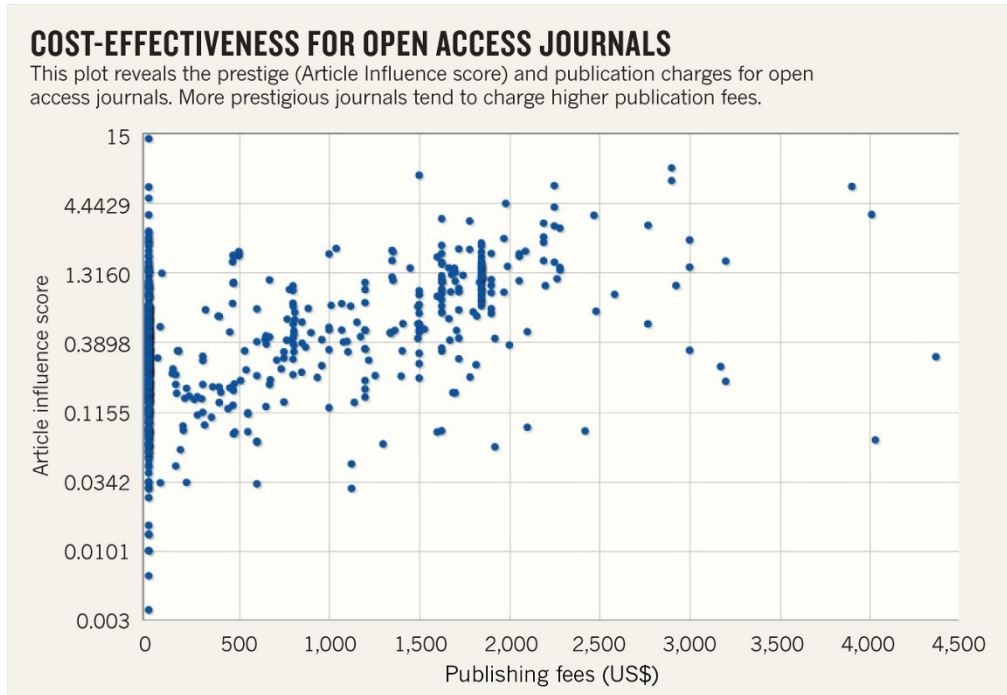


# Price doesn't always buy prestige in open access

Online comparison tool reveals which journals provide the biggest bang for the buck.

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The open-access journals that charge the most aren't necessarily the most influential, an online interactive tool suggests. The freely accessible tool, launched earlier this month, shows that a journal's fees do not correlate particularly strongly with its influence, as measured by a citation-based index.

"We have brought together a way of measuring prestige and price and come up with a metric that can be used by authors to help them decide between the different venues they could publish in," says Jevin West, a network-science and bibliometrics researcher at the University of Washington in Seattle. West led the development of the online tool as part of the Eigenfactor Project, which seeks alternative ways to rank and map science.

The "real goal", West says, is to help to create a transparent market in open-access publishing. "We hope to clean up a little of the predatory publishing, where publishers might be charging more than their value merits."

The tool, called [Cost Effectiveness for Open Access Journals](#), incorporates pricing and prestige information for 657 open-access journals indexed by Thomson Reuters, including 356 that do not charge any fees.

The data are plotted to show a journal's Article Influence (AI) score against the fee it charges per article. (Where charges are on a per-page basis, an article length of 15 pages is assumed, based on what the authors judge is a typical article length.) The AI score is calculated by dividing the Eigenfactor Score<sup>1</sup> of the journal by the number of articles in the journal, normalized so that the average journal has an AI equal to 1. Eigenfactor Scores are like impact factors in that they are based on citations, but they also take into account the source of the citations.

## Field data

The plot can be filtered to look at any one of 35 subject fields. Doing so shows that some fields have a stronger correlation between the AI score and the fee charged, while others show very weak correlation. Journals covering the field of molecular and cell biology, for example, seem to have a stronger correlation than do those from physics or mathematics.

But the tool also ranks journals' bang for the buck, with a table of cost-effectiveness values — which are calculated by dividing the

journal's AI score by the price to publish.

