002, the stock of articles published between 1990 and 2001 in a select group of 88 journals (Laband and Piette, 1994). Publications data were obtained from individual websites, departmental reports and directly from the academic concerned, with the Econlit database being a 'final resort'. The authors also ranked departments

on the basis of citation counts. Their study is important because it compares and contrasts the methodologies and results of prior Australian studies and discusses proximate explanations for the low research output of most Australian academic economists. Overall, they find that the group of eight plus La Trobe and UNE tend to be the dominant departments irrespective of the metric used. Another important contribution is to further highlight the extent to which the distribution of published economics research is skewed. The authors show that 385 of the 640 academics included in their study did not publish a single article in any of the 88 journals examined, whereas the top 4.7% of researchers published around 40% of all Australian 'top 88' articles over the sample period. A similar pattern holds for citations.

Most attention has so far been focused on differences across departments in research output. But intra-departmental research inequalities are also of interest. Towe and Wright (1995) is the only domestic study that provides a ranking based on a measure related to research dispersion within departments, namely the number of pages published during the period 1988-93 in a group of 71 journals by the researcher in the 75th percentile. They found that this was more than ten for only seven, and was zero for eight, departments. Similar large inequalities were found when the authors examined median output in a much larger set of journals and when they examined pages published across academic grade.

Pomfret and Wang (2003) also noted the large research inequalities across Australian economists as a group, but they did not measure research

inequality within departments. The only other study we know of that has included a measure of intra-departmental research inequality is Scott and Mitias (1996). They ranked 80 USA universities on the basis of research concentration and found large differences across departments and large rank changes when departments are judged on the basis of research concentration rather than aggregate research output.

We agree with Towe and Wright (1995) who argue that it is important to better understand research inequalities both across and within departments if research output for the sector as a whole is to be increased. As a first step, this study presents rankings based on both *inter* and *intra* departmental research productivities, but first we discuss our methodology and data.

III Methodology and data

This study quantifies the publications of academic economists in Australian universities that, for several years, have offered a doctoral degree in economics and may thus be assumed to be research active.[5] There are 33 such universities but four were excluded because the available documentation does not distinguish the economists from other academic staff in the same department or faculty throughout the study period.[6]

The term 'economist' in this paper, as in other recent Australian studies, includes economic historians and econometricians. At universities where economists are located in units with non-economists, we have included only the economists. We have documented the research productivity of lecturers, senior lecturers, readers, associate professors, and professors only. Associate lecturers

were excluded because faculty handbooks and other documents do not consistently include associate lecturers and because research expectations of associate lecturers are less demanding than for other academics.

We are interested in research productivity so we measure research flows rather than stocks. This means crediting the department where the research was undertaken. We adjust for the often substantial publication time lags by attributing credit to a department if and only if the author was a member two years prior to the publication date, but test the sensitivity of our results to this assumption by varying the lag length by one year.

Most existing Australian studies measure research stocks, with credit for all prior publications allocated to a researcher's current affiliation regardless of where the research was carried out. The stock approach is appropriate if the objective is to measure a department's current research reputation or human capital as proxied by the past achievements of its current members. However, the greater the impact of departmental conditions such as access to research funding, teaching and administrative loads, secretarial and IT assistance, supervision loads, *etc.* on research output the better is the flow approach as an indicator of current research conditions.

Counting research flows in a particular set of journals over a given period is a relatively simple data collection exercise: observe the contents of the journals, note the affiliations of authors and aggregate the number of articles or pages attributable to the universities being ranked. Measuring the research productivities of departments is more difficult because it is necessary to know

their annual memberships. Affiliations on published papers tell us nothing about academics who did not publish and do not distinguish members of economics departments from members of other departments, members of research institutes or graduate students. We used annual reports, handbooks and calendars to construct departmental lists for each year from 1996 to 2002. Where necessary we used the Commonwealth Universities Yearbook, staff lists and individuals' *vitae* posted on websites in 2002 and later. In some cases we contacted individuals.

