

The Impact of Open Access Journals

A Citation Study from Thomson ISI

Recently, we have witnessed a major shift in the landscape of publishing. Open Access, once a minor tremor, now dominates discussion everywhere. Each week brings a new declaration from a major society, publisher, consortium, or government agency taking one side or another on this important topic. The number of open access journals is rising steadily, and new publishing models are rapidly evolving to test new ways to increase readership and access. Proponents of open access tout the increasing influence journals will have as they achieve higher readership through free access. Others contend that, over the long term, editorial quality is best supported through traditional business models.

Do open access journals have greater impact than those that do not allow free access to all readers? This question is important at ISI because our mission is to help researchers find the highest quality scholarly literature, regardless of its business model. For more than 40 years ISI has employed a well-documented journal selection process, the aim of which is to provide access to the most important and influential scholarly journals. An essay on this subject is found at <http://www.thomsonisi.com/selection/>.

The current study is part of an ongoing analysis within ISI of the overall performance of OA journals as they are added to the mix of scholarly publications used in the research community. Using ISI citation metrics, we will try to determine if OA journals perform differently from other journals in their respective fields. We welcome comments on this study and look forward to a continuing dialog on this subject.

ISI currently covers nearly 200 OA journals in its products (See Appendix I for a list of titles).¹ This number, though small in comparison to the total number of journals in ISI's databases, is quite significant in terms of the progress made by the OA movement. These journals span many subject areas in the natural sciences, the social sciences, and the arts & humanities. For the purposes of this study, we defined "Open Access" simply as not charging readers or their institutions for the right to access, download, copy, print, distribute or search the articles. All of these journals are electronically available, peer-reviewed publications. We have not included journals for which only part of the content is freely available—when the archive is openly accessible but the most recent issues are not, for example.

We have found that the number of OA journals identified as Open Access and covered in ISI databases is growing rapidly, partly because new journals are founded and older journals are changing their access models, but also because better lists of such journals are becoming available. Each of the OA journals covered by ISI was subjected to the same rigorous selection process as any other journal included. These journals all adhere to high publishing standards, are peer reviewed comparably to other journals in their

¹ The list of Open Access journals presented in this study was developed from the following resources: the Directory of Open Access Journals (<http://www.doaj.org/>) at Lund University; the free full-text journals on the Japan Science and Technology Information Aggregator, Electronic (J-STAGE) site at Meiji University Library (<http://www.lib.meiji.ac.jp/olj/list/12000.html>); and the Scientific Electronic Library Online (SciELO) project created by the FAPESP, BIREME and CNPq agencies in Brazil (<http://www.scielo.br/>). The lists from each of these sites were combined, de-duplicated, and compared to Thomson-ISI current coverage. OA journals may exist that are not listed on these resources.

respective fields, and are cited at a level that indicates they compete favorably with similar journals in their field. The chief difference between these and some other journals covered by ISI is that the entire content of the OA journals is available without cost to the user.

OVERALL CITATION IMPACT

Does the potential for wide distribution of OA journals, at no charge to the reader, have a measurable effect on the citation impact? To answer this question, we looked specifically at a group of 148 journals in the natural sciences that have been covered long enough to have Impact Factors (IF) in the 2002 Journal Citation Reports® (JCR). We focused on the natural sciences because only a small number of OA journals in the social sciences have received Impact Factors. Arts and humanities journals do not have citation metrics in the Journal Citation Reports®.

Citation and publication patterns differ between disciplines, so the Impact Factor is only meaningful when it is used to compare journals within a discipline. For this reason, our comparisons in this study are based on the journal's rank in its respective JCR® category.

To normalize the data across all categories, we translated the individual category rankings into percentile rankings. The rank of each OA journal in its category or categories in the 2002 Journal Citation Reports was determined; this rank was divided by the total number of journals ranked in the category to create a percentile rank. The journals ranking highest by Impact Factor are thus in the highest percentiles. For example, the British Medical Journal has a 2002 Impact Factor of 7.585, ranking sixth of 107 journals in the JCR category 'Medicine, General and Internal.' Therefore, it is in the 94th percentile of the category. BMC Public Health has a 2002 Impact Factor of 0.294, ranking 87th of 90 in the JCR category 'Public, Environmental & Occupational Health.' Therefore, it is in the third percentile of the category. See Appendix I for a complete listing of all OA journals with 2002 Impact Factors and percentile rank. For journals with more than one JCR category, the highest percentile rank was used for analysis. Figure 1 shows the distribution of the percentile rank for the 148 OA journals in the 2002 JCR.

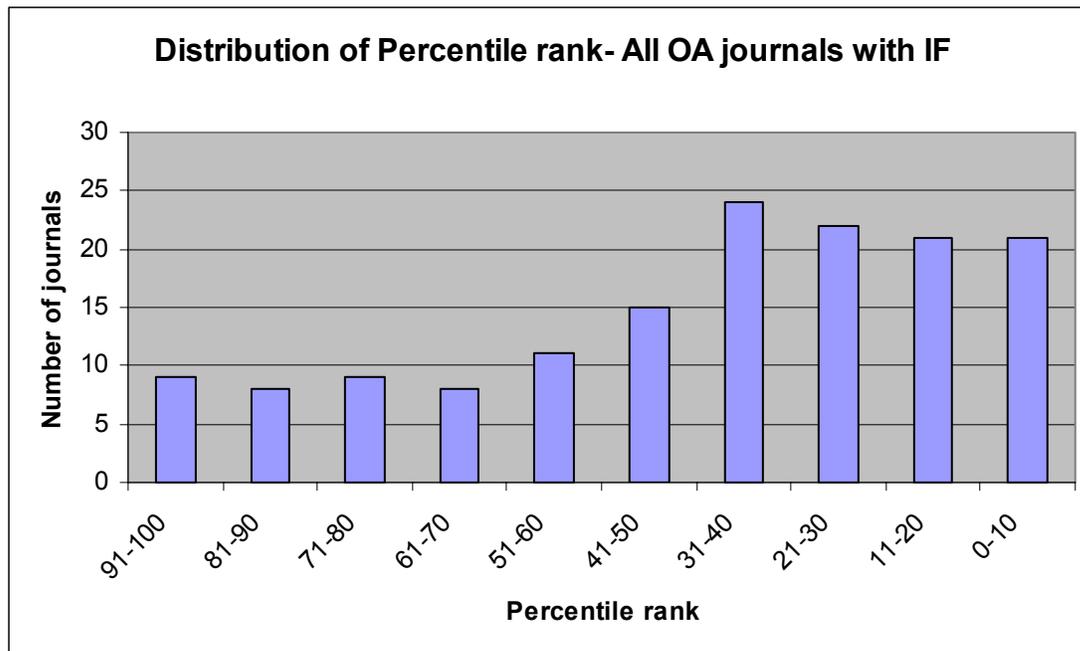


Figure 1: Distribution of percentile rank. 148 Journals.
 Mean rank =39.77%ile.

