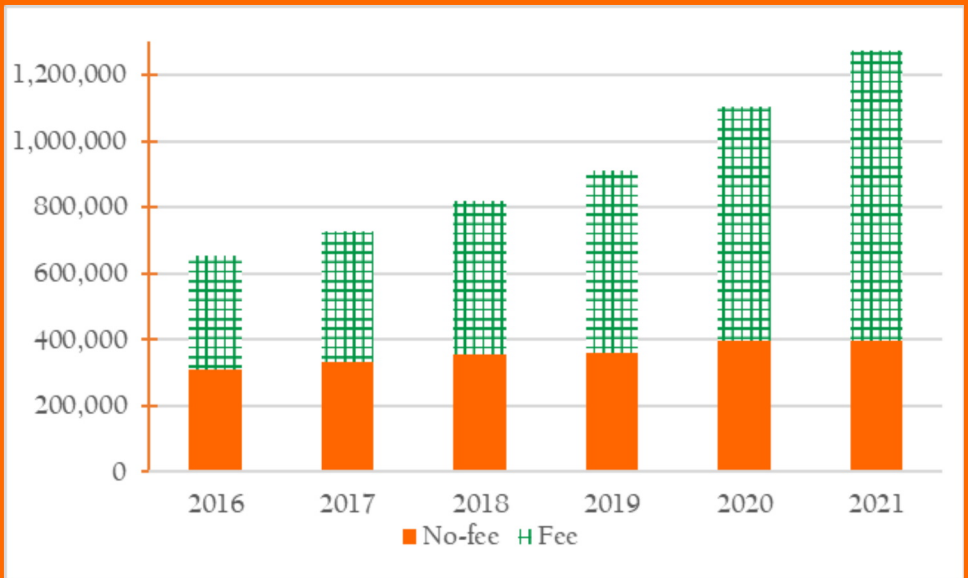
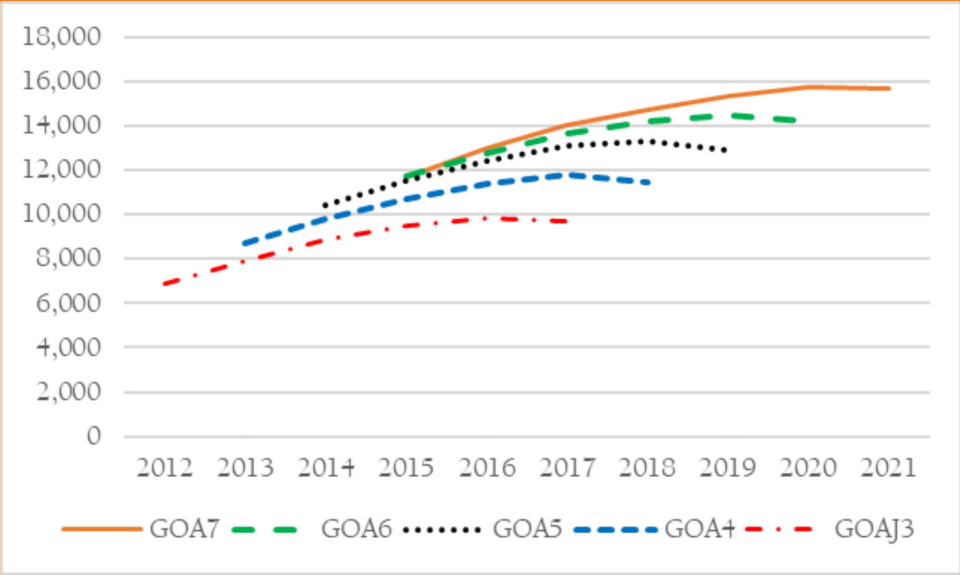


# Gold Open Access 2016-2021

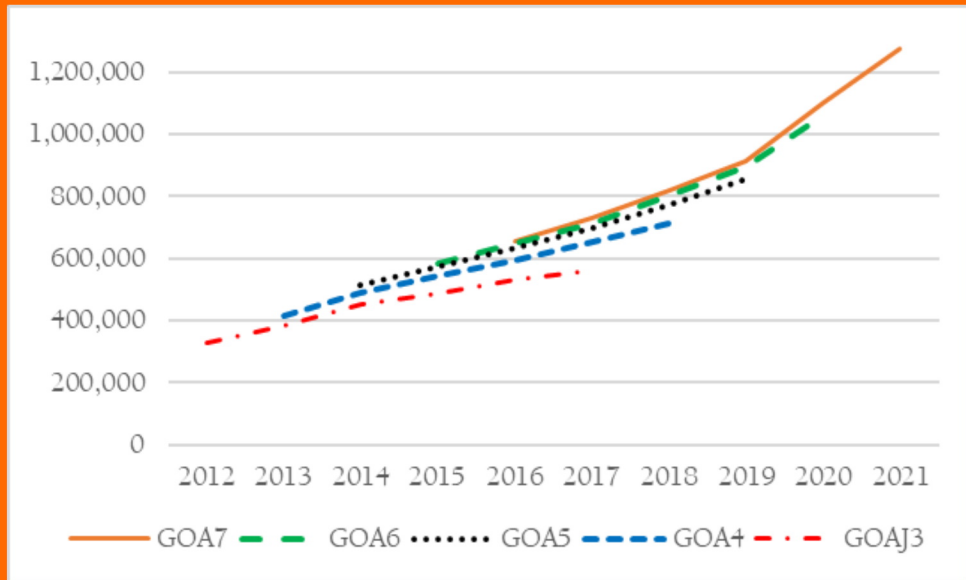
Articles in Journals (GOA7)



Walt Crawford



Active Journals



Articles

GOLD OPEN ACCESS  
2016-2021  
ARTICLES IN JOURNALS  
(GOA7)

Walt Crawford

Cites & Insights Books  
Livermore, California, 2022

## Gold Open Access 2016-2021: Articles in Journals (GOA7)

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This book was prepared entirely in Word 2019, using the licensed typefaces Berkeley Book and Berkeley (bold) for text and Calibri for headings and subheadings. Excel 2019 was used for data gathering and to prepare tables and graphs. The template is a customized version of bk6pv.dotx (modified for different typefaces and slightly different heading practices), a template developed by the author, modified and improved with the cooperation Information Today, Inc. and freely available at [waltcrawford.name/bk6pv.dotx](http://waltcrawford.name/bk6pv.dotx). (The template named uses Palatino Linotype for body text and Verdana for headings.) For more about the template and using no-cost methods to produce professional-quality books, read *The Librarian's Guide to Micropublishing*.



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# Preface

This book is the seventh full study of serious gold open access: open access articles in open access journals listed in the *Directory of Open Access Journals*. This and previous editions are available as free PDF ebooks or paperbacks priced to cover production costs.

Thanks to SPARC's continued support, I was able to update the database to include all journals in the *Directory of Open Access Journals* as of very early January 1, 2022 (UMT) and to add 2021 counts and earlier counts as needed.

This book follows the pattern of the previous versions. While there are major changes in the Countries book—it now reflects the “long tail”—the only significant change is in the dataset, where a new DOAJ field is included. That change has no effect on this book.

*Gold Open Access by Country 2016-2021: The Long Tail* will appear a few weeks after this book appears.

## Acknowledgments

Thanks first and foremost to SPARC. Without SPARC's sponsorship, this project would not have happened—and good advice and feedback from Raym Crow and Val Hollister improved the project.

Thanks to Linda Driver for tolerating and encouraging my ongoing obsession with getting the facts right about real-world open access.

Acknowledgments from previous editions still apply.

## Links

The data used for this report is freely available, with a Creative Commons BY (attribution) license: you can do what you want with it as long as you properly credit the source. So, too, the PDF version of this book and the supplemental book are issued with CC BY licenses.

Links are at <http://waltcrawford.name/goaj.html>.



# 1. The Big Picture

Gold OA continues to grow: by around 1,500 active journals, 170,000 articles, and nearly half a billion dollars in fees in 2021. This study attempts to answer questions about the state of serious gold OA publishing in 2021 (and how it's changed over the past few years).

The overall picture in 2021:

- 1,275,212 articles, up from 1,104,179 in 2020 (for the current set of journals), an increase of 15.5%. My estimate is that around 2,200 journals were added to *DOAJ* during 2021 and around 700 were deleted during the year.
- 16,620 fully-analyzed journals, of which 15,643 published articles in 2021, for an average of 82 articles per journal (up from 75 in last year's report).
- The usual articles-vs.-journals split continues: 68% of active journals are no-fee, but 69% of articles appeared in fee journals
- The average cost per article was \$1,374 in 2021, up around \$170 from 2020.

The rest of this book provides more detail and ways of looking at gold OA. The book is patterned after previous editions.

While some discussions and tables involve the full 16,620 journals, most—where 2021 article counts are fundamental—address only 15,643, ignoring 977 journals with no 2021 articles when checked.

## Key Definitions and Sources

Gold OA articles are open access articles appearing in open access journals. This study is limited to journals serious enough to be in *DOAJ*. This definition includes so called “diamond” and “platinum” journals.

Other Terms and Data Sources

Journal names, publisher names and country of publication all come directly from the *Directory of Open Access Journals* as of 12:30 a.m. (UMT) January 1, 2022.

Subjects were assigned based on DOAJ subject and keyword fields. Subject segments were assigned based on subjects. Regions were assigned based on country of publication. Publisher categories were assigned based on publisher names and available online information.

Fees include submission, processing and publishing fees (including required memberships), as they would be applied for two U.S. authors in the most expensive author category, for a 10-page article in the most expensive article category, in U.S. dollars in 2021, based on average exchange rates during 2021. For journals that only charge authors within the country of publication, those charges are used.

Article counts were determined by direct observation augmented by DOAJ, using shortcuts where feasible.

Revenue is the current fee times the 2021 article count and is always the maximum potential revenue, ignoring waivers, discounts, and lower charges for some article or review types.

Key Facts, Overall

	Journals	Articles	Art%	\$/Art
All	16,620	1,275,212		\$1,374
Fee	5,347	877,725	69%	\$1,997
No-fee	11,273	397,487	31%	
Biomed	4,012	489,543	38%	\$1,784
Fee	2,151	388,039	79%	\$2,251
No-fee	1,861	101,504	21%	
STEM	4,324	521,488	41%	\$1,576
Fee	1,909	415,510	80%	\$1,978
No-fee	2,415	105,978	20%	
H&SS	8,284	264,181	21%	\$217
Fee	1,287	74,176	28%	\$773
No-fee	6,997	190,005	72%	

**\$/art** is a weighted figure based on multiplying each journal's article count by its fee, ignoring discounts and waivers. The percentages in the

**Biomed**, **STEM** (science, technology, engineering and math) and **H&SS** (humanities and social sciences) rows are percentages of **All**.

### Articles per Year and Special Codes

Code	Journ.	2021	2020	2019	2018	2017	2016
a	15,301	1,242,392	1,069,585	874,568	779,437	687,259	615,884
bi	390			3,666	7,620	9,620	10,698
bx	699	29,096	28,178	26,868	26,284	25,866	24,097
xm	140	2,600	3,296	3,001	2,653	2,259	1,731
xx	90	1,124	3,120	3,098	3,213	3,381	3,366
Total	16,620	1,275,212	1,104,179	911,201	819,207	728,385	655,776
Increase		15.5%	21.2%	11.2%	12.5%	11.1%	

This table shows article counts for each year and also shows codes for special categories of journals. Codes are as follows:

- **a** is for journals active in 2020 or 2021 with no special codes.
- **bi** (inactive) journals have articles after 2015 but none since 2019.
- **bx** journals could not be reached using the URL downloaded from DOAJ but could be reached using a title search or another route.
- **xm** (malware) journals were trapped by Malwarebytes Pro, but fees and article counts were available elsewhere (usually DOAJ), and the journal was *not* xm in 2020.
- **xx** (unavailable) journals could not be reached, but fees and article counts were available in DOAJ, and the journal was *not* xx in 2020.

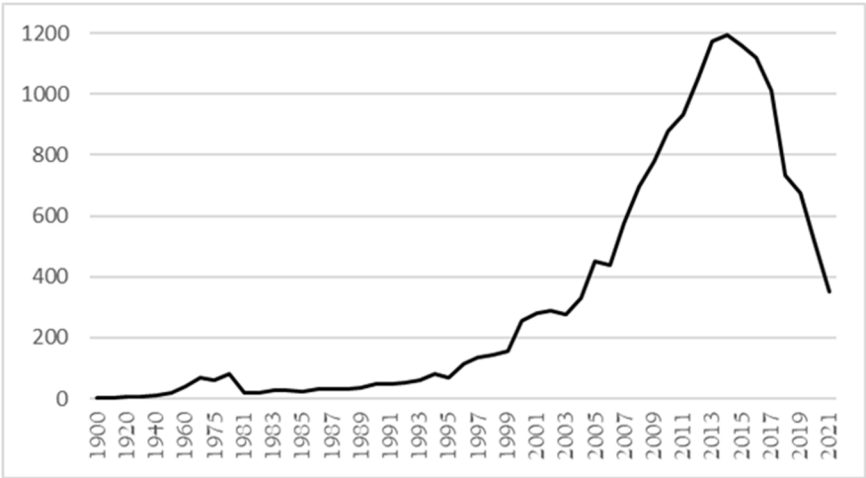
These codes are not used in the remainder of this book since—other than xm—they do not imply anything negative about the journals. Xm and xx journals with full information *are* included (but only if this wasn't their second "x year").

Revenue and Costs for Latest Year in the Last Four Studies

	2021	2020	2019	2018
Revenue	\$1,752,551K	\$1,277,135K	\$873,263K	\$649,415K
Fee	877,742	690,918	522,018	413,826
\$/art	\$1,997	\$1,848	\$1,673	\$1,569
Tot. art.	1,275,212	1,061,256	854,018	711,670
\$/art	\$1,374	\$1,203	\$1,023	\$913
No-fee	31.2%	34.9%	38.9%	41.9%

This table shows the final year in each of the last four studies (down from five because of space constraints). The decline in no-fee percentages (although no-fee article count grew each year, if slowly) and rapid increases in fee-based article count and overall revenue seem clear.

Journals by Starting Year, Overall

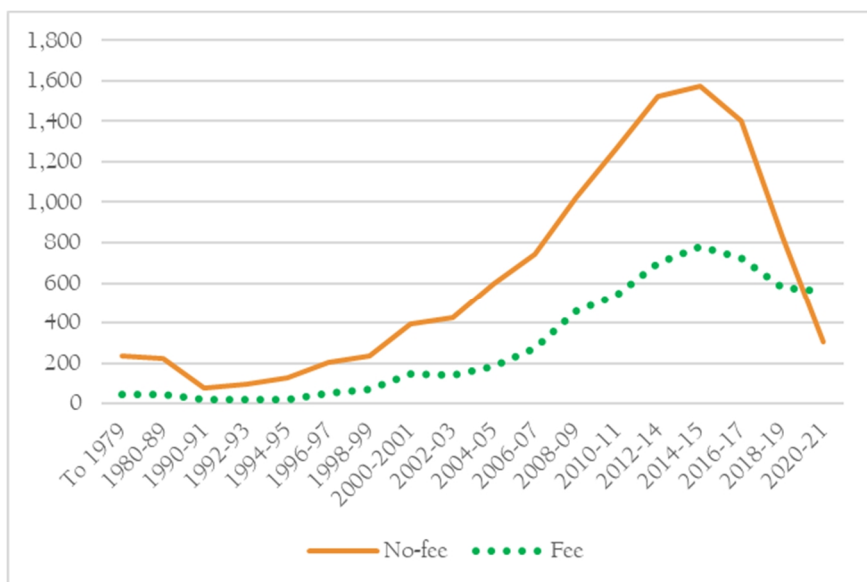


This graph shows *possible* starting dates for journal provision of open access (from observation for newly-added journals), with a data point for each year from 1980 on (larger groupings before 1980).

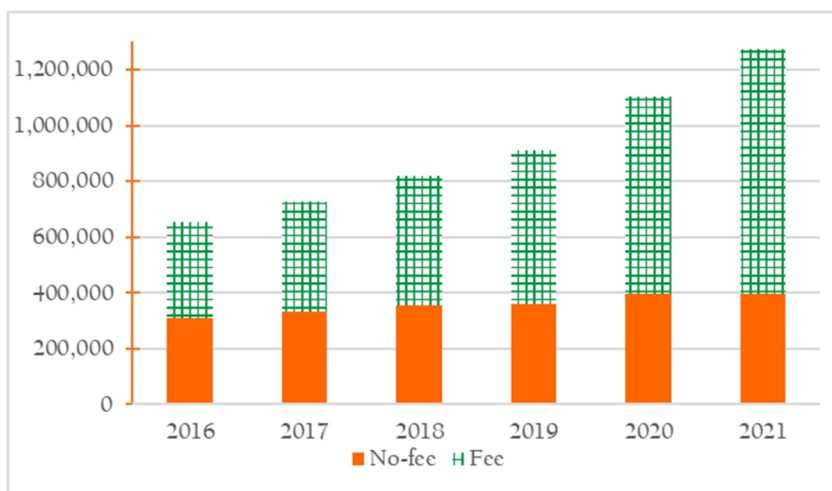
Starting Date, Overall

This graph, on the next page, shows starting dates (by two-year groupings since 1990 and two earlier groups) for fee and no-fee journals; each data point is labeled. This form is used for graphs of subsets.





**Fee and No-Fee Articles by Year, Overall**



This figure uses the template used for graphic fee and no-fee article comparisons throughout the book. It's in chronological order rather than the newest-first order of some tables. No-fee article counts grow, but slowly; fee article counts grow much more rapidly. There were more no-fee articles in 2021 than there were fee articles in 2017.

Journal Growth and Shrinkage, Overall

Change 2020-2021	Count	Percent	Cum%
Grew 25%+	3,860	25.4%	
Even, ±24.99%	8,253	54.3%	79.7%
Shrank 25%+	3,082	20.3%	
Total	15,195		

This table shows how journals grew and shrank in number of articles from 2019 to 2020, including *only* journals with articles in both years. Most journals stay about even, and growing journals outnumber shrinking ones—but the percentage of shrinking journals is up from last year.

Subjects, Overall

Subjects in this table (on the next page) are sorted by number of 2021 articles. Note that “Other Sciences” includes megajournals that cover many disciplines. Note also that \$/article (average cost per article) includes no-fee articles, which helps explain the low figures for History, Library Science, Language & Literature, and Law.

Following the subject table are looks at two ways OA can be split into two very different worlds: journals charging more than \$2,000 per article (repeated from last year, but with much larger figures) and key facts for two groups of journals: those published by the “big 11,” eleven large publishers or publishing groups, and the “long tail,” everybody else. These groups are discussed further in Chapter 6, and this year’s country book will be based (almost) entirely on the long tail.

Subject	Jour.	Art.	%No-fee	\$/article
Medicine	3,558	407,429	23%	\$1,685
Other Sciences	229	86,377	5%	\$2,198
Ecology	551	83,647	26%	\$1,531
Biology	454	82,114	7%	\$2,277
Chemistry	241	71,011	9%	\$1,956
Engineering	545	59,225	19%	\$1,416
Physics	238	50,383	25%	\$1,577
Agriculture	594	44,961	25%	\$1,236
Education	1,019	41,227	73%	\$92
Earth Sciences	559	38,664	31%	\$1,344
Language & Literature	1,105	29,715	80%	\$53
Economics	998	28,948	60%	\$188
Computer Science	474	27,247	30%	\$973
Anthropology	737	24,242	61%	\$266
Zoology	334	23,037	20%	\$1,138
Mathematics	334	20,749	33%	\$1,149
Sociology	634	20,400	75%	\$193
Technology	225	16,187	37%	\$1,081
Psychology	290	15,541	35%	\$1,425
Law	533	14,553	85%	\$68
Political Science	535	14,491	82%	\$111
History	531	14,116	94%	\$11
Miscellany	256	13,797	68%	\$232
Arts & Architecture	456	13,281	74%	\$213
Media & Communications	352	9,981	82%	\$175
Religion	349	9,900	60%	\$235
Philosophy	314	8,567	87%	\$102
Library Science	175	5,422	93%	\$49

## The \$2K Mark

This year's report uses larger fee brackets because of increases in fees charged, with the new highest bracket starting at \$2,000 rather than \$1,400. Just how big is that top bracket?

### \$2,000 and Up Fees, Actual Numbers

Year	\$2K Journals	\$2K Articles	\$2K Revenue	\$/art
2016	457	79,866	\$203,188,000	\$2,544
2017	514	94,361	\$252,410,897	\$2,675
2018	574	120,882	\$331,107,513	\$2,739
2019	728	193,842	\$513,804,536	\$2,651
2020	907	329,094	\$873,072,078	\$2,653
2021	1,162	491,172	\$1,329,802,150	\$2,707
Change	254.3%	615.0%	654.5%	

Change percentages are from 2016 to 2021.

### \$2,000 and Up Fees, Percentages of Total

	\$2K Jrnl%	\$2K Art%	\$2K Rev%
2016	5.1%	15.3%	48.4%
2017	5.0%	16.8%	51.2%
2018	4.7%	17.0%	51.0%
2019	5.2%	22.7%	58.8%
2020	6.0%	31.0%	68.4%
2021	7.0%	38.5%	75.9%

In 2015, \$2K journals accounted for 12% of articles and 43% of revenue. In 2021, they accounted for 39% of articles and 76% of revenues.

## The Big Eleven and The Long Tail

The Big 11 are publishers (or publishing/ownership groups) with either more than 12,000 articles and \$18 million in potential fee revenue in 2021 or, in one case, more than \$23 million in revenue and nearly 8,000 articles.

**Key Facts, Big Eleven**

	Journals	Articles	Art%	Rel%	\$/Art	Rel%
All	2,906	705,722			\$2,213	61%
Fee	2,384	666,958	95%	37%	\$2,341	17%
No-fee	522	38,764	5%	-82%		
Biomed	1,668	333,699	47%	23%	\$2,328	30%
Fee	1,358	311,469	93%	18%	\$2,494	11%
No-fee	310	22,230	7%	-68%		
STEM	990	343,614	49%	19%	\$2,150	36%
Fee	856	330,556	96%	21%	\$2,235	13%
No-fee	134	13,058	4%	-81%		
H&SS	248	28,409	4%	-81%	\$1,608	641%
Fee	170	24,933	88%	213%	\$1,833	137%
No-fee	78	3,476	12%	-83%		

Potential revenue: \$1,561,475,190. (Rel%: compared to all journals.)

**Key Facts, Long Tail**

	Journals	Articles	Art%	Rel%	\$/Art	Rel%
All	13,714	569,490			\$336	-76%
Fee	2,963	210,767	37%	-46%	\$907	-55%
No-fee	10,751	358,723	63%	102%		
Biomed	2,344	155,844	27%	-29%	\$620	-65%
Fee	793	76,570	49%	-38%	\$1,261	-44%
No-fee	1,551	79,274	51%	145%		
STEM	3,334	177,874	31%	-24%	\$466	-70%
Fee	1,053	84,954	48%	-40%	\$975	-51%
No-fee	2,281	92,920	52%	157%		
H&SS	8,036	235,772	41%	100%	\$49	-77%
Fee	1,117	49,243	21%	-26%	\$236	-69%
No-fee	6,919	186,529	79%	10%		

Potential revenue: \$191,075,818

The Big Eleven publish 14% of the serious OA journals but 52% of the articles—and garner 89% of the potential revenue

## Changes from Previous Edition

Other than the change from last year's Big 9 to this year's Big 11, the only report change is that fee brackets have been changed to reflect growing fees: instead of \$1,400 and up, \$600 to \$1,399, \$200 to \$599, and \$0.01 to \$199, the brackets are \$2,000 and up, \$1,000 to \$1,999, \$500 to \$999, and \$0.01 to \$499.

As far as I can tell, 416 journals changed from no-fee to fee in 2021 and 157 changed from fee to no-fee. Of 4,277 journals with fees in both 2020 and 2021, it appears that 335 journals lowered their fees significantly (at least \$10 and at least 6%) while 1,088 increased their fees by at least \$10 and at least 6%.

The "Highlights and Key Points" at the end of Chapter 1 has been dropped as largely redundant. Chapter organization is the same as it was last year.

## Notes about Fees

In about 90% of cases, a fee or APC is just that: a fixed fee due when an article is accepted. But there are exceptions. Some 162 journals have split fees: a smaller fee on submission and a larger one on acceptance. 329 have variable fees (I didn't flag cases where fees are higher for *very* long articles, using 15 pages as a cutoff). In those cases, I calculated based on the higher of local fee and US\$ fee; 10 pages; non-member; two authors. (A few split-fee journals also have variable fees.) Twenty journals charge *only* for submission. Seven journals seem to have truly optional fees. Eight require membership to publish, which I counted as a fee. There were 31 cases where I wonder about the fee as coded in *DOAJ*, including a few where exchange rates make the fee less than \$1 US.

## Data

The master spreadsheet for this project, including publishers and journal titles but omitting some calculated figures (e.g., revenue) to save space, is freely available with a CC BY license. For links to the data (and links to the supplements), go to [waltcrawford.name/goaj.html](http://waltcrawford.name/goaj.html).

## 2. Exclusions and Special Cases

This chapter is, in essence, one long footnote. You can skip it if you like. Along with Appendix A, it provides transparency on methodology and tells why some journals in *DOAJ* are excluded from this report.

### The Basics

I visited each journal's website at least once and sometimes up to four times. The first set of visits took place between January 1, 2022 and April 20, 2021. Revisits of 680 journals that might have added issues during that period took place April 21-22; rechecks of "xx" journals took place April 23-30 (and was highly successful). Rechecks of malware journals took place April 30 to May 3, and a final attempt to reach *new xm* journals took place May 4 to May 6.

All work was done using Chrome and embedded Google language tools. At all times, I ran Malwarebytes Pro and Windows Defender.

### Excluded Journals by Code with Article Counts

Code	Journals	2021	2020	2019	2018
a: New, no articles pub. yet	2				
xd: Dead or duplicate	92				
xm: Malware in 2021	3				
xm2: Malware in '20 & '21	383	5,367	7,335	7,982	9,102
xmi: Malware, inactive	9			16	36
xn: Not an OA journal	10	2	224	224	261
xo: Removed from DOAJ	119		2,502	2,552	2,676
xx2: Unavailable '20 & '21	20	22	167	424	585
xxi: Unavailable, inactive	27			126	251

These counts do not include xx and xm journals retained in the main report, mentioned in Chapter 1—and the only “xo” cases are ones removed after the study began. Note that the exclusions account for fewer than 5,500 2021 articles.

### **Specific XN Cases**

Three journals required login when checked twice. Three are actually encyclopedias. Two have embargo periods for new articles. Two appear to be something other than journals.

### **The Nature of Malware**

Malwarebytes Pro normally provides the reason it doesn’t believe you should visit a site. Combining the *excluded* xm subcodes, these are mostly trojans (346), plus 25 phishing, four fraud, two riskware, one exploit and one just labeled malware. In six cases, the security certificate was invalid (trapped by Chrome—but there were also cases where there was a certificate problem *and* malware).

### **The Geography of Malware**

Of 140 new malware cases included in the main report, 94 are from Indonesia, five from Brazil, four each from Iraq and Ukraine, three each from Colombia, Croatia and Turkey, and 19 countries with one or two each. The 395 *excluded* malware cases are similarly concentrated: 286 from Indonesia, 47 from Brazil, 23 from Ukraine, six from Ecuador, five from Venezuela, four each from Argentina and Russia, three from the United States, and 15 countries with one or two each.



### 3. Continuing and Newly-Added Journals

Setting aside excluded journals, the dataset for this year includes 14,408 journals that were in last year's study and 2,212 that are new to this year. "New" to DOAJ does not usually mean "started in 2021": only 352 of the added journals show 2021 as a starting date. Even that 352 figure may be high: when data for this study was downloaded, DOAJ was not reporting start dates, so I entered dates for the newly-added journals based on observation. (DOAJ has restored start date, and that will be used in future editions.) Note also that those 352 journals tend to be from a few publishers: 99 from Elsevier (including 10 from KeAi), 77 from MDPI, 35 from Wiley, and 31 from Frontier, with smaller groups from others of the Big 11. That's roughly 70% from four publishers.

