Ranking of Academic Journals by Tournament Methods*

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February 16, 2007
Draft, do not cite.

Abstract

A ranking of journals is manipulable if a particular journal's position can be improved by making additional citations to other journals. We show that the invariant method (Palacios-Huerta and Volij, 2004) and the LP-method (Liebowitz and Palmer, 1984) are both subject to manipulations and present a novel method that is not. A ranking of economics journals are presented.

1 Introduction

With over 300 billion dollars (UNESCO Institute for Statistics, 2006) spent on research and development each year in the United States only, evaluating the quality of scientific research output is of paramount importance. Unlike for a business investment where returns are a good indicator of success, for investment in scientific, especially for fundamental research the returns come often long after the evaluation. Here the *quality of publications* serves as an indicator of quality and is used both in hiring academic staff and in allocating scarce resources for scientific research.

As the number of journals has exploded in the last decades, evaluating the quality of these journals has drawn more and more interest (Liebowitz and Palmer, 1984; Laband and Piette, 1994, and references therein). Of the numerous methods proposed the *impact factor* (IF; Garfield, 1972) has become the standard for such measurements. The simplicity of this method is appealing, but it also exhibits a number of odd features that question it as an objective measure in a field as heterogeneous as economics. In the recent years producing journal rankings have become a sport in economics (Kalaitzidakis, Mamuneas, and Stengos, 2003; Palacios-Huerta and Volij, 2004; Kodrzycki and Yu, 2006; Liner and Amin, 2006); unfortunately the complexity of the proposed models make it difficult to reproduce/update the rankings or to extend them to a wider dataset.

The impact factor is published each year in the Journal Citation Report (JCR) of Thomson Scientific, calculated as the ratio of the number times papers in the preceding two years have been cited to the number of papers published in those years. Despite its intuitive appeal,

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the IF has a number of shortcomings. It gives incentives to delay the publication of accepted papers, more importantly it ignores inter-disciplinary differences in citation habits. Higher citation intensity and immediacy leads to higher impact factors *ceteris paribus*.

A faculty of economics and business administration considers a new hire. Applicant A has a publication in an economics journal with IF of 0.7, B in a business journal with 0.8. Which one should be hired? Despite the higher IF, B's publication is ranked lower within business than A's within economics (Journal Citation Report, 2005). However close these fields may be the fact is that these IF's cannot be compared. With more and more projects qualifying as interdisciplinary, even within a field this approach cannot be maintained.

Instead, we introduce a model based on the *pairwise comparison* of journals where the score of a journal is its position in the mini-field defined by its citing and cited journals. Our method is less sensitive to differences in citation habits and is straightforward to calculate. Most importantly it is not subject to *manipulations*.

2 Model

We follow Palacios-Huerta and Volij (2004) in our notation: Let $\mathcal{J}$ be the universe of journals and let $J \subseteq \mathcal{J}$ denote a finite subset we are going to rank. A citation matrix C for J is a $|J| \times |J|$ non-negative matrix (c_{ij}). For each $i, j \in J$, c_{ij} represents the number of citations to journal i by journal j, that is, the number of references of journal j to journal i. Let $c_j = \sum_{i \in J} c_{ij}$ denote the total number of cites made by j and let a_j denote the number of articles published in j. The ratio $\frac{c_j}{a_j}$ is journal j's *reference intensity*.

We say that journal i is cited by j, if $c_{ij} > 0$; i and j are neighbours if i is cited by j or if j is cited by i.

A *ranking problem* is a pair (J, C) consisting of a finite set of journals and a citation matrix. Let $\Phi = \left\{(\tau_j)_{j \in J} \in [0,1]^{|J|}\right\}$ denote the set of possible valuations. A valuation $\tau \in \Phi$ assigns a value τ_j between 0 and 1 to each journal.

We can now present our ranking method and then discuss its properties.

The valuation or *score* of a journal is given by

$$\tau_i = \frac{|\{j \in J, i \succ j\}|}{|\{j \in J, i \succ j \text{ or } i \prec j\}|}, \tag{2.1}$$

where $i \succ j$ if $c_{ij} > c_{ji}$ and the null hypothesis that a cite between these two journals can happen either way with equal probability is rejected by a two-sided binomial test under 5% significance.