Most ranking studies count publications and/or citations. Both measures have practical and conceptual difficulties, which are discussed in Pomfret and Wang (2003). We count journal publications because we are interested in recent research. We only consider refereed publications because the refereeing process ensures a minimum level of quality (Neary, Mirrlees and Tirole, 2003).[7] Book chapters are excluded because they generally undergo little peer review (Hartley *et al.*, 2001). Conference papers are excluded because they are likely to be submitted to a refereed journal at a later date. Research books are excluded because many are not peer reviewed and some are little more than a collection of previously published journal articles (Neary, Mirrlees and Tirole, 2003). However, we recognise that omitting research books likely discriminates against departments with a disproportionately large number of economic historians who rely more heavily than other economists on this form of dissemination.

Our major source of publications data was the on-line version of EconLit, which we searched by author for every academic on our staff lists. Pomfret and

Wang (2003) criticize EconLit for containing errors so we scrutinised its output closely. Possibly its greatest limitation is that articles with several authors are frequently referenced using the '*et al.*' convention. Consequently, relevant articles will be missed unless the first author is included in the staff list and a supplementary search is undertaken to reveal the other authors, a practice which we followed in every case. Pomfret and Wang's preferred approach, publication lists in *vitae* downloaded from university websites, is not fool-proof either. Many academics do not maintain a website at all while others are not kept up-to-date. We also cross-checked our list of publications from EconLit with those compiled by Pomfret and Wang, [8] and searched department reports for articles whose first listed author was not on our staff lists, including these where appropriate. Where relevant, each of n authors receives credit for 1/n of the article.

Departments are ranked according to their research productivity, or output per person year, which is calculated as follows. An individual's research productivity is his or her published output while in the department, divided by the number of years present. A department's research productivity is a weighted average of the research productivities of its members, the weights being the number of years each member is present in the department during 1996-2002. The problem with using aggregate or annual article counts is that the length of articles varies substantially. We assume, as have others, that longer articles imply a larger research output and so we derive page counts but adjust these for differences in the mean number of words or characters per page. This procedure dates back at least to Graves, Marchand and Thompson (1982). Sinha and Macri

(2002) used conversion factors for 166 journals from Gibson (2000) and calculated conversion factors for an additional 225 journals. Our analysis is based on 'standardised' pages calculated with page-conversion factors provided to us by Sinha and Macri.[9] For journals not in this set of 391, we used the average conversion factor of all journals classified into Group 4 by Sinha and Macri. The reference journal, with a weight of one, is the *American Economic Review*.

Although article quality is likely to be closely related to journal quality, measuring the latter is problematic.[10] The literature contains two approaches. The first uses perceptions of journal quality, either of the authors undertaking a particular study (Combes and Linnemer, 2003; Lubrano *et al.*, 2003) or more widely canvassed in a survey of economists (Axarlaglou and Theoharakis, 2003). The second approach uses the number of citations to articles in a particular journal. Whilst perceptions based rankings appear somewhat *ad hoc*, they are usually consistent with those based on citations (Mason, Steagall and Fabritius, 1997; Thursby, 2000). Weights that purport to measure journal quality via citations are more aptly called impact factors[11]. Sophisticated impact factors also take account of the prestige of the citing journal (Kalaitzidakis, Mamuneas and Stengos, 2003; Laband and Piette,1994; Liebowitz and Palmer, 1984). We have used, in constructing the first of two rankings, the impact factors for the top 159 journals calculated by Kalaitzidakis, Mamuneas and Stengos (2003), which are based on 1998 citations of articles published from 1994 to 1998. Other journals received a weight of zero.

This approach effectively disregards publications in journals that are considered to be of insufficient quality. This has been a common practice (Dusansky and Vernon, 1998; Towe and Wright, 1995). However, it might be argued that any article in a refereed journal is better than zero publications. Therefore we constructed a second ranking using Gibson's (2000) weights of 1.00, 0.64, 0.34 and 0.05 for journals classified into four quality categories, the first three of which are Towe and Wright's Groups 1, 2 and 3 journals respectively with the fourth being any other refereed journal included in the Econlit database. Whilst there is likely to be disagreement over these quality relativities, any weighting scheme is *ad hoc*, and our approach is explicit and replicable using alternate weights. We now present our results.