Open Access journals’ ranks in their respective categories vary. Some rank near the top of the category (e.g., Journal of Machine Learning Research, CA A Cancer Journals for Clinicians, and IBM Journal of Research and Development), while others rank near the bottom (e.g., Journal of Astrophysics & Astronomy, Annals of Saudi Medicine, Japanese Heart Journal, BMC Public Health, Japanese Journal of Infectious Diseases, Scottish Medical Journal, Turkish Journal of Pediatrics, Biotechnology and Development Monitor, and Brazilian Journal of Microbiology). Overall, 98 (66%) of the journals rank below the 50th percentile. Relatively few, around 6%, are in or above the 91st percentile.

The journals are distributed across dozens of JCR® subject categories, ranging from ‘Cell Biology’ to ‘Mathematics.’ For the purposes of this study, we grouped JCR categories into one of four broad areas: Medical, Life Sciences, Mathematics & Engineering, and Physics & Chemistry. Figures 2, 3, 4 and 5 show the distribution of the OA journals in these four groupings.

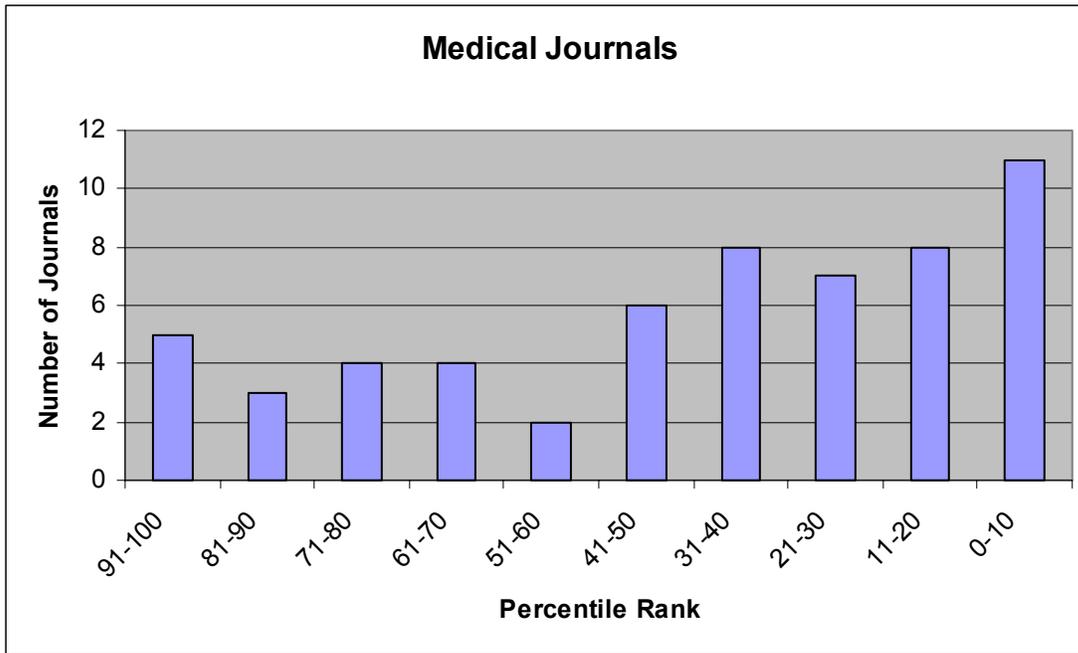


Figure 2. Medical Journals. 58 Journals.
Mean rank= 40.26%ile.

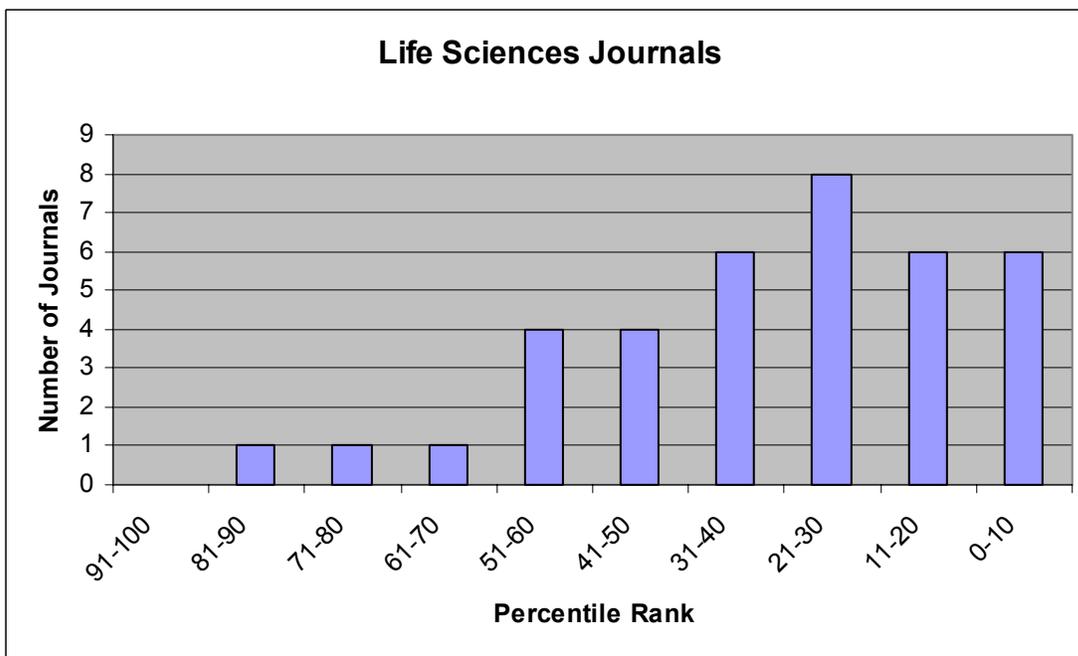


Figure 3. Life Sciences Journals. 37 Journals.
Mean rank = 38.77%ile.