The score τ_i gives the proportion of journals in its neighbourhood that i significantly "beats" in a citation match.

Journals are ranked according to their score.

3 Discussion

3.1 Motivation

As journal rankings have an increasing influence on our lives not only in terms of prestige, but also influencing hiring and promotion decisions and the allocation of research funds the incentives for manipulation are increasing. Should editors have the possibility that encouraging a particular citation pattern they could improve the position of their journal the rankings would equally reflect quality and the editors' strategic skills. Our aim is to study the first: our aim is to establish a ranking method that is free from manipulations.

Another aspect of the new method is to produce a ranking that is equally interesting and personal to everyone. Journals on the periphery of fields suffer from neglect and poor performance in journal rankings Bardhan (2003). A partition into smaller (sub)fields does not solve the problem: fields will be overlapping. Our ranking is democratic: we put every journal in the centre! A journal's rank is essentially its performance within the mini field defined by the journals it communicates with. As such our method gives a ranking that is largely neutral with respect to the position of a field within a discipline: A journal is always ranked with respect to the field it itself defines. One advantage of such a mini-field is that it will contain journals with similar or overlapping interests: such journals will behave similarly – a useful fact we return to soon.

As a consequence of this model, it is relatively easy to position a particular journal in a ranking. Small and new journals are not included in JCR, but even those that are, are not always ranked often due to computational limitations. Is your journal not ranked? Collect the citations from the latest volume (year) and hunt for papers published in the same year citing your journal using the Web of Science, IDEAS, Google Scholar, or Windows Live Academic Search. With each citation found you can increase the ranking of the journal.

3.2 Description

As only about 1.5% of citation matches is played a pairwise comparison of an arbitrary pair of journals is both impossible and controversial due to the lack of transitivity. On the other hand the ranking of alternatives is a well-known problem in social choice. Given a preference profile over the alternatives a choice must be made. When the preference profile is a linear order the choice is simple, for more general profiles one needs a theory of choice. If the preference profile constitutes what is called a *tournament* in mathematics, this theory is well established (Laslier, 1997), offering several alternative *tournament solutions* to select the winner. While our aim is to present a complete ranking of journals, many of these solutions (for instance the top-cycle) only selects a (possibly large) set of winners, without ranking these winners or the remaining alternatives. Another aspect we must take into account is the fact that the theory is well-developed for complete tournament, we only have the aforementioned 1.5% of the matches: we need solutions that are straightforward to generalise.

For its simplicity we choose a variant of the Copeland score (Rubinstein, 1980; Henriet, 1985), which assigns to each alternative the difference of the number of alternatives it beats and those beating it. The alternative with the highest score is the winner and the Copeland ranking is the ranking of all alternatives according to their Copeland scores.

While ties can be dealt with as 'half wins, half losses' (Laslier, 2003) dealing with missing links is a fundamental problem. Consider the following example.

Our universe consists of two disciplines: a large (D) and a small one (F) with no citations between them. For simplicity each discipline has a single top journal. While the top journal in A will have many wins and a few unplayed matches, the top journal in B will have few wins, and many unplayed matches. If unplayed matches count as half wins-half losses, the top journal in B will rank near the median in the combined ranking and discipline B, due to its small size can never stand out. Instead we look at *relative* performance and the score of a journal is the *ratio* of the wins to all well-defined relations. Draws are rare and are mostly due to sparse communication and therefore are treated as missing matches.[1]

3.3 Properties

3.3.1 Condorcet criteria

Definition 3.1. A journal that beats every other journal is a *Condorcet winner.* A ranking method that selects the Condorcet winner, provided it exists, as the winner passes the *Condorcet criterion.* A Condorcet loser is an alternative that looses every pairwise comparisons. Rankings that never select a Condorcet loser as the winner pass the *Condorcet loser criterion.*

While the terminology is originally defined for complete tournaments, it is natural to extend it to incomplete ones: Here the Condorcet winner is not unique, but nevertheless it may be required that, in case Condorcet winners exist, the journal ranked top is one of them.