#### Key Facts, Continuing

	Journals	Articles	Art%	Rel%	\$/Art	Rel%
All	14,408	1,172,858			\$1,417	3%
Fee	4,561	819,758	70%	2%	\$2,027	2%
No-fee	9,847	353,100	30%	-3%		
Biomed	3,501	457,725	39%	2%	\$1,819	2%
Fee	1,892	366,582	80%	1%	\$2,271	1%
No-fee	1,609	91,143	20%	-4%		
STEM	3,712	484,586	41%	1%	\$1,601	2%
Fee	1,585	388,013	80%	0%	\$2,000	1%
No-fee	2,127	96,573	20%	-2%		
H&SS	7,195	230,547	20%	-5%	\$229	6%
Fee	1,084	65,163	28%	1%	\$811	5%
No-fee	6,111	165,384	72%	0%		

**Key Facts, Newly-Added**

	Journals	Articles	Art%	Rel%	\$/Art	Rel%
All	2,212	102,354			\$891	-35%
Fee	786	57,967	57%	-18%	\$1,573	-21%
No-fee	1,426	44,387	43%	39%		
Biomed	511	31,818	31%	-19%	\$1,285	-28%
Fee	259	21,457	67%	-15%	\$1,906	-15%
No-fee	252	10,361	33%	57%		
STEM	612	36,902	36%	-12%	\$1,241	-21%
Fee	324	27,497	75%	-6%	\$1,665	-16%
No-fee	288	9,405	25%	25%		
H&SS	1,089	33,634	33%	59%	\$134	-38%
Fee	203	9,013	27%	-5%	\$501	-35%
No-fee	886	24,621	73%	2%		

These tables introduce the full Key Facts table, adding two Rel% columns, which show relative percentages compared to overall figures. So, for example, STEM articles represent a 12% lower percentage of all articles in added journals than in all journals, and average cost of H&SS articles is 36% lower than for H&SS as a whole, \$140 compared to \$218. Most added journals are no-fee—and most articles have fees.

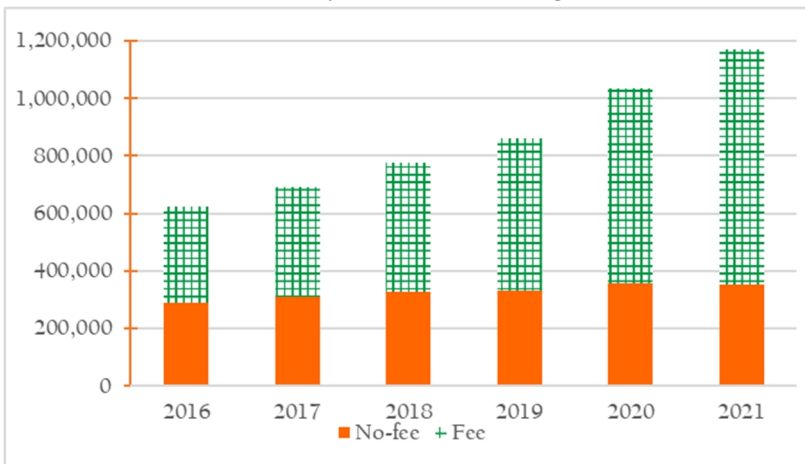
**Articles and Journals by Year, Continuing**

	2021	2020	2019	2018	2017	2016
Journals	13,467	13,949	13,930	13,564	13,027	12,157
%No-fee	67%	68%	69%	69%	70%	70%
Articles	1,172,858	1,033,093	860,217	777,153	690,845	623,915
%No-fee	30%	34%	38%	42%	45%	47%
Change	14%	20%	11%	12%	11%	

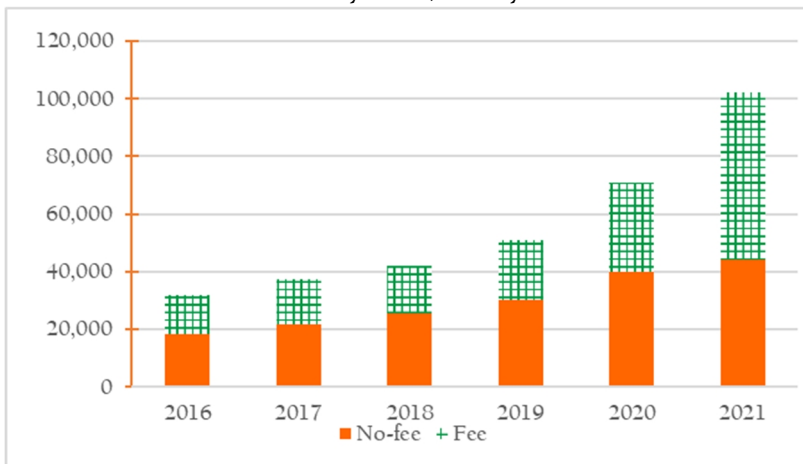
## Articles and Journals by Year, Newly-Added

	2021	2020	2019	2018	2017	2016
Journals	2,176	1,821	1,427	1,161	982	837
%No-fee	64%	73%	77%	79%	80%	80%
Articles	102,354	71,086	50,984	42,054	37,540	31,861
%No-fee	43%	56%	59%	61%	58%	57%
Growth	44%	39%	21%	12%	18%	

## Fee and No-Fee Articles by Year, Continuing



## Fee and No-Fee Articles by Year, Newly-Added



Note that the Continuing vertical axis is an order of magnitude larger.

**Article Volume, Continuing**

See Chapter 5 for a discussion of article volume brackets.

	Journals	Articles	%No-fee	\$/article
Largest: 600+	280	542,264	7%	\$2,214
Large: 150-599	1,037	216,003	21%	\$1,402
Med.: 60-149	2,962	196,795	53%	\$584
Small: 20-59	7,655	194,688	74%	\$206
Smallest: 0-19	2,474	23,108	81%	\$113

**Article Volume, Newly-Added**

	Journals	Articles	%No-fee	\$/article
Largest: 600+	17	15,796	8%	\$1,787
Large: 150-599	103	21,694	23%	\$1,362
Med.: 60-149	351	25,005	48%	\$714
Small: 20-59	1,207	33,667	64%	\$403
Smallest: 0-19	534	6,192	70%	\$322

Relatively fewer newly-added journals are very large, and the smaller newly-added journals tend to have higher fees.

**Fee Level, Continuing**

	Jour.	%Fee	%All	Art.	%Fee	%All
\$2,000+	989	22%	7%	468,165	57%	40%
\$1,000-\$1,999	1,039	23%	7%	209,031	25%	18%
\$500-\$999	583	13%	4%	44,075	5%	4%
\$0.20-\$499	1,950	43%	14%	98,487	12%	8%
No fee	9,847		68%	353,100		30%

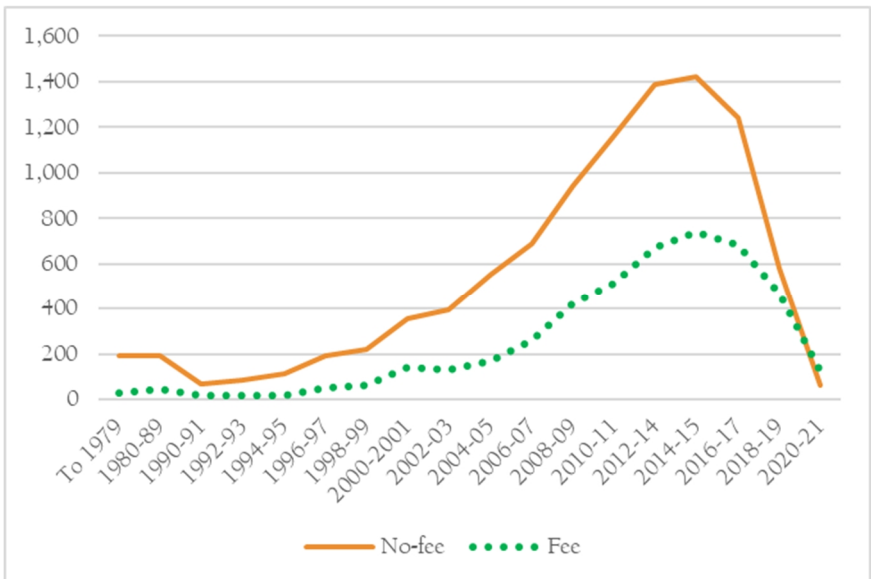
So many journals increased fees that I redid the brackets—and note that the new \$2,000+ bracket has almost as many articles in 2021 as the \$1,400+ bracket did in 2020. The most expensive journals, 22% of continuing fee journals, account for a majority of fee articles.

That's not true for newly-added journals, where the 22% \$2,000+ (22%: an odd coincidence) account for four out of ten fee articles.

### Fee Level, Newly-Added

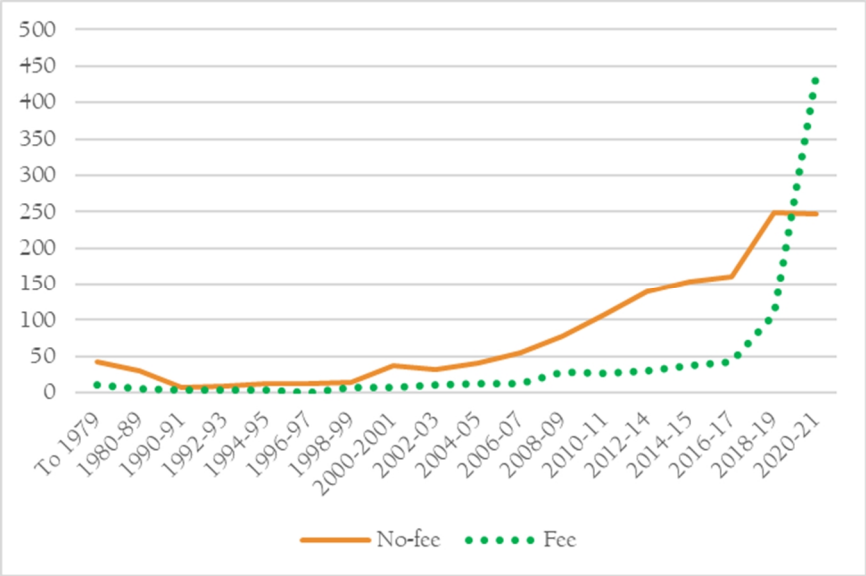
	Jour.	%Fee	%All	Art.	%Fee	%All
\$2,000+	173	22%	8%	23,007	40%	22%
\$1,000-\$1,999	281	36%	13%	17,143	30%	17%
\$500-\$999	62	8%	3%	5,552	10%	5%
\$0.20-\$499	270	34%	12%	12,265	21%	12%
No fee	1,426		64%	44,387		43%

### Starting Date, Continuing



Looking at newly-added journals, note that this is the first time that the number of new fee-based journals has sharply exceeded the number of new no-fee journals.

Starting Date, Newly-Added



Fees and Revenue, Continuing

	Articles	Revenue	\$/article
\$2,000+	468,165	\$1,269,807,945	\$2,712
\$1,000-\$1.999	209,031	\$343,718,973	\$1,644
\$500-\$999	44,075	\$31,504,854	\$715
\$0.20-\$499	98,487	\$16,331,706	\$166
No fee	353,100		
Total	1,172,858	\$1,661,363,478	\$1,417

Fees and Revenue, Newly-Added

	Articles	Revenue	\$/article
\$2,000+	23,007	\$59,994,205	\$2,608
\$1,000-\$1.999	17,143	\$25,442,516	\$1,484
\$500-\$999	5,552	\$3,930,954	\$708
\$0.20-\$499	12,265	\$1,819,856	\$148
No fee	44,387		
Total	102,354	\$91,187,531	\$891

**Region, Continuing**

See Chapter 8 for a discussion of regions. “Pacific/English” is Australia, Canada, New Zealand and the United States. “Latin America” includes all of the Americas except Canada and the United States. As with other demographic tables, sorting is by descending number of 2021 articles.

Region	Journals	Articles	%No-fee	\$/article
Western Europe	4,397	688,657	15%	\$2,003
Pacific/English	1,089	135,034	15%	\$1,748
Latin America	2,850	112,782	88%	\$42
Eastern Europe	2,531	92,583	65%	\$126
Asia	2,261	88,670	45%	\$228
Middle East	1,091	47,849	62%	\$131
Africa	189	7,283	36%	\$355

**Region, Newly-Added**

Region	Journals	Articles	%No-fee	\$/article
Western Europe	792	43,523	28%	\$1,375
Asia	358	15,005	46%	\$260
Eastern Europe	419	13,912	80%	\$43
Pacific/English	187	13,181	18%	\$1,982
Latin America	265	8,698	95%	\$5
Middle East	171	7,480	45%	\$84
Africa	20	555	33%	\$97

**Publisher Category, Continuing**

Category	Journals	Articles	%No-fee	\$/article
Traditional	2,508	402,724	14%	\$2,076
Open Access	1,835	355,505	12%	\$1,837
Univ./college	8,674	307,638	69%	\$267
Society/govt	1,391	106,991	40%	\$842

See Chapter 7 for a discussion of these categories.

**Publisher Category, Newly-Added**

Category	Journals	Articles	%No-fee	\$/article
Univ./college	1,182	36,802	72%	\$110
Traditional	431	36,073	9%	\$1,917
Open Access	352	17,124	46%	\$605
Society/govt	247	12,355	55%	\$617

**Growth and Shrinkage, Continuing**

Change 2020-2021	Count	Percent	Cum%
Grew 25%+	3,368	25.1%	
Even, $\pm 24.99\%$	7,324	54.6%	79.8%
Shrank 25%+	2,714	20.2%	
Total	13,406		

Only journals with articles in both 2020 and 2021 are included. Unlike last year, growing journals don't *vastly* outnumber shrinking ones.

**Growth and Shrinkage, Newly-Added**

Change 2020-2021	Count	Percent	Cum%
Grew 25%+	492	27.5%	
Even, $\pm 24.99\%$	929	51.9%	79.4%
Shrank 25%+	368	20.6%	
Total	1,789		

Just to clarify: the difference between these figures and those in Key Facts means that 1,002 continuing journals and 423 newly-added journals either had no articles in 2020 or had none in 2021—the 423, of course, composed mostly of 352 journals starting in 2021.

The next two pages show subjects, again sorted by descending 2021 article count.



**Subjects, Continuing**

<b>Subject</b>	<b>Journ.</b>	<b>Articles</b>	<b>%No-fee</b>	<b>\$/article</b>
Medicine	3,101	377,881	23%	\$1,716
Other Sciences	209	84,651	5%	\$2,219
Biology	400	79,844	7%	\$2,303
Ecology	449	74,488	26%	\$1,536
Chemistry	188	65,254	9%	\$1,977
Engineering	494	57,163	18%	\$1,437
Physics	206	47,087	26%	\$1,564
Agriculture	539	42,056	25%	\$1,279
Education	912	36,191	72%	\$98
Earth Sciences	490	35,782	30%	\$1,405
Economics	880	25,913	59%	\$189
Language & Literature	945	23,998	86%	\$44
Computer Science	373	23,611	29%	\$984
Anthropology	637	21,558	59%	\$277
Zoology	289	21,046	18%	\$1,193
Mathematics	302	19,835	32%	\$1,193
Sociology	545	17,899	75%	\$207
Psychology	252	14,365	34%	\$1,495
Technology	173	13,613	41%	\$951
Miscellany	227	12,584	66%	\$252
History	470	12,578	93%	\$13
Political Science	461	12,475	82%	\$108
Law	450	12,176	84%	\$80
Arts & Architecture	387	11,388	74%	\$230
Religion	287	8,377	57%	\$276
Media & Communications	301	8,360	86%	\$73
Philosophy	282	7,694	88%	\$104
Library Science	159	4,991	95%	\$36

**Subjects, Newly-Added**

<b>Subject</b>	<b>Journ.</b>	<b>Articles</b>	<b>%No-fee</b>	<b>\$/article</b>
Medicine	457	29,548	33%	\$1,281
Ecology	102	9,159	27%	\$1,492
Chemistry	53	5,757	9%	\$1,723
Language & Literature	160	5,717	54%	\$92
Education	107	5,036	77%	\$45
Computer Science	101	3,636	34%	\$906
Physics	32	3,296	6%	\$1,763
Economics	118	3,035	68%	\$182
Agriculture	55	2,905	33%	\$614
Earth Sciences	69	2,882	39%	\$581
Anthropology	100	2,684	75%	\$174
Technology	52	2,574	17%	\$1,770
Sociology	89	2,501	74%	\$97
Law	83	2,377	93%	\$6
Biology	54	2,270	26%	\$1,333
Engineering	51	2,062	42%	\$838
Political Science	74	2,016	83%	\$133
Zoology	45	1,991	34%	\$564
Arts & Architecture	69	1,893	74%	\$108
Other Sciences	20	1,726	17%	\$1,193
Media & Communications	51	1,621	63%	\$698
History	61	1,538	98%	\$1
Religion	62	1,523	79%	\$10
Miscellany	29	1,213	83%	\$22
Psychology	38	1,176	54%	\$578
Mathematics	32	914	64%	\$180
Philosophy	32	873	82%	\$84
Library Science	16	431	74%	\$198

## Country of Publication

The last two tables are partial, showing the 31 countries with the most articles in each case. This year's database includes 129 countries and named entities, so a full list would take four pages.

I won't comment on these tables, except for the obvious note on United Kingdom and Switzerland figures being heavily affected by the Big 11: see Chapter 6 for more.

For the sake of brevity and clarity, country names are shorter common names in several cases, rather than the name forms used in *DOAJ*—for example, Venezuela rather than Bolivarian Republic of Venezuela. A complete or nearly-complete list of these alternate forms appears on Page 23 of *Gold Open Access 2015-2020: Articles in Journals (GOA6)*.

**Country of Publication, Continuing (partial)**

<b>Country</b>	<b>Journals</b>	<b>Articles</b>	<b>%no-fee</b>	<b>\$/article</b>
Switzerland	363	317,395	1%	\$2,428
United Kingdom	1,625	242,773	7%	\$2,248
United States	809	122,001	11%	\$1,813
Brazil	1,471	72,444	83%	\$60
Indonesia	1,364	33,100	38%	\$56
Netherlands	249	28,506	22%	\$1,306
France	232	24,554	97%	\$33
Spain	760	24,323	86%	\$104
Germany	264	23,822	51%	\$704
Russia	418	22,907	85%	\$28
Iran	572	22,104	61%	\$89
India	287	21,267	53%	\$250
Poland	602	19,494	55%	\$284
Turkey	379	17,341	78%	\$62
Ukraine	324	13,249	42%	\$40
Italy	392	13,061	76%	\$206
Romania	320	9,937	63%	\$55
Colombia	380	9,807	99%	\$2
China	122	9,745	46%	\$557
South Korea	134	8,631	45%	\$310
Argentina	295	7,121	97%	\$6
Australia	97	6,633	33%	\$1,547
Cuba	103	6,468	100%	\$0
Canada	167	6,056	62%	\$776
Serbia	192	5,755	74%	\$68
Mexico	146	4,434	90%	\$20
South Africa	109	4,344	22%	\$503
Chile	129	3,821	82%	\$55
Portugal	124	3,691	81%	\$168
Bulgaria	72	3,621	30%	\$401
Croatia	124	3,607	84%	\$93

**Country of Publication, Newly-Added (partial)**

<b>Country</b>	<b>Journals</b>	<b>Articles</b>	<b>%no-fee</b>	<b>\$/article</b>
United Kingdom	231	16,174	19%	\$1,792
United States	144	11,661	14%	\$2,078
Netherlands	100	7,025	8%	\$1,621
Switzerland	134	6,712	10%	\$1,400
China	45	4,438	29%	\$514
Brazil	103	4,410	91%	\$8
Indonesia	196	4,180	38%	\$32
Poland	136	3,956	90%	\$19
Italy	68	3,873	46%	\$441
Russia	83	3,829	84%	\$37
Spain	114	3,793	84%	\$270
Iran	82	2,482	59%	\$36
France	37	2,383	30%	\$1,778
Iraq	12	2,185	2%	\$178
Germany	49	2,118	43%	\$1,355
Japan	18	1,578	19%	\$648
Turkey	50	1,544	90%	\$47
India	32	1,528	74%	\$63
Ukraine	38	1,284	53%	\$16
Canada	28	1,150	42%	\$1,279
Uzbekistan	1	1,101	100%	\$0
Romania	35	1,064	77%	\$107
Mexico	37	978	100%	\$0
Egypt	18	826	15%	\$89
Portugal	20	666	90%	\$24
Argentina	31	663	100%	\$0
South Korea	11	627	33%	\$412
Cuba	12	591	100%	\$0
Colombia	25	562	100%	\$0
Kazakhstan	14	525	18%	\$48
Peru	20	501	100%	\$0

## 4. Five-Year Comparisons

Is it useful to compare the journal universe of *DOAJ* as it was at the very end of 2017 (*GOAJ3*), 2018 (*GOA4*), 2019 (*GOA5*), 2020 (*GOA6*) and 2021 (*GOA7*)? Here's a brief attempt in four tables and ten graphs. The key facts are in chronological order; the ten graphs show each report as a separate line. Graphs show journals *active* during each year.

### Key facts, *GOAJ3* (2013-2017)

GOAJ3	Journals	Articles	Art%	\$/Art
All	10,293	563,146		\$876
Fee	3,122	316,836	56%	\$1,557
No-fee	7,171	246,310	44%	
Biomed	2,694	200,835	36%	\$1,240
Fee	1,438	139,983	70%	\$1,778
No-fee	1,256	60,852	30%	
STEM	2,814	225,666	40%	\$1,011
Fee	1,126	151,363	67%	\$1,507
No-fee	1,688	74,303	33%	
H&SS	4,785	136,645	24%	\$118
Fee	558	25,490	19%	\$634
No-fee	4,227	111,155	81%	

**Key Facts, GOA4 (2013-2018)**

<b>GOA4</b>	<b>Journals</b>	<b>Articles</b>	<b>Art%</b>	<b>\$/Art</b>
All	12,180	711,670		\$913
Fee	3,506	413,826	58%	\$1,569
No-fee	8,674	297,844	42%	
Biomed	3,062	252,842	36%	\$1,296
Fee	1,519	177,287	70%	\$1,849
No-fee	1,543	75,555	30%	
STEM	3,181	289,522	41%	\$1,039
Fee	1,203	199,232	69%	\$1,510
No-fee	1,978	90,290	31%	
H&SS	5,937	169,306	24%	\$123
Fee	784	37,307	22%	\$558
No-fee	5,153	131,999	78%	

**Key Facts, GOA5 (2014-2019)**

<b>GOA5</b>	<b>Journals</b>	<b>Articles</b>	<b>Art%</b>	<b>\$/Art</b>
All	13,938	854,018		\$1,023
Fee	4,090	522,018	61%	\$1,673
No-fee	9,848	332,000	39%	
Biomed	3,387	298,675	35%	\$1,437
Fee	1,699	219,071	73%	\$1,959
No-fee	1,687	79,552	27%	
STEM	3,602	350,764	41%	\$1,186
Fee	1,412	255,098	73%	\$1,630
No-fee	2,190	95,666	27%	
H&SS	6,949	204,579	24%	\$137
Fee	978	47,797	23%	\$588
No-fee	5,971	156,782	77%	

Key Facts, GOA6 (2015-2020)

	Journals	Articles	Art%	\$/Art
All	15,128	1,061,256		\$1,203
Fee	4,585	690,918	65%	\$1,848
No-fee	10,543	370,338	35%	
Biomed	3,643	394,910	37%	\$1,608
Fee	1,892	300,936	76%	\$2,111
No-fee	1,751	93,974	24%	
STEM	3,891	431,004	41%	\$1,404
Fee	1,597	332,599	77%	\$1,819
No-fee	2,294	98,405	23%	
H&SS	7,594	235,342	22%	\$157
Fee	1,096	57,383	24%	\$645
No-fee	6,498	177,959	76%	

Key Facts, GOA7 (2016-2021)

See page 2.

Ten-Year Graphs

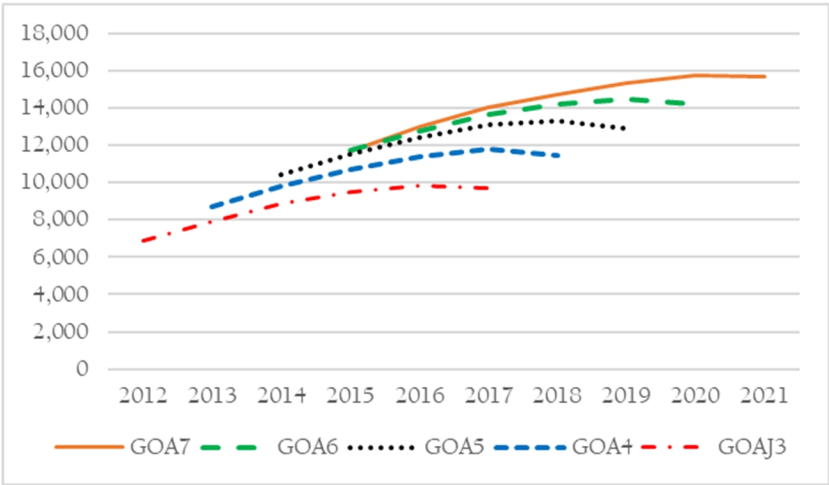
These graphs show the five most recent reports in one graph.

Last year, I wondered whether the rapid increase in fee Biomed articles might be COVID-19 related—but since the research and the pandemic (slowly turning to endemic, maybe, in some places) both continue, I have no answer to that question.

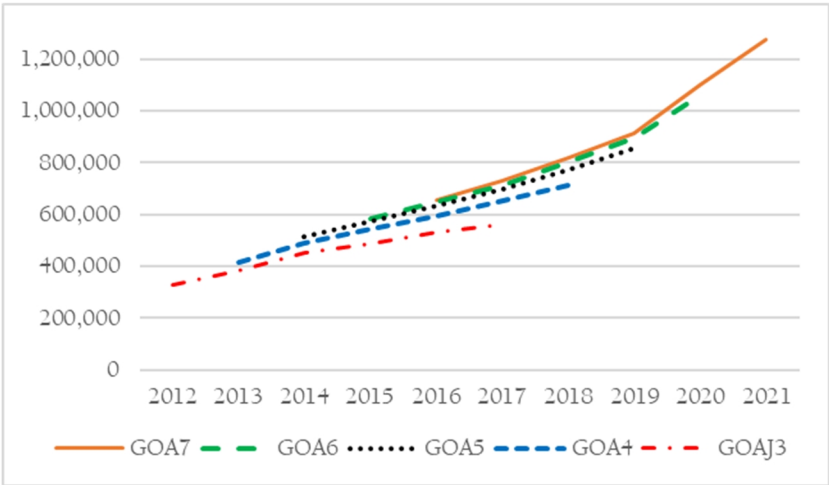
Note that the journal graph shows *active* journals for each year—that is, journals publishing at least one article in that year.