IV Rankings based on research productivity across departments

Tables 1 and 2 present rankings of Australian economics departments based on research productivity. In Table 1 productivity is measured by pages published per person year, adjusted for quality using the weights of Kalaitzidakis, Mamuneas and Stengos (2003). This productivity measure is termed Q(1) pages. Only one Australian journal, *Economic Record*, receives a positive weight in this set of 159 journals. In Table 2 productivity is calculated using the weights of Gibson (2000) and is termed Q(2) pages. The major Australian journals, *Economic Record, Australian Economic Papers, Australian Economic Review, Australian Economic History Review, Australian Journal of Agricultural Economics and Australian Journal of Agricultural and Resource Economics* all receive positive weights in this set of journals. The assumed publication lag in

both tables is two years. Rank changes due to varying this assumption by one year are in Columns 4 and 5 of both tables.

From Table 1, the economics departments at ANU and UWA are the most productive, with 0.66 and 0.656 pages per person year each, respectively. The gap to third placed JCU is greater than the gap between JCU and fifth placed NSW. Sixth placed Adelaide is further behind with the next three departments being Monash, Tasmania and La Trobe. So in terms of Q(1) pages there are four main clusters[12]: ANU and UWA are clear leaders, a second cluster of JCU, Melbourne and NSW, a third cluster of Adelaide, Monash, Tasmania and La Trobe, and a final cluster comprised of the remaining departments.

Changing the assumed publication lag to three years has little or no impact on the rankings for the majority of departments. However, assuming a one-year lag results in large rank changes for a number of departments (see Column 4). Flinders in particular suffers a large rank deterioration, from 10th to 21st, because they lose the 1998 publications (3.52 Q(1) pages) of one researcher who moved in 1997.[13] Hence some rankings are sensitive to the particular flow of research and the exit or entry of highly productive researchers.

Table 2 presents our results when non-zero quality weights are assigned to a larger number of journals. The departments that headed Table 1 are again well represented with Melbourne now the most productive (2.773 pages) followed by Tasmania, UWA and JCU. Whilst the top ten is similar to that from Table 1, the only exceptions being Monash (now 12th) and Flinders (now 14th), many departments experienced substantial rank changes. Those relatively more

successful when publications are counted in the larger journal set include Melbourne, Tasmania, Queensland, Murdoch, Wollongong and RMIT. Those relatively more successful when publications are counted in the more restrictive journal set include ANU, Monash, Flinders, UNE, QUT, UTS and ADFA. The assumed publication lag is again of little consequence for most departments but important for some, including Deakin, Murdoch, Flinders, UWS and ADFA.

V Rankings based on research inequality within departments

Table 3, Columns 2-5, contains data on the 50th, 75th, 90th and 100th percentiles for each of the 29 Australian economics departments in terms of the mean number of Q(1) pages published per person per year, assuming a publication lag of two years. Only at ANU, Melbourne, Tasmania and UWA did at least half the academic staff publish in any of the top 159 economics journals over the study period. In eight departments 90% of the academic staff did not publish anything in these journals. The skewed nature of the publications distribution is summarised by the Gini coefficients in Column 6, which are greater than 0.9 for seventeen departments, indicating a very high degree of inequality.[14] Column 7 ranks departments according to the Gini coefficients. Interestingly, many of the more research productive departments are also those where research output is relatively more evenly distributed, notably Tasmania, ANU, Melbourne, NSW, UWA and Adelaide. The simple correlation coefficient between Q(1) research productivity and the Gini coefficient is -0.58.