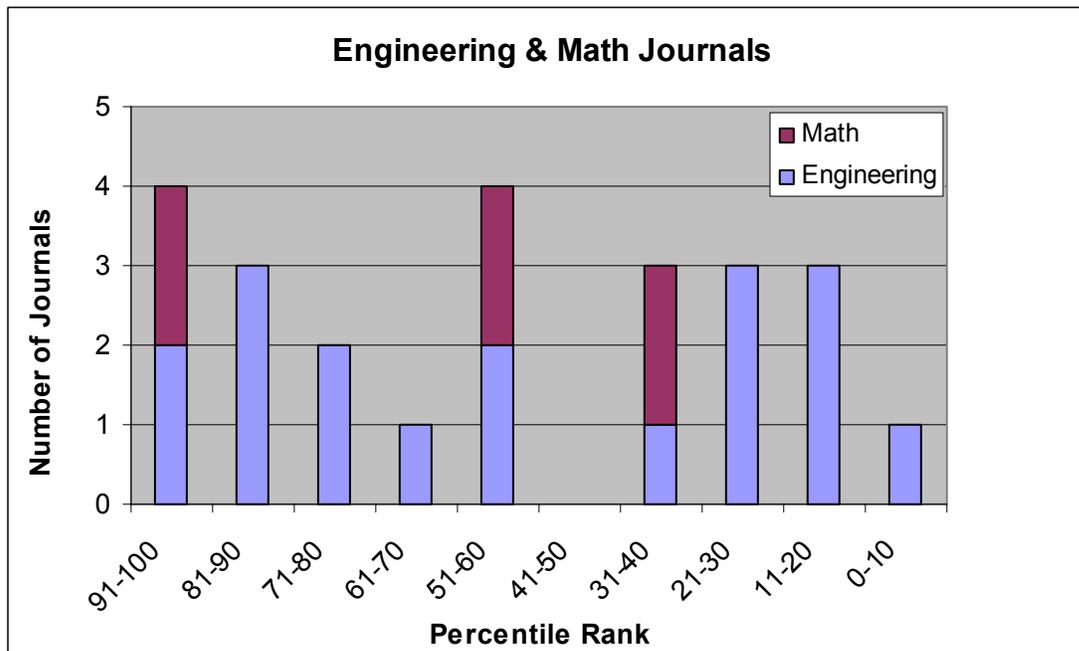


Figure 4. Engineering & Mathematics. 24 Journals 18 Engineering Journals. 6 Math Journals.

Mean rank = 32.89%ile.

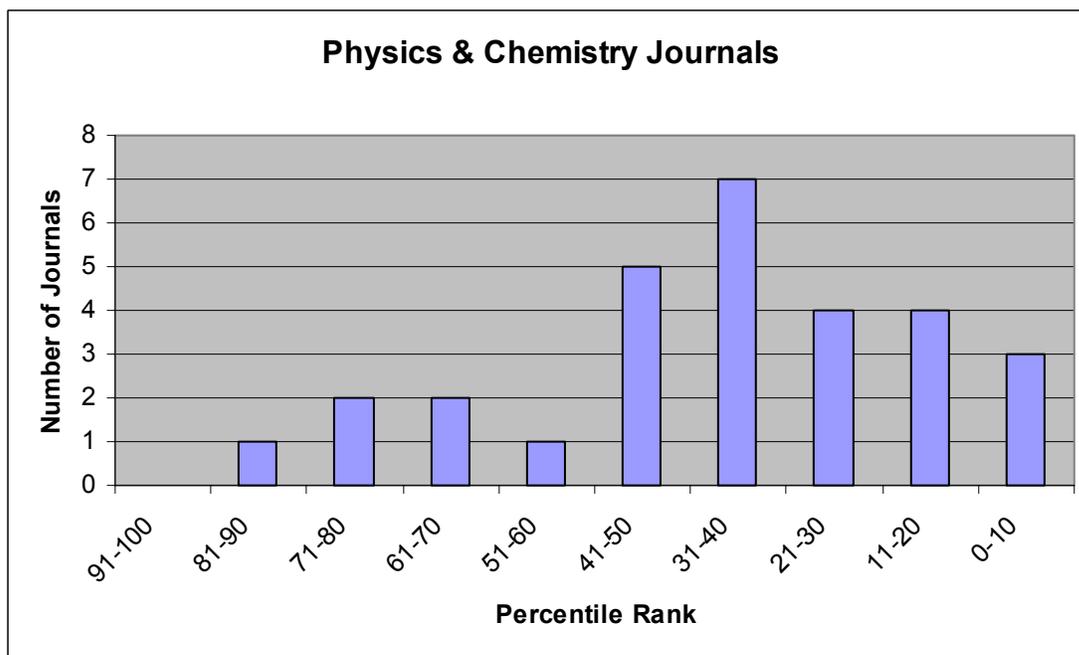


Figure 5. Physics & Chemistry Journals. 29 Journals.

Mean rank= 37.10%ile.

All subject areas display a wide range of percentile rankings. The Engineering & Mathematics subject area stands out with the highest percentage (26%) of journals in the highest percentiles. All other areas have relatively few high ranking journals.

CURRENCY OF CITATIONS

Does the fact of open access change the velocity or pattern of citation? Intuitively, we would expect that wider readership available under open access would result in new articles being cited sooner.

Using all citations in the year 2002, we examined the relative speed with which recent articles in OA journals were cited, and compared that to the overall citation pattern of traditionally published journals. Although some of the OA journals have been publishing for many years, to accommodate the relatively large number of recently launched OA journals, we considered citations only to the past four years. All journals in the following graphs were publishing issues between 1999 and 2002. The graph in Figure 6 shows how citations in 2002 are distributed as a percentage of total cites across the four years under examination.