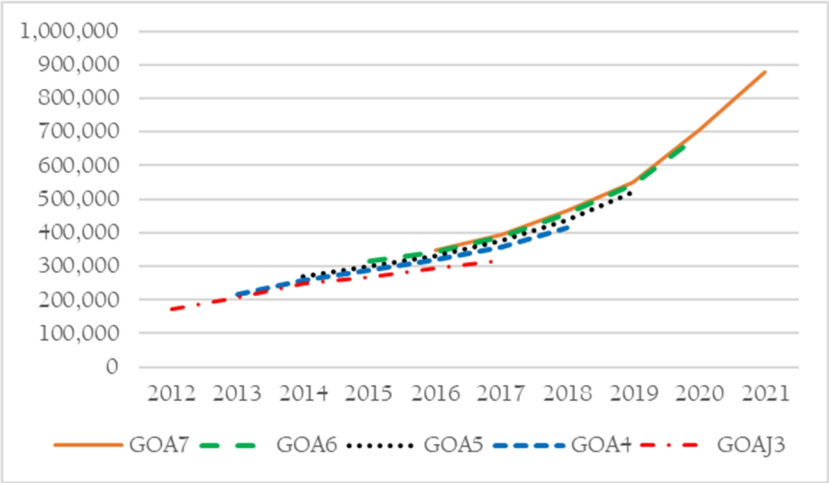
Active Journals, 2012-2021



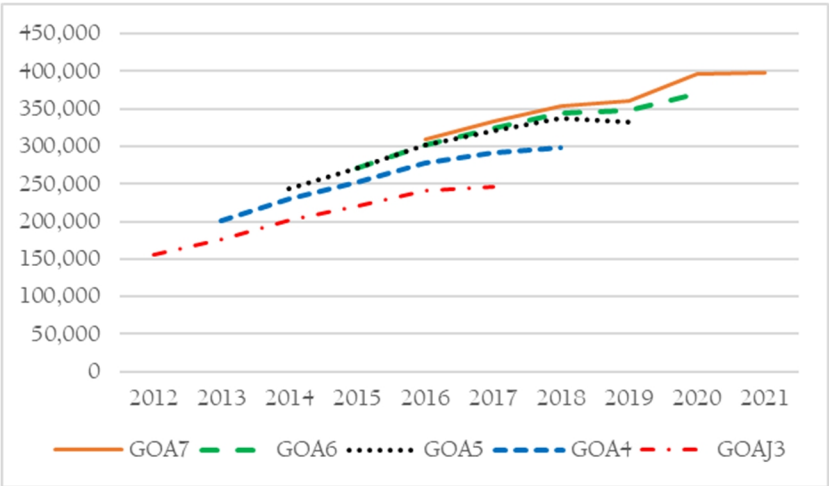
Articles, 2012-2021



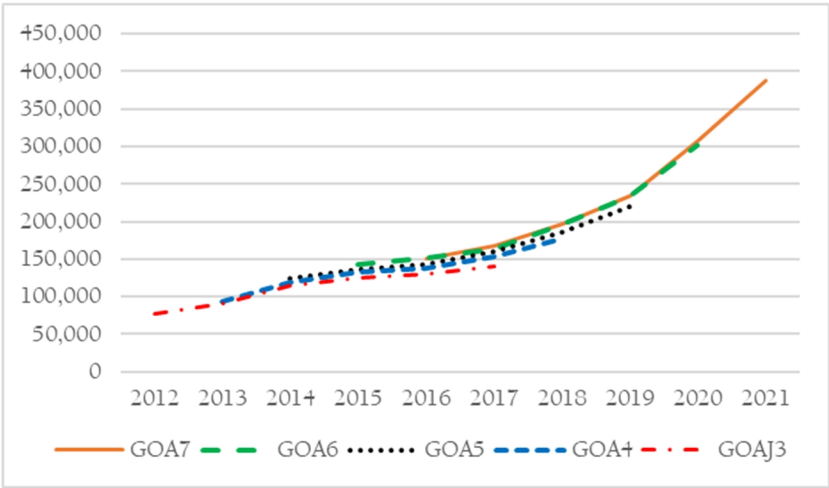
Fee Articles, 2012-2021



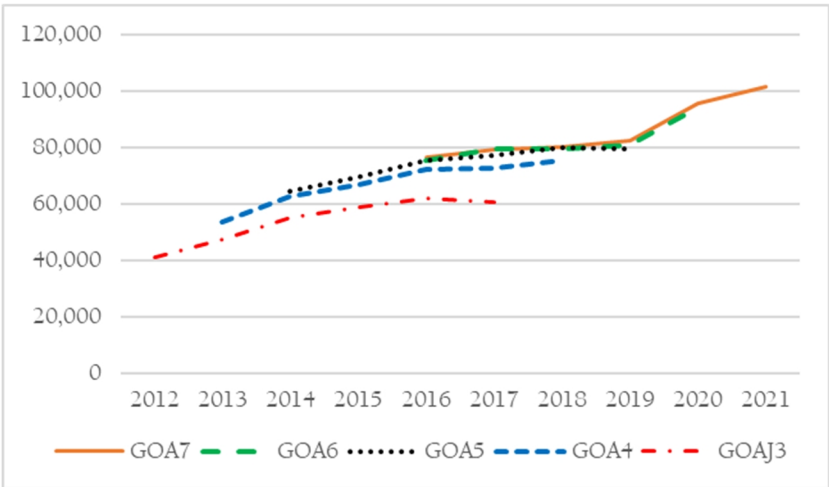
No-Fee Articles, 2012-2021



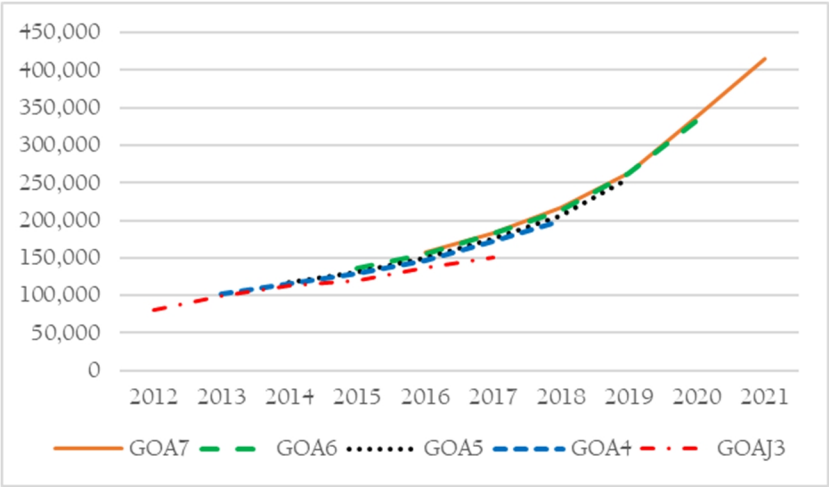
Fee Articles, Biomed, 2012-2021



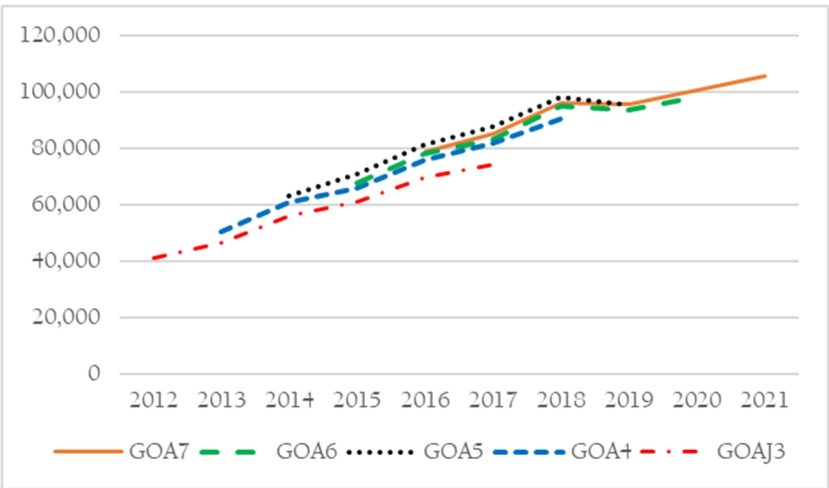
No-Fee Articles, Biomed, 2012-2021



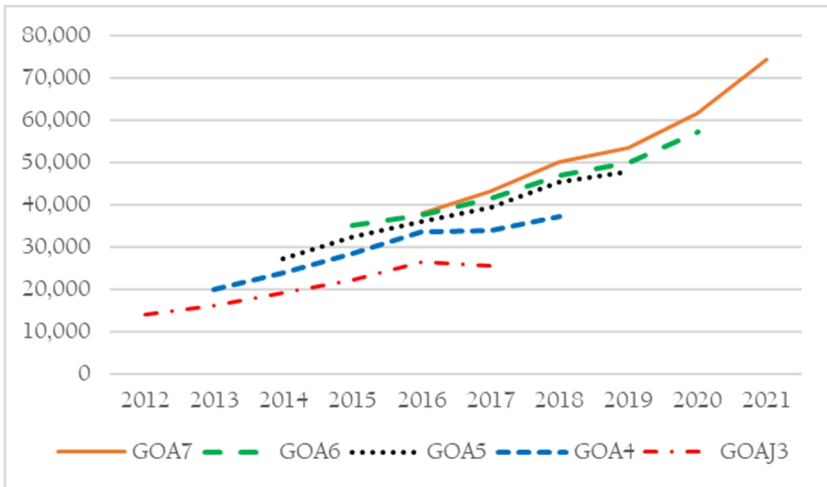
Fee Articles, STEM, 2012-2021



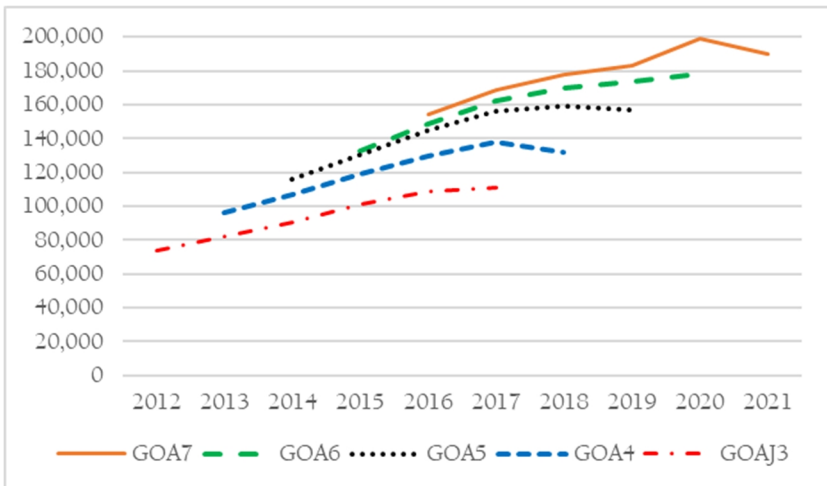
No-Fee Articles, STEM, 2012-2021



### Fee Articles, H&SS, 2012-2021



### No-Fee Articles, H&SS, 2012-2021



# 5. Journals by Article Volume

Journals, no matter how they’re funded, vary widely in number of articles per year. “Average articles per journal” is almost meaningless as an overall figure, becoming only slightly more meaningful as you narrow the frame of reference.

This chapter looks at journals by article volume, generally using the *peak* of the period 2016-2021. It should help clarify what’s out there and how pay-versus-free varies by article volume.

*Gold Open Access Journals 2011-2015* discussed various ways to determine appropriate groups of journals by volume. There’s no “best” way, so for the sake of consistency this chapter (and the rest of the book) uses the same five-part breakdown as previous years: Largest (600 or more articles in peak year); Large (150 to 599 articles); Medium (60 to 149 articles); Small (20 to 59 articles); Smallest (1 to 19 articles). It also uses the same detailed breakdown as in the last three years.

## Article Volume, Overall

	Journals	Articles	%No-fee	\$/article
Largest: 600+	297	558,060	7%	\$2,202
Large: 150-599	1,140	237,697	21%	\$1,399
Med.: 60-149	3,313	221,800	53%	\$599
Small: 20-59	8,862	228,355	73%	\$235
Smallest: 0-19	3,008	29,300	79%	\$157

The larger the journal, the higher the article fees are likely to be, and the lower the percentage of no-fee articles.

The next table breaks down peak volume more narrowly. In each row, the peak number is the *lower* limit: thus, the two journals in the first row had *at least* 20,000 articles in their peak year (not always 2021). “Act. 21” is the number of journals publishing articles in 2021.

## Article Volume, Detailed

Peak	Journals	Act. 21	Articles	%No-fee	\$/article
20,000	2	2	43,418	0.0%	\$1,885.18
2,000	77	72	312,267	6.5%	\$2,413.59
1,000	104	103	128,157	10.0%	\$2,046.15
800	44	44	34,792	11.2%	\$1,712.39
600	70	70	39,426	9.6%	\$1,818.31
400	156	155	61,043	9.2%	\$1,680.84
300	170	169	46,467	19.1%	\$1,448.57
200	395	384	74,875	25.1%	\$1,346.49
150	419	412	55,312	29.9%	\$1,116.63
125	391	384	39,845	44.2%	\$804.46
100	587	571	49,303	45.5%	\$770.93
80	860	830	57,659	53.6%	\$561.82
60	1,475	1,430	74,993	61.5%	\$404.47
50	1,147	1,114	46,214	70.0%	\$283.18
40	1,847	1,770	61,259	70.1%	\$284.45
30	2,479	2,363	61,759	75.1%	\$205.40
20	3,389	3,155	59,123	76.2%	\$176.60
15	1,592	1,444	19,136	78.2%	\$156.02
10	1,068	917	8,809	79.9%	\$139.29
5	328	237	1,324	76.4%	\$267.05
1	20	12	31	22.6%	\$1,069.34

The general rule—larger journals have higher fees and are more likely to have fees—is generally true except at extremes (I doubt that any journals are designed to have fewer than five articles per year). This may be a good place to remind readers that \$/article *includes* no-fee articles unless fee and no-fee are specifically broken out.

There do seem to be a lot of journals, mostly academic, that appear designed to have 20 articles per year. That was the most popular article count in 2021 (476 journals), with no other article count showing more than 417 journals.

### Profiles by Volume

The remainder of this chapter consists of brief profiles of each of the five volume categories. As always, Key Facts compares the smaller group to the overall universe.

#### Key Facts, Largest Journals (600+ Peak Articles)

	Journals	Articles	Art%	Rel%	\$/Art	Rel%
All	297	558,060			\$2,202	60%
Fee	266	517,168	93%	35%	\$2,376	19%
No-fee	31	40,892	7%	-76%		
Biomed	153	218,868	39%	2%	\$2,459	38%
Fee	143	208,811	95%	20%	\$2,578	15%
No-fee	10	10,057	5%	-78%		
STEM	119	315,459	57%	38%	\$2,099	33%
Fee	105	289,825	92%	15%	\$2,284	16%
No-fee	14	25,634	8%	-60%		
H&SS	25	23,733	4%	-79%	\$1,211	456%
Fee	18	18,532	78%	178%	\$1,551	100%
No-fee	7	5,201	22%	-70%		

#### Articles and Journals by Year, Largest

	2021	2020	2019	2018	2017	2016
Journals	296	293	285	281	272	261
%No-fee	10%	11%	10%	10%	10%	10%
Articles	558,060	431,547	322,548	263,135	207,836	174,399
%No-fee	7%	8%	9%	13%	12%	12%
Change	29%	34%	23%	27%	19%	

Key Facts shows *all* journals in a subset while some other tables show *active* journals. This segment is growing rapidly, with 48 more journals and more than 150,000 more articles than in GOA6, \$152 higher average article fee, and even fewer no-fee articles. Biomed continues to have the most journals and highest fees, STEM by far the most articles. Note the very large year-to-year growth.



**Key Facts, Large Journals (150-599 Peak Articles)**

	Journals	Articles	Art%	Rel%	\$/Art	Rel%
All	1,140	237,697			\$1,399	2%
Fee	824	187,898	79%	15%	\$1,770	-11%
No-fee	316	49,799	21%	-33%		
Biomed	598	129,811	55%	42%	\$1,745	-2%
Fee	457	107,068	82%	4%	\$2,115	-6%
No-fee	141	22,743	18%	-16%		
STEM	364	77,595	33%	-20%	\$1,197	-24%
Fee	274	62,386	80%	1%	\$1,488	-25%
No-fee	90	15,209	20%	-4%		
H&SS	178	30,291	13%	-39%	\$435	100%
Fee	93	18,444	61%	117%	\$715	-8%
No-fee	85	11,847	39%	-46%		

**Articles and Journals by Year, Large**

	2021	2020	2019	2018	2017	2016
Journals	1,120	1,092	1,048	1,007	976	925
%No-fee	28%	28%	29%	29%	29%	30%
Articles	237,697	206,140	166,825	152,082	140,260	131,197
%No-fee	21%	23%	24%	26%	28%	30%
Change	15%	24%	10%	8%	7%	

Fee journals still dominate all subject categories, but fees are much lower (and average \$71 per article higher than last year). Heavy on biomed, relatively light in STEM, very light in H&SS. As with the largest category, there just aren't many large journals in the humanities and social sciences. Smaller year-to-year growth, but still substantial.

**Key Facts, Medium-sized Journals (60-149 Peak Articles)**

	Journals	Articles	Art%	Rel%	\$/Art	Rel%
All	3,313	221,800			\$599	-56%
Fee	1,422	104,735	47%	-31%	\$1,268	-37%
No-fee	1,891	117,065	53%	69%		
Biomed	1,166	87,509	39%	3%	\$908	-49%
Fee	621	49,103	56%	-29%	\$1,618	-28%
No-fee	545	38,406	44%	112%		
STEM	968	64,513	29%	-29%	\$688	-56%
Fee	540	38,628	60%	-25%	\$1,149	-42%
No-fee	428	25,885	40%	97%		
H&SS	1,179	69,778	31%	52%	\$129	-41%
Fee	261	17,004	24%	-13%	\$528	-32%
No-fee	918	52,774	76%	5%		

**Articles and Journals by Year, Medium-sized**

	2021	2020	2019	2018	2017	2016
Journals	3,215	3,205	3,125	3,014	2,903	2,746
%No-fee	57%	58%	59%	60%	60%	61%
Articles	221,800	209,694	186,230	179,268	166,840	155,226
%No-fee	53%	56%	58%	59%	61%	61%
Change	6%	13%	4%	7%	7%	

At this level, a majority of articles and journals are no-fee, although the percentages keep declining. Year-to-year growth dropped in 2021 (2020 increased with the addition of more journals). Relatively low average article costs across the board. Rich in H&SS, lean in STEM.

**Key Facts, Small Journals (20 to 59 Peak Articles)**

	Journals	Articles	Art%	Rel%	\$/Art	Rel%
All	8,862	228,355			\$235	-83%
Fee	2,217	61,647	27%	-61%	\$870	-56%
No-fee	6,645	166,708	73%	134%		
Biomed	1,718	49,796	22%	-43%	\$549	-69%
Fee	746	21,387	43%	-46%	\$1,278	-43%
No-fee	972	28,409	57%	175%		
STEM	2,163	57,125	25%	-39%	\$364	-77%
Fee	799	22,739	40%	-50%	\$914	-54%
No-fee	1,364	34,386	60%	196%		
H&SS	4,981	121,434	53%	157%	\$46	-79%
Fee	672	17,521	14%	-49%	\$316	-59%
No-fee	4,309	103,913	86%	19%		

**Articles and Journals by Year, Small**

	2021	2020	2019	2018	2017	2016
Journals	8,402	8,481	8,258	7,923	7,535	6,961
%No-fee	75%	76%	77%	78%	78%	79%
Articles	228,355	226,469	207,449	197,572	188,233	171,802
%No-fee	73%	76%	77%	77%	78%	79%
Change	1%	9%	5%	5%	10%	

Most journals are small journals, and no-fee journals and articles dominate: even in biomed, a slight majority of articles have no fees. Average H&SS fee is down to two digits (because only one out of seven articles have a fee). Very lean in biomed and STEM, very rich in H&SS: indeed, most of this segment is H&SS. Barely growing article count.

**Key Facts, Smallest Journals (Fewer than 20 Peak Articles)**

	Journals	Articles	Art%	Rel%	\$/Art	Rel%
All	3,008	29,300			\$157	-89%
Fee	618	6,277	21%	-69%	\$733	-63%
No-fee	2,390	23,023	79%	152%		
Biomed	377	3,559	12%	-68%	\$554	-69%
Fee	184	1,670	47%	-41%	\$1,180	-48%
No-fee	193	1,889	53%	156%		
STEM	710	6,796	23%	-43%	\$254	-84%
Fee	191	1,932	28%	-64%	\$892	-55%
No-fee	519	4,864	72%	252%		
H&SS	1,921	18,945	65%	212%	\$48	-78%
Fee	243	2,675	14%	-50%	\$339	-56%
No-fee	1,678	16,270	86%	19%		

**Articles and Journals by Year, Smallest**

	2021	2020	2019	2018	2017	2016
Journals	2,610	2,699	2,641	2,500	2,323	2,101
%No-fee	79%	81%	81%	82%	83%	83%
Articles	29,300	30,329	28,149	27,150	25,216	23,152
%No-fee	79%	82%	82%	82%	83%	83%
Change	-3%	8%	4%	8%	9%	

Similar fees and no-fee percentages to small journals, but even more dominated by H&SS, nearly two-thirds of the category. Slightly fewer articles than in 2020, but these small journals seem most likely to have very late issue dates.

# 6. Fees, Maximum Revenue, and The Big Eleven

It takes money to publish even the smallest journal. For small open access journals run out of a university library or department the costs may be so small as to not be worth tracking. This book doesn't say "here's what an article *should* cost" but does offer data on the maximum amount that journals are (or may be) getting from fees.

A few large publishers—some traditional, some OA-based, some university-based—account for most revenue. The latter half of this chapter compares the Big Eleven (these publishers and publishing groups) and the long tail (everybody else). The separate country book focuses almost entirely on the long tail.

## Fee Level, Overall

	Jour.	%Fee	%All	Articles	%Fee	%All
\$2,000+	1,162	22%	7%	491,172	56%	39%
\$1,000-\$1,999	1,320	25%	8%	226,174	26%	18%
\$500-999	645	12%	4%	49,627	6%	4%
\$0.01-\$499	2,220	42%	13%	110,752	13%	9%
No fee	11,273		68%	397,487		31%

The two "%Fee" columns show the level's percentage of all fee journals or articles. While just over one-fifth of the fee journals charge \$2,000 or more, a majority of all fee articles are in the most expensive group.

## Revenue Ranges

The next table, including only journals with fees, shows journal and article numbers in a large range of revenue-per-journal segments, Revenue brackets are the same as in the last two years.

Revenue	Journals	Cum J	Articles	Art/J
\$10 to \$48.8 million	25	17	214,872	8,595
\$4 to \$9.99 million	56	81	134,693	2,405
\$2 to \$3.98 million	81	162	96,814	1,195
\$1 to \$1.99 million	122	284	72,039	590
\$750,000 to \$998,280	77	361	27,975	363
\$500,000 to \$748,600	139	500	40,908	294
\$400,000 to \$499,870	100	600	23,708	237
\$300,000 to \$399,000	146	746	27,725	190
\$250,000 to \$297,000	96	842	15,743	164
\$200,000 to \$249,400	141	983	19,712	140
\$150,000 to \$199,870	208	1,191	22,083	106
\$100,000 to \$149,500	311	1,502	29,145	94
\$75,000 to \$99,960	236	1,738	19,737	84
\$50,000 to \$74,855	332	2,070	18,587	56
\$40,000 to \$49,819	201	2,271	9,960	50
\$30,000 to \$39,976	250	2,521	13,596	54
\$25,000 to \$29,957	140	2,661	6,985	50
\$20,000 to \$24,857	175	2,836	7,629	44
\$15,000 to \$19,950	200	3,036	9,411	47
\$10,000 to \$14,994	239	3,275	9,803	41
\$7,500 to \$9,998	179	3,454	7,517	42
\$5,000 to \$7,499	229	3,683	8,328	36
\$2,500 to \$4,999	399	4,082	15,455	39
\$1,000 to \$2,486	549	4,631	15,341	28
\$0.14 to \$995	528	5,159	9,959	19
\$0 (fee but no 2020 articles)	188	5,347		

Last year, 17 journals had at least \$10 million in potential revenue. This year, that's gone up to 25.

### Detailed Fee Breakdown

Fees per article range from just over a cent (probably exchange rate problems) to \$6,000—which continues to be an astonishing figure, if less astonishing than some fees at “hybrid” journals. The number of

journals charging \$4,000 or more has gone from 38 to 52, but a bigger change is in the \$2,500-\$2,999 range, where the number of articles has more than doubled.

Fee	Journals	Cum J	Articles	Art/J
\$4,000-\$6,000	52		20,546	395
\$3,000-\$3,990	146	198	43,420	297
\$2,500-\$2,990	351	549	240,286	685
\$2,250-\$2,499	305	854	103,318	339
\$2,000-\$2,248	308	1,162	83,602	271
\$1,750-\$1,999	346	1,508	106,147	307
\$1,500-\$1,749	348	1,856	54,750	157
\$1,250-\$1,499	253	2,109	28,193	111
\$1,000-\$1,249	373	2,482	37,084	99
\$750-\$999	330	2,812	20,929	63
\$600-\$749	175	2,987	15,384	88
\$400-\$599	264	3,251	22,345	85
\$300-\$399	181	3,432	14,470	80
\$200-\$298	246	3,678	17,352	71
\$100-\$199	500	4,178	22,856	46
\$0.014-\$97	1,169	5,347	47,043	40

The remainder of this chapter (and the rest of the project) uses the same new set of fee brackets as in the first table in this chapter.

### **Journals by Segment and Fee Level**

Fee Level	Biomed	STEM	H&SS
\$2,000+	826	297	39
\$1,000-\$1.999	534	636	150
\$500-\$999	285	243	117
\$0.01-\$499	506	732	982
No fee	1,861	2,413	6,999

Biomed dominates the most expensive category. Very few H&SS journals have more than nominal fees.

**Growth and Shrinkage, \$2,000+**

Change 2020-2021	Count	Percent	Cum%
Grew 25%+	467	44.6%	
Even, $\pm 24.99\%$	474	45.3%	89.9%
Shrank 25%+	106	10.1%	
Total	1,047		

This and the next four tables include only those journals with articles in both 2020 and 2021. Very few expensive journals are shrinking; nearly half are growing at a healthy pace.

**Growth and Shrinkage, \$1,000-\$1,999**

Change 2020-2021	Count	Percent	Cum%
Grew 25%+	439	39.3%	
Even, $\pm 24.99\%$	468	41.9%	81.2%
Shrank 25%+	210	18.8%	
Total	1,117		

**Growth and Shrinkage, \$500-\$999**

Change 2020-2021	Count	Percent	Cum%
Grew 25%+	168	28.0%	
Even, $\pm 24.99\%$	293	48.8%	76.7%
Shrank 25%+	140	23.3%	
Total	601		

**Growth and Shrinkage, \$0.01-\$499**

Change 2020-2021	Count	Percent	Cum%
Grew 25%+	460	21.9%	
Even, $\pm 24.99\%$	1,246	59.4%	81.3%
Shrank 25%+	392	18.7%	
Total	2,098		



**Growth and Shrinkage. No-Fee**

<b>Change 2020-2021</b>	<b>Count</b>	<b>Percent</b>	<b>Cum%</b>
Grew 25%+	2,326	22.5%	
Even, $\pm 24.99\%$	5,772	55.9%	78.4%
Shrank 25%+	2,234	21.6%	
Total	10,332		

**The Big Eleven and The Long Tail**

A few publishers dominate OA revenue. The Big Eleven publish 17% of the serious OA journals and 55% of 2021 articles in those journals—and account for 89% of potential revenue. The rest of this chapter uses the book's standard tables and graphs to compare the Big Eleven to the Long Tail, the rest of the journals.

Note that Holtzbrinck includes Aldi, Atlantis, BMC, Frontiers, Springer and Nature; Elsevier includes KeAi; Wiley includes BioOne and Hindawi; and Taylor & Francis includes Dove and MedPharm.

**The Big Eleven**

<b>Name</b>	<b>Articles</b>	<b>Revenue</b>	<b>\$/art</b>
MDPI	234,029	\$540,834,870	\$2,310.97
Holtzbrinck	195,759	\$502,737,264	\$2,568.14
Elsevier	89,011	\$144,176,092	\$1,619.76
Wiley	62,713	\$140,347,401	\$2,237.93
PLOS	23,318	\$46,275,626	\$1,984.55
Wolters Kluwer	23,233	\$18,288,884	\$787.19
Taylor & Francis	22,758	\$50,536,111	\$2,220.59
Oxford	17,857	\$44,874,217	\$2,512.98
IEEE	15,168	\$25,696,450	\$1,694.12
SAGE	14,025	\$24,476,650	\$1,745.22
BMJ	7,851	\$23,231,625	\$2,959.07
TOTAL	705,722	\$1,561,475,190	\$2,212.59

Sorted by number of 2021 articles. MDPI passed Holtzbrinck in both article volume and potential revenue in 2021.

**Key Facts, The Big Eleven**

	<b>Journals</b>	<b>Articles</b>	<b>Art%</b>	<b>Rel%</b>	<b>\$/Art</b>	<b>Rel%</b>
All	2,906	705,722			\$2,213	61%
Fee	2,384	666,958	95%	37%	\$2,341	17%
No-fee	522	38,764	5%	-82%		
Biomed	1,668	333,699	47%	23%	\$2,328	30%
Fee	1,358	311,469	93%	18%	\$2,494	11%
No-fee	310	22,230	7%	-68%		
STEM	988	343,484	49%	19%	\$2,151	36%
Fee	854	330,426	96%	21%	\$2,236	13%
No-fee	134	13,058	4%	-81%		
H&SS	250	28,539	4%	-80%	\$1,609	639%
Fee	172	25,063	88%	213%	\$1,832	137%
No-fee	78	3,476	12%	-83%		

Little H&S activity. Very high fees across the board. Almost no no-fee.

**Key Facts, The Long Tail**

	<b>Journals</b>	<b>Articles</b>	<b>Art%</b>	<b>Rel%</b>	<b>\$/Art</b>	<b>Rel%</b>
All	13,714	569,490			\$336	-76%
Fee	2,963	210,767	37%	-46%	\$907	-55%
No-fee	10,751	358,723	63%	102%		
Biomed	2,344	155,844	27%	-29%	\$620	-65%
Fee	793	76,570	49%	-38%	\$1,261	-44%
No-fee	1,551	79,274	51%	145%		
STEM	3,334	177,874	31%	-24%	\$466	-70%
Fee	1,053	84,954	48%	-40%	\$975	-51%
No-fee	2,281	92,920	52%	157%		
H&SS	8,036	235,772	41%	100%	\$49	-77%
Fee	1,117	49,243	21%	-26%	\$236	-69%
No-fee	6,919	186,529	79%	10%		

Mostly no-fee, even for biomed and STEM. Relatively low fees.