Table 4 is similar to Table 3 but is based on the mean number of Q(2) pages published per person per year, again assuming a lag of 2 years. Not

surprisingly, the research ‘participation rate’ is now higher although in 14 departments at least 50% of staff still published nothing over the study period. Most departmental distributions remain highly skewed, with nine Gini coefficients still greater than 0.9. Again, many of the top departments in terms of research productivity also have lower Gini coefficients, notably Tasmania, Melbourne, UWA, ANU and NSW. The simple correlation coefficient in this case is -0.62.

VI Conclusions

This paper ranks Australian economics departments on the basis of research productivity as determined by the (lagged) annual flow of size and quality adjusted pages published per person year between 1996 and 2002 in two sets of journals. The three most productive departments, ANU, UWA and JCU published over 0.50 pages per person year in the top 159 journals. On the basis of pages published in a larger journal set, the three most productive departments, Melbourne, Tasmania and UWA, published over 2.15 pages per person year. But irrespective of the weights used, large disparities exist between the most and least productive departments. In terms of pages published in the larger journal set, the mean productivity of the top 25% of departments is 4.6 times that of the others. For pages published in the top 159 journals this disparity increases to a factor of nearly twelve. Our results also suggest that many economics departments achieved very low research productivity over the study period. Indeed 21 of the 29 departments examined published less than one page per person year in any of around 600 journals.

This paper also ranks Australian economics departments on the basis of the variability of publications by calculating departmental Gini coefficients. Within nearly 50% of departments, most academic staff did not publish anything over the five year period in around 600 journals. When we count publications in the top 159 journals only, this figure increases to 86%. Clearly, the production of peer reviewed publications is heavily skewed within Australian economics departments. Most are, to a greater or lesser degree, dependent on a small number of productive individuals. However, research productivity tends to be less unevenly distributed in the more productive departments.

What factors may help to explain these disparities across and within departments? Thursby (2000) concluded that differences in resources are a key factor in explaining differences in research output across the top 100 or so economics departments in the USA. This may also be the case in Australia. Other possible explanations include differences across departments in the mean quantity and quality of the human capital of academics, in the research motivation of individual academics, and in the incentive structures that encourage research[15].

These large productivity differences may be better understood via the notion of cumulative causation. Many current Australian universities were, until the late 1980's, specialised teaching colleges. As a result of subsequent structural reforms, these are now universities in name but have had neither sufficient time nor adequate resources and incentives to develop more than a minor economics research capability. Also, student numbers in many

universities increased rapidly during the 1990's. Consequently, resources for, and commitment to, research relative to teaching and administrative duties may have diminished over this period. In our view, the low research productivity of many Australian economics departments and individual academics that we have identified is the result of a prior decade of relatively diminished capacity for research[16]. Many Australian economics departments currently lack the critical mass of research productive members necessary to create an environment that promotes and encourages high quality journal publications.

Table 1
Rankings based on Q(1) adjusted pages per person year 1996-2002

Rank (1)	Institution (2)	Q(1) Pages (3)	Rank change (lag 1 year) (4)	Rank change (lag 3 years) (5)
1	ANU	0.660	0	0
2	UWA	0.656	0	0
3	JCU	0.502	0	0
4	Melbourne	0.397	0	1
5	NSW	0.381	0	-1
6	Adelaide	0.204	0	3
7	Monash	0.193	1	1
8	Tasmania	0.168	2	-1
9	La Trobe	0.145	-2	-3
10	Flinders	0.078	11	1
11	Deakin	0.077	3	-1
12	Curtin	0.071	0	0
13	UNE	0.048	-2	0
14	Sydney	0.041	-5	0
15	Queensland	0.031	-2	1
16	UTS	0.028	0	-1
17	UWS	0.022	1	0
18	QUT	0.014	-1	1
19	ADFA	0.013	-4	-1
20	Macquarie	0.010	0	3
21	Wollongong	0.009	4	-1
22	Murdoch	0.008	-3	-1
23	Griffith	0.007	1	-1
24	Newcastle	0.006	2	3
25	RMIT	0.006	2	-1
26	VUT	0.006	2	-1
27	Edith Cowan	0.002	-4	-1
28	Canberra	0.000	-6	0
29	S.Queensland	0.000	0	0

Notes:
1. UWA is University of Western Australia. JCU is James Cook University. ANU is Australian National University. NSW is University of New South Wales. UNE is University of New England. UTS is University of Technology Sydney. UWS is University of Western Sydney. QUT is Queensland University of Technology. ADFA is Australian Defence Force Academy. RMIT is Royal Melbourne Institute of Technology. VUT is Victoria University of Technology. S.Queensland is University of Southern Queenland.