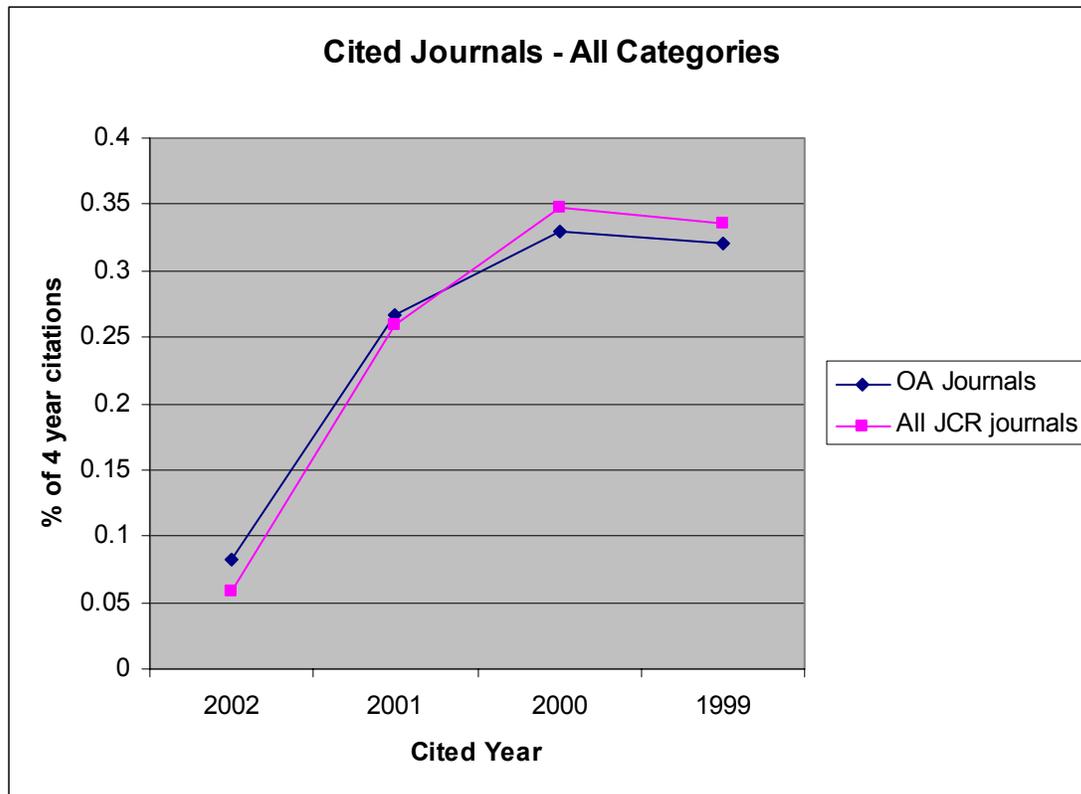


Figure 6. Distribution of Citations, 148 Journals
Citing Year 2002; Cited Years 2002-1999.

The curves suggest that the OA journals have a broadly similar citation pattern to other journals, but may have a slight tendency to earlier citations. They have a slightly higher percentage of citations to articles published in 2002 and thus a lower plateau. Table 1 shows the gross citation counts underlying the graph.

	2002	2001	2000	1999	4 year sum
OA Journals	7184	23238	28829	28041	87292
All other JCR	233548	1030108	1379716	1332263	3975635

Table 1. Citation Counts, Citing year 2002, 148 Journals.

The wide range of subjects spanned by these data could obscure important differences in citation patterns. To accommodate the known differences in the pace of research and publication between fields, we studied two groups of journals more closely. The JCR category ‘Pharmacology & Pharmacy’ contains journals in a rapidly developing field; the ‘Mathematics’ category, by contrast, contains journals in which the time-span of cited articles is much lengthier.

The ‘Pharmacology & Pharmacy’ category contains eight OA journals (AAPS PharmSci, Biological & Pharmaceutical Bulletin, Chemical & Pharmaceutical Bulletin, Journal of Pharmacy & Pharmaceutical Sciences, Journal of Pharmacological Sciences, Japanese Journal of Pharmacology, Polish Journal of Pharmacology, and Yakugaku Zasshi-Journal of the Pharmaceutical Society of Japan). These journals range in age from the recently launched Journal of Pharmacological Sciences, to the Japanese Journal of Pharmacology, published continuously since 1951. We compared the age of cited articles in seven of the eight OA journals in this category to the overall citation pattern of the 188 journals in the ‘Pharmacology & Pharmacy’ category. (The Journal of Pharmacological Sciences did not have citation data in the 2002 JCR and was not included in these analyses.) The graph in Figure 7 shows how citations in 2002 are distributed, as a percentage of total cites, across articles published during the four years under examination.

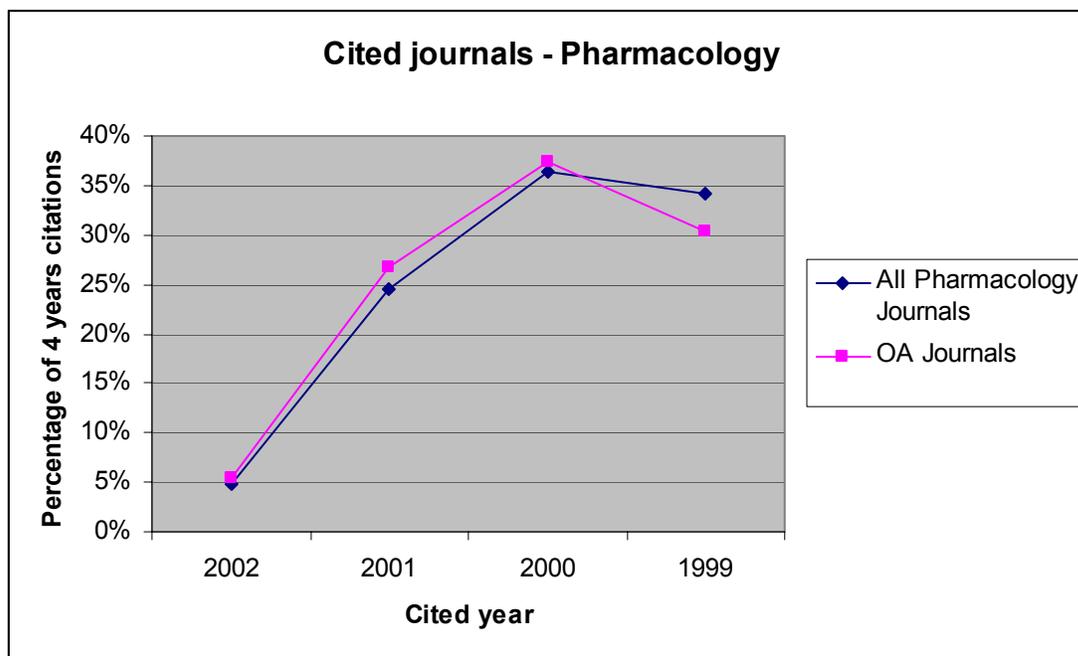


Figure 7. Distribution of Citations, seven Pharmacology and Pharmacy Journals. Citing Year 2002; Cited Years 2002-1999.