**Articles and Journals by Year, The Big Eleven**

	2021	2020	2019	2018	2017	2016
Journals	2,821	2,574	2,366	2,153	2,034	1,876
%No-fee	18%	19%	20%	20%	16%	16%
Articles	705,722	541,684	400,796	323,794	264,405	236,257
%No-fee	5%	7%	8%	9%	35%	35%
Change	30%	35%	24%	22%	12%	

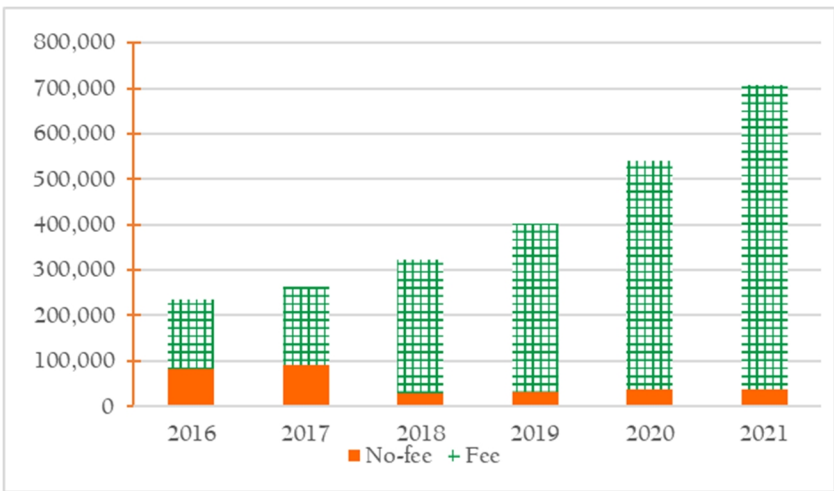
Rapid growth, but slowing slightly in 2021.

**Articles and Journals by Year, The Long Tail**

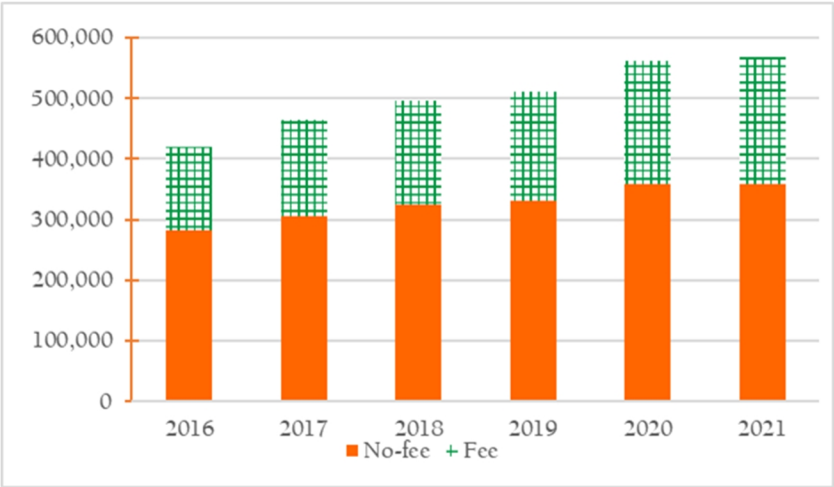
	2021	2020	2019	2018	2017	2016
Journals	12,822	13,196	12,991	12,572	11,975	11,118
%No-fee	78%	78%	78%	79%	79%	80%
Articles	569,490	562,495	510,405	495,413	463,980	419,519
%No-fee	63%	64%	65%	66%	66%	68%
Change	1%	10%	3%	7%	11%	

Almost no growth in 2021.

**Fee and No-Fee Articles by Year, The Big Eleven**



Fee and No-Fee Articles by Year, The Long Tail



The two graphs speak eloquently for themselves,

Article Volume, The Big Eleven

	Journals	Articles	%No-fee	\$/article
Largest: 600+	223	469,165	2%	\$2,425
Large: 150-599	570	136,649	8%	\$2,015
Med.: 60-149	814	65,564	20%	\$1,586
Small: 20-59	1,055	31,960	25%	\$1,284
Smallest: 0-19	244	2,384	9%	\$1,370

Two-thirds of articles are in the biggest and most expensive journals, which are less than 8% of the journals.

Article Volume, The Long Tail

	Journals	Articles	%No-fee	\$/article
Largest: 600+	74	88,895	38%	\$1,026
Large: 150-599	570	101,048	39%	\$565
Med.: 60-149	2,499	156,236	67%	\$184
Small: 20-59	7,807	196,395	81%	\$64
Smallest: 0-19	2,764	26,916	85%	\$50

The largest are still most expensive, but only 16% of articles (and 0.6% of journals), and the average fee is actually less than in 2020.

Fee Level, The Big Eleven

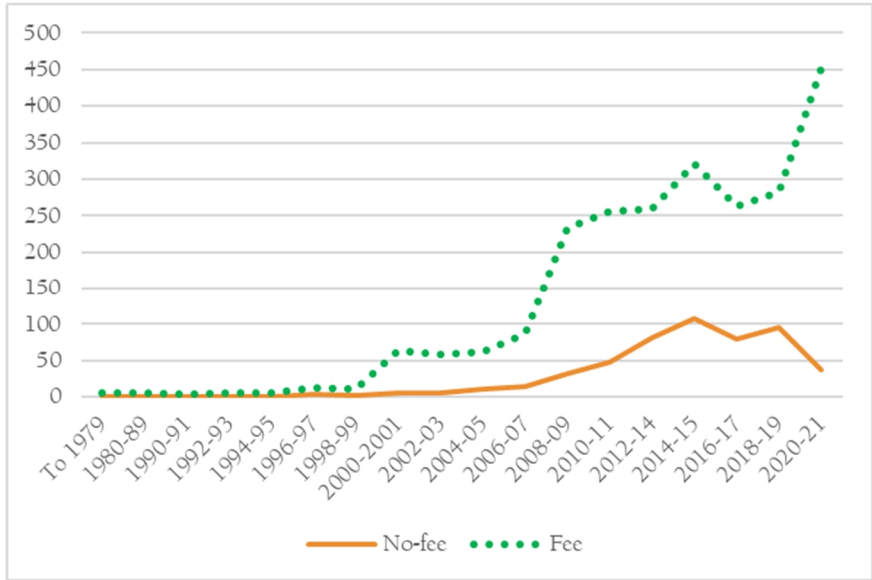
	Jour.	%Fee	%All	Art.	%Fee	%All
\$2,000+	1,033	43%	36%	456,196	68%	65%
\$1,000-\$1.999	1,012	42%	35%	183,374	27%	26%
\$500-\$999	280	12%	10%	22,533	3%	3%
\$0.20-\$499	59	2%	2%	4,855	1%	1%
No fee	522		18%	38,764		5%

While there are roughly as many expensive and very expensive journals, the very expensive publish nearly 2.5 times as many articles.

Fee Level, The Long Tail

	Jour.	%Fee	%All	Articles	%Fee	%All
\$2,000+	129	4%	1%	34,976	17%	6%
\$1,000-\$1.999	308	10%	2%	42,800	20%	8%
\$500-\$999	365	12%	3%	27,094	13%	5%
\$0.20-\$499	2,161	73%	16%	105,897	50%	19%
No fee	10,751		78%	358,723		63%

Starting Date, The Big Eleven



Starting Date, The Long Tail



Fees and Revenue, The Big Eleven

	Articles	Revenue	\$/article
\$2,000+	456,196	\$1,232,017,268	\$2,701
\$1,000-\$1.999	183,374	\$311,554,686	\$1,699
\$500-\$999	22,533	\$16,701,999	\$741
\$0.20-\$499	4,855	\$1,201,237	\$247
No fee	38,764		
Total	705,722	\$1,561,475,190	\$2,213

Fees and Revenue, The Long Tail

	Articles	Revenue	\$/article
\$2,000+	34,976	\$97,784,882	\$2,796
\$1,000-\$1.999	42,800	\$57,606,803	\$1,346
\$500-\$999	27,094	\$18,733,809	\$691
\$0.20-\$499	105,897	\$16,950,324	\$160
No fee	358,723		
Total	569,490	\$191,075,818	\$336

### Region, The Big Eleven

Region	Journals	Articles	%No-fee	\$/article
Western Europe	2,208	591,610	4%	\$2,323
Pacific/English	322	86,985	2%	\$2,023
Asia	356	23,796	64%	\$361
Middle East	17	3,208	23%	\$827
Africa	3	123	31%	\$598

This table may not be meaningful, as some publishers report the same country for all journals.

### Region, The Long Tail

Region	Journals	Articles	%No-fee	\$/article
Western Europe	2,981	140,570	66%	\$464
Latin America	3,115	121,480	88%	\$40
Eastern Europe	2,950	106,495	67%	\$116
Asia	2,263	79,879	39%	\$195
Pacific/English	954	61,230	34%	\$1,409
Middle East	1,245	52,121	62%	\$82
Africa	206	7,715	36%	\$332

### Growth and Shrinkage, The Big Eleven

Change 2020-2021	Count	Percent	Cum%
Grew 25%+	1,041	40.9%	
Even, $\pm 24.99\%$	1,129	44.4%	85.3%
Shrank 25%+	373	14.7%	
Total	2,543		

### Growth and Shrinkage, The Long Tail

Change 2020-2021	Count	Percent	Cum%
Grew 25%+	2,819	22.3%	
Even, $\pm 24.99\%$	7,124	56.3%	78.6%
Shrank 25%+	2,709	21.4%	
Total	12,652		

**Subjects, The Big Eleven**

<b>Subject</b>	<b>Jour.</b>	<b>Articles</b>	<b>%No-fee</b>	<b>\$/article</b>
Medicine	1,457	269,653	8%	\$2,265
Other Sciences	34	73,711	0%	\$2,370
Biology	211	64,046	1%	\$2,592
Chemistry	97	53,272	1%	\$2,378
Ecology	167	52,489	2%	\$2,262
Engineering	117	40,694	3%	\$1,944
Physics	94	33,698	18%	\$1,756
Agriculture	74	22,979	3%	\$2,195
Earth Sciences	98	22,065	8%	\$2,075
Computer Science	141	14,202	4%	\$1,674
Zoology	59	11,611	2%	\$1,993
Mathematics	45	11,111	1%	\$1,962
Psychology	23	8,018	3%	\$2,657
Technology	64	7,782	5%	\$2,005
Anthropology	30	3,512	4%	\$1,375
Economics	47	3,160	27%	\$1,072
Education	23	2,618	31%	\$887
Miscellany	14	2,346	16%	\$1,064
Sociology	29	2,254	13%	\$1,417
Political Science	24	1,448	33%	\$828
Arts & Architecture	14	1,310	9%	\$1,493
Religion	2	1,144	0%	\$1,313
Media & Communications	12	1,036	4%	\$1,461
Law	12	641	12%	\$1,131
Philosophy	11	487	16%	\$1,392
Language & Literature	5	292	0%	\$1,450
Library Science	2	143	0%	\$1,182

More than a quarter-million medicine articles—and no History journals at all. Other Sciences includes most megajournals. As with most demographic tables, sorted by number of articles.



## Subjects, The Long Tail

Subject	Journ.	Articles	%No-fee	\$/article
Medicine	2,101	137,776	54%	\$549
Education	996	38,609	76%	\$38
Ecology	384	31,158	67%	\$299
Language & Literature	1,100	29,423	80%	\$39
Economics	951	25,788	64%	\$80
Agriculture	520	21,982	48%	\$234
Anthropology	707	20,730	71%	\$78
Engineering	428	18,531	56%	\$257
Sociology	605	18,146	83%	\$42
Biology	243	18,068	28%	\$1,158
Chemistry	144	17,739	33%	\$691
Physics	144	16,685	39%	\$1,215
Earth Sciences	461	16,599	61%	\$372
History	531	14,116	94%	\$11
Law	521	13,912	89%	\$19
Computer Science	333	13,045	59%	\$210
Political Science	511	13,043	87%	\$32
Other Sciences	195	12,666	36%	\$1,200
Arts & Architecture	442	11,971	81%	\$72
Miscellany	242	11,451	78%	\$61
Zoology	275	11,426	38%	\$270
Mathematics	289	9,638	71%	\$210
Media & Communications	340	8,945	91%	\$26
Religion	347	8,756	68%	\$94
Technology	161	8,405	67%	\$225
Philosophy	303	8,080	92%	\$24
Psychology	267	7,523	70%	\$113
Library Science	173	5,279	95%	\$18

**Country of Publication, The Big Eleven (complete)**

<b>Country</b>	<b>Journals</b>	<b>Articles</b>	<b>%no-fee</b>	<b>\$/article</b>
Switzerland	421	320,336	0%	\$2,426
United Kingdom	1,414	221,261	3%	\$2,395
United States	290	84,373	1%	\$2,013
Netherlands	270	33,522	15%	\$1,440
India	227	15,304	66%	\$200
Germany	54	8,592	61%	\$1,239
China	99	5,648	63%	\$674
Spain	31	4,899	61%	\$544
Australia	31	2,568	10%	\$2,373
Saudi Arabia	9	2,042	26%	\$924
France	12	1,768	0%	\$2,481
Egypt	8	1,166	18%	\$657
Hong Kong	5	858	21%	\$900
South Korea	10	831	89%	\$151
Italy	2	761	57%	\$752
Taiwan	6	671	62%	\$394
Ireland	2	308	0%	\$1,718
Japan	3	247	0%	\$2,030
Singapore	6	237	88%	\$221
South Africa	3	123	31%	\$598
Greece	1	115	100%	\$0
Sweden	1	48	0%	\$2,200
New Zealand	1	44	100%	\$0

**Country of Publication, The Long Tail (partial)**

<b>Country</b>	<b>Jour.</b>	<b>Articles</b>	<b>%no-fee</b>	<b>\$/article</b>
Brazil	1,574	76,854	83%	\$57
United States	663	49,289	29%	\$1,533
United Kingdom	442	37,686	34%	\$1,190
Indonesia	1,560	37,280	38%	\$54
Russia	501	26,736	85%	\$29
France	257	25,169	97%	\$26
Iran	654	24,586	61%	\$84
Poland	738	23,450	61%	\$240
Spain	843	23,217	91%	\$38
Turkey	429	18,885	79%	\$61
Germany	259	17,348	45%	\$519
Italy	458	16,173	69%	\$237
Ukraine	362	14,533	43%	\$38
Romania	355	11,001	65%	\$60
Colombia	405	10,369	99%	\$2
China	68	8,535	26%	\$457
South Korea	135	8,427	39%	\$333
Argentina	326	7,784	97%	\$6
India	92	7,491	31%	\$314
Canada	195	7,206	59%	\$856
Cuba	115	7,059	100%	\$0
Serbia	202	6,068	74%	\$66
Mexico	183	5,412	92%	\$16
Australia	80	4,426	49%	\$1,035
South Africa	111	4,373	22%	\$491
Portugal	144	4,357	82%	\$146
Iraq	66	4,349	12%	\$139
Chile	141	4,150	83%	\$53
Croatia	139	3,968	85%	\$88
Pakistan	79	3,921	32%	\$151
Switzerland	76	3,771	51%	\$742

## 7. Publisher Category

Do the characteristics of open access journals vary depending on the type of publisher? This chapter explores that question, breaking serious gold OA journals down into four categories, based on the publisher's name as it appears in *DOAJ* and on known ownership patterns. The categories are:

- **Open access publishers:** Publishers that don't appear to publish subscription journals (and aren't owned by companies or groups that do) but do publish one or more OA journals. Journals that don't clearly fit in another category are included here.
- **University, college or institute:** A university press falls into this category even if it seems to function as a traditional publisher.
- **Traditional publishers:** Companies and groups that publish subscription journals as well as OA journals.
- **Societies, associations and government agencies:** There aren't many government-published OA journals, not enough to create a separate category.

### Publisher Category, Overall

Category	Journals	Articles	%No-fee	\$/article
Traditional	2,938	438,785	14%	\$2,063
Open Access	2,188	372,641	13%	\$1,781
Univ./college	9,856	344,440	69%	\$250
Society/govt	1,638	119,346	42%	\$819

The huge differences among categories are obvious from this table. The rest of the chapter discusses each category, in alphabetical order.

Key Facts, OA Publishers

	Journals	Articles	Art%	Rel%	\$/Art	Rel%
All	2,188	372,641			\$1,781	30%
Fee	977	322,933	87%	26%	\$2,055	3%
No-fee	1,211	49,708	13%	-57%		
Biomed	863	132,658	36%	-7%	\$1,641	-8%
Fee	399	105,914	80%	1%	\$2,055	-9%
No-fee	464	26,744	20%	-3%		
STEM	575	209,636	56%	38%	\$2,061	31%
Fee	367	201,436	96%	21%	\$2,145	8%
No-fee	208	8,200	4%	-81%		
H&SS	750	30,347	8%	-61%	\$454	109%
Fee	211	15,583	51%	83%	\$884	14%
No-fee	539	14,764	49%	-32%		

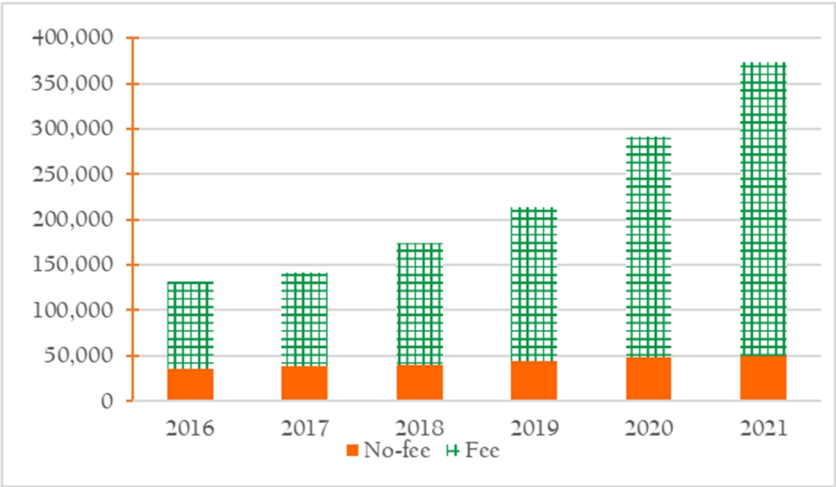
Light on H&SS and no-fee journals in general, rich in STEM.

Articles and Journals by Year, OA Publishers

	2021	2020	2019	2018	2017	2016
Journals	2,054	2,015	1,951	1,843	1,689	1,521
%No-fee	54%	57%	57%	57%	56%	56%
Articles	372,641	291,391	213,254	174,824	140,997	131,197
%No-fee	13%	17%	20%	23%	27%	27%
Change	28%	37%	22%	24%	7%	

While most journals continue to be no-fee, the predominance of fee articles continues to rise. Rapid growth almost every year.

Fee and No-Fee Articles by Year, OA Publishers



Article Volume, OA Publishers

	Journals	Articles	%No-fee	\$/article
Largest: 600+	100	262,025	2%	\$2,239
Large: 150-599	204	45,024	21%	\$1,103
Med.: 60-149	509	36,038	46%	\$508
Small: 20-59	974	26,091	59%	\$305
Smallest: 0-19	401	3,463	68%	\$234

As always, the largest journals dominate and charge by far the highest fees—and those average fees are up \$224 since last year.

Fee Level, OA Publishers

	Jour.	%Fee	%All	Articles	%Fee	%All
\$2,000+	89	9%	4%	200,615	62%	54%
\$1,000-\$1,999	366	37%	17%	90,292	28%	24%
\$500-\$999	165	17%	8%	11,123	3%	3%
\$0.20-\$499	357	37%	16%	20,903	6%	6%
No fee	1,211		55%	49,708		13%

The most expensive journals publish just over half of the articles.

Starting Date, OA Publishers



Fees and Revenue, OA Publishers

	Articles	Revenue	\$/article
\$2,000+	200,615	\$499,437,337	\$2,490
\$1,000-\$1.999	90,292	\$151,240,839	\$1,675
\$500-\$999	11,123	\$8,046,240	\$723
\$0.20-\$499	20,903	\$4,803,700	\$230
No fee	49,708		
Total	372,641	\$663,528,116	\$1,781

Region, OA Publishers

Region	Journals	Articles	%No-fee	\$/article
Western Europe	885	265,724	5%	\$2,117
Pacific/English	243	48,617	10%	\$1,788
Asia	393	28,257	50%	\$279
Eastern Europe	343	16,667	48%	\$213
Middle East	161	7,166	69%	\$84
Latin America	93	3,220	81%	\$72
Africa	70	2,990	13%	\$616

**Growth and Shrinkage, OA Publishers**

<b>Change 2020-2021</b>	<b>Count</b>	<b>Percent</b>	<b>Cum%</b>
Grew 25%+	592	30.5%	
Even, $\pm 24.99\%$	937	48.3%	78.9%
Shrank 25%+	409	21.1%	
Total	1,938		

**Country of Publication, OA Publishers, partial**

Of 84 countries, these are the 22 with at least 1,000 2021 articles.

<b>Country</b>	<b>Journals</b>	<b>Articles</b>	<b>%No-fee</b>	<b>\$/article</b>
Switzerland	324	234,696	0%	\$2,302
United States	159	41,634	7%	\$1,835
India	248	18,849	55%	\$250
United Kingdom	147	10,840	38%	\$1,153
Germany	92	7,723	31%	\$658
Russia	117	7,279	66%	\$67
Italy	102	5,913	35%	\$528
Turkey	119	5,170	68%	\$92
Canada	57	3,933	31%	\$1,517
China	28	3,403	20%	\$428
Australia	23	3,000	24%	\$1,528
South Africa	60	2,804	10%	\$654
Poland	60	2,477	42%	\$269
Bulgaria	42	2,439	16%	\$574
Spain	70	2,116	88%	\$55
Brazil	45	1,578	67%	\$97
Iran	21	1,510	75%	\$58
Ukraine	38	1,451	56%	\$49
Romania	36	1,250	37%	\$137
Uzbekistan	1	1,101	100%	\$0
Malaysia	21	1,046	20%	\$238
France	45	1,016	94%	\$25



**Key Facts, Society Publishers**

	Jour.	Articles	Art%	Rel%	\$/Art	Rel%
All	1,638	119,346			\$819	-40%
Fee	434	69,549	58%	-15%	\$1,405	-30%
No-fee	1,204	49,797	42%	34%		
Biomed	473	37,334	31%	-19%	\$566	-68%
Fee	158	18,139	49%	-39%	\$1,165	-48%
No-fee	315	19,195	51%	148%		
STEM	549	62,308	52%	28%	\$1,208	-23%
Fee	214	47,523	76%	-4%	\$1,583	-20%
No-fee	335	14,785	24%	17%		
H&SS	616	19,704	17%	-20%	\$68	-69%
Fee	62	3,887	20%	-30%	\$345	-56%
No-fee	554	15,817	80%	12%		

Higher no-fee percentage and lower fees across the board—also lean in H&SS and biomed, rich in STEM.

**Articles and Journals by Year, Society Publishers**

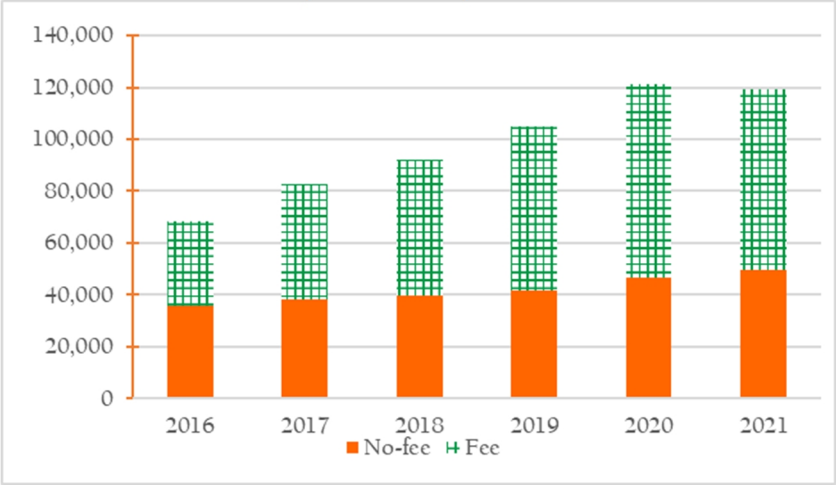
	2021	2020	2019	2018	2017	2016
Journals	1,553	1,561	1,519	1,482	1,434	1,345
%No-fee	73%	73%	74%	74%	74%	75%
Articles	119,346	121,159	104,894	91,951	82,523	68,485
%No-fee	42%	39%	40%	43%	46%	52%
Change	-1%	16%	14%	11%	20%	

A small decline in article count for the first time.

**Article Volume, Society Publishers**

	Journals	Articles	%No-fee	\$/article
Largest: 600+	24	40,890	11%	\$1,529
Large: 150-599	135	27,255	37%	\$846
Med.: 60-149	370	25,796	58%	\$350
Small: 20-59	868	23,137	78%	\$129
Smallest: 0-19	241	2,268	88%	\$62

Fee and No-Fee Articles by Year, Society Publishers



Starting Date, Society Publishers



Society journals started early and didn't have a single big peak.

### Fee Level, Society Publishers

	Journals	%Fee	%All	Articles	%Fee	%All
\$2,000+	45	10%	3%	13,499	19%	11%
\$1,000-\$1,999	82	19%	5%	32,875	47%	28%
\$500-\$999	56	13%	3%	6,725	10%	6%
\$0.20-\$499	251	58%	15%	16,450	24%	14%
No fee	1,204		74%	49,797		42%

### Fees and Revenue, Society Publishers

	Articles	Revenue	\$/article
\$2,000+	13,499	\$39,295,300	\$2,911
\$1,000-\$1,999	32,875	\$50,790,966	\$1,545
\$500-\$999	6,725	\$4,387,485	\$652
\$0.20-\$499	16,450	\$3,228,356	\$196
No fee	49,797		
Total	119,346	\$97,702,107	\$819

Essentially flat revenue and declining average fee (by \$67).

### Region, Society Publishers

Region	Journals	Articles	%No-fee	\$/article
Pacific/English	223	41,317	13%	\$1,789
Western Europe	402	26,112	56%	\$563
Latin America	326	19,654	75%	\$100
Asia	278	15,515	36%	\$322
Eastern Europe	272	10,495	64%	\$107
Middle East	108	5,183	37%	\$162
Africa	29	1,070	60%	\$148

### Growth and Shrinkage, Society Publishers

Change 2020-2021	Count	Percent	Cum%
Grew 25%+	332	21.9%	
Even, $\pm$ 24.99%	869	57.4%	79.3%
Shrank 25%+	313	20.7%	
Total	1,514		

**Country of Publication, Society Publishers (partial)**

<b>Country</b>	<b>Jour.</b>	<b>Articles</b>	<b>%no-fee</b>	<b>\$/article</b>
United States	178	39,958	11%	\$1,848
Brazil	199	15,233	70%	\$127
United Kingdom	62	14,213	37%	\$838
South Korea	96	6,382	39%	\$323
Spain	101	3,723	80%	\$122
Iran	54	2,259	45%	\$144
Russia	31	1,908	90%	\$10
Italy	40	1,702	59%	\$650
Japan	34	1,701	26%	\$693
Poland	33	1,696	38%	\$190
France	44	1,610	95%	\$16
Serbia	48	1,604	70%	\$102
China	11	1,545	25%	\$521
Indonesia	54	1,387	41%	\$50
Egypt	17	1,377	0%	\$208
Turkey	35	1,361	64%	\$154
Romania	35	1,329	54%	\$64
Argentina	45	1,285	92%	\$8
India	18	1,168	16%	\$255
Pakistan	11	1,142	14%	\$105
Cuba	19	1,129	100%	\$0
Croatia	37	1,071	87%	\$94
Canada	32	1,034	88%	\$45
Nepal	14	763	84%	\$24
Portugal	24	759	83%	\$20
Sweden	7	715	44%	\$1,070
Finland	31	657	82%	\$374
Germany	21	590	93%	\$23
Colombia	16	581	88%	\$12
Ukraine	17	515	48%	\$18

Of 86 countries, these have at least 500 articles in 2021.