[2] Rankings based on the publication of AER-standard-size pages in 159 journals included in EconLit and adjusted for quality using the weights of Kalaitzidakis, *et al.* (2003).

Table 2
Rankings based on Q(2) adjusted pages per person year 1996-2002

Rank (1)	Institution (2)	Q(2) Pages (3)	Rank change (lag 1 year) (4)	Rank change (lag 3 years) (5)
1	Melbourne	2.773	0	0
2	Tasmania	2.182	2	0
3	UWA	2.151	-1	0
4	JCU	1.856	-1	3
5	ANU	1.734	0	-1
6	NSW	1.547	0	-1
7	Adelaide	1.335	1	-1
8	La Trobe	1.183	-1	0
9	Queensland	0.828	1	1
10	Curtin	0.774	2	1
11	Deakin	0.756	4	-2
12	Monash	0.728	-1	0
13	Murdoch	0.723	-4	1
14	Flinders	0.718	4	1
15	Sydney	0.524	-2	-2
16	UNE	0.436	-2	3
17	UWS	0.329	4	1
18	Wollongong	0.324	-1	-2
19	RMIT	0.319	3	-2
20	Macquarie	0.289	0	2
21	QUT	0.277	-2	-1
22	Newcastle	0.206	2	2
23	UTS	0.196	0	-2
24	ADFA	0.183	-8	-1
25	Griffith	0.177	1	2
26	VUT	0.107	1	-1
27	Edith Cowan	0.081	1	-1
28	Canberra	0.049	-3	0
29	S.Queensland	0.008	0	0

Notes:
1. UWA is University of Western Australia. JCU is James Cook University. ANU is Australian National University. NSW is University of New South Wales. UNE is University of New England. UTS is University of Technology Sydney. UWS is University of Western Sydney. QUT is Queensland University of Technology. ADFA is Australian Defence Force Academy. RMIT is Royal Melbourne Institute of Technology. VUT is Victoria University of Technology. S.Queensland is University of Southern Queenland.

[2] Rankings based on the publication of AER-standard-size pages in more than 600 journals included in EconLit and adjusted for quality using the weights of Gibson (2000).

Table 3
Rankings based on a Gini coefficient of intra-departmental research inequality 1996-2002

Institution (1)	Median (2)	75 Per (3)	90 Per (4)	Max (5)	Gini (6)	Rank (7)
Adelaide	0.00	0.17	0.70	1.84	0.839	7
ADFA	0.00	0.00	0.03	0.22	0.950	19
ANU	0.06	0.67	1.54	4.73	0.790	2
Canberra	0.00	0.00	0.00	0.00	0.972	22
Curtin	0.00	0.05	0.30	0.38	0.843	8
Deakin	0.00	0.05	0.20	1.45	0.922	16
Edith Cowan	0.00	0.00	0.00	0.05	0.979	26
Flinders	0.00	0.02	0.15	3.52	0.974	24
Griffith	0.00	0.00	0.02	0.04	0.924	17
James Cook	0.00	0.00	2.38	3.52	0.913	14
La Trobe	0.00	0.07	0.36	3.17	0.880	11
Macquarie	0.00	0.00	0.00	0.15	0.971	21
Melbourne	0.14	0.39	1.00	7.51	0.811	3
Monash	0.00	0.04	0.45	4.55	0.914	15
Murdoch	0.00	0.00	0.03	0.05	0.901	13
Newcastle	0.00	0.00	0.00	0.14	0.990	28
NSW	0.00	0.30	1.51	3.69	0.827	5
Queensland	0.00	0.02	0.12	0.27	0.852	9
QUT	0.00	0.00	0.00	0.20	0.972	23
RMIT	0.00	0.00	0.00	0.12	0.975	25
S.Queensland	0.00	0.00	0.00	0.00	1.000	29
Sydney	0.00	0.02	0.13	0.52	0.891	12
Tasmania	0.07	0.13	0.42	0.77	0.754	1
UNE	0.00	0.04	0.16	0.38	0.819	4
UTS	0.00	0.00	0.01	0.62	0.979	27
UWA	0.05	0.49	1.67	4.25	0.828	6
UWS	0.00	0.00	0.06	0.16	0.868	10
VUT	0.00	0.00	0.00	0.07	0.952	20
Wollongong	0.00	0.00	0.04	0.11	0.925	18