Table 2 details the distribution of 2002 citations across the four year period for each ‘Pharmacology and Pharmacy’ journal.

Journal	2002	2001	2000	1999	4 year sum
AAPS PHARMSCI	3	64	55	24	146
BIOL PHARM BULL	58	279	383	319	1039
CHEM PHARM BULL	89	350	496	412	1347
J PHARM PHARM SCI	3	17	33	15	68
JPN J PHARMACOL	31	200	250	252	733
POL J PHARMACOL	7	39	69	63	178
YAKUGAKU ZASSHI	4	26	72	21	123
All Pharmacology Journals	7,711	39,153	58,189	54,763	159,816
OA Journals	195	975	1358	1106	3634

Table 2. Citation Counts, Citing year 2002, seven Journals

This limited analysis suggests that, despite their wide distribution and free access, and even in a rapidly evolving subject like pharmacology, the articles in the OA journals are not cited appreciably more quickly than those in comparable, traditional journals. For both OA and traditional publishing model journals, pharmacology journals show a rapid increase in citations for three years post-publication.

The OA journals in the ‘Mathematics’ category in the 2002 JCR, despite their higher average rank in category, are similar to other journals in the velocity of their citations . The graph in Figure 8 demonstrates that the six OA math journals (Annales Academiae Scientiarum Fennicae-Mathematica, Annals of Mathematics, Bulletin of the American Mathematical Society, Journal of Lie Theory, Pacific Journal of Mathematics, and Taiwanese Journal of Mathematics) do not differ significantly from other journals in that subject. ‘Mathematics,’ in contrast to ‘Pharmacology & Pharmacy,’ shows a slower time-course for the development of citations. This is because journals in the ‘Mathematics’ category generally cite a far older population of articles.

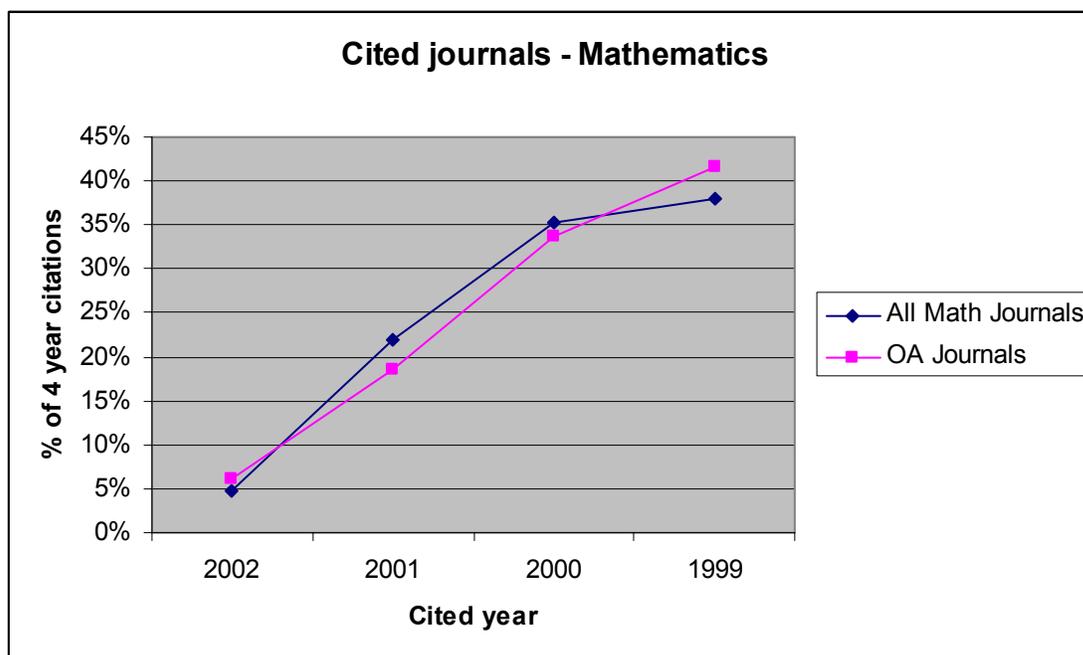


Figure 8. Distribution of Citations, six Mathematics Journals Citing Year 2002; Cited Years 2002-1999.

Table 3 details the distribution of 2002 citations across the four year period for each journal in the 'Mathematics' category.

	2002	2001	2000	1999	4 year sum
ANN ACAD SCI FENN-M	0	12	7	11	30
ANN MATH	27	64	117	142	350
B AM MATH SOC	7	13	18	69	107
J LIE THEORY	2	7	20	9	38
PAC J MATH	9	42	72	68	191
TAIWAN J MATH	3	5	27	23	58
All Math Journals	2,026	9,250	14,870	16,050	42,196
OA Journals	48	143	261	322	774

Table 3. Citation Counts, Citing year 2002, six Journals

When examined within two specific subjects, the possibility for wide distribution of OA journal articles has, so far, no discernable effect on the speed with which the literature incorporates the results they describe.

As with traditional journals, there are many possible explanations for whether or not OA journals are highly cited. Many of the OA titles that have been indexed in ISI products for many years have only recently shifted to an Open Access model of distribution. They have carried their citation patterns along into the Open Access environment. A good example is the British Medical Journal.

Conversely, other journals founded recently employing the Open Access format are being cited or not based on the overall quality of their articles. PLOS Biology, which is too new

to be analyzed here, appears to be garnering citations at a relatively rapid rate based on the quality of its content. To date (April 5, 2004) articles in its first four issues have already been cited nearly 50 times.

The role of regional journals in Open Access publishing is also notable. There are several instances of a significant block of regional journals being made available under dedicated open access environments (e.g., J-STAGE in Japan and SciELO in Brazil). The journals of the SciELO project, for example, are among the most venerable OA journals, having been freely available online since 1999. Yet, in spite of the many notable achievements of Brazilian science, and the success of some of these journals in achieving a level of recognition, many have yet to make a significant citation impact on the international scientific literature.