### Key Facts, Traditional Publishers

	Journals	Articles	Art%	Rel%	\$/Art	Rel%
All	2,938	438,785			\$2,063	50%
Fee	2,151	379,018	86%	25%	\$2,388	20%
No-fee	787	59,767	14%	-56%		
Biomed	1,485	241,575	55%	43%	\$2,342	31%
Fee	1,240	222,398	92%	16%	\$2,544	13%
No-fee	245	19,177	8%	-62%		
STEM	1,005	168,070	38%	-6%	\$1,801	14%
Fee	743	137,215	82%	2%	\$2,206	12%
No-fee	262	30,855	18%	-10%		
H&SS	448	29,140	7%	-68%	\$1,255	478%
Fee	168	19,405	67%	137%	\$1,885	144%
No-fee	280	9,735	33%	-54%		

Very little no-fee, very high fees, very little H&SS. No surprises.

### Articles and Journals by Year, Traditional Publishers

	2021	2020	2019	2018	2017	2016
Journals	2,825	2,670	2,464	2,241	2,119	1,968
%No-fee	26%	28%	28%	29%	28%	28%
Articles	438,785	346,913	272,896	243,697	209,620	183,666
%No-fee	14%	15%	16%	20%	18%	19%
Change	26%	27%	12%	16%	14%	

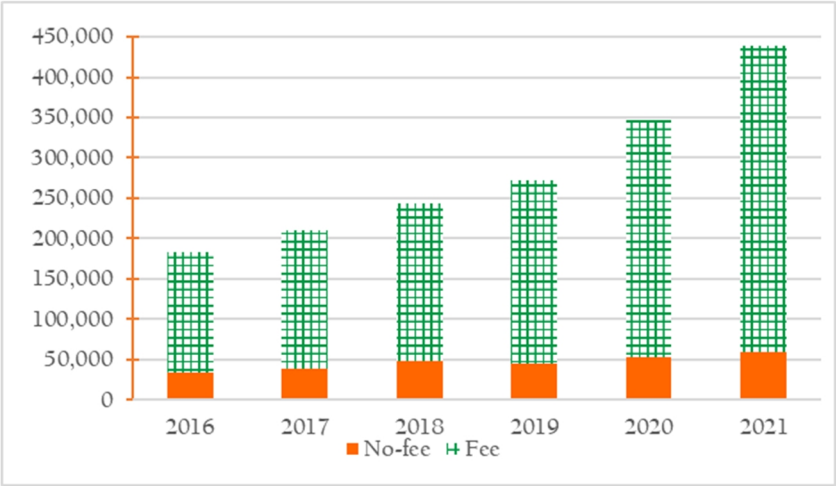
Rapid growth the past two years.

### Article Volume, Traditional Publishers

	Journals	Articles	%No-fee	\$/article
Largest: 600+	144	226,444	11%	\$2,339
Large: 150-599	491	116,022	7%	\$2,068
Med.: 60-149	762	59,934	21%	\$1,588
Small: 20-59	1,176	33,025	34%	\$1,129
Smallest: 0-19	365	3,360	41%	\$890

Largest journals account for most articles.

Fee and No-Fee Articles by Year, Traditional Publishers



Fee Level, Traditional Publishers

	Journals	%Fee	%All	Articles	%Fee	%All
\$2,000+	970	45%	33%	256,515	68%	58%
\$1,000-\$1.999	796	37%	27%	95,839	25%	22%
\$500-\$999	312	15%	11%	22,697	6%	5%
\$0.20-\$499	73	3%	2%	3,967	1%	1%
No fee	787		27%	59,767		14%

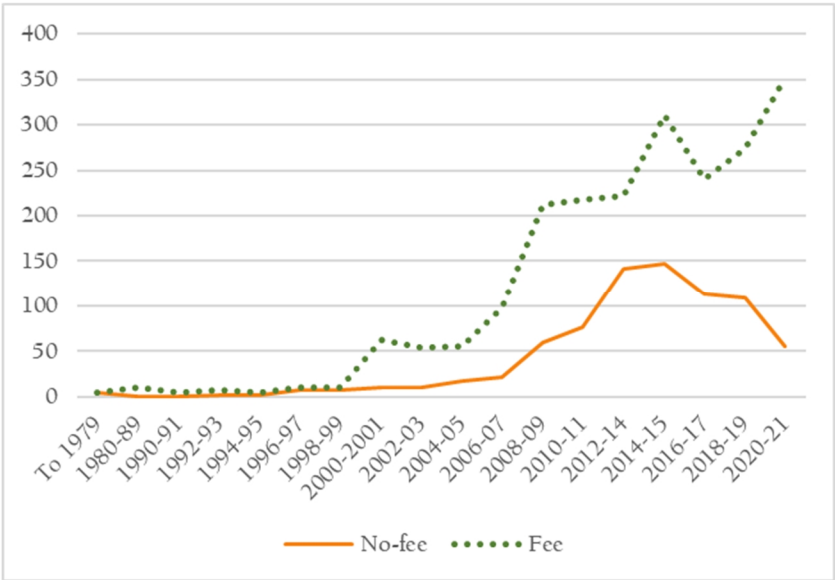
Nearly three of five articles are in the most expensive journals.

Fees and Revenue, Traditional Journals

	Articles	Revenue	\$/article
\$2,000+	256,515	\$730,787,306	\$2,849
\$1,000-\$1.999	95,839	\$156,630,290	\$1,634
\$500-\$999	22,697	\$16,878,761	\$744
\$0.20-\$499	3,967	\$891,499	\$225
No fee	59,767		
Total	438,785	\$905,187,856	\$2,063

Those very expensive articles account for 81% of revenue.

Starting Date, Traditional Publishers



A surprising number of new fee journals in 2020-2021,

Region, Traditional Publishers

Region	Journals	Articles	%No-fee	\$/article
Western Europe	2,064	369,852	12%	\$2,168
Pacific/English	306	41,963	3%	\$2,149
Asia	171	10,882	57%	\$589
Eastern Europe	342	10,450	57%	\$386
Middle East	44	5,117	35%	\$553
Latin America	6	367	100%	\$0
Africa	5	154	45%	\$478

Growth and Shrinkage, Traditional Publishers

Change 2020-2021	Count	Percent	Cum%
Grew 25%+	954	36.4%	
Even, ±24.99%	1,234	47.1%	83.5%
Shrank 25%+	433	16.5%	
Total	2,621		

**Country of Publication, Traditional Publishers (partial)**

<b>Country</b>	<b>Journals</b>	<b>Articles</b>	<b>%no-fee</b>	<b>\$/article</b>
United Kingdom	1,414	207,317	4%	\$2,371
Switzerland	149	88,599	1%	\$2,705
United States	271	39,240	3%	\$2,139
Netherlands	280	33,882	16%	\$1,426
France	47	21,355	89%	\$233
Germany	100	12,229	59%	\$1,142
Poland	278	8,592	52%	\$456
China	104	6,182	58%	\$685
Spain	34	4,928	61%	\$541
Australia	31	2,568	10%	\$2,373
Saudi Arabia	9	2,042	26%	\$924
Turkey	17	1,592	63%	\$77
India	21	1,568	61%	\$233
Egypt	7	1,148	17%	\$667
Italy	25	990	93%	\$65
South Korea	12	869	86%	\$177
Hong Kong	5	858	21%	\$900
Romania	22	654	92%	\$8
Taiwan	5	638	60%	\$414
Singapore	19	482	71%	\$258
Brazil	6	367	100%	\$0
Russia	7	349	100%	\$0
Iran	10	335	20%	\$155
Ireland	2	308	0%	\$1,718
Japan	3	247	0%	\$2,030
Latvia	6	184	63%	\$118
Croatia	4	164	100%	\$0
Slovakia	10	161	80%	\$47
South Africa	4	123	31%	\$598
Norway	9	120	100%	\$0

Of 44 countries, these 30 have at least 120 articles in 2021.



### Key Facts, University Publishers

	Journals	Articles	Art%	Rel%	\$/Art	Rel%
All	9,856	344,440			\$250	-82%
Fee	1,785	106,225	31%	-55%	\$811	-59%
No-fee	8,071	238,215	69%	122%		
Biomed	1,191	77,976	23%	-41%	\$882	-51%
Fee	354	41,588	53%	-33%	\$1,653	-27%
No-fee	837	36,388	47%	125%		
STEM	2,195	81,474	24%	-42%	\$144	-91%
Fee	585	29,336	36%	-55%	\$399	-80%
No-fee	1,610	52,138	64%	215%		
H&SS	6,470	184,990	54%	159%	\$31	-86%
Fee	846	35,301	19%	-32%	\$160	-79%
No-fee	5,624	149,689	81%	13%		

Mostly no-fee, very heavy H&SS, very light elsewhere.

### Articles and Journals by Year, University Publishers

	2021	2020	2019	2018	2017	2016
Journals	9,211	9,524	9,423	9,159	8,767	8,160
%No-fee	82%	82%	82%	82%	83%	83%
Articles	344,440	344,716	320,157	308,735	295,245	272,428
%No-fee	69%	72%	72%	73%	74%	74%
Change	0%	8%	4%	5%	8%	

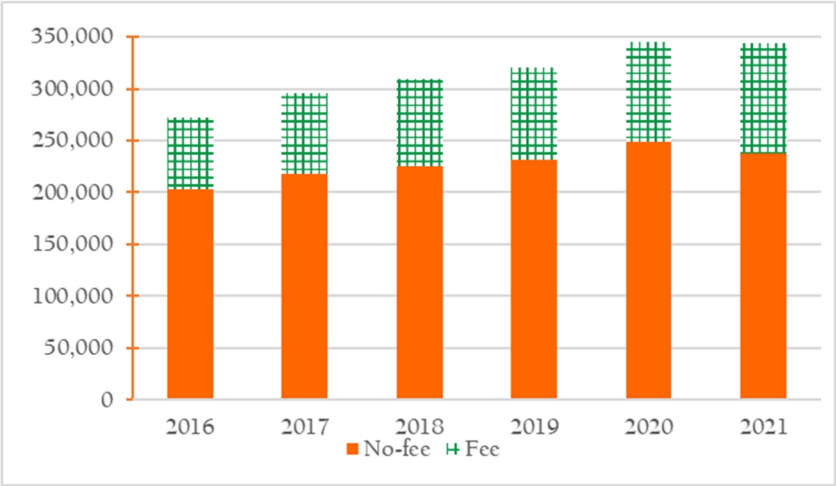
No growth in 2021 after years of slow growth.

### Article Volume, University Publishers

	Journals	Articles	%No-fee	\$/article
Largest: 600+	29	28,701	15%	\$1,741
Large: 150-599	310	49,396	43%	\$401
Med.: 60-149	1,672	100,032	73%	\$103
Small: 20-59	5,844	146,102	83%	\$37
Smallest: 0-19	2,001	20,209	86%	\$33

Most articles are in small and medium-sized journals, mostly no-fee.

Fee and No-Fee Articles by Year, University Publishers



Fee Level, University Publishers

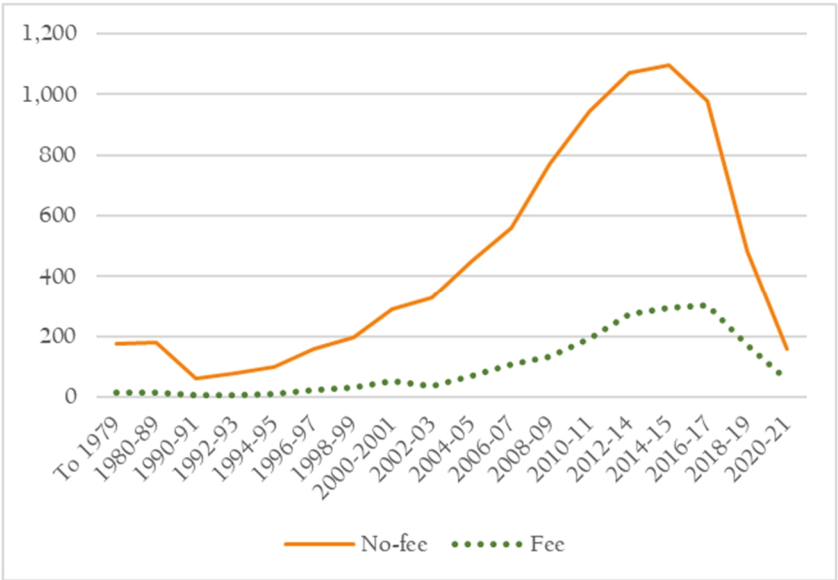
	Jour.	%Fee	%All	Articles	%Fee	%All
\$2,000+	58	3%	1%	20,543	19%	6%
\$1,000-\$1.999	76	4%	1%	7,168	7%	2%
\$500-\$999	112	6%	1%	9,082	9%	3%
\$0.20-\$499	1,539	86%	16%	69,432	65%	20%
No fee	8,071		82%	238,215		69%

Fees and Revenue, University Publishers

	Articles	Revenue	\$/article
\$2,000+	20,543	\$60,282,207	\$2,934
\$1,000-\$1.999	7,168	\$10,499,393	\$1,465
\$500-\$999	9,082	\$6,123,323	\$674
\$0.20-\$499	69,432	\$9,228,007	\$133
No fee	238,215		
Total	344,440	\$86,132,930	\$250

Expensive journals only publish 6% of the articles but that's 70% of the revenue.

Starting Date, University Publishers



Region, University Publishers

Region	Journals	Articles	%No-fee	\$/article
Latin America	2,690	98,239	91%	\$27
Western Europe	1,838	70,492	59%	\$860
Eastern Europe	1,993	68,883	73%	\$52
Asia	1,777	49,021	41%	\$99
Middle East	949	37,863	65%	\$70
Pacific/English	504	16,318	64%	\$689
Africa	105	3,624	48%	\$156

Latin America does the most university-based OA, nearly all no-fee.

Growth and Shrinkage, University Publishers

Change 2020-2021	Count	Percent	Cum%
Grew 25%+	1,982	21.7%	
Even, ±24.99%	5,213	57.1%	78.9%
Shrank 25%+	1,927	21.1%	
Total	9,122		

**Country of Publication, Journal Publishers (partial)**

<b>Country</b>	<b>Journals</b>	<b>Articles</b>	<b>%no-fee</b>	<b>\$/article</b>
Brazil	1,324	59,676	87%	\$39
Indonesia	1,478	34,953	37%	\$53
United Kingdom	233	26,577	11%	\$2,213
Iran	569	20,482	62%	\$78
Spain	669	17,349	94%	\$18
Russia	346	17,200	92%	\$16
United States	345	12,830	54%	\$875
Ukraine	307	12,567	41%	\$38
Turkey	258	10,762	88%	\$32
Poland	367	10,685	77%	\$67
Colombia	378	9,110	99%	\$1
Italy	293	8,329	92%	\$13
Romania	262	7,768	68%	\$52
Argentina	273	6,364	99%	\$5
Cuba	95	5,918	100%	\$0
Germany	100	5,398	53%	\$108
Mexico	158	4,527	92%	\$15
Serbia	151	4,396	77%	\$52
Iraq	64	4,200	13%	\$140
Chile	127	3,643	84%	\$37
Czechia	116	3,183	68%	\$162
China	24	3,053	37%	\$398
France	133	2,956	100%	\$2
Croatia	94	2,660	83%	\$93
Portugal	102	2,638	99%	\$2
Peru	85	2,549	96%	\$7
Lithuania	78	2,179	63%	\$189
Norway	83	2,154	94%	\$36
Canada	104	2,137	99%	\$4
Costa Rica	72	2,053	99%	\$1
Pakistan	54	2,030	29%	\$204

These 31 (of 120) countries have at least 2,000 articles in 2021.

## 8. Country of Publication

The journals covered in this report come from 129 different countries and named territorial entities. A table of those countries takes up four pages, and one table doesn't provide much information. This book includes a chapter on each region (and "region"), following this chapter.

### Region, Overall

Region	Journals	Articles	%No-fee	\$/article
Western Europe	5,192	732,484	16%	\$1,965
Pacific/English	1,276	148,215	15%	\$1,769
Latin America	3,113	122,277	88%	\$39
Eastern Europe	2,950	106,495	67%	\$116
Asia	2,618	102,574	44%	\$236
Middle East	1,262	55,329	60%	\$125
Africa	209	7,838	36%	\$337

Western Europe shows an enormous increase from last year, which may say more about changes in corporate headquarters than anything else.

The remainder of this chapter is three four-page tables of all 129 countries, each with at least one active OA journal: the first in alphabetic order, the second in decreasing order by 2021 article count, the third in increasing order by average article fee.

The book *Gold Open Access by Country 2016-2021: The Long Tail* offers details on each country, but without the effects of the Big Eleven, as discussed in Chapter 6. It's worth noting that only 23 countries account for the Big Eleven (listed in Chapter 6).

**Countries, Alphabetic Order**

<b>Country</b>	<b>Journals</b>	<b>Articles</b>	<b>%no-fee</b>	<b>\$/article</b>
Åland Islands	1	4	100%	\$0
Albania	4	108	36%	\$115
Algeria	17	527	100%	\$0
Angola	3	69	100%	\$0
Argentina	326	7,784	97%	\$6
Armenia	5	189	41%	\$356
Australia	111	6,994	34%	\$1,527
Austria	53	1,360	64%	\$232
Azerbaijan	1	25	100%	\$0
Bahamas	1	16	100%	\$0
Bahrain	1	300	100%	\$0
Bangladesh	22	933	60%	\$63
Barbados	1	50	100%	\$0
Belarus	20	929	89%	\$16
Belgium	48	701	95%	\$19
Bolivia	7	141	100%	\$0
Bosnia and Herzegovina	31	1,124	78%	\$129
Brazil	1,574	76,854	83%	\$57
Bulgaria	77	3,770	33%	\$386
Cameroon	1	326	0%	\$207
Canada	195	7,206	59%	\$856
Chile	141	4,150	83%	\$53
China	167	14,183	41%	\$544
Colombia	405	10,369	99%	\$2
Costa Rica	74	2,087	99%	\$1
Côte d'Ivoire	1	101	0%	\$72
Croatia	139	3,968	85%	\$88
Cuba	115	7,059	100%	\$0
Cyprus	3	104	100%	\$0
Czechia	133	3,534	67%	\$163
Dem. Rep. Congo the	1	32	100%	\$0
Denmark	33	592	95%	\$20

Country	Journals	Articles	%no-fee	\$/article
Dominican Republic	7	193	100%	\$0
Ecuador	71	1,953	100%	\$0
Egypt	50	3,276	15%	\$341
El Salvador	3	18	100%	\$0
Estonia	28	908	42%	\$170
Ethiopia	8	127	100%	\$0
Finland	63	1,806	81%	\$237
France	269	26,937	91%	\$187
Gambia	1	26	0%	\$20
Georgia	4	100	100%	\$0
Germany	313	25,940	50%	\$757
Ghana	6	118	55%	\$45
Greece	40	1,607	73%	\$214
Guadeloupe	1	11	100%	\$0
Guam	1	4	0%	\$350
Guatemala	2	21	100%	\$0
Honduras	3	47	100%	\$0
Hong Kong	21	1,575	31%	\$957
Hungary	49	1,298	87%	\$141
Iceland	6	314	100%	\$0
India	319	22,795	54%	\$238
Indonesia	1,560	37,280	38%	\$54
Iran	654	24,586	61%	\$84
Iraq	66	4,349	12%	\$139
Ireland	17	632	51%	\$837
Israel	3	100	100%	\$0
Italy	460	16,934	69%	\$260
Japan	55	3,032	21%	\$811
Jordan	3	129	22%	\$130
Kazakhstan	18	694	32%	\$44
Kenya	3	168	8%	\$506
Kyrgyzstan	3	82	100%	\$0
Latvia	16	531	52%	\$326

Country	Journals	Articles	%no-fee	\$/article
Lebanon	2	171	9%	\$137
Libya	4	172	42%	\$201
Lithuania	88	2,624	56%	\$308
Luxembourg	2	12	100%	\$0
Malawi	1	40	100%	\$0
Malaysia	88	3,300	49%	\$137
Mali	1	25	100%	\$0
Malta	2	32	100%	\$0
Mexico	183	5,412	92%	\$16
Moldova	37	1,176	72%	\$41
Mongolia	5	86	50%	\$38
Montenegro	9	431	47%	\$96
Morocco	29	658	98%	\$2
Nepal	25	1,412	67%	\$48
Netherlands	349	35,531	19%	\$1,368
New Zealand	17	353	97%	\$5
Nicaragua	8	134	100%	\$0
Nigeria	11	756	6%	\$282
North Macedonia	15	253	58%	\$37
Norway	118	2,825	93%	\$63
Oman	7	336	100%	\$0
Pakistan	79	3,921	32%	\$151
Palestine	1	8	100%	\$0
Panama	3	86	100%	\$0
Paraguay	25	536	100%	\$0
Peru	97	2,805	96%	\$7
Philippines	14	327	94%	\$6
Poland	738	23,450	61%	\$240
Portugal	144	4,357	82%	\$146
Puerto Rico	4	22	100%	\$0
Qatar	11	527	98%	\$25
Romania	355	11,001	65%	\$60
Russia	501	26,736	85%	\$29



Country	Journals	Articles	%no-fee	\$/article
Rwanda	1	27	100%	\$0
Saudi Arabia	16	2,238	33%	\$843
Serbia	202	6,068	74%	\$66
Singapore	26	606	74%	\$232
Slovakia	54	1,435	82%	\$102
Slovenia	60	1,496	91%	\$53
South Africa	114	4,496	22%	\$494
South Korea	145	9,258	44%	\$317
South Sudan	1	21	100%	\$0
Spain	874	28,116	86%	\$126
Sri Lanka	18	697	94%	\$10
Sweden	44	1,426	59%	\$761
Switzerland	497	324,107	1%	\$2,407
Syria	2	15	100%	\$0
Taiwan	34	1,774	43%	\$443
Thailand	28	1,084	82%	\$28
Trinidad and Tobago	1	21	100%	\$0
Tunisia	4	45	100%	\$0
Turkey	429	18,885	79%	\$61
Turkmenistan	1	10	100%	\$0
Uganda	1	53	0%	\$40
Ukraine	362	14,533	43%	\$38
United Arab Emirates	10	294	67%	\$65
United Kingdom	1,856	258,947	8%	\$2,219
United States	953	133,662	11%	\$1,836
Uruguay	32	780	100%	\$0
Uzbekistan	1	1,101	100%	\$0
Venezuela	30	927	99%	\$5
Viet Nam	10	264	81%	\$8
Yemen	6	80	43%	\$63
Zimbabwe	1	51	100%	\$0

**Countries, Decreasing Number of 2021 Articles**

<b>Country</b>	<b>Journals</b>	<b>Articles</b>	<b>%no-fee</b>	<b>\$/article</b>
Switzerland	497	324,107	1%	\$2,407
United Kingdom	1,856	258,947	8%	\$2,219
United States	953	133,662	11%	\$1,836
Brazil	1,574	76,854	83%	\$57
Indonesia	1,560	37,280	38%	\$54
Netherlands	349	35,531	19%	\$1,368
Spain	874	28,116	86%	\$126
France	269	26,937	91%	\$187
Russia	501	26,736	85%	\$29
Germany	313	25,940	50%	\$757
Iran	654	24,586	61%	\$84
Poland	738	23,450	61%	\$240
India	319	22,795	54%	\$238
Turkey	429	18,885	79%	\$61
Italy	460	16,934	69%	\$260
Ukraine	362	14,533	43%	\$38
China	167	14,183	41%	\$544
Romania	355	11,001	65%	\$60
Colombia	405	10,369	99%	\$2
South Korea	145	9,258	44%	\$317
Argentina	326	7,784	97%	\$6
Canada	195	7,206	59%	\$856
Cuba	115	7,059	100%	\$0
Australia	111	6,994	34%	\$1,527
Serbia	202	6,068	74%	\$66
Mexico	183	5,412	92%	\$16
South Africa	114	4,496	22%	\$494
Portugal	144	4,357	82%	\$146
Iraq	66	4,349	12%	\$139
Chile	141	4,150	83%	\$53
Croatia	139	3,968	85%	\$88
Pakistan	79	3,921	32%	\$151

Country	Journals	Articles	%no-fee	\$/article
Bulgaria	77	3,770	33%	\$386
Czechia	133	3,534	67%	\$163
Malaysia	88	3,300	49%	\$137
Egypt	50	3,276	15%	\$341
Japan	55	3,032	21%	\$811
Norway	118	2,825	93%	\$63
Peru	97	2,805	96%	\$7
Lithuania	88	2,624	56%	\$308
Saudi Arabia	16	2,238	33%	\$843
Costa Rica	74	2,087	99%	\$1
Ecuador	71	1,953	100%	\$0
Finland	63	1,806	81%	\$237
Taiwan	34	1,774	43%	\$443
Greece	40	1,607	73%	\$214
Hong Kong	21	1,575	31%	\$957
Slovenia	60	1,496	91%	\$53
Slovakia	54	1,435	82%	\$102
Sweden	44	1,426	59%	\$761
Nepal	25	1,412	67%	\$48
Austria	53	1,360	64%	\$232
Hungary	49	1,298	87%	\$141
Moldova	37	1,176	72%	\$41
Bosnia and Herzegovina	31	1,124	78%	\$129
Uzbekistan	1	1,101	100%	\$0
Thailand	28	1,084	82%	\$28
Bangladesh	22	933	60%	\$63
Belarus	20	929	89%	\$16
Venezuela	30	927	99%	\$5
Estonia	28	908	42%	\$170
Uruguay	32	780	100%	\$0
Nigeria	11	756	6%	\$282
Belgium	48	701	95%	\$19
Sri Lanka	18	697	94%	\$10

Country	Journals	Articles	%no-fee	\$/article
Kazakhstan	18	694	32%	\$44
Morocco	29	658	98%	\$2
Ireland	17	632	51%	\$837
Singapore	26	606	74%	\$232
Denmark	33	592	95%	\$20
Paraguay	25	536	100%	\$0
Latvia	16	531	52%	\$326
Algeria	17	527	100%	\$0
Qatar	11	527	98%	\$25
Montenegro	9	431	47%	\$96
New Zealand	17	353	97%	\$5
Oman	7	336	100%	\$0
Philippines	14	327	94%	\$6
Cameroon	1	326	0%	\$207
Iceland	6	314	100%	\$0
Bahrain	1	300	100%	\$0
United Arab Emirates	10	294	67%	\$65
Viet Nam	10	264	81%	\$8
North Macedonia	15	253	58%	\$37
Dominican Republic	7	193	100%	\$0
Armenia	5	189	41%	\$356
Libya	4	172	42%	\$201
Lebanon	2	171	9%	\$137
Kenya	3	168	8%	\$506
Bolivia	7	141	100%	\$0
Nicaragua	8	134	100%	\$0
Jordan	3	129	22%	\$130
Ethiopia	8	127	100%	\$0
Ghana	6	118	55%	\$45
Albania	4	108	36%	\$115
Cyprus	3	104	100%	\$0
Côte d'Ivoire	1	101	0%	\$72
Georgia	4	100	100%	\$0

Country	Journals	Articles	%no-fee	\$/article
Israel	3	100	100%	\$0
Mongolia	5	86	50%	\$38
Panama	3	86	100%	\$0
Kyrgyzstan	3	82	100%	\$0
Yemen	6	80	43%	\$63
Angola	3	69	100%	\$0
Uganda	1	53	0%	\$40
Zimbabwe	1	51	100%	\$0
Barbados	1	50	100%	\$0
Honduras	3	47	100%	\$0
Tunisia	4	45	100%	\$0
Malawi	1	40	100%	\$0
Dem. Rep. Congo the	1	32	100%	\$0
Malta	2	32	100%	\$0
Rwanda	1	27	100%	\$0
Gambia	1	26	0%	\$20
Azerbaijan	1	25	100%	\$0
Mali	1	25	100%	\$0
Puerto Rico	4	22	100%	\$0
Guatemala	2	21	100%	\$0
South Sudan	1	21	100%	\$0
Trinidad and Tobago	1	21	100%	\$0
El Salvador	3	18	100%	\$0
Bahamas	1	16	100%	\$0
Syria	2	15	100%	\$0
Luxembourg	2	12	100%	\$0
Guadeloupe	1	11	100%	\$0
Turkmenistan	1	10	100%	\$0
Palestine	1	8	100%	\$0
Åland Islands	1	4	100%	\$0
Guam	1	4	0%	\$350