Notes:
1. UWA is University of Western Australia. JCU is James Cook University. ANU is Australian National University. NSW is University of New South Wales. UNE is University of New England. UTS is University of Technology Sydney. UWS is University of Western Sydney. QUT is Queensland University of Technology. ADFA is Australian Defence Force Academy. RMIT is Royal Melbourne Institute of Technology. VUT is Victoria University of Technology. S.Queensland is University of Southern Queenland.

[2] Rankings based on a Gini coefficient of AER-standard-size pages published in 159 journals included in EconLit and adjusted for quality using the weights of Kalaitzidakis, *et al.* (2003).

Table 4
Rankings based on a Gini coefficient of intra-departmental research inequality 1996-2002

Institution (1)	Median (2)	75 Per (3)	90 Per (4)	Max (5)	Gini (6)	Rank (7)
Adelaide	0.27	1.39	3.77	12.40	0.786	11
ADFA	0.00	0.19	0.71	1.15	0.834	18
ANU	0.89	2.31	4.78	8.77	0.668	4
Canberra	0.00	0.00	0.07	0.44	0.944	26
Curtin	0.16	0.64	2.09	5.35	0.783	9
Deakin	0.20	0.59	3.35	8.12	0.838	19
Edith Cowan	0.00	0.00	0.05	1.62	0.967	28
Flinders	0.00	0.43	1.93	27.20	0.957	27
Griffith	0.06	0.13	0.29	1.11	0.823	16
James Cook	0.00	0.28	5.64	12.24	0.927	24
La Trobe	0.14	1.31	2.80	8.54	0.791	13
Macquarie	0.00	0.12	0.27	3.04	0.908	23
Melbourne	1.22	3.96	7.20	15.20	0.650	3
Monash	0.00	0.53	2.22	7.18	0.820	15
Murdoch	0.03	0.71	1.10	5.44	0.877	20
Newcastle	0.00	0.18	0.43	0.91	0.794	14
NSW	0.32	1.97	4.97	11.10	0.748	7
Queensland	0.25	1.17	2.38	5.98	0.701	6
QUT	0.00	0.11	0.35	3.60	0.905	21
RMIT	0.00	0.01	0.47	5.03	0.937	25
S.Queensland	0.00	0.00	0.04	0.06	1.000	29
Sydney	0.12	0.72	1.74	7.44	0.784	10
Tasmania	0.96	2.80	4.95	5.74	0.593	1
UNE	0.22	0.54	1.06	2.53	0.640	2
UTS	0.00	0.17	0.74	1.74	0.825	17
UWA	1.31	2.49	5.33	8.65	0.675	5
UWS	0.00	0.28	1.08	2.18	0.787	12
VUT	0.00	0.00	0.19	1.03	0.906	22
Wollongong	0.05	0.32	0.87	2.58	0.780	8

Notes:
1. UWA is University of Western Australia. JCU is James Cook University. ANU is Australian National University. NSW is University of New South Wales. UNE is University of New England. UTS is University of Technology Sydney. UWS is University of Western Sydney. QUT is Queensland University of Technology. ADFA is Australian Defence Force Academy. RMIT is Royal Melbourne Institute of Technology. VUT is Victoria University of Technology. S.Queensland is University of Southern Queensland.