In ISI's Editorial Development Department, we have witnessed the evaluation, and selection or rejection of thousands of journals. In many cases we have been deluged with eloquent letters from sincere supporters of a particular journal under evaluation. We are often told of an extremely wide and growing base of subscribers to a particular journal. What we find, though, is that wide distribution does not necessarily result in higher citations.

Open Access journals certainly have the potential to garner an even greater readership. Except where technology does not permit, anyone in the world will have access to them. Yet how does this additional exposure affect the importance and influence of the journal, as measured by citations? To date, no clear effect has been observed. Though there is some suggestion in aggregate of a slightly more rapid accumulation of citations, this effect is, so far, minimal. The wide distribution of these OA journals has not yet been shown to have any appreciable effect on their appearance in lists of cited references in other journals.

ISI will continue to monitor the performance of the set of high-quality OA journals it has selected for inclusion in its citation indexes and in the Journal Citation Reports. It is quite possible that new trends will emerge as early as June of this year, when a new annual analysis of journal data is complete. We will update this document at that time with further analysis.

This essay was prepared by: James Testa, Director, Editorial Development, Thomson-ISI and Marie E. McVeigh, Product Development Manager, Thomson-ISI.

Appendix I: Full list of Open Access Journals

Physics & Chemistry					
Title	IF	rank	total in cat	%ile	Category Name
Acta Chimica Slovenica	0.538	75	119	36.97%	Chemistry, Multidisciplinary
Acta Chromatographica	N/A		68		Chemistry, Analytical
Acta Physica Polonica B	0.601	43	68	36.76%	Physics, Multidisciplinary
Analytical Sciences	0.844	49	68	27.94%	Chemistry, Analytical
Arkivoc	N/A		53		Chemistry, Organic
Atmospheric Chemistry and Physics	0.714	31	46	32.61%	Meteorology & Atmospheric Science
Brazilian Journal of Chemical Engineering	0.160	104	120	13.33%	Engineering, Chemical
Brazilian Journal of Physics	0.678	40	68	41.18%	Physics, Multidisciplinary
Bulletin of the Chemical Society of Japan	1.213	36	119	69.75%	Chemistry, Multidisciplinary
Bulletin of the Korean Chemical Society	0.495	82	119	31.09%	Chemistry, Multidisciplinary
Bunseki Kagaku	0.485	63	68	7.35%	Chemistry, Analytical
Chemicke Listy	0.336	92	119	22.69%	Chemistry, Multidisciplinary
Chemistry Letters	1.529	29	119	75.63%	Chemistry, Multidisciplinary
Chinese Journal of Chemistry	0.558	73	119	38.66%	Chemistry, Multidisciplinary
Chinese Journal of Physics	0.518	44	68	35.29%	Physics, Multidisciplinary
Croatica Chemica Acta	0.722	62	119	47.90%	Chemistry, Multidisciplinary
Current Science	0.533	20	48	58.33%	Multidisciplinary Sciences
Ecletica Quimica	0.194	107	119	10.08%	Chemistry, Multidisciplinary
International Journal of Molecular Sciences	N/A		119		Chemistry, Multidisciplinary
Journal of Astrophysics and Astronomy	0.277	41	43	4.65%	Astronomy & Astrophysics
Journal of Chemical Engineering of Japan	0.459	71	120	40.83%	Engineering, Chemical
Journal of the Brazilian Chemical Society	1.036	42	119	64.71%	Chemistry, Multidisciplinary
Journal of the Meteorological Society of Japan	0.697	33	46	28.26%	Meteorology & Atmospheric Science
Journal of the Serbian Chemical Society	0.361	89	119	25.21%	Chemistry, Multidisciplinary
Molecules	0.408	45	53	15.09%	Chemistry, Organic
New Journal of Physics	1.768	14	68	79.41%	Physics, Multidisciplinary
Nippon Kagaku Kaishi	0.188	109	119	8.40%	Chemistry, Multidisciplinary
Nonlinear Processes in Geophysics	0.797	29	51	43.14%	Geochemistry & Geophysics
Oceanologia	N/A		41		Oceanography
Physical Review Special Topics-Accelerators and Beams	N/A		19		Physics, Particles & Fields
Pramana-Journal of Physics	0.324	56	68	17.65%	Physics, Multidisciplinary
Progress of Theoretical Physics	2.013	12	68	82.35%	Physics, Multidisciplinary
Quimica Nova	0.637	69	119	42.02%	Chemistry, Multidisciplinary
Water SA	0.481	32	52	38.46%	Water Resources