**Countries, Increasing Average Fee per Article**

<b>Country</b>	<b>Journals</b>	<b>Articles</b>	<b>%no-fee</b>	<b>\$/article</b>
Cuba	115	7,059	100%	\$0
Ecuador	71	1,953	100%	\$0
Uzbekistan	1	1,101	100%	\$0
Uruguay	32	780	100%	\$0
Paraguay	25	536	100%	\$0
Algeria	17	527	100%	\$0
Oman	7	336	100%	\$0
Iceland	6	314	100%	\$0
Bahrain	1	300	100%	\$0
Dominican Republic	7	193	100%	\$0
Bolivia	7	141	100%	\$0
Nicaragua	8	134	100%	\$0
Ethiopia	8	127	100%	\$0
Cyprus	3	104	100%	\$0
Georgia	4	100	100%	\$0
Israel	3	100	100%	\$0
Panama	3	86	100%	\$0
Kyrgyzstan	3	82	100%	\$0
Angola	3	69	100%	\$0
Zimbabwe	1	51	100%	\$0
Barbados	1	50	100%	\$0
Honduras	3	47	100%	\$0
Tunisia	4	45	100%	\$0
Malawi	1	40	100%	\$0
Dem. Rep. Congo the	1	32	100%	\$0
Malta	2	32	100%	\$0
Rwanda	1	27	100%	\$0
Azerbaijan	1	25	100%	\$0
Mali	1	25	100%	\$0
Puerto Rico	4	22	100%	\$0
Guatemala	2	21	100%	\$0
South Sudan	1	21	100%	\$0

Country	Journals	Articles	%no-fee	\$/article
Trinidad and Tobago	1	21	100%	\$0
El Salvador	3	18	100%	\$0
Bahamas	1	16	100%	\$0
Syria	2	15	100%	\$0
Luxembourg	2	12	100%	\$0
Guadeloupe	1	11	100%	\$0
Turkmenistan	1	10	100%	\$0
Palestine	1	8	100%	\$0
Åland Islands	1	4	100%	\$0
Costa Rica	74	2,087	99%	\$1
Colombia	405	10,369	99%	\$2
Morocco	29	658	98%	\$2
Venezuela	30	927	99%	\$5
New Zealand	17	353	97%	\$5
Argentina	326	7,784	97%	\$6
Philippines	14	327	94%	\$6
Peru	97	2,805	96%	\$7
Viet Nam	10	264	81%	\$8
Sri Lanka	18	697	94%	\$10
Belarus	20	929	89%	\$16
Mexico	183	5,412	92%	\$16
Belgium	48	701	95%	\$19
Denmark	33	592	95%	\$20
Gambia	1	26	0%	\$20
Qatar	11	527	98%	\$25
Thailand	28	1,084	82%	\$28
Russia	501	26,736	85%	\$29
North Macedonia	15	253	58%	\$37
Mongolia	5	86	50%	\$38
Ukraine	362	14,533	43%	\$38
Uganda	1	53	0%	\$40
Moldova	37	1,176	72%	\$41
Kazakhstan	18	694	32%	\$44

Country	Journals	Articles	%no-fee	\$/article
Ghana	6	118	55%	\$45
Nepal	25	1,412	67%	\$48
Slovenia	60	1,496	91%	\$53
Chile	141	4,150	83%	\$53
Indonesia	1,560	37,280	38%	\$54
Brazil	1,574	76,854	83%	\$57
Romania	355	11,001	65%	\$60
Turkey	429	18,885	79%	\$61
Bangladesh	22	933	60%	\$63
Yemen	6	80	43%	\$63
Norway	118	2,825	93%	\$63
United Arab Emirates	10	294	67%	\$65
Serbia	202	6,068	74%	\$66
Côte d'Ivoire	1	101	0%	\$72
Iran	654	24,586	61%	\$84
Croatia	139	3,968	85%	\$88
Montenegro	9	431	47%	\$96
Slovakia	54	1,435	82%	\$102
Albania	4	108	36%	\$115
Spain	874	28,116	86%	\$126
Bosnia and Herzegovina	31	1,124	78%	\$129
Jordan	3	129	22%	\$130
Malaysia	88	3,300	49%	\$137
Lebanon	2	171	9%	\$137
Iraq	66	4,349	12%	\$139
Hungary	49	1,298	87%	\$141
Portugal	144	4,357	82%	\$146
Pakistan	79	3,921	32%	\$151
Czechia	133	3,534	67%	\$163
Estonia	28	908	42%	\$170
France	269	26,937	91%	\$187
Libya	4	172	42%	\$201
Cameroon	1	326	0%	\$207



Country	Journals	Articles	%no-fee	\$/article
Greece	40	1,607	73%	\$214
Austria	53	1,360	64%	\$232
Singapore	26	606	74%	\$232
Finland	63	1,806	81%	\$237
India	319	22,795	54%	\$238
Poland	738	23,450	61%	\$240
Italy	460	16,934	69%	\$260
Nigeria	11	756	6%	\$282
Lithuania	88	2,624	56%	\$308
South Korea	145	9,258	44%	\$317
Latvia	16	531	52%	\$326
Egypt	50	3,276	15%	\$341
Guam	1	4	0%	\$350
Armenia	5	189	41%	\$356
Bulgaria	77	3,770	33%	\$386
Taiwan	34	1,774	43%	\$443
South Africa	114	4,496	22%	\$494
Kenya	3	168	8%	\$506
China	167	14,183	41%	\$544
Germany	313	25,940	50%	\$757
Sweden	44	1,426	59%	\$761
Japan	55	3,032	21%	\$811
Ireland	17	632	51%	\$837
Saudi Arabia	16	2,238	33%	\$843
Canada	195	7,206	59%	\$856
Hong Kong	21	1,575	31%	\$957
Netherlands	349	35,531	19%	\$1,368
Australia	111	6,994	34%	\$1,527
United States	953	133,662	11%	\$1,836
United Kingdom	1,856	258,947	8%	\$2,219
Switzerland	497	324,107	1%	\$2,407

## 9. Africa

### Key Facts, Africa

	Journals	Articles	Art%	Rel%	\$/Art	Rel%
All	209	7,838			\$337	-76%
Fee	104	5,022	64%	-7%	\$525	-74%
No-fee	105	2,816	36%	15%		
Biomed	49	2,575	33%	-14%	\$416	-77%
Fee	29	2,000	78%	-2%	\$536	-76%
No-fee	20	575	22%	8%		
STEM	63	1,951	25%	-39%	\$143	-91%
Fee	17	771	40%	-50%	\$361	-82%
No-fee	46	1,180	60%	198%		
H&SS	97	3,312	42%	104%	\$389	78%
Fee	58	2,251	68%	142%	\$572	-26%
No-fee	39	1,061	32%	-55%		

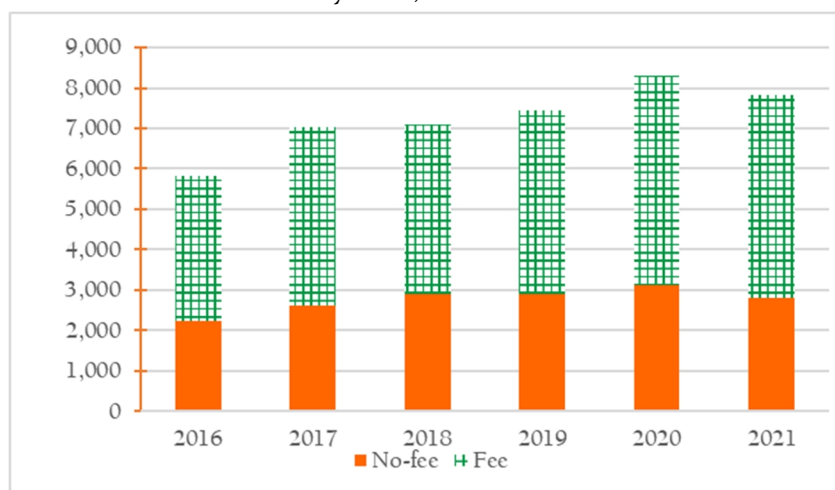
Strong on H&SS, but light on no-fee H&SS. All low fees.

### Articles and Journals by Year, Africa

	2021	2020	2019	2018	2017	2016
Journals	198	206	199	185	182	170
%No-fee	51%	51%	51%	52%	49%	49%
Articles	7,838	8,290	7,436	7,108	7,041	5,820
%No-fee	36%	38%	39%	41%	37%	38%
Change	-5%	11%	5%	1%	21%	

Slight drop in 2021, but still above 2019 levels.

### Fee and No-Fee Articles by Year, Africa



### Article Volume, Africa

	Journals	Articles	%No-fee	\$/article
Large: 150-599	10	1,969	11%	\$424
Med.: 60-149	40	2,429	32%	\$411
Small: 20-59	119	3,052	53%	\$231
Smallest: 0-19	40	388	53%	\$254

No very large journals.

### Fee Level, Africa

	Journals	%Fee	%All	Articles	%Fee	%All
\$1,000-\$1.999	6	6%	3%	576	11%	7%
\$500-\$999	43	41%	21%	1,862	37%	24%
\$0.20-\$499	55	53%	26%	2,584	51%	33%
No fee	105		50%	2,816		36%

No very expensive journals and few moderately expensive ones.

Starting Date, Africa



Fees and Revenue, Africa

	Articles	Revenue	\$/article
\$1,000-\$1.999	576	\$614,099	\$1,066
\$500-\$999	1,862	\$1,394,490	\$749
\$0.20-\$499	2,584	\$629,276	\$244
No fee	2,816		
Total	7,838	\$2,637,865	\$337

Publisher Category, Africa

Category	Journals	Articles	%No-fee	\$/article
Univ./college	105	3,624	48%	\$156
Open Access	70	2,990	13%	\$616
Society/govt	29	1,070	60%	\$148
Traditional	5	154	45%	\$478

**Growth and Shrinkage, Africa**

<b>Change 2020-2021</b>	<b>Count</b>	<b>Percent</b>	<b>Cum%</b>
Grew 25%+	48	24.2%	
Even, $\pm 24.99\%$	96	48.5%	72.7%
Shrank 25%+	54	27.3%	
Total	198		

A reminder: the total here means that 11 journals either had no 2020 articles or no 2021 articles.

**Country of Publication, Africa**

<b>Country</b>	<b>Journals</b>	<b>Articles</b>	<b>%no-fee</b>	<b>\$/article</b>
South Africa	114	4,496	22%	\$494
Nigeria	11	756	6%	\$282
Morocco	29	658	98%	\$2
Algeria	17	527	100%	\$0
Cameroon	1	326	0%	\$207
Libya	4	172	42%	\$201
Kenya	3	168	8%	\$506
Ethiopia	8	127	100%	\$0
Ghana	6	118	55%	\$45
Côte d'Ivoire	1	101	0%	\$72
Angola	3	69	100%	\$0
Uganda	1	53	0%	\$40
Zimbabwe	1	51	100%	\$0
Tunisia	4	45	100%	\$0
Malawi	1	40	100%	\$0
Dem. Rep. Congo the	1	32	100%	\$0
Rwanda	1	27	100%	\$0
Gambia	1	26	0%	\$20
Mali	1	25	100%	\$0
South Sudan	1	21	100%	\$0

Moved here to save a page. South Africa continues to be the largest source, and its average fees rose slightly.

**Subjects, Africa**

<b>Subject</b>	<b>Journals</b>	<b>Articles</b>	<b>%No-fee</b>	<b>\$/article</b>
Medicine	46	2,520	21%	\$426
Religion	12	761	0%	\$788
Education	14	574	33%	\$269
Other Sciences	7	415	81%	\$32
Economics	16	414	65%	\$259
Language & Literature	11	350	27%	\$247
Miscellany	9	245	59%	\$242
Agriculture	8	227	90%	\$31
Sociology	7	227	43%	\$315
Law	7	226	33%	\$217
Earth Sciences	5	217	80%	\$20
Ecology	13	209	69%	\$81
Engineering	7	190	65%	\$156
Anthropology	5	174	30%	\$266
Technology	3	164	11%	\$167
Zoology	5	151	4%	\$457
Chemistry	5	148	48%	\$416
Political Science	6	138	30%	\$408
Computer Science	6	109	51%	\$338
Psychology	2	62	0%	\$816
Physics	1	61	0%	\$43
Mathematics	3	60	78%	\$165
Biology	3	55	100%	\$0
History	3	47	32%	\$86
Arts & Architecture	2	38	100%	\$0
Philosophy	1	30	100%	\$0
Library Science	2	26	50%	\$68

# 10. Asia

## Key Facts, Asia

	Journals	Articles	Art%	Rel%	\$/Art	Rel%
All	2,619	103,675			\$233	-83%
Fee	1,124	57,357	55%	-20%	\$421	-79%
No-fee	1,495	46,318	45%	43%		
Biomed	718	45,578	44%	15%	\$311	-83%
Fee	301	23,902	52%	-34%	\$594	-74%
No-fee	417	21,676	48%	129%		
STEM	762	30,155	29%	-29%	\$271	-83%
Fee	371	18,606	62%	-23%	\$438	-78%
No-fee	391	11,549	38%	88%		
H&SS	1,139	27,942	27%	30%	\$65	-70%
Fee	452	14,849	53%	89%	\$122	-84%
No-fee	687	13,093	47%	-35%		

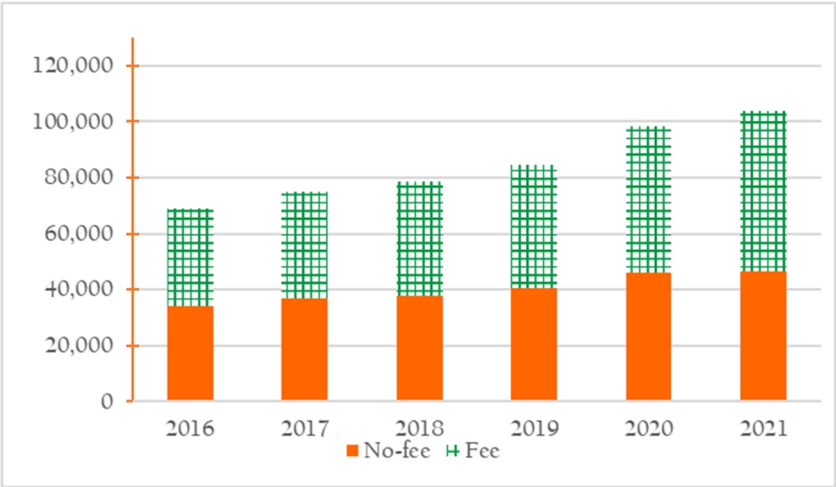
Strong on H&SS (especially fee H&SS, but with low fees) and biomed, lean on STEM. Low fees.

## Articles and Journals by Year, Asia

	2021	2020	2019	2018	2017	2016
Journals	2,470	2,530	2,462	2,348	2,186	1,889
%No-fee	56%	57%	57%	57%	57%	57%
Articles	103,675	98,571	84,409	78,729	75,150	68,926
%No-fee	45%	47%	48%	48%	49%	50%
Change	5%	17%	7%	5%	9%	

Modest growth after a strong 2020.

Fee and No-Fee Articles by Year, Asia



Article Volume, Asia

	Journals	Articles	%No-fee	\$/article
Largest: 600+	11	7,829	34%	\$346
Large: 150-599	138	26,538	27%	\$468
Med.: 60-149	404	27,484	49%	\$220
Small: 20-59	1,396	34,183	52%	\$82
Smallest: 0-19	670	7,641	70%	\$25

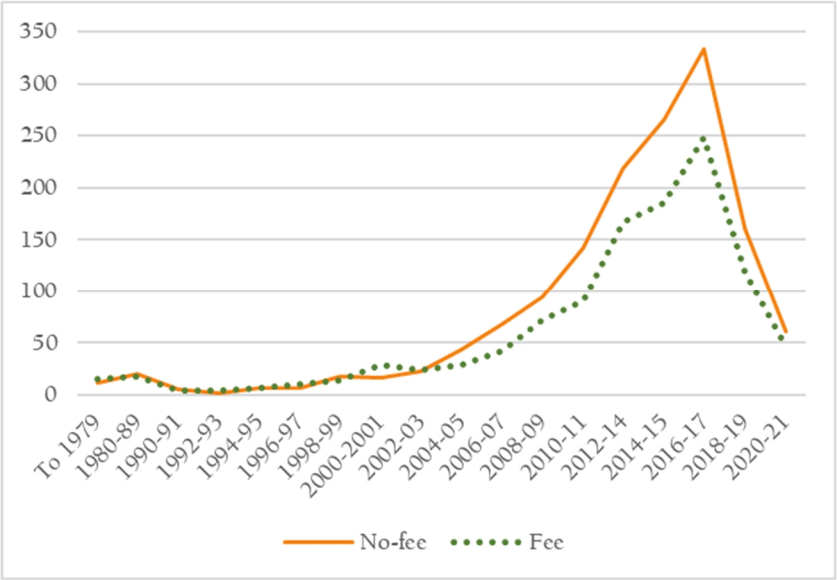
Fee Level, Asia

	Jour.	%Fee	%All	Art.	%Fee	%All
\$2,000+	8	1%	0%	1,086	2%	1%
\$1,000-\$1.999	51	5%	2%	6,219	11%	6%
\$500-\$999	101	9%	4%	10,398	18%	10%
\$0.20-\$499	964	86%	37%	39,654	69%	38%
No fee	1,495		57%	46,318		45%

Most fees are very low or nominal.



Starting Date, Asia



Fees and Revenue, Asia

	Articles	Revenue	\$/article
\$2,000+	1,086	\$3,478,050	\$3,203
\$1,000-\$1.999	6,219	\$7,959,878	\$1,280
\$500-\$999	10,398	\$7,102,417	\$683
\$0.20-\$499	39,654	\$5,617,983	\$142
No fee	46,318		
Total	103,675	\$24,158,328	\$233

This year's change in fee brackets clarifies that most revenue is in moderate and moderately-expensive journals, while two-thirds of fee articles are in the very low/nominal range.

**Publisher Category, Asia**

Category	Journals	Articles	%No-fee	\$/article
Univ./college	1,777	49,021	41%	\$99
Open Access	393	28,257	50%	\$279
Society/govt	278	15,515	36%	\$322
Traditional	171	10,882	57%	\$589

**Growth and Shrinkage, Asia**

Change 2020-2021	Count	Percent	Cum%
Grew 25%+	559	22.9%	
Even, $\pm 24.99\%$	1,462	60.0%	82.9%
Shrank 25%+	416	17.1%	
Total	2,437		

While not as dramatic a difference as in *GOA6*, growing journals still outnumber shrinking journals.

**Subjects, Asia**

As is frequently the case, medicine is the largest subject. Somewhat less common: the most expensive subject (still under \$500) is zoology.

Subject	Journals	Articles	%No-fee	\$/article
Medicine	651	43,165	48%	\$313
Education	226	8,065	34%	\$42
Economics	229	5,870	48%	\$125
Engineering	109	4,933	44%	\$186
Agriculture	118	4,370	24%	\$264
Ecology	65	3,193	34%	\$272
Earth Sciences	65	3,123	42%	\$378
Language & Literature	143	3,020	48%	\$38
Computer Science	102	2,947	41%	\$160
Zoology	61	2,837	11%	\$484
Biology	67	2,413	37%	\$278
Religion	143	2,398	56%	\$39
Physics	47	2,285	48%	\$301
Technology	45	1,914	46%	\$451
Other Sciences	48	1,701	54%	\$186
Law	82	1,527	61%	\$56
Chemistry	35	1,480	53%	\$189
Mathematics	67	1,372	54%	\$34
Anthropology	54	1,315	56%	\$80
Sociology	58	1,280	52%	\$34
Political Science	52	1,023	65%	\$81
Miscellany	25	942	27%	\$44
Psychology	39	769	59%	\$42
Arts & Architecture	23	529	74%	\$18
Media & Communications	25	441	38%	\$72
Library Science	18	418	59%	\$210
History	13	197	50%	\$38
Philosophy	9	148	91%	\$14

**Country of Publication, Asia**

<b>Country</b>	<b>Journals</b>	<b>Articles</b>	<b>%no-fee</b>	<b>\$/article</b>
Indonesia	1,560	37,280	38%	\$54
India	319	22,795	54%	\$238
China	167	14,183	41%	\$544
South Korea	145	9,258	44%	\$317
Pakistan	78	3,886	32%	\$152
Malaysia	88	3,300	49%	\$137
Japan	55	3,032	21%	\$811
Taiwan	34	1,774	43%	\$443
Hong Kong	21	1,575	31%	\$957
Nepal	25	1,412	67%	\$48
Uzbekistan	1	1,101	100%	\$0
Thailand	28	1,084	82%	\$28
Bangladesh	22	933	60%	\$63
Sri Lanka	18	697	94%	\$10
Singapore	26	606	74%	\$232
Philippines	14	327	94%	\$6
Viet Nam	10	264	81%	\$8
Mongolia	5	86	50%	\$38
Kyrgyzstan	3	82	100%	\$0

Even excluding 286 long-standing malware cases, Indonesia has by far the most OA journals, 60% of the Asia total (but only 35% of the articles). Hong Kong and Japan continue to stand out for the most expensive average fee per article, with China and Taiwan following.

# 11. Eastern Europe

## Key Facts, Eastern Europe

	Journals	Articles	Art%	Rel%	\$/Art	Rel%
All	2,950	106,495			\$116	-92%
Fee	638	35,367	33%	-52%	\$348	-83%
No-fee	2,312	71,128	67%	114%		
Biomed	419	21,891	21%	-46%	\$173	-90%
Fee	126	8,212	38%	-53%	\$461	-80%
No-fee	293	13,679	62%	201%		
STEM	921	34,505	32%	-21%	\$184	-88%
Fee	245	13,318	39%	-52%	\$476	-76%
No-fee	676	21,187	61%	202%		
H&SS	1,610	50,099	47%	127%	\$44	-80%
Fee	267	13,837	28%	-2%	\$158	-80%
No-fee	1,343	36,262	72%	1%		

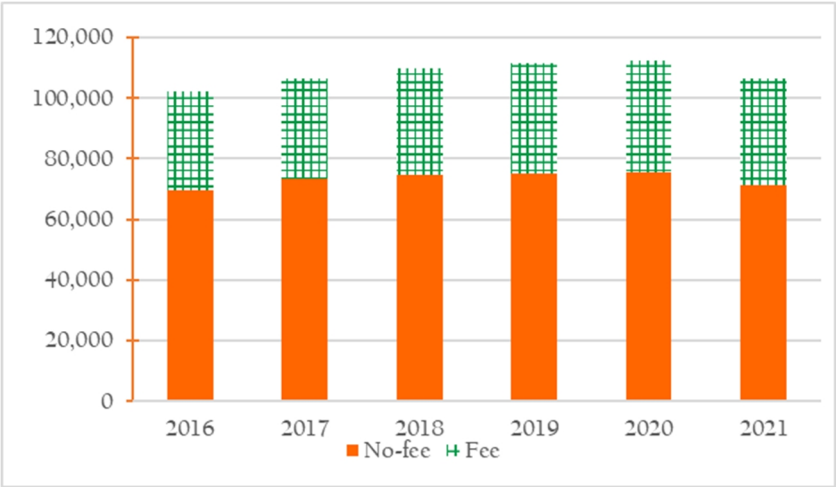
Very rich in H&SS. Very low fees and two-thirds no-fee.

## Articles and Journals by Year, Eastern Europe

	2021	2020	2019	2018	2017	2016
Journals	2,728	2,824	2,811	2,726	2,582	2,437
%No-fee	78%	78%	78%	79%	79%	79%
Articles	106,495	112,543	111,694	109,896	106,665	102,200
%No-fee	67%	67%	67%	68%	69%	68%
Change	-5%	1%	2%	3%	4%	

Decline in articles in 2021, after several nearly-flat years.

Fee and No-Fee Articles by Year, Eastern Europe



Article Volume, Eastern Europe

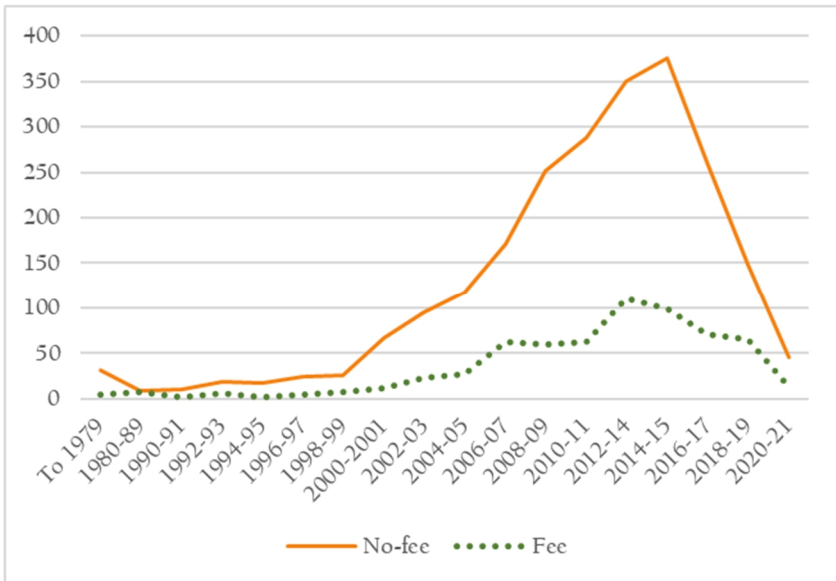
	Journals	Articles	%No-fee	\$/article
Largest: 600+	6	2,524	18%	\$84
Large: 150-599	124	16,540	40%	\$257
Med.: 60-149	733	42,749	63%	\$136
Small: 20-59	1,612	40,568	82%	\$47
Smallest: 0-19	475	4,114	90%	\$27

Fee Level, Eastern Europe

	Journals	%Fee	%All	Articles	%Fee	%All
\$2,000+	1	0%	0%	200	1%	0%
\$1,000-\$1,999	53	8%	2%	3,147	9%	3%
\$500-\$999	83	13%	3%	5,375	15%	5%
\$0.20-\$499	501	79%	17%	26,645	75%	25%
No fee	2,312		78%	71,128		67%

One solitary very expensive journal; most fees are low or nominal.

### Starting Date, Eastern Europe



### Fees and Revenue, Eastern Europe

	Articles	Revenue	\$/article
\$2,000+	200	\$473,465	\$2,367
\$1,000-\$1.999	3,147	\$3,950,605	\$1,255
\$500-\$999	5,375	\$3,787,635	\$705
\$0.20-\$499	26,645	\$4,098,322	\$154
No fee	71,128		
Total	106,495	\$12,310,027	\$116

Unusual in that the low-to-midrange fee categories all yield similar fees.

### Publisher Category, Eastern Europe

Category	Journals	Articles	%No-fee	\$/article
Univ./college	1,993	68,883	73%	\$52
Open Access	343	16,667	48%	\$213
Society/govt	272	10,495	64%	\$107
Traditional	342	10,450	57%	\$386

Another region where universities dominate, with very low fees.

**Growth and Shrinkage, Eastern Europe**

<b>Change 2020-2021</b>	<b>Count</b>	<b>Percent</b>	<b>Cum%</b>
Grew 25%+	496	18.4%	
Even, $\pm 24.99\%$	1,643	60.8%	79.2%
Shrank 25%+	562	20.8%	
Total	2,701		

**Country of Publication, Eastern Europe**

<b>Country</b>	<b>Journals</b>	<b>Articles</b>	<b>%No-fee</b>	<b>\$/article</b>
Russia	501	26,736	85%	\$29
Poland	738	23,450	61%	\$240
Ukraine	362	14,533	43%	\$38
Romania	355	11,001	65%	\$60
Serbia	202	6,068	74%	\$66
Croatia	139	3,968	85%	\$88
Bulgaria	77	3,770	33%	\$386
Czechia	133	3,534	67%	\$163
Lithuania	88	2,624	56%	\$308
Slovenia	60	1,496	91%	\$53
Slovakia	54	1,435	82%	\$102
Hungary	49	1,298	87%	\$141
Moldova	37	1,176	72%	\$41
Bosnia and Herzegovina	31	1,124	78%	\$129
Belarus	20	929	89%	\$16
Estonia	28	908	42%	\$170
Kazakhstan	18	694	32%	\$44
Latvia	16	531	52%	\$326
Montenegro	9	431	47%	\$96
North Macedonia	15	253	58%	\$37
Armenia	5	189	41%	\$356
Albania	4	108	36%	\$115
Cyprus	3	104	100%	\$0
Georgia	4	100	100%	\$0
Azerbaijan	1	25	100%	\$0
Turkmenistan	1	10	100%	\$0



**Subjects, Eastern Europe**

<b>Subject</b>	<b>Jour.</b>	<b>Articles</b>	<b>%No-fee</b>	<b>\$/article</b>
Medicine	358	18,973	65%	\$165
Economics	284	9,298	53%	\$75
Language & Literature	240	6,713	86%	\$29
Engineering	146	6,527	56%	\$210
Agriculture	129	5,634	56%	\$172
Anthropology	163	5,451	56%	\$73
Political Science	152	4,919	82%	\$19
Sociology	103	4,000	75%	\$28
Earth Sciences	139	3,497	84%	\$72
Ecology	94	3,284	47%	\$254
Computer Science	92	3,242	78%	\$87
Law	104	3,124	85%	\$24
Education	104	3,119	63%	\$47
History	106	3,033	86%	\$18
Biology	61	2,918	49%	\$228
Zoology	62	2,484	44%	\$316
Philosophy	78	2,374	84%	\$44
Mathematics	88	2,368	76%	\$151
Technology	56	2,187	67%	\$105
Arts & Architecture	66	2,140	67%	\$76
Chemistry	46	2,139	52%	\$383
Other Sciences	32	1,741	46%	\$154
Psychology	52	1,664	78%	\$22
Religion	49	1,510	90%	\$41
Miscellany	41	1,433	67%	\$29
Physics	37	1,402	76%	\$121
Media & Communications	38	794	89%	\$13
Library Science	30	527	95%	\$1

Only biology and chemistry exceed \$300, and no subject exceeds \$400.