Proposition 3.2. *The ranking based on the score τ passes both the Condorcet criterion and the Condorcet loser criterion.*

Proof. By construction, journal i has a score of $\tau_i = 1$ if and only if it is a Condorcet winner. No journal can have a score higher than this and therefore if a Condorcet winner exists it is raked top. Similarly, journal j has a score of $\tau_j = 0$ if and only if it is a Condorcet loser. If a Condorcet loser exists there exist also journals that are not Condorcet losers (eg. those beating it). As these will necessarily have a higher score a Condorcet loser is never ranked top. □

3.3.2 Monotonicity

Definition 3.3. A journal ranking method passes the *monotonicity criterion* if making an extra citation cannot improve a journals score and ranking.

Our definition of monotonicity is a little stronger than the standard version: we require monotonicity in citations and not only in won matches. Monotonicity is a crucial property as it ensures that the ranking is not subject to *manipulation* by strategic editors: In the absence of this property it could be profitable to ask authors to make additional citations and thereby improve the journal's ranking. Discussions on *gratuitous citations* suggest that the problem is not unknown in the ranking literature, but the issue is typically solved by ignoring self-cites in the analysis (Kalaitzidakis, Mamuneas, and Stengos, 2003).

Proposition 3.4. *The ranking based on the score τ passes the monotonicity criterion.*

Proof. Self-citations do not play any role in our ranking and therefore also do not influence it. For any other citation: An additional citation from journal i to j will only affect our ranking by possibly affecting the relation between i and j. This relation can be (i) i wins significantly (ii) undetermined/draw (iii) i loses significantly. Observe that the additional cite can turn the significant win of i to insignificant or turn an undetermined outcome into a significant loss. The first possibility reduces i's score, the latter increases j's. Other journals' scores are unaffected. Therefore i's position cannot improve by the additional cite it makes. □

[1]For journals in Economics the share of draws is about 2%, 95% of which have less than 20 citations for the two directions in total.

Other ranking methods often fail this criterion. In rankings where the quality of a journal is measured –to put it simply– as shares of citations made to it by other journals, a large number of self-citations will diminish the value of the cites made by this journal. It is therefore common to simply remove self-citations.

Palacios-Huerta and Volij (2004) characterise the invariant method (Pinski and Narin, 1976) that assigns to each ranking problem a vector v defined as the unique normalised vector satisfying

$$v_i = \sum_{j \in J} \frac{c_{ij}}{a_i} \frac{a_j}{c_j} v_j.$$

The invariant method is not monotonic: Consider the example with journals $\{i, j, k, l\}$ each having the same number of articles and a citation matrix given by

$$C = \begin{pmatrix} 0 & 1 & 1 & 1 \\ 1 & 0 & 0 & 2 \\ 1 & 1 & 0 & 0 \\ 1 & 0 & 1 & 0 \end{pmatrix}.$$

The invariant method assigns the vector $v = (30, 24, 22, 21)/97$ to this game, in particular it ranks journal D the lowest.

Now suppose journal l makes 2 additional citations to journal i. The citation matrix is modified as follows:

$$C' = \begin{pmatrix} 0 & 1 & 1 & 3 \\ 1 & 0 & 0 & 2 \\ 1 & 1 & 0 & 0 \\ 1 & 0 & 1 & 0 \end{pmatrix},$$

and the corresponding invariant vector is given by $v' = (54, 32, 34, 35)/155$. In the ranking based on the new invariant vector journal l is ranked second, overtaking journals j and k.

The long path method (Liebowitz and Palmer, 1984) weights citations with the quality of the citing journal, where quality is measured by this weighted score. The method is iterative, starts with $Q_i^0 = 1$ and in general $Q_i^{k+1} = \sum_{j \in J} c_{ij} Q_j^k$. Subject to normalisation, the method quickly converges. For the above problem $Q = (100, 98, 79, 72)$. Now assume that journal j makes an additional cite, citing l. The citation matrix is modified as follows:

$$C'' = \begin{pmatrix} 0 & 1 & 1 & 1 \\ 1 & 0 & 0 & 2 \\ 1 & 1 & 0 & 0 \\ 1 & 1 & 1 & 0 \end{pmatrix},$$

and the method converges to $Q'' = (94, 100, 69, 94)$, therefore not only that j's score has increased, it actually overtook i and became the top journal. Essentially the same method is used by Laband and Piette (1994); Kalaitzidakis, Mamuneas, and Stengos (2003) which are therefore also subject to manipulations.