Medicine					
Title	IF	rank	total in cat	%ile	Category Name
AAPS PharmSci	1.700	81	187	56.68%	Pharmacology & Pharmacy
Acta Medica Okayama	0.506	67	74	9.46%	Medicine, Research & Experimental
Annals of Saudi Medicine	0.117	105	107	1.87%	Medicine, General & Internal
Arquivos de Neuro-Psiquiatria	0.257	79	88	10.23%	Psychiatry
Asian Journal of Andrology	0.827	3	5	40.00%	Andrology
Biological & Pharmaceutical Bulletin	1.038	125	187	33.16%	Pharmacology & Pharmacy
BMC Cancer	1.050	91	113	19.47%	Oncology
BMC Gastroenterology	N/A		45		Gastroenterology & Hepatology
BMC Health Services Research	0.083	52	53	1.89%	Health Care Sciences & Services
BMC Infectious Diseases	0.958	34	38	10.53%	Infectious Diseases
BMC Musculoskeletal Disorders	N/A		22		Rheumatology
BMC Public Health	0.294	87	90	3.33%	Public, Environmental & Occupational Health
Brazilian Journal of Medical and Biological Research	0.802	35	63	44.44%	Biology
British Medical Journal	7.585	6	107	94.39%	Medicine, General & Internal
CA-A Cancer Journal for Clinicians	32.886	1	114	99.12%	Oncology
Canadian Association of Radiologists Journal-Journal de l'Association Canadienne des Radiologistes	N/A		81		Radiology, Nuclear Medicine & Medical Imaging
Canadian Journal of Psychiatry-Revue Canadienne de Psychiatrie	1.808	45	88	48.86%	Psychiatry
Canadian Journal of Surgery	0.448	113	141	19.86%	Surgery
Canadian Medical Association Journal	3.220	11	107	89.72%	Medicine, General & Internal
Chemical & Pharmaceutical Bulletin	1.133	39	119	67.23%	Chemistry, Multidisciplinary
Circulation Journal	N/A		66		Cardiac & Cardiovascular Systems
Clinical and Investigative Medicine-Medecine Clinique et Experimentale	1.029	52	74	29.73%	Medicine, Research & Experimental
Cortex	0.942	149	197	24.37%	Neurosciences
Croatian Medical Journal	0.710	57	107	46.73%	Medicine, General & Internal
Current Controlled Trials in Cardiovascular Medicine	N/A		66		Cardiac & Cardiovascular Systems
Emerging Infectious Diseases	4.757	4	38	89.47%	Infectious Diseases
Endocrine Journal	0.847	76	88	13.64%	Endocrinology & Metabolism
Environmental Health Perspectives	3.452	2	131	98.47%	Environmental Sciences
Experimental and Molecular Medicine	1.267	47	74	36.49%	Medicine, Research & Experimental
Family Medicine	1.231	34	107	68.22%	Medicine, General & Internal
International Journal of Molecular Medicine	2.063	25	74	66.22%	Medicine, Research & Experimental
International Journal of Oncology	2.931	31	113	72.57%	Oncology
Israel Medical Association Journal	0.412	76	107	28.97%	Medicine, General & Internal
Japanese Heart Journal	0.398	64	66	3.03%	Cardiac & Cardiovascular Systems
Japanese Journal of Infectious Diseases	0.306	37	38	2.63%	Infectious Diseases
Japanese Journal of Pharmacology	1.230	116	187	37.97%	Pharmacology & Pharmacy
Journal of Clinical Investigation	14.051	3	74	95.95%	Medicine, Research &

Medicine					
Title	IF	rank	total in cat	%ile	Category Name
					Experimental
Journal of Health Science	0.754	61	75	18.67%	Toxicology
Journal of Korean Medical Science	0.372	82	107	23.36%	Medicine, General & Internal
Journal of Nephrology	0.971	30	47	36.17%	Urology & Nephrology
Journal of Occupational Health	1.067	49	90	45.56%	Public, Environmental & Occupational Health
Journal of Pharmacological Sciences	N/A		92		Pharmacology & Pharmacy
Journal of Pharmacy and Pharmaceutical Sciences	1.515	96	187	48.66%	Pharmacology & Pharmacy
Journal of Physiology and Pharmacology	1.406	44	73	39.73%	Physiology
Journal of Psychiatry & Neuroscience	2.672	26	88	70.45%	Psychiatry
Journal of Rehabilitation Research and Development	0.866	14	26	46.15%	Rehabilitation
Journal of the American Board of Family Practice	N/A		107		Medicine, General & Internal
Journal of Vision	N/A		41		Ophthalmology
Korean Journal of Radiology	N/A		81		Radiology, Nuclear Medicine & Medical Imaging
Malaria Journal	N/A		12		Tropical Medicine
Mayo Clinic Proceedings	2.868	14	107	86.92%	Medicine, General & Internal
Medical Journal of Australia	1.673	26	107	75.70%	Medicine, General & Internal
Memorias do Instituto Oswaldo Cruz	0.635	8	12	33.33%	Tropical Medicine
Molecular Vision	2.625	4	41	90.24%	Ophthalmology
Mount Sinai Journal of Medicine	1.035	39	107	63.55%	Medicine, General & Internal
Neurology India	0.257	178	197	9.64%	Neurosciences
Oncologist	N/A		113		Oncology
Oncology Reports	1.171	89	113	21.24%	Oncology
Orthopedics	0.267	37	42	11.90%	Orthopedics
Physician and Sportsmedicine	0.492	46	60	23.33%	Sport Sciences
Physiological Research	0.984	56	73	23.29%	Physiology
Polish Journal of Pharmacology	0.684	152	187	18.72%	Pharmacology & Pharmacy
Respiratory Research	N/A		32		Respiratory System
Scottish Medical Journal	0.164	103	107	3.74%	Medicine, General & Internal
Swiss Medical Weekly	0.770	50	107	53.27%	Medicine, General & Internal
Texas Heart Institute Journal	0.430	62	66	6.06%	Cardiac & Cardiovascular Systems
Turkish Journal of Pediatrics	0.340	65	68	4.41%	Pediatrics
World Journal of Gastroenterology	2.532	13	45	71.11%	Gastroenterology & Hepatology
Yakugaku Zasshi-Journal of the Pharmaceutical Society Of Japan	0.419	172	187	8.02%	Pharmacology & Pharmacy
Yonsei Medical journal	0.565	67	107	37.38%	Medicine, General & Internal