[2] Rankings based on a Gini coefficient of AER-standard-size pages published in more than 600 journals included in EconLit and adjusted for quality using the weights of Gibson (2000).

References

Axarlaglou, K. and V. Theoharakis (2003). Diversity in Economics: An Analysis of Journal Quality Perceptions. Mimeo, Athens Laboratory of Business Administration.

Coombes, P. P. and L. Linnemer (2003). 'Where are the Economists who Publish? Publication Concentration and Rankings in Europe based on Cumulative Publications'. Journal of the European Economic Association, 1(6):1250-1308.

Dixon, P. M., J. Weiner, T. Mitchell-Olds and R. Woodley (1987). 'Bootstrapping the Gini Coefficient of Inequality'. Ecology 68:1548-1551.

Dusansky, R. and C. J. Vernon (1998). 'Rankings of U.S. Economics Departments'. Journal of Economic Perspectives 12(1): 157-70.

Faria, J. R. (2000). 'The research output of academic economists in Brazil'. Economia Aplicada, 4(1): 95-113.

Fox, K. and R. Milbourne (1999). 'What Determines Research Output of Academic Economists?' The Economic Record 75: 256-67.

Garcia-Castrillo, P., A. Montanes and F. Sanz-Gracia (2002). 'A worldwide assessment of scientific production in economics (1992-1997)'. Applied Economics, 34: 1453-1475.

Gibson, J. (2000). 'Research Productivity in New Zealand University Economics Departments: Comments and Updates'. New Zealand Economic Papers, 34(1): 73-87.

Graves, P. E., J. R. Marchand and R. Thompson (1982). 'Economics Departmental Rankings: Research Incentives, Constraints, and Efficiency'. American Economic Review 72(5): 1131-41.

Griliches, Z. and L. Einav (1998). 'Correspondence on Ranking Economics Departments'. Journal of Economic Perspectives, 12(4): 233-35.

Hartley, J. E., J. W. Monks and M.D. Robinson (2001). "Economists' Publication Patterns." American Economist 45(1): 80-85.

Harris, G. T. (1988). 'Research Output in Australian University Economics Departments, 1974-83'. Australian Economic Papers 27(50): 102-110.

Harris, G. T. (1990). 'Research Output in Australian University Economics Departments: An Update for 1984-88'. Australian Economic Papers 29(55): 249-59.

Hirsch, B. T., R. Austin, J. Brooks and J. Bradley Moore (1984). 'Economics Department Rankings: Comment'. American Economic Review, 74(4): 822-26.

Hogan, T. D. (1984). 'Economics Departmental Rankings: Comment [Economics Departmental Rankings: Research Incentives, Constraints, and Efficiency]'. American Economic Review 74(4): 827-33.

Kalaitzidakis, P., T. P. Mamuneas, T. Stengos. (2001). 'Rankings of Academic Journals and Institutions in Economics'. Working Paper, October.

Kalaitzidakis, P., T. P. Mamuneas, T. Stengos. (2003). 'Rankings of Academic Journals and Institutions in Economics'. Journal of the European Economic Association 1(6): 1346-66.

Laband, D. and M. J. Piette (1994). 'The Relative Impacts of Economics Journals'. Journal of Economic Literature 32: 640-666.

Liebowitz, S. J. and J. P. Palmer (1984). 'Assessing the Relative Impact of Economics Journals'. Journal of Economic Literature 22: 77-88.

Lubrano, M., A. Kirman, L. Bauwens and C. Protopopescu (2003). 'Ranking Economics Departments in Europe: A Statistical Approach'. Journal of the European Economic Association, 1(6):1367-1401.

Mason, P., J. Steagall and M. Fabritius (1997). 'Economics Journal Rankings by Type of School: Perceptions Versus Citations'. Quarterly Journal of Business and Economics, 36(1): 69-79.