Any ranking based on citation analysis is subject to manipulation if we also allow for *removing* citations – our method is no exception here. We must, however assume that such a behaviour will be firmly rejected by the scientific community.

3.3.3 Communication intensity

Definition 3.5. Let (J, C) and be a journal ranking problem and (J, C') its modification such that for each pair i and j with $c_{ij} > 0$ or $c_{ji} > 0$ the binomial tests of the null hypothesis that citations go from i to j and reverse go with equal probability are rejected for (c_{ij}, c_{ji}) and (c'_{ij}, c'_{ji}) at the same levels of significance. A ranking method ϕ is *invariant with respect to communication intensity* if $\phi(J, C) = \phi(J, C')$.

For larger numbers the requirement is roughly to keep $\frac{c_{ij}}{c_{ji}}$ constant.

Invariance to communication intensity says that differences in reference intensities between pairs of journals should not influence the ranking. This property is our version of invariance to reference intensity (Palacios-Huerta and Volij, 2004), except that instead of assuming that a journal communicates at a uniform communication intensity with all its partners, we assume the same for the two journals in a communicating pair *in their communication with the other.* While a general journal will communicate with theory journals differently than with applied ones, when communicating with theory journals, it will act as a theory journal, too. If communication really goes one way only, our theory may fail, but then it is also not needed to establish the winner.

Proposition 3.6. *The score τ and hence the ranking based on it is invariant with respect to communication intensity.*

Proof. Changing the communication intensity with a neighbour does not change the outcome of the citation match. Since only this matters for the score the score and hence the ranking is not altered. □

It is important to emphasise that we do not assume that the citation intensity of the central journal is the same as any of its neighbours (which of course would be all equal as well). To explain our point better, consider the following example. Take two disciplines D and F with two identical journals each such that $a_d = a_f = 10$, $c_d = 10$, $c_f = 90$. We also assume that $c_{d_1 d_2} = c_{d_2 d_1} = 10$, $c_{f_1 f_2} = c_{f_2 f_1} = 90$, otherwise $c_{ij} = 0$ (that is, journals only cite the other journal in their field). By symmetry d_1 and d_2 and on the other hand f_1 and f_2 are equally ranked. The relation of journals in different fields cannot be determined (by pairwise comparison only).

Now assume that a new, "interdisciplinary" journal e is created by merging d_2 and f_2. The citation matrix is the following:

$$C = \begin{pmatrix} 0 & 10 & 0 \\ 10 & 0 & 90 \\ 0 & 90 & 0 \end{pmatrix},$$

while the vectors of total cites and total articles are $c = (10, 100, 90)$ and $a = (10, 20, 10)$. Our conclusion will not change: Journal d nor e find the research of the other less important. The same number of citations are made and received. The only difference is that readers of e also 'read' papers that are irrelevant for them. The argument for e and f is much the same. Therefore our ranking has not changed (as transitivity is not assumed, we cannot relate d and f). This conclusion is different from other methods that rank f top.[2] Our example is artificial, but illustrates the problem when two fields or subfields with different citation intensities become linked.

[2] For instance, the invariant method (Palacios-Huerta and Volij, 2004) assigns the vector $(\frac{1}{15}, \frac{1}{3}, \frac{3}{5})$.

Definition 3.7. Let (J, C) and be a journal ranking problem and (J', C') be the problem created by cloning i to get i': $J' = J \cup i'$ and for all $j, k \in J$ we have $c'_{jk} = c_{jk}$ while $c'_{i'j} = c_{ij}$ and $c'_{ji'} = c_{ji}$. A ranking method ϕ is invariant to journal cloning if $\phi_j(J', C') = \phi_j(J, C)$ for all $j \in J \setminus \{i\}$ and $\phi_{i'}(J', C') = \phi_i(J, C)$.

Invariance to cloning is similar to invariance to journal-splitting – a usual requirement to ranking methods. The two properties are not equivalent due to the fact that splitting reduces intensities possibly making some relations insignificant.

Invariance to cloning, together with invariance to communication intensity implies *invariance to field size*: it is not the number of communicating partners that matters, but how one performs against them.