## 12. Latin America

### Key Facts, Latin America

	Journals	Articles	Art%	Rel%	\$/Art	Rel%
All	3,115	121,480			\$40	-97%
Fee	168	14,449	12%	-83%	\$333	-83%
No-fee	2,947	107,031	88%	183%		
Biomed	412	26,826	22%	-42%	\$95	-95%
Fee	51	5,467	20%	-74%	\$466	-79%
No-fee	361	21,359	80%	284%		
STEM	621	23,641	19%	-52%	\$79	-95%
Fee	93	6,845	29%	-64%	\$272	-86%
No-fee	528	16,796	71%	250%		
H&SS	2,082	71,013	58%	182%	\$6	-97%
Fee	24	2,137	3%	-89%	\$191	-75%
No-fee	2,058	68,876	97%	35%		

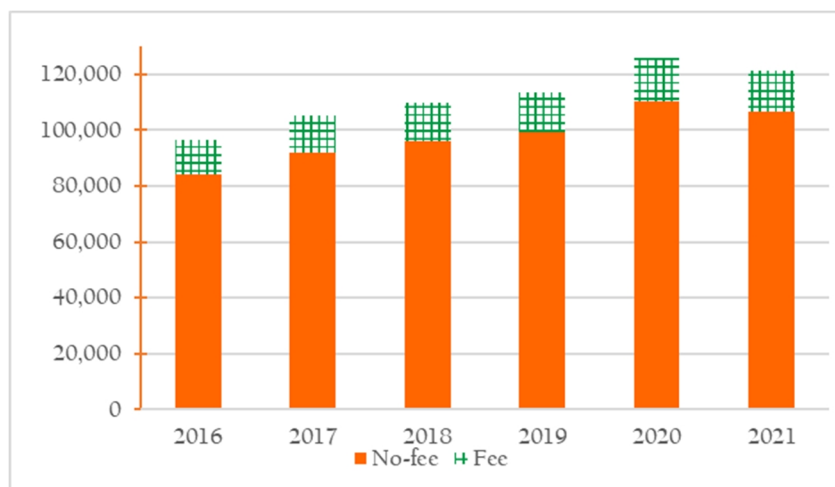
Predominantly no-fee, rich in H&SS, lean elsewhere.

### Articles and Journals by Year, Latin America

	2021	2020	2019	2018	2017	2016
Journals	2,925	3,036	3,036	2,991	2,911	2,791
%No-fee	94%	95%	95%	95%	95%	95%
Articles	121,480	126,013	113,745	110,097	105,494	96,738
%No-fee	88%	88%	88%	87%	87%	87%
Change	-4%	11%	3%	4%	9%	

Down slightly after strong growth in 2020.

### Fee and No-Fee Articles by Year, Latin America



### Article Volume, Latin America

	Journals	Articles	%No-fee	\$/article
Largest: 600+	6	4,362	42%	\$229
Large: 150-599	119	20,375	72%	\$111
Med.: 60-149	652	40,762	88%	\$30
Small: 20-59	1,959	51,963	98%	\$7
Smallest: 0-19	379	4,018	98%	\$3

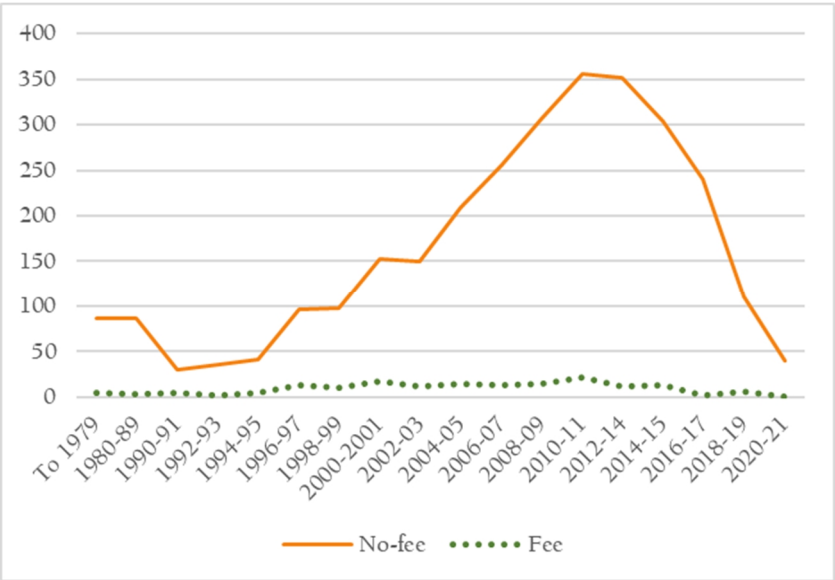
Mostly medium and small journals that are almost all no-fee.

### Fee Level, Latin America

	Journals	%Fee	%All	Articles	%Fee	%All
\$2,000+	1	1%	0%	41	0%	0%
\$1,000-\$1,999	6	4%	0%	865	6%	1%
\$500-\$999	17	10%	1%	2,463	17%	2%
\$0.20-\$499	144	86%	5%	11,080	77%	9%
No fee	2,947		95%	107,031		88%

So little expensive publishing that it barely merits comment,

Starting Date, Latin America



Fees and Revenue, Latin America

	Articles	Revenue	\$/article
\$2,000+	41	\$123,000	\$3,000
\$1,000-\$1.999	865	\$1,253,300	\$1,449
\$500-\$999	2,463	\$1,633,947	\$663
\$0.20-\$499	11,080	\$1,804,187	\$163
No fee	107,031		
Total	121,480	\$4,814,434	\$40

Total revenue is actually down from last year; average fee per article, while up by \$2, is by far the lowest of any region.

Publisher Category, Latin America

Category	Journals	Articles	%No-fee	\$/article
Univ./college	2,690	98,239	91%	\$27
Society/govt	326	19,654	75%	\$100
Open Access	93	3,220	81%	\$72
Traditional	6	367	100%	\$0

**Growth and Shrinkage, Latin America**

<b>Change 2020-2021</b>	<b>Count</b>	<b>Percent</b>	<b>Cum%</b>
Grew 25%+	625	21.5%	
Even, $\pm 24.99\%$	1,676	57.6%	79.0%
Shrank 25%+	610	21.0%	
Total	2,911		

**Country of Publication, Latin America**

<b>Country</b>	<b>Journals</b>	<b>Articles</b>	<b>%no-fee</b>	<b>\$/article</b>
Brazil	1,574	76,854	83%	\$57
Colombia	405	10,369	99%	\$2
Argentina	326	7,784	97%	\$6
Cuba	115	7,059	100%	\$0
Mexico	183	5,412	92%	\$16
Chile	141	4,150	83%	\$53
Peru	97	2,805	96%	\$7
Costa Rica	74	2,087	99%	\$1
Ecuador	71	1,953	100%	\$0
Venezuela	30	927	99%	\$5
Uruguay	32	780	100%	\$0
Paraguay	25	536	100%	\$0
Dominican Republic	7	193	100%	\$0
Bolivia	7	141	100%	\$0
Nicaragua	8	134	100%	\$0
Panama	3	86	100%	\$0
Barbados	1	50	100%	\$0
Honduras	3	47	100%	\$0
Puerto Rico	4	22	100%	\$0
Guatemala	2	21	100%	\$0
Trinidad and Tobago	1	21	100%	\$0
El Salvador	3	18	100%	\$0
Bahamas	1	16	100%	\$0
Guadeloupe	1	11	100%	\$0
Guam	1	4	0%	\$350

**Subjects, Latin America**

<b>Subject</b>	<b>Jour.</b>	<b>Articles</b>	<b>%No-fee</b>	<b>\$/article</b>
Medicine	381	25,196	80%	\$91
Education	294	16,179	95%	\$13
Language & Literature	209	7,800	100%	\$1
Agriculture	135	6,182	52%	\$158
Sociology	204	6,005	99%	\$0
Anthropology	183	5,555	93%	\$12
Economics	212	5,021	100%	\$0
Law	166	4,597	100%	\$0
History	142	4,470	100%	\$0
Miscellany	87	3,947	86%	\$11
Earth Sciences	105	3,887	88%	\$12
Political Science	146	3,787	99%	\$3
Arts & Architecture	99	3,207	99%	\$1
Media & Communications	96	3,149	100%	\$0
Ecology	89	2,974	73%	\$35
Zoology	57	2,660	41%	\$163
Philosophy	90	2,653	98%	\$23
Engineering	80	2,535	84%	\$47
Psychology	87	2,526	96%	\$3
Biology	31	1,630	73%	\$158
Other Sciences	48	1,608	91%	\$6
Mathematics	38	1,297	100%	\$0
Library Science	36	1,213	100%	\$0
Religion	31	904	100%	\$0
Technology	23	689	98%	\$0
Chemistry	15	683	39%	\$175
Computer Science	20	621	100%	\$0
Physics	11	505	80%	\$100

## 13. Middle East

### Key Facts, Middle East

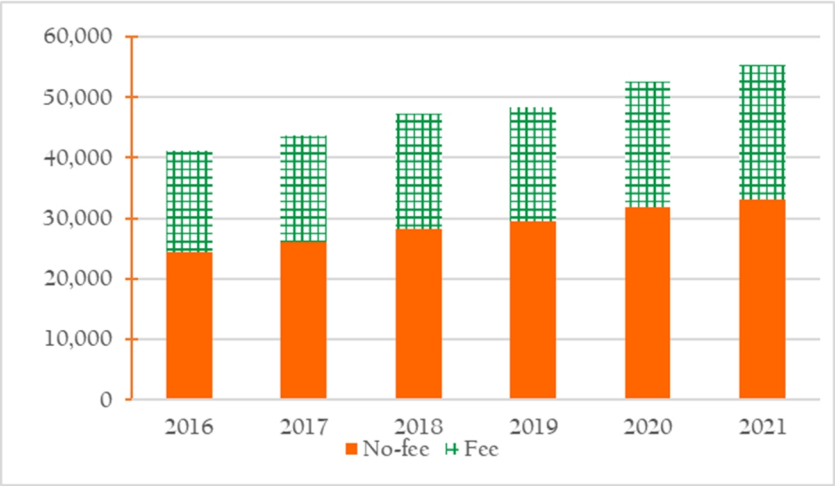
	Journals	Articles	Art%	Rel%	\$/Art	Rel%
All	1,262	55,329			\$125	-91%
Fee	359	22,126	40%	-42%	\$312	-84%
No-fee	903	33,203	60%	93%		
Biomed	423	20,756	38%	-2%	\$158	-91%
Fee	103	7,023	34%	-57%	\$466	-79%
No-fee	320	13,733	66%	219%		
STEM	358	15,673	28%	-31%	\$121	-92%
Fee	112	6,624	42%	-47%	\$287	-85%
No-fee	246	9,049	58%	184%		
H&SS	481	18,900	34%	65%	\$91	-58%
Fee	144	8,479	45%	60%	\$204	-74%
No-fee	337	10,421	55%	-23%		

Mostly no-fee, light on STEM, rich in H&SS.

### Articles and Journals by Year, Middle East

	2021	2020	2019	2018	2017	2016
Journals	1,202	1,231	1,207	1,175	1,116	1,038
%No-fee	72%	72%	71%	71%	71%	71%
Articles	55,329	52,603	48,270	47,238	43,669	41,246
%No-fee	60%	61%	61%	60%	60%	59%
Change	5%	9%	2%	8%	6%	

Fee and No-Fee Articles by Year, Middle East



Article Volume, Middle East

	Journals	Articles	%No-fee	\$/article
Largest: 600+	5	4,040	25%	\$398
Large: 150-599	64	10,592	33%	\$267
Med.: 60-149	267	17,734	63%	\$91
Small: 20-59	784	21,510	76%	\$38
Smallest: 0-19	142	1,453	85%	\$25

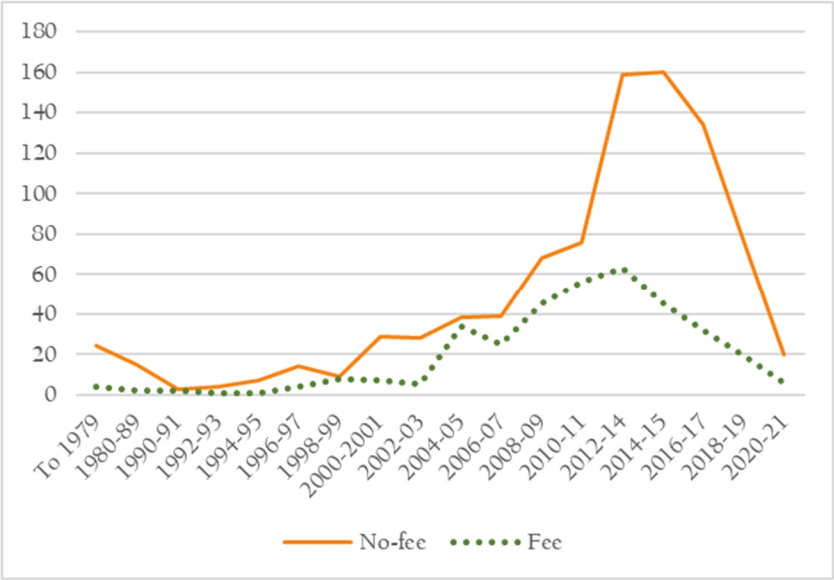
Fee Level, Middle East

	Journals	%Fee	%All	Articles	%Fee	%All
\$2,000+	3	1%	0%	106	0%	0%
\$1,000-\$1,999	6	2%	0%	1,640	7%	3%
\$500-\$999	26	7%	2%	2,358	11%	4%
\$0.20-\$499	324	90%	26%	18,022	81%	33%
No fee	903		72%	33,203		60%

Very few very large journals and even fewer very expensive journals.



Starting Date, Middle East



Fees and Revenue, Middle East

	Articles	Revenue	\$/article
\$2,000+	106	\$225,200	\$2,125
\$1,000-\$1.999	1,640	\$2,106,500	\$1,284
\$500-\$999	2,358	\$1,780,431	\$755
\$0.20-\$499	18,022	\$2,793,292	\$155
No fee	33,203		
Total	55,329	\$6,905,423	\$125

**Publisher Category, Middle East**

Category	Journals	Articles	%No-fee	\$/article
Univ./college	949	37,863	65%	\$70
Open Access	161	7,166	69%	\$84
Society/govt	108	5,183	37%	\$162
Traditional	44	5,117	35%	\$553

**Growth and Shrinkage, Middle East**

Change 2020-2021	Count	Percent	Cum%
Grew 25%+	258	21.6%	
Even, $\pm 24.99\%$	716	59.9%	81.5%
Shrank 25%+	221	18.5%	
Total	1,195		

**Country of Publication, Middle East**

Country	Journals	Articles	%No-fee	\$/article
Iran	654	24,586	61%	\$84
Turkey	429	18,885	79%	\$61
Iraq	66	4,349	12%	\$139
Egypt	50	3,276	15%	\$341
Saudi Arabia	16	2,238	33%	\$843
Qatar	11	527	98%	\$25
Oman	7	336	100%	\$0
Bahrain	1	300	100%	\$0
United Arab Emirates	10	294	67%	\$65
Lebanon	2	171	9%	\$137
Jordan	3	129	22%	\$130
Israel	3	100	100%	\$0
Yemen	6	80	43%	\$63
Pakistan	1	35	0%	\$92
Syria	2	15	100%	\$0
Palestine	1	8	100%	\$0

**Subjects, Middle East**

<b>Subject</b>	<b>Jour.</b>	<b>Articles</b>	<b>%No-fee</b>	<b>\$/article</b>
Medicine	391	18,977	71%	\$109
Engineering	52	3,290	60%	\$240
Language & Literature	46	3,006	22%	\$184
Agriculture	66	2,919	47%	\$36
Economics	76	2,565	43%	\$145
Education	72	2,479	73%	\$54
Zoology	40	2,065	40%	\$73
Anthropology	47	1,823	38%	\$160
Biology	32	1,779	18%	\$678
Ecology	44	1,664	50%	\$58
Sociology	40	1,606	64%	\$19
Other Sciences	26	1,333	44%	\$400
Earth Sciences	37	1,201	74%	\$27
Library Science	10	1,165	98%	\$4
Arts & Architecture	26	1,052	29%	\$200
Religion	42	1,027	84%	\$11
Mathematics	31	969	95%	\$5
Law	20	961	65%	\$20
Miscellany	17	788	63%	\$56
Chemistry	20	770	59%	\$229
History	22	681	82%	\$12
Computer Science	21	621	78%	\$17
Technology	11	606	85%	\$6
Psychology	20	552	53%	\$46
Political Science	20	544	85%	\$12
Media & Communications	14	389	72%	\$17
Philosophy	9	262	39%	\$40
Physics	10	235	90%	\$7

Only two subjects average more than \$240.

## 14. Pacific/English

### Key Facts, Pacific/English

	Journals	Articles	Art%	Rel%	\$/Art	Rel%
All	1,276	148,215			\$1,769	29%
Fee	502	126,061	85%	24%	\$2,080	4%
No-fee	774	22,154	15%	-52%		
Biomed	431	62,777	42%	10%	\$2,139	20%
Fee	302	56,973	91%	14%	\$2,357	5%
No-fee	129	5,804	9%	-55%		
STEM	271	69,419	47%	15%	\$1,781	13%
Fee	159	64,607	93%	17%	\$1,914	-3%
No-fee	112	4,812	7%	-66%		
H&SS	574	16,019	11%	-48%	\$269	24%
Fee	41	4,481	28%	0%	\$963	25%
No-fee	533	11,538	72%	0%		

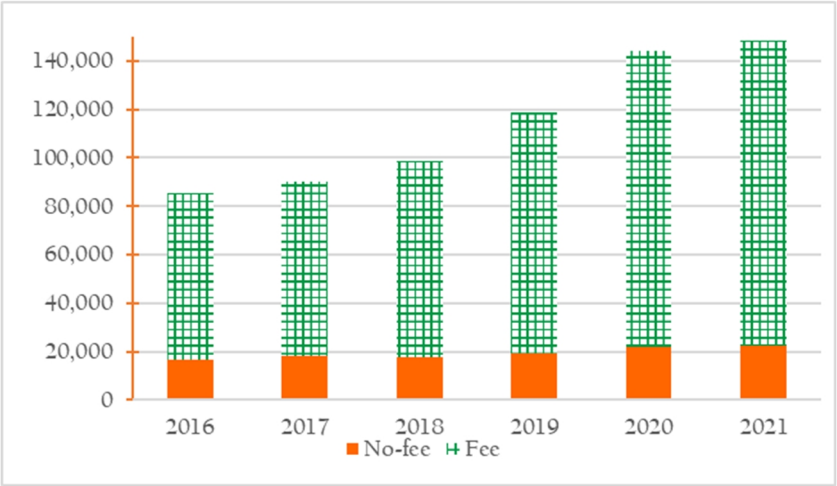
Wondered where the fee-heavy, expensive, H&SS-thin regions are? Here and Western Europe, although STEM fees are a bit below average.

### Articles and Journals by Year, Pacific/English

	2021	2020	2019	2018	2017	2016
Journals	1,187	1,188	1,104	1,023	976	880
%No-fee	59%	61%	63%	65%	65%	68%
Articles	148,215	144,145	118,780	98,698	90,148	85,469
%No-fee	15%	15%	16%	18%	20%	19%
Change	3%	21%	20%	9%	5%	

Slow growth in 2021 after two strong years.

Fee and No-Fee Articles by Year, Pacific/English



Article Volume, Pacific/English

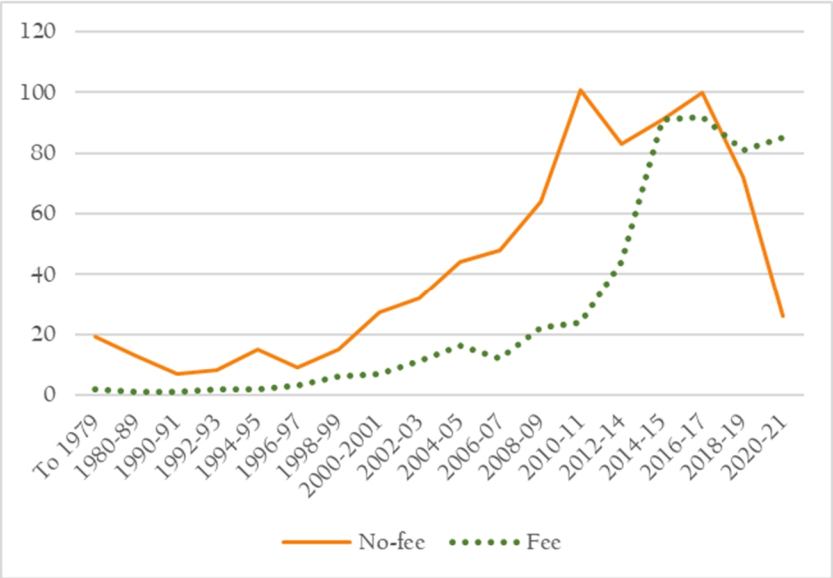
	Journals	Articles	%No-fee	\$/article
Largest: 600+	43	81,220	1%	\$2,023
Large: 150-599	149	32,528	13%	\$2,029
Med.: 60-149	228	17,589	33%	\$1,326
Small: 20-59	571	14,631	66%	\$560
Smallest: 0-19	285	2,247	89%	\$166

More than half of the articles are in the largest journals.

Fee Level, Pacific/English

	Journals	%Fee	%All	Articles	%Fee	%All
\$2,000+	225	45%	18%	55,478	44%	37%
\$1,000-\$1.999	170	34%	13%	62,063	49%	42%
\$500-\$999	47	9%	4%	5,926	5%	4%
\$0.20-\$499	60	12%	5%	2,594	2%	2%
No fee	774		61%	22,154		15%

Starting Date, Pacific/English



Fees and Revenue, Pacific/English

	Articles	Revenue	\$/article
\$2,000+	55,478	\$155,674,104	\$2,806
\$1,000-\$1.999	62,063	\$101,775,840	\$1,640
\$500-\$999	5,926	\$4,096,464	\$691
\$0.20-\$499	2,594	\$681,107	\$263
No fee	22,154		
Total	148,215	\$262,227,515	\$1,769

Publisher Category, Pacific/English

Category	Journals	Articles	%No-fee	\$/article
Open Access	243	48,617	10%	\$1,788
Traditional	306	41,963	3%	\$2,149
Society/govt	223	41,317	13%	\$1,789
Univ./college	504	16,318	64%	\$689

Most active in most regions, universities are least active here.

### Growth and Shrinkage, Pacific/English

Change 2020-2021	Count	Percent	Cum%
Grew 25%+	362	31.9%	
Even, $\pm 24.99\%$	515	45.3%	77.2%
Shrank 25%+	259	22.8%	
Total	1,136		

### Country of Publication, Pacific/English

Country	Journals	Articles	%No-fee	\$/article
United States	953	133,662	11%	\$1,836
Canada	195	7,206	59%	\$856
Australia	111	6,994	34%	\$1,527
New Zealand	17	353	97%	\$5

This pseudo-region offers very different stories: one expensive country with very few no-fee articles; one slightly less expensive country with two-thirds fee articles; one moderately-priced country with mostly no-fee publishing—and one country that had no fees at all in 2020 and almost none in 2021.

### Subjects, Pacific/English

That medicine is the largest subject isn't unusual—but even here, several subjects have either no fee articles (library science, history, religion) or almost none. Other Sciences stands out for being 100% fee, and high fees at that.

<b>Subject</b>	<b>Jour.</b>	<b>Articles</b>	<b>%No-fee</b>	<b>\$/article</b>
Medicine	379	52,532	10%	\$2,108
Other Sciences	17	25,303	0%	\$2,002
Engineering	25	13,530	2%	\$1,730
Biology	52	10,245	6%	\$2,295
Physics	22	7,785	5%	\$2,262
Chemistry	16	6,038	4%	\$1,715
Ecology	47	4,661	17%	\$1,666
Computer Science	41	3,821	36%	\$864
Education	106	3,164	91%	\$42
Mathematics	30	2,757	46%	\$545
Anthropology	46	2,344	35%	\$571
Earth Sciences	23	2,188	12%	\$1,347
Sociology	62	1,871	59%	\$445
Zoology	12	1,462	7%	\$1,668
Agriculture	24	1,178	3%	\$1,880
Economics	38	1,139	90%	\$47
Miscellany	18	1,125	19%	\$973
Language & Literature	58	1,088	94%	\$19
Media & Communications	36	785	89%	\$187
Philosophy	36	762	93%	\$7
Library Science	32	759	100%	\$0
Political Science	33	716	94%	\$48
Technology	14	696	3%	\$2,082
Psychology	15	642	21%	\$749
History	30	499	100%	\$0
Arts & Architecture	27	473	92%	\$114
Law	22	426	79%	\$277
Religion	15	226	100%	\$0



# 15. Western Europe

## Key Facts, Western Europe

	Journals	Articles	Art%	Rel%	\$/Art	Rel%
All	5,189	732,180			\$1,966	43%
Fee	2,452	617,343	84%	22%	\$2,332	17%
No-fee	2,737	114,837	16%	-50%		
Biomed	1,560	309,140	42%	10%	\$2,311	30%
Fee	1,239	284,462	92%	16%	\$2,511	12%
No-fee	321	24,678	8%	-61%		
STEM	1,328	346,144	47%	16%	\$1,963	25%
Fee	912	304,739	88%	10%	\$2,230	13%
No-fee	416	41,405	12%	-41%		
H&SS	2,301	76,896	11%	-49%	\$593	173%
Fee	301	28,142	37%	30%	\$1,621	110%
No-fee	2,000	48,754	63%	-12%		

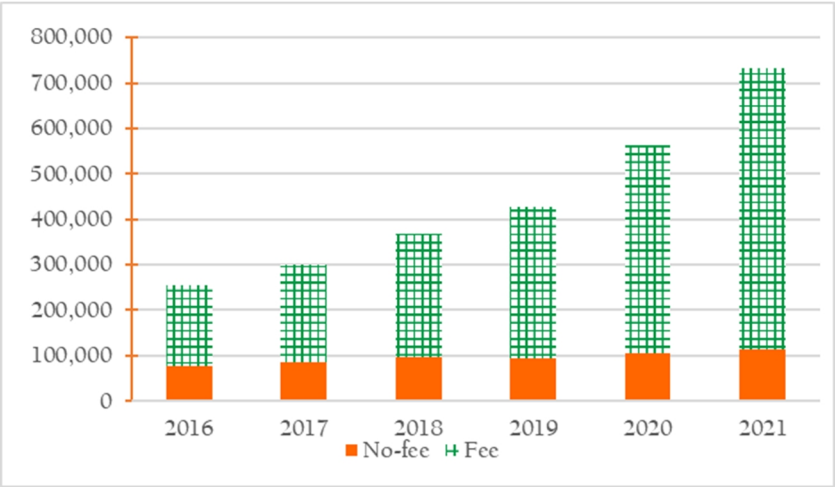
By far the most articles. Very low (but also very expensive) in H&SS, very low in no-fee throughout.

## Articles and Journals by Year, Western Europe

	2021	2020	2019	2018	2017	2016
Journals	4,933	4,755	4,538	4,277	4,056	3,789
%No-fee	52%	54%	56%	57%	57%	57%
Articles	732,180	562,014	426,867	367,441	300,218	255,377
%No-fee	16%	19%	22%	26%	28%	30%
Change	30%	32%	16%	22%	18%	

Very rapid growth continues—as does shift toward fee articles.