Of the 301 fee-based open-access journals considered, the most cost-effective was the *Publication of the Astronomical Society of Japan* (see [Best-value journals](#)); the least cost-effective was the *Journal of Physical Therapy Science* (see [Least-value journals](#)). Among the largest open-access publishers, the Public Library of Science had three journals — *PLoS Biology*, *PLoS Genetics* and *PLoS Medicine* — ranked within the top 15 journals for cost effectiveness. A BioMedCentral journal, the *Irish Veterinary Journal*, ranked among the lowest.

Peter Suber, director of the Harvard Open Access Project in Cambridge, Massachusetts, welcomes the tool as a way to drive competition into the market. He adds, however, that he is sceptical about using a metric based solely on citations to judge prestige.

Bo-Christer Björk, an open-access researcher at the Hanken School of Economics in Helsinki, says that factors other than prestige — from the speed of the review process to layout — also could influence researchers' decisions about where to publish. But he agrees that the tool will be useful.

Future improvements planned for the tool include incorporating journals that are only partly open-access; adding open-access journals outside those indexed by Thomson Reuters; and further refining subject categories. “We intend to include any journal that has some open-access ability,” says West.

### Best-value journals

Fee-based open-access journals across all fields providing the greatest cost effectiveness.

Ranking	Journal	Publisher	Price (US\$)	AI Score	Cost effectiveness
1	<i>Publications of the Astronomical Society of Japan</i>	Astronomical Society of Japan	\$73	1.30	17.84
2	<i>Journal of Physiology and Pharmacology</i>	Polish Physiological Society	\$64	0.51	7.98
3	<i>Asian Pacific Journal of Cancer Prevention</i>	Asian Pacific Organization for Cancer Prevention	\$50	0.30	5.92
4	<i>Journal of Clinical Investigation</i>	American Society for Clinical Investigation	\$1,500*	7.23	4.82
5	<i>Climate of the Past</i>	European Geosciences Union	\$468*	1.78	3.81
6	<i>Oceanography</i>	The Oceanography Society	\$500	1.90	3.80
7	<i>DNA Research</i>	Oxford University Press	\$500	1.90	3.79
8	<i>Biogeosciences</i>	European Geosciences Union	\$471*	1.75	3.71
9	<i>Molecular Medicine</i>	Feinstein Institute for Medical Research	\$500	1.77	3.54
10	<i>The Cryosphere</i>	European Geosciences Union	\$465*	1.59	3.41

\*Journals charge per page. Fee assumes 15-page articles.

### Least-value journals

Fee-based open-access journals across all fields providing the least cost effectiveness.

Ranking	Journal	Publisher	Price (US\$)	AI score	Cost effectiveness
1	<i>Journal of Physical Therapy Science</i>	Society of Physical Therapy Science	\$4,030*	0.07	0.018
2	<i>Journal of Engineering Technology</i>	American Society for Engineering Education	\$1,125*	0.03	0.027
3	<i>Journal Of The Food Hygienic Society Of Japan</i>	Japanese Society for Food Hygiene and Safety	\$1,920*	0.06	0.033
4	<i>Revista Brasileira de Zootecnia</i>	Sociedade Brasileira de Zootecnia	\$2,420*	0.08	0.034
5	<i>Biomedical Research</i>	Scientific Publishers of India	\$1,125*	0.05	0.041
6	<i>BioScience Trends</i>	International Advancement Center for Medicine & Health Research	\$2,100*	0.09	0.042
7	<i>Pakistan Journal of Botany</i>	Pakistan Botanical Society	\$1,300*	0.07	0.051

Ranking	Journal	Publisher	Price (US\$)	AI score	Cost effectiveness
8	<i>Journal of Asian Architecture and Building Engineering</i>	Architectural Institute of Japan	\$1,600	0.08	0.051
9	<i>Irish Veterinary Journal</i>	BioMed Central	\$1,625	0.08	0.051
10	<i>African Journal of Agricultural Research</i>	Academic Journals	\$600	0.03	0.054

\*Journals that charge per page. Fee assumes 15-page articles.

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## References

1. West, J. D., Bergstrom, T. C. & Bergstrom C. T. *Coll. Res. Libr.* **71**, 236–244 (2010).