3.3.4 The effects of journal volume

Most studies (E.g. Liebowitz and Palmer, 1984; Kalaitzidakis, Mamuneas, and Stengos, 2003) must use some –fairly ad-hoc– measure to normalise with respect to journal size. We show that in our model such measures are not necessary.

Proposition 3.8. *The score τ is robust to differences in article number and length (and hence to differences in volume, too).*

Some evidence. Citation analysis builds on the assumption that future citation patterns will be like present ones. In particular an article in j cites an article in i with probability $p_{ij} = \frac{c_{ij}}{a_i a_j}$. Similarly $p_{ji} = \frac{c_{ji}}{a_i a_j}$. Journal i wins against j if

$$c_{ij} - c_{ji} = (p_{ij} - p_{ji}) a_i a_j > 0. \tag{3.1}$$

This inequality is not affected by the magnitudes of a_i and a_j although for lower values of traffic (a_i or a_j) the win may not be statistically significant.

Similarly, if we assume that citation probabilities (linearly) depend on the article length, that is $p_{ij} = l_i l_j q_{ij}$, where l_i is an indicator of article length in i and q_{ij} is the citation intensity. Just as the number of citations an article receives depends on its length, the number of citations it makes, depend on it as well. Then $c_{ij} - c_{ji} = (q_{ij} - q_{ji}) a_i a_j l_i l_j > 0$. As before, differences in article length do not influence the winning relation. □

Changes in journal sizes do matter: expanding (including new) journals suffer (see Equation 3.1 as a_i increases), shrinking and discontinued journals benefit. However, as citations go predominantly to more recent publications (though in different fields to a different degree) the handicap of new journals disappears over time – a prediction our data confirm[3]. Similarly, the advantage of shrinking journals is transient, moreover such journals are unlikely at the top. Discontinued journals are removed from the rankings.

4 A ranking of economics journals

In this section we present a ranking of economics journals based on data from the 12 issues of Journal Citation Reports. For our ranking we have only considered wins that were significant

[3]Liebowitz and Palmer (1984) limit citations to a period of 5 years. While this controls for differences in age, it ignores the differences in citation half-life. In some journals the majority of citations come after more than 10 years, while for others the 5-year period will contain most.

at 5% under a two-sided binomial test. We have also eliminated journals for which data were missing for some of the last six years (including journals that were introduced after 2000). A suspiciously large number of "top" journals remained: the distribution of scores showed a spike for journals with scores of 0.95 and higher. We concluded that there are journals that are cited often, but do not make (many) cites themselves. With a median value of citations per year above 750,[4] excluding journals with less than 20% of this value is reasonable. While this could affect fields with low citation intensities at the top of the tables such concerns seem unfounded; only journals for which data seemed too sparse and journals that appeared non-academic in nature were excluded.

As rankings in a particular year would be topped by journals suffering from publishing delays or even discontinued it is more interesting to define a ranking based on the whole series of data. We chose to include past data with a geometric decay function so that the total score is

$$p = \sum_{t=1}^{T} \delta^{T-t} p_t,$$

where T is the length of the dataset, p_t is the score in year t and δ is the decay parameter, which we chose to be $\frac{1}{2}$. The rankings will naturally be different with a different parameter, but for small variations the changes are rarely dramatic. We have ranked 262 journals in economics and related disciplines such as finance, business and operations research. The following table contains the top half of this ranking. Column 1 gives just the ranking within this set of journals, column 2 in the entire set of over 5500 journals. Column 3 gives the ranking based on Kalaitzidakis, Mamuneas, and Stengos (2003).

rank	overall rank	KMS rank	journal name	weighted average
1	1	2	Econometrica	0.9957
2	3	3	Journal of Political Economy	0.9951
3	20	5	Quarterly Journal of Economics	0.9776
4	23	1	American Economic Review	0.9768
5	57	8	Review of Economic Studies	0.9542
6	66	n/a	Journal of Finance	0.9482
7	82	13	Review of Economics and Statistics	0.9418
8	95	28	Journal of Financial Economics	0.9342
9	107	n/a	Administrative Science Quarterly	0.9296
10	126	4	Journal of Economic Theory	0.919
11	166	10	Journal of Monetary Economics	0.9005
12	168	46	Journal of Law & Economics	0.9002
13	169	26	Rand Journal of Economics	0.8998
14	175	12	Journal of Economic Perspectives	0.8963
15	180	n/a	California Management Review	0.8946
16	193	n/a	Operations Research	0.8831
17	199	18	Economic Journal	0.8818
18	203	6	Journal of Econometrics	0.8793
19	244	n/a	Mathematics of Operations Research	0.8622