Life Sciences					
Title	IF	rank	total in cat	%ile	Category Name
Acta Biochimica Polonica	0.600	236	264	10.61%	Biochemistry & Molecular Biology
Acta Botanica Sinica	0.376	107	135	20.74%	Plant Sciences
Acta Histochemica et Cytochemica	0.456	142	151	5.96%	Cell Biology
Acta Neurobiologiae Experimentalis	0.910	152	197	22.84%	Neurosciences
Acta Veterinaria Brno	0.370	79	129	38.76%	Veterinary Sciences
Anais da Academia Brasileira de Ciencias	0.469	22	48	54.17%	Multidisciplinary Sciences
Applied Entomology and Zoology	0.422	42	64	34.38%	Entomology
Arquivo Brasileiro de Medicina Veterinaria e Zootecnia	0.116	112	129	13.18%	Veterinary Sciences
Avian Diseases	1.151	25	129	80.62%	Veterinary Sciences
Bioscience Biotechnology and Biochemistry	0.992	29	92	68.48%	Food Science & Technology
Biotechnology and Development Monitor	0.063	127	131	3.05%	Biotechnology & Applied Microbiology
BMC Bioinformatics	N/A		46		Biochemical Research Methods
BMC Biotechnology	N/A		131		Biotechnology & Applied Microbiology
BMC Cell Biology	N/A		151		Cell Biology
BMC Evolutionary Biology	N/A		30		Evolutionary Biology
BMC Genetics	N/A		114		Genetics & Heredity
BMC Genomics	N/A		114		Genetics & Heredity
BMC Microbiology	N/A		82		Microbiology
BMC Molecular Biology	N/A		264		Biochemistry & Molecular Biology
BMC Neuroscience	N/A		197		Neurosciences
Brazilian Archives of Biology and Technology	0.147	58	63	7.94%	Biology
Brazilian Journal of Microbiology	0.134	80	82	2.44%	Microbiology
Breeding Science	0.524	29	55	47.27%	Agronomy
Cell Research	1.958	84	151	44.37%	Cell Biology
Cell Structure and Function	0.872	129	151	14.57%	Cell Biology
Cellular & Molecular Biology Letters	0.651	232	264	12.12%	Biochemistry & Molecular Biology
Electronic Journal of Biotechnology	N/A		131		Biotechnology & Applied Microbiology
Experimental Animals	0.642	55	129	57.36%	Veterinary Sciences
Fishery Bulletin	0.934	17	37	54.05%	Fisheries
Florida Entomologist	0.309	49	64	23.44%	Entomology
Genes & Genetic Systems	0.978	207	264	21.59%	Biochemistry & Molecular Biology
Genetics and Molecular Biology	0.260	108	114	5.26%	Genetics & Heredity
Japanese Journal of Applied Entomology and Zoology	0.310	48	64	25.00%	Entomology
Japanese Journal of Physiology	1.117	53	73	27.40%	Physiology
Journal of Biochemistry and Molecular Biology	0.961	208	264	21.21%	Biochemistry & Molecular Biology
Journal of Bioscience and Bioengineering	0.777	38	92	58.70%	Food Science & Technology
Journal of Biosciences	0.606	41	63	34.92%	Biology
Journal of Pesticide Science	0.231	58	64	9.38%	Entomology
Journal of Radiation Research	1.934	15	63	76.19%	Biology
Journal of Veterinary Medical Science	0.496	68	129	47.29%	Veterinary Sciences
Microbiology and Immunology	1.170	55	82	32.93%	Microbiology
Pesquisa Agropecuaria Brasileira	0.133	24	28	14.29%	Agriculture, Multidisciplinary

Life Sciences

Title	IF	rank	total in cat	%ile	Category Name
Pesquisa Veterinaria Brasileira	0.288	88	129	31.78%	Veterinary Sciences
PLOS Biology	N/A		63		Biology
Productions Animales	0.107	116	129	10.08%	Veterinary Sciences
Revista Brasileira de Ciencia do Solo	N/A		29		Agriculture, Soil Science
Revista Brasileira de Zootecnia-Brazilian Journal of Animal Science	0.389	77	129	40.31%	Veterinary Sciences
South African Journal of Animal Science	0.381	29	42	30.95%	Agriculture, Dairy & Animal Science
Veterinari medicina	0.204	100	129	22.48%	Veterinary Sciences
Zoosystema	N/A		109		Zoology

Engineering & Mathematics					
Title	IF	rank	total in cat	%ile	Category Name
Annales Academiae Scientiarum Fennicae-Mathematica	0.339	114	168	32.14%	Mathematics
Annals of Mathematics	1.905	3	168	98.21%	Mathematics
Bulletin of Materials Science	0.340	128	173	26.01%	Materials Science, Multidisciplinary
Bulletin of the American Mathematical Society	1.824	4	168	97.62%	Mathematics
Electronic Transactions on Numerical Analysis	N/A		156		Mathematics, Applied
E-polymers	N/A		74		Polymer Science
ETRI Journal	1.214	8	53	84.91%	Telecommunications
Fibres & Textiles in Eastern Europe	0.148	16	17	5.88%	Materials Sciences, Textiles
IBM Journal of Research and Development	3.700	1	46	97.83%	Computer Science, Hardware & Architecture
Journal of Artificial Intelligence Research	0.933	26	74	64.86%	Computer Science, Artificial Intelligence
Journal of Lie Theory	0.435	82	168	51.19%	Mathematics
Journal of Machine Learning Research	3.818	1	74	98.65%	Computer Science, Artificial Intelligence
Journal of Nuclear Science and Technology	0.572	16	33	51.52%	Nuclear Science & Technology
Journal of Research of the National Institute of Standards and Technology	0.766	10	61	83.61%	Engineering, Multidisciplinary
Journal of the Society of Rheology Japan	0.224	91	102	10.78%	Mechanics
JSME International Journal Series A-Solid Mechanics and Material Engineering	0.277	67	102	34.31%	Engineering, Mechanical
JSME International Journal Series B-Fluids and Thermal Engineering	0.199	78	102	23.53%	Engineering, Mechanical
JSME International Journal Series C-Mechanical Systems Machine Elements and Manufacturing	0.141	89	102	12.75%	Engineering, Mechanical
MRS Internet Journal of Nitride Semiconductor Research	1.327	38	173	78.03%	Materials Science, Multidisciplinary
Optical Review	0.538	38	54	29.63%	Optics
Optics Express	2.331	8	54	85.19%	Optics
Pacific Journal of Mathematics	0.467	74	168	55.95%	Mathematics
Polymer Journal	0.881	31	74	58.11%	Polymer Science
Sadhana-Academy Proceedings in Engineering Sciences	0.113	53	61	13.11%	Engineering, Multidisciplinary
Sensors	N/A		52		Instruments & Instrumentation
Taiwanese Journal of Mathematics	0.364	107	168	36.31%	Mathematics

Arts & Humanities					
Title	IF	rank	total in cat	%ile	Category Name
American Journal of Archaeology	N/A	N/A	N/A	N/A	Archaeology
Biblica	N/A	N/A	N/A	N/A	Religion

Social Sciences					
Title	IF	rank	total in cat	%ile	Category Name
Anthropological Science	0.471	25	53	52.83%	Anthropology
Dados-Revista de Ciencias Sociais	0.217	43	56	23.21%	Social Sciences, Interdisciplinary
Duke Law Journal	N/A	20	102	80.39%	Law
IMF Staff Papers	0.393	108	166	34.94%	Economics
Information Research-An International Electronic Journal	N/A		55		Information Science & Library Science
Irish Journal of Psychological Medicine	N/A		102		Psychology, Multidisciplinary
JASSS-The Journal Of Artificial Societies and Social Simulation	N/A		56		Social Sciences, Interdisciplinary
Minerva	0.486	29	56	48.21%	Social Sciences, Interdisciplinary
Psycology	N/A		102		Psychology, Multidisciplinary