Neary, J. P., J. A. Mirrlees and J. Tirole (2003). 'Evaluating Economics Research in Europe: An Introduction'. Journal of the European Economic Association 1(6):1239-49.

Pomfret, R. and L. C. Wang (2003). 'Evaluating the Research Output of Australian Universities' Economics Departments'. Australian Economic Papers 42(4): 418-41.

Posner, R. A. (1999). The Theory and Practice of Citation Analysis, with Special Reference to Law and Economics. Chicago, John M. Olin Law and Economics Working Paper No. 83 (2nd Series) The Law School of the University of Chicago, Illinois.

Sauer, R. D. (1988). 'Estimates of the Returns to Quality and Co-authorship in Economic Academia'. Journal of Political Economy, 96(4): 855-66.

Scott, L. C. and P. M. Mitias (1996). 'Trends in Rankings of Economics Departments in the U.S.: An Update'. Economic Inquiry 34(2): 378-400.

Sinha, D. and J. Macri (2002). 'Rankings of Australian Economics Departments, 1988-2000'. Economic Record 78(241): 136-46.

Thursby, J. G. (2000). 'What Do We Say About Ourselves and What Does It Mean? Yet Another Look at Economics Department Research'. Journal of Economics Literature, 38(2): 383-404.

Towe, J. B. and D. J. Wright (1995). 'Research Published by Australian Economics and Econometrics Departments: 1988-93'. Economic Record 71(212): pp.8-17.

Endnotes

[1] Robustness of results to the methodology used is important. See, for instance, Griliches and Einav (1998). For a recent project evaluating economics research in Europe, the Council of the European Economic Association funded four different studies because, in their view, no single best methodology exists (see Neary, Mirrlees and Tirole, 2003).

[2] These are our calculations.

[3] Page counts were standardised only for the 71 journals in Groups 1-3.

[4] We report the results based on *per capita* output because we are primarily interested in departmental productivity, and because the aggregate data are likely to be heavily influenced by department size.

[5] Only economists with formal teaching responsibilities during at least part of the study period are included. Members of research institutes such as the RSSS at ANU are excluded because they face quite different working conditions than do members of teaching departments. Staff holding research-only positions within a teaching department, such as those with ARC research fellowships, are included. Staff on leave are also included but emeritus and adjunct staff are excluded.

[6] The universities excluded are Charles Darwin, Charles Sturt, Swinburne University of Technology and Southern Cross.

[7] This is supported by research suggesting that the returns to non-refereed publications are low, at least in other countries. See Gibson (2000) and Sauer (1988).

[8] We thank Pomfret and Wang for allowing us access to their data.

[9] We thank Sinha and Macri for allowing us to use their conversion factors.

[10] See Neary, Mirrlees and Tirole (2003), Figure 1 for an illustrative summary of the wide range of weighting schemes used in the literature to take account of journal quality.

[11] Posner (1999) discusses the reasons for citing and argues that all types of citations reflect the impact of the article being cited, but only certain types of citations reflect its quality.

[12] Thursby (2000, p.401) found that, in terms of perceptions of 104 economics departments in the USA, "…there is not a hill of beans difference across many departments". We thus refer to clusters in this spirit: i.e. that there may be little practical difference between the departments in each cluster even though their productivity scores can be ordered.

[13] Flinders also gains that person's 1997 publications which were not previously counted. Unfortunately for Flinders, the person in question published zero Q(1) pages in 1997.

[14] There are various formulae for calculating the Gini coefficient. See, for example, Dixon *et al.* (1987). We have corrected for differences across departments in staff numbers.

[15] The extent to which disparities across departments in these variables impact on departmental research productivity in Australia is the subject of on-going research.

[16] Fox and Milbourne (1999) concluded that a 10% increase in teaching hours (the number of research grants) reduces (increases) research output of Australian academic economists by 20% (15%). Our experiences are consistent with this finding.