[4] Within economics this value is even higher, in excess of 900.

rank	overall rank	KMS rank	journal name	weighted average
20	265	n/a	Organizational Behavior and Human Decision Processes	0.8502
21	266	15	International Economic Review	0.8497
22	273	20	Journal of Economic Literature	0.848
23	277	n/a	Academy of Management Journal	0.8467
24	303	n/a	Environment and Planning D-Society & Space	0.8377
25	308	n/a	Management Science	0.8349
26	316	17	Journal of Human Resources	0.8323
27	336	n/a	Interfaces	0.826
28	340	24	Journal of Labor Economics	0.8252
29	341	n/a	Academy of Management Review	0.825
30	352	n/a	Journal of Marketing Research	0.8223
31	372	14	European Economic Review	0.8142
32	407	n/a	Journal of Marketing	0.8024
33	441	n/a	Journal of Consumer Research	0.7878
34	462	n/a	Transportation Science	0.7836
35	463	48	Journal of Industrial Economics	0.7831
36	481	19	Journal of Public Economics	0.7762
37	486	45	Journal of Law Economics & Organization	0.7741
38	493	n/a	Industrial & Labor Relations Review	0.7723
39	523	30	Journal of International Economics	0.7621
40	545	n/a	Personnel Psychology	0.7556
41	577	9	Journal of Business & Economic Statistics	0.7452
42	579	n/a	Transportation Research Part B-Methodological	0.7447
43	583	n/a	Mathematical Programming	0.7442
44	637	n/a	Economy and Society	0.7288
45	639	33	International Journal of Game Theory	0.7282
46	676	n/a	Strategic Management Journal	0.7168
47	692	n/a	Networks	0.7121
48	713	n/a	Review of Financial Studies	0.7058
49	723	n/a	Journal of Accounting Research	0.7027
50	737	n/a	Organization Science	0.6991
51	748	n/a	Naval Research Logistics	0.6959
52	760	n/a	Journal of Conflict Resolution	0.6926
53	761	n/a	Journal of Business	0.6923
54	774	n/a	Geographical Analysis	0.6883
55	780	36	Journal of Risk and Uncertainty	0.6878
56	790	n/a	Mathematical Finance	0.6862
57	794	58	Journal of Financial and Quantitative Analysis	0.6855
58	796	n/a	Journal of Advertising Research	0.6851
59	821	38	Land Economics	0.6765
60	875	n/a	Marketing Science	0.6623
61	894	77	Journal of Accounting & Economics	0.6601
62	946	47	National Tax Journal	0.6477
63	948	43	Journal of Urban Economics	0.6468

rank	overall rank	KMS rank	journal name	weighted average
64	949	52	World Development	0.6465
65	957	n/a	Human Relations	0.645
66	968	42	Economica	0.6411
67	994	35	World Bank Economic Review	0.6333
68	1024	21	Economics Letters	0.6274
69	1026	n/a	Operations Research Letters	0.6269
70	1040	67	Journal of Health Economics	0.6243
71	1056	32	American Journal of Agricultural Economics	0.6207
72	1058	n/a	Human Resource Management	0.6207
73	1061	25	Journal of Environmental Economics and Management	0.62
74	1072	49	Journal of Economic History	0.6177
75	1073	n/a	Journal of Manufacturing Systems	0.6176
76	1078	n/a	Queueing Systems	0.6164
77	1080	n/a	Journal of Money Credit and Banking	0.6156
78	1147	n/a	Journal of Management	0.6015
79	1150	n/a	Journal of Optimization Theory and Applications	0.5997
80	1157	n/a	Journal of Economic Growth	0.5972
81	1183	n/a	Journal of Retailing	0.591
82	1208	n/a	Accident Analysis and Prevention	0.5837
83	1211	37	Journal of Development Economics	0.5822
84	1306	n/a	Transportation	0.5612
85	1386	71	Economic History Review	0.5434
86	1441	n/a	Imf Staff Papers	0.5285
87	1467	n/a	Long Range Planning	0.5244
88	1483	50	Oxford Economic Papers-New Series	0.5199
89	1500	n/a	Journal of Product Innovation Management	0.5181
90	1525	n/a	Research Policy	0.5135
91	1528	n/a	Financial Management	0.5125
92	1550	n/a	Industrial Relations	0.5083
93	1605	n/a	Transportation Research Part A-Policy and Practice	0.4973
94	1660	n/a	Annals of Tourism Research	0.4858
95	1677	n/a	Iie Transactions	0.483
96	1687	n/a	Journal of the Operational Research Society	0.481
97	1694	n/a	International Studies Quarterly	0.479
98	1698	29	Oxford Bulletin of Economics and Statistics	0.478
99	1728	n/a	Journal of International Business Studies	0.4721
100	1734	n/a	Journal of Portfolio Management	0.4707
101	1806	81	Economic Development and Cultural Change	0.4568
102	1844	n/a	Journal of Public Policy & Marketing	0.4484
103	1853	n/a	Journal of the Academy of Marketing Science	0.4454
104	1854	22	Journal of Applied Econometrics	0.4453
105	1864	27	Scandinavian Journal of Economics	0.4424
106	1889	11	Games and Economic Behavior	0.4379
107	1911	68	Regional Science and Urban Economics	0.4321

rank	overall rank	KMS rank	journal name	weighted average
108	1929	106	Economic Geography	0.4298
109	1944	n/a	Accounting Review	0.4261
110	1985	n/a	Transportation Research Record	0.4194
111	2040	76	Journal of Transport Economics and Policy	0.4096
112	2054	34	Economic Inquiry	0.4063
113	2067	96	Journal of Economic Education	0.404
114	2083	23	Journal of Economic Dynamics & Control	0.4001
115	2093	n/a	Journal of Mathematical Economics	0.3979
116	2149	n/a	European Journal of Operational Research	0.387
117	2184	7	Econometric Theory	0.3812
118	2188	n/a	Telecommunications Policy	0.3807
119	2190	n/a	Journal of Business Venturing	0.3805
120	2203	n/a	Economic Policy	0.3787
121	2238	31	Journal of Economic Behavior & Organization	0.3741
122	2270	n/a	British Journal of Industrial Relations	0.369
123	2284	88	Journal of Productivity Analysis	0.3659
124	2288	n/a	Probability In the Engineering and Informational Sciences	0.3651
125	2291	n/a	Organization Studies	0.3639
126	2300	n/a	Journal of International Money and Finance	0.3631
127	2308	40	Public Choice	0.3622
128	2310	105	International Review of Law and Economics	0.3619
129	2386	n/a	Journal of Rural Studies	0.3504
130	2387	n/a	Journal of Operations Management	0.3502
131	2436	n/a	Journal of Regional Science	0.3431

5 Conclusion

We prefer not to discuss or interpret the results at a great length. The 'usual suspects' are at the top of the table with very high scores, while some –in our view– respectable journals fared less well. It is clear that for journals that are young, especially in comparison to their citation half-life (the median age of papers cited in them, which is in excess of 10 years for some theory journals) the scores do not show the full potential which is perhaps better reflected in such a case by an improving trend. On the other hand already Liebowitz and Palmer (1984) note the tendency for increased polarisation in quality.

Top economics journals fared extremely well also in comparison with other fields. This may be due to the long and continued tradition of journal rankings in economics. Rankings have a self-confirming effect: for most people it is clear what top-five means and publish and cite accordingly. Much attention to rankings will help top journals to excel; their good performance can therefore indicate a polarised world of publishing in economics. It might also reflect the importance of and interest in our field. While economics does not perhaps affect our daily life as medicine or engineering it helps to create an environment where those 'direct' contributions are possible emerging as a sort of a super-science.

Here we have applied our method to Economics journals. Beyond the obvious extensions to other disciplines, it can also be applied directly (that is: without using a journal ranking first) to ranking departments or even people (with the remark that here changes in staff numbers and respectively seniority play a more pronounced role).

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