Fee and No-Fee Articles by Year, Western Europe



Article Volume, Western Europe

	Journals	Articles	%No-fee	\$/article
Largest: 600+	226	458,085	8%	\$2,312
Large: 150-599	536	129,155	10%	\$1,889
Med.: 60-149	989	73,053	32%	\$1,284
Small: 20-59	2,421	62,448	60%	\$622
Smallest: 0-19	1,017	9,439	70%	\$400

Almost two-thirds of the articles are in the largest journals.

Fee Level, Western Europe

	Jour.	%Fee	%All	Articles	%Fee	%All
\$2,000+	924	38%	18%	434,261	70%	59%
\$1,000-\$1,999	1,028	42%	20%	151,664	25%	21%
\$500-\$999	328	13%	6%	21,245	3%	3%
\$0.20-\$499	172	7%	3%	10,173	2%	1%
No fee	2,737		53%	114,837		16%

Nearly six out of ten articles are in the most expensive journals.

Starting Date, Western Europe



Fees and Revenue, Western Europe

	Articles	Revenue	\$/article
\$2,000+	434,261	\$1,169,828,331	\$2,694
\$1,000-\$1.999	151,664	\$251,501,266	\$1,658
\$500-\$999	21,245	\$15,640,425	\$736
\$0.20-\$499	10,173	\$2,527,395	\$248
No fee	114,837		
Total	732,180	\$1,439,497,417	\$1,966

he only billion-dollar region, mostly in very expensive journals.

Publisher Category, Western Europe

Category	Journals	Articles	%No-fee	\$/article
Traditional	2,064	369,852	12%	\$2,168
Open Access	885	265,724	5%	\$2,117
Univ./college	1,838	70,492	59%	\$860
Society/govt	402	26,112	56%	\$563

**Growth and Shrinkage, Western Europe**

<b>Change 2020-2021</b>	<b>Count</b>	<b>Percent</b>	<b>Cum%</b>
Grew 25%+	1,512	32.7%	
Even, $\pm 24.99\%$	2,145	46.5%	79.2%
Shrank 25%+	960	20.8%	
Total	4,617		

**Country of Publication, Western Europe**

<b>Country</b>	<b>Journals</b>	<b>Articles</b>	<b>%No-fee</b>	<b>\$/article</b>
Switzerland	497	324,107	1%	\$2,407
United Kingdom	1,856	258,947	8%	\$2,219
Netherlands	349	35,531	19%	\$1,368
Spain	874	28,116	86%	\$126
France	269	26,937	91%	\$187
Germany	313	25,940	50%	\$757
Italy	460	16,934	69%	\$260
Portugal	144	4,357	82%	\$146
Norway	118	2,825	93%	\$63
Finland	63	1,806	81%	\$237
Greece	40	1,607	73%	\$214
Sweden	44	1,426	59%	\$761
Austria	53	1,360	64%	\$232
Belgium	48	701	95%	\$19
Ireland	17	632	51%	\$837
Denmark	33	592	95%	\$20
Iceland	6	314	100%	\$0
Malta	2	32	100%	\$0
Luxembourg	2	12	100%	\$0
Åland Islands	1	4	100%	\$0

Switzerland added another 120,000+ articles this year, and its average fee increased another \$202.

**Subjects, Western Europe**

<b>Subject</b>	<b>Jour.</b>	<b>Articles</b>	<b>%No-fee</b>	<b>\$/article</b>
Medicine	1,352	246,066	9%	\$2,250
Ecology	199	67,662	23%	\$1,749
Biology	208	63,074	2%	\$2,547
Chemistry	104	59,753	6%	\$2,127
Other Sciences	51	54,276	1%	\$2,544
Physics	110	38,110	24%	\$1,599
Engineering	126	28,220	4%	\$2,028
Earth Sciences	185	24,551	12%	\$1,934
Agriculture	114	24,451	9%	\$2,051
Computer Science	192	15,886	12%	\$1,411
Mathematics	77	11,926	7%	\$1,837
Zoology	97	11,378	10%	\$1,843
Technology	73	9,931	25%	\$1,503
Psychology	75	9,326	10%	\$2,307
Language & Literature	398	7,738	89%	\$78
Education	203	7,647	67%	\$349
Anthropology	239	7,580	57%	\$554
Arts & Architecture	213	5,842	70%	\$408
Sociology	160	5,411	64%	\$528
Miscellany	59	5,317	73%	\$353
History	215	5,189	96%	\$17
Economics	143	4,641	46%	\$750
Media & Communications	143	4,423	72%	\$350
Law	132	3,692	86%	\$173
Political Science	126	3,364	68%	\$395
Religion	57	3,074	41%	\$507
Philosophy	91	2,338	82%	\$294
Library Science	47	1,314	89%	\$131

Ecology stands out as the only one of the five most popular subjects with more than 9% no-fee articles and less than \$2,000 average cost.

## 16. Biology and Medicine

### Key Facts. Biomed

	Journals	Articles	Art%	\$/Art
Biomed	4,012	489,543	38%	\$1,784
Fee	2,151	388,039	79%	\$2,251
No-fee	1,861	101,504	21%	

### Articles and Journals by Year, Biomed

	2021	2020	2019	2018	2017	2016
Journals	3,839	3,768	3,650	3,459	3,298	3,036
%No-fee	46%	47%	48%	48%	48%	48%
Articles	489,543	403,572	316,688	277,285	247,505	226,977
%No-fee	21%	24%	26%	29%	32%	34%
Change	21%	27%	14%	12%	9%	

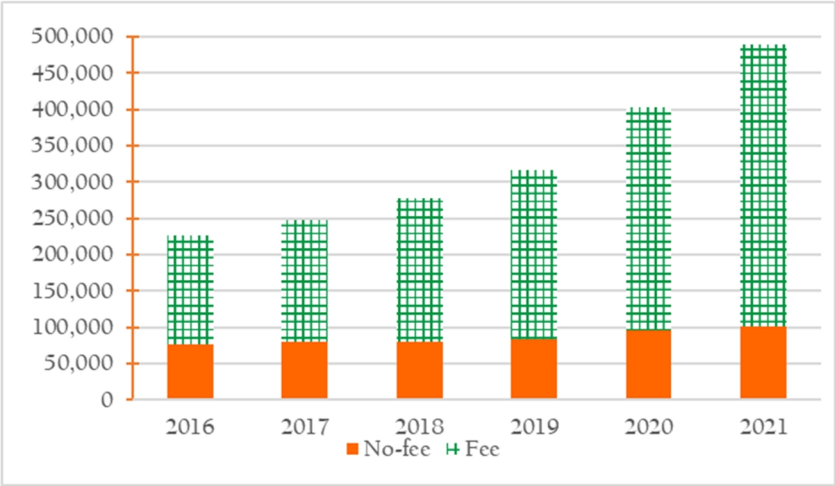
Strong growth continues, and no-fee articles are almost down to a fifth.

### Article Volume, Biomed

	Journals	Articles	%No-fee	\$/article
Largest: 600+	153	218,868	5%	\$2,459
Large: 150-599	598	129,811	18%	\$1,745
Med.: 60-149	1,166	87,509	44%	\$908
Small: 20-59	1,718	49,796	57%	\$549
Smallest: 0-19	377	3,559	53%	\$554

The largest journals published about 65,000 more articles than in GOA6—and the average fee for those articles rose another \$93. For the third year in a row, big journals increased by more than 40%. (This time, by more than half, and the number of largest journals is up by a third.)

Fee and No-Fee Articles by Year, Biomed



Fee Level, Biomed

	Journals	%Fee	%All	Articles	%Fee	%All
\$2,000+	826	38%	21%	269,090	69%	55%
\$1,000-\$1.999	534	25%	13%	65,685	17%	13%
\$500-\$999	285	13%	7%	21,051	5%	4%
\$0.20-\$499	506	24%	13%	32,213	8%	7%
No fee	1,861		46%	101,504		21%

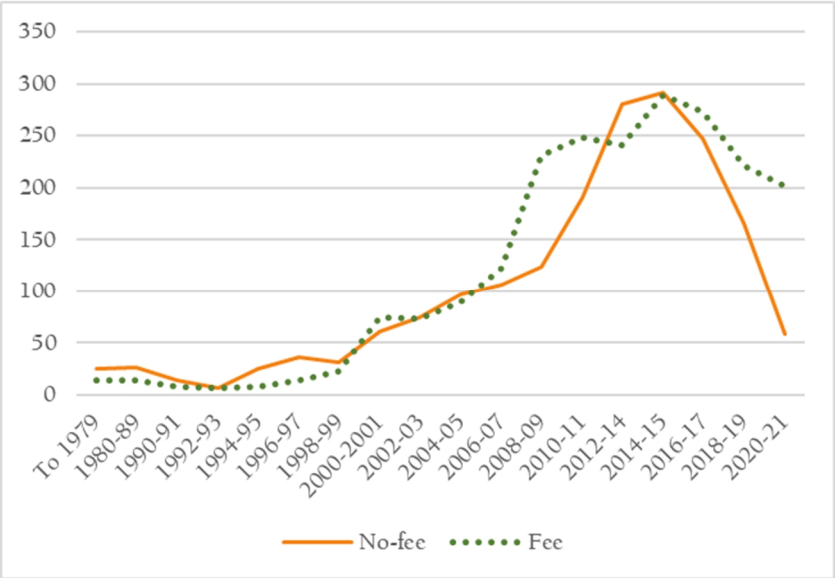
More than half of all articles are in the most expensive journals.

Fees and Revenue, Biomed

	Articles	Revenue	\$/article
\$2,000+	269,090	\$746,432,056	\$2,774
\$1,000-\$1.999	65,685	\$105,735,183	\$1,610
\$500-\$999	21,051	\$14,828,718	\$704
\$0.20-\$499	32,213	\$6,435,476	\$200
No fee	101,504		
Total	489,543	\$873,431,432	\$1,784

Total revenue's gone up more than \$218 million from last year.

Starting Date, Biomed



Region, Biomed

Region	Journals	Articles	%No-fee	\$/article
Western Europe	1,560	309,140	8%	\$2,311
Pacific/English	431	62,777	9%	\$2,139
Asia	718	45,578	48%	\$311
Latin America	412	26,826	80%	\$95
Eastern Europe	419	21,891	62%	\$173
Middle East	423	20,756	66%	\$158
Africa	49	2,575	22%	\$416

Publisher Category, Biomed

Category	Journals	Articles	%No-fee	\$/article
Traditional	1,485	241,575	8%	\$2,342
Open Access	863	132,658	20%	\$1,641
Univ./college	1,191	77,976	47%	\$882
Society/govt	473	37,334	51%	\$566



**Growth and Shrinkage, Biomed**

Change 2020-2021	Count	Percent	Cum%
Grew 25%+	1,094	29.7%	
Even, $\pm$ 24.99%	1,946	52.8%	82.5%
Shrank 25%+	644	17.5%	
Total	3,684		

**Subjects, Biomed**

Subject	Journals	Articles	%No-fee	\$/article	Page
Biology	454	82,114	7%	\$2,277	147
Medicine	3,558	407,429	23%	\$1,685	189

As was true last year, Biology articles have higher average fees and are even less likely to be no-fee. “Page” refers to the starting page of the subject chapter (subject chapters are in alphabetic order following Chapter 18).

**Country of Publication, Biomed**

The table on the next page shows 32 countries with more than 1,000 biomed articles in 2021—compared to 30 with more than 560 in 2020 in GOA6. There are 67 more countries with fewer articles.

As was true last year, the United Kingdom has the most articles but Switzerland has the highest fees, and United States joins those two in having average fees higher than \$2,000 (and less than 10% no-fee).

At the other extreme, Cuba, Peru, and several countries with fewer articles are entirely no-fee.

Country	Journals	Articles	%no-fee	\$/article
United Kingdom	946	144,869	6%	\$2,413
Switzerland	195	124,097	1%	\$2,567
United States	342	54,840	8%	\$2,179
India	263	19,974	55%	\$236
Brazil	198	17,771	70%	\$138
Netherlands	138	16,918	11%	\$1,759
Iran	271	11,967	62%	\$134
Russia	117	7,511	91%	\$17
Spain	90	7,509	71%	\$383
South Korea	91	5,885	51%	\$286
Turkey	100	5,745	90%	\$48
Indonesia	176	5,371	31%	\$74
China	51	5,109	36%	\$794
Poland	98	5,083	42%	\$457
Australia	43	4,931	16%	\$1,967
Italy	60	4,284	35%	\$654
Germany	50	4,184	50%	\$1,086
Cuba	45	3,016	100%	\$0
Canada	45	2,990	29%	\$1,697
France	14	2,748	37%	\$1,529
Ukraine	55	2,525	52%	\$52
Pakistan	25	2,437	19%	\$188
Romania	37	1,995	46%	\$94
Colombia	51	1,785	96%	\$4
Saudi Arabia	7	1,438	30%	\$874
Hong Kong	12	1,386	26%	\$1,049
Bulgaria	17	1,347	19%	\$299
Nepal	18	1,294	64%	\$52
South Africa	27	1,287	21%	\$566
Japan	21	1,201	30%	\$721
Norway	8	1,032	98%	\$10
Peru	20	1,003	100%	\$0

## 17. Science, Technology, Engineering, and Math

### Key Facts, STEM

	Journals	Articles	Art%	\$/Art
STEM	4,324	521,488		\$1,576
Fee	1,909	415,510	80%	\$1,978
No-fee	2,415	105,978	20%	

### Articles and Journals by Year, STEM

	2021	2020	2019	2018	2017	2016
Journals	4,111	4,032	3,862	3,678	3,488	3,237
%No-fee	55%	57%	59%	60%	60%	60%
Articles	521,325	439,809	358,351	313,906	268,606	236,965
%No-fee	20%	23%	27%	31%	32%	33%
Change	19%	23%	14%	17%	13%	

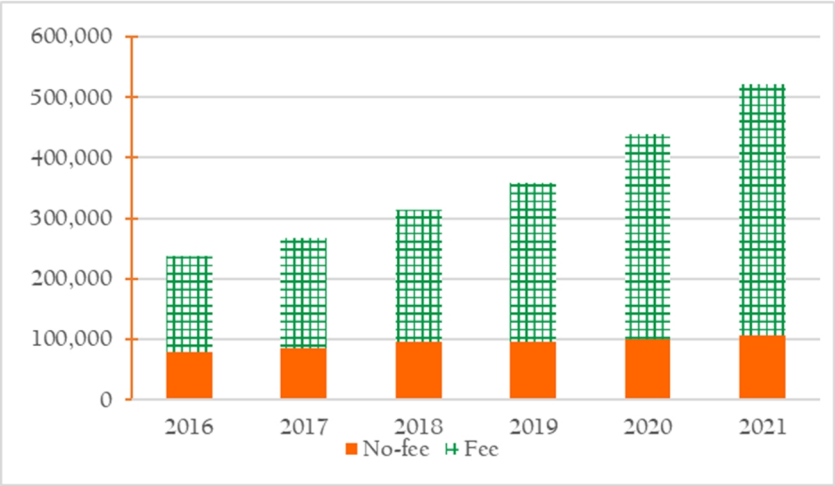
Still strong growth, still almost all the growth is in fee journals.

### Article Volume, STEM

	Journals	Articles	%No-fee	\$/article
Largest: 600+	119	315,459	8%	\$2,099
Large: 150-599	364	77,595	20%	\$1,197
Med.: 60-149	968	64,513	40%	\$688
Small: 20-59	2,163	57,125	60%	\$364
Smallest: 0-19	710	6,796	72%	\$254

The largest journals (and most expensive) publish 60% of the articles.

Fee and No-Fee Articles by Year, STEM



Fee Level, STEM

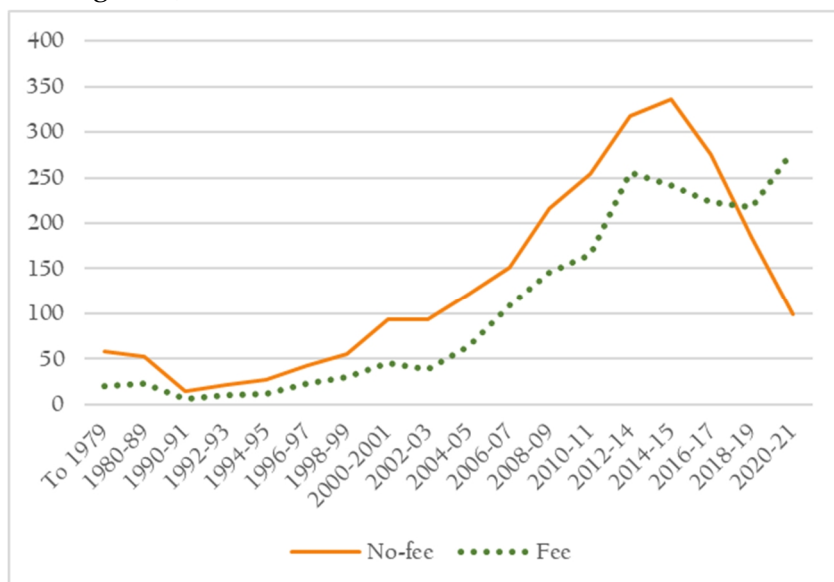
	Jour.	%Fee	%All	Articles	%Fee	%All
\$2,000+	298	16%	7%	213,014	51%	41%
\$1,000-\$1.999	636	33%	15%	144,726	35%	28%
\$500-\$999	243	13%	6%	21,531	5%	4%
\$0.20-\$499	732	38%	17%	36,239	9%	7%
No fee	2,415		56%	105,978		20%

Fees and Revenue, STEM

	Articles	Revenue	\$/article
\$2,000+	213,014	\$558,183,677	\$2,620
\$1,000-\$1.999	144,726	\$241,603,277	\$1,669
\$500-\$999	21,531	\$15,574,841	\$723
\$0.20-\$499	36,239	\$6,417,277	\$177
No fee	105,978		
Total	521,488	\$821,779,072	\$1,576

Potential revenue is up more than \$210 million from GOA6—and the average fee is up \$172.

### Starting Date, STEM



### Region, STEM

Region	Journals	Articles	%No-fee	\$/article
Western Europe	1,328	346,144	12%	\$1,963
Pacific/English	271	69,419	7%	\$1,781
Eastern Europe	921	34,505	61%	\$184
Asia	762	30,155	38%	\$271
Latin America	621	23,641	71%	\$79
Middle East	358	15,673	58%	\$121
Africa	63	1,951	60%	\$143

### Publisher Category, STEM

Category	Journals	Articles	%No-fee	\$/article
Open Access	575	209,636	4%	\$2,061
Traditional	1,005	168,070	18%	\$1,801
Univ./college	2,195	81,474	64%	\$144
Society/govt	549	62,308	24%	\$1,208

**Growth and Shrinkage, STEM**

Change 2020-2021	Count	Percent	Cum%
Grew 25%+	1,032	26.3%	
Even, $\pm 24.99\%$	2,140	54.6%	80.9%
Shrank 25%+	751	19.1%	
Total	3,923		

**Subjects, STEM**

Subject	Jour.	Articles	%No-fee	\$/article	Page
Agriculture	594	44,961	25%	\$1,236	138
Chemistry	241	71,011	9%	\$1,956	148
Computer Science	474	27,247	30%	\$973	151
Earth Sciences	559	38,664	31%	\$1,344	156
Ecology	551	83,647	26%	\$1,531	159
Engineering	545	59,225	19%	\$1,416	168
Mathematics	334	20,749	33%	\$1,149	184
Other Sciences	229	86,377	5%	\$2,198	196
Physics	238	50,383	25%	\$1,577	202
Technology	225	16,187	37%	\$1,081	217
Zoology	334	23,037	20%	\$1,138	220

“Other Sciences”—the largest and most expensive STEM subject, and the one with fewest no-fee articles—includes megajournals.

**Country of Publication, STEM**

This table lists 32 countries with more than 1,000 2021 articles; another 70 have fewer articles. This time, only Switzerland (entirely fee!) and United Kingdom exceed the \$2,000 mark—and, again, Cuba is the only prolific country with no fees at all.

Country	Journals	Articles	%no-fee	\$/article
Switzerland	229	184,277	0%	\$2,338
United Kingdom	547	101,900	7%	\$2,095
United States	228	67,614	6%	\$1,804
Germany	138	17,858	48%	\$803
France	68	17,548	96%	\$47
Netherlands	128	15,904	20%	\$1,118
Brazil	302	14,992	61%	\$110
Indonesia	451	11,241	35%	\$77
China	104	8,430	41%	\$421
Poland	217	7,391	45%	\$373
Russia	149	6,964	83%	\$28
Iran	193	6,791	63%	\$32
Italy	66	4,311	57%	\$350
Ukraine	118	4,084	66%	\$17
Turkey	87	4,018	86%	\$4
Romania	100	3,092	67%	\$79
Serbia	77	2,928	60%	\$116
Colombia	89	2,182	97%	\$6
Egypt	25	2,109	13%	\$414
Spain	75	2,090	88%	\$87
Bulgaria	39	1,987	29%	\$526
India	30	1,974	36%	\$324
Malaysia	38	1,839	39%	\$177
South Korea	26	1,697	44%	\$368
Japan	19	1,592	6%	\$975
Croatia	37	1,508	63%	\$218
Iraq	33	1,483	21%	\$101
Czechia	40	1,366	45%	\$240
Mexico	33	1,355	67%	\$65
Cuba	37	1,330	100%	\$0
Argentina	53	1,041	82%	\$42
Lithuania	25	1,032	31%	\$584

## 18. Humanities & Social Sciences

### Key Facts, H&SS

	Journals	Articles	Art%	\$/Art
H&SS	8,284	264,181		\$217
Fee	1,287	74,176	28%	\$773
No-fee	6,997	190,005	72%	

### Articles and Journals by Year, H&SS

	2021	2020	2019	2018	2017	2016
Journals	7,689	7,968	7,844	7,587	7,222	6,721
%No-fee	84%	85%	85%	85%	86%	86%
Articles	264,181	260,766	236,154	228,010	212,266	191,834
%No-fee	72%	76%	77%	78%	80%	80%
Change	1%	10%	4%	7%	11%	

Flat after a good 2020—and no-fee has dropped below three-quarters.

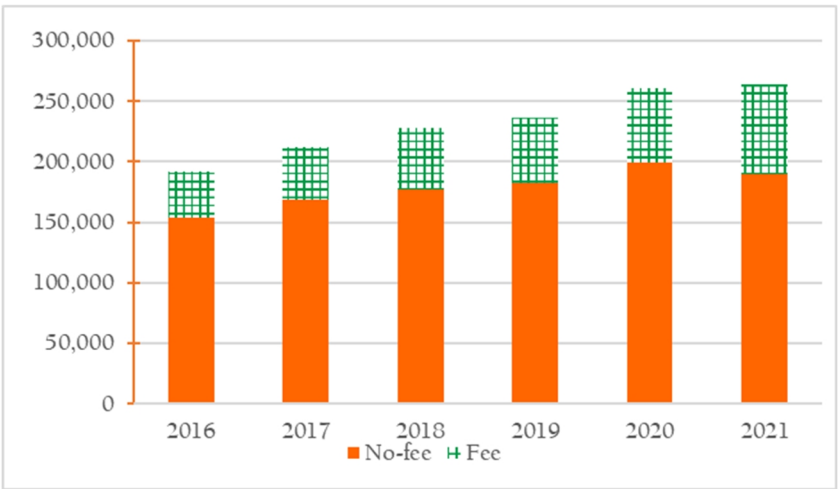
### Article Volume, H&SS

	Journals	Articles	%No-fee	\$/article
Largest: 600+	25	23,733	22%	\$1,211
Large: 150-599	178	30,291	39%	\$435
Med.: 60-149	1,179	69,778	76%	\$129
Small: 20-59	4,981	121,434	86%	\$46
Smallest: 0-19	1,921	18,945	86%	\$48

Still mostly small and medium-sized.



**Fee and No-Fee Articles by Year, H&SS**



**Fee Level, H&SS**

	Jour.	%Fee	%All	Articles	%Fee	%All
\$2,000+	39	3%	0%	9,139	12%	3%
\$1,000-\$1.999	151	12%	2%	15,822	21%	6%
\$500-\$999	117	9%	1%	7,045	9%	3%
\$0.20-\$499	982	76%	12%	42,300	57%	16%
No fee	6,998		84%	190,017		72%

More than half of articles with fees have modest ones.

**Fees and Revenue, H&SS**

	Articles	Revenue	\$/article
\$2,000+	9,068	\$25,186,417	\$2,778
\$1,000-\$1.999	15,763	\$21,823,028	\$1,384
\$500-\$999	7,045	\$5,032,250	\$714
\$0.20-\$499	42,300	\$5,298,809	\$125
No fee	190,005		
Total	264,181	\$57,340,504	\$217

Starting Date, H&SS



Region, H&SS

Region	Journals	Articles	%No-fee	\$/article
Western Europe	2,301	76,896	63%	\$593
Latin America	2,082	71,013	97%	\$6
Eastern Europe	1,610	50,099	72%	\$44
Asia	1,139	27,942	47%	\$65
Middle East	481	18,900	55%	\$91
Pacific/English	574	16,019	72%	\$269
Africa	97	3,312	32%	\$389

Latin America is still a large factor with very few fee journals.

**Publisher Category, H&SS**

Category	Journals	Articles	%No-fee	\$/article
Univ./college	6,470	184,990	81%	\$31
Open Access	750	30,347	49%	\$454
Traditional	448	29,140	33%	\$1,255
Society/govt	616	19,704	80%	\$68

Academic publishers still dominate, and the average cost, up \$2 from GOA6, is still very low.

**Growth and Shrinkage, H&SS**

Change 2020-2021	Count	Percent	Cum%
Grew 25%+	1,734	22.9%	
Even, $\pm 24.99\%$	4,167	54.9%	77.8%
Shrank 25%+	1,687	22.2%	
Total	7,588		

**Subjects, H&SS**

Subject	Jour.	Articles	%No-fee	\$/article	Page
Anthropology	737	24,242	61%	\$266	141
Arts & Architecture	456	13,281	74%	\$213	144
Economics	998	28,948	60%	\$188	162
Education	1,019	41,227	73%	\$92	165
History	531	14,116	94%	\$11	171
Language & Literature	1,105	29,715	80%	\$53	174
Law	533	14,553	85%	\$68	177
Library Science	175	5,422	93%	\$49	180
Media & Communications	352	9,981	82%	\$175	186
Miscellany	256	13,797	68%	\$232	193
Philosophy	314	8,567	87%	\$102	199
Political Science	535	14,491	82%	\$111	205
Psychology	290	15,541	35%	\$1,425	208
Religion	349	9,900	60%	\$235	211
Sociology	634	20,400	75%	\$193	214

As in Chapters 16 and 17, this table is alphabetic. Psychology stands out as the only four-digit average cost, more than five times as much as Anthropology.

**Country of Publication, H&SS**

The 32 countries in this table each had at least 1,300 H&SS articles in 2021; another 80 had fewer articles. Brazil and Switzerland stand out in different ways: Brazil for by far the most articles and a very low average cost, Switzerland for average cost more than twice as high as any other country (the only four-digit average cost). As usual, Cuba has no fee articles, also true of Ecuador and about four dozen other countries.

Country	Journals	Articles	%no-fee	\$/article
Brazil	1,074	44,091	96%	\$7
Indonesia	933	20,668	41%	\$35
Spain	709	18,517	91%	\$26
Switzerland	73	15,733	6%	\$1,955
Russia	235	12,261	82%	\$37
United Kingdom	363	12,178	38%	\$949
United States	383	11,208	64%	\$348
Poland	423	10,976	81%	\$49
Turkey	242	9,122	69%	\$94
Italy	334	8,339	93%	\$11
Ukraine	189	7,924	28%	\$45
France	187	6,641	100%	\$1
Colombia	265	6,402	100%	\$0
Argentina	253	5,982	100%	\$0
Romania	218	5,914	69%	\$39
Iran	190	5,828	55%	\$41
Germany	125	3,898	60%	\$193
Canada	127	3,487	89%	\$100
Mexico	129	3,368	99%	\$0
Portugal	113	3,153	77%	\$200
Chile	107	2,950	83%	\$33
Cuba	33	2,713	100%	\$0
Netherlands	83	2,709	70%	\$401
South Africa	65	2,438	14%	\$522
Iraq	17	2,419	9%	\$165
Serbia	102	2,356	93%	\$10
Croatia	87	1,922	98%	\$10
Czechia	84	1,774	94%	\$22
Norway	101	1,703	92%	\$84
South Korea	28	1,676	21%	\$372
Lithuania	56	1,443	68%	\$142
Ecuador	46	1,300	100%	\$0

# 19. Agriculture

## Key Facts, Agriculture

	Journals	Articles	Art%	Rel%	\$/Art	Rel%
All	594	44,961			\$1,236	-10%
Fee	267	33,685	75%	9%	\$1,650	-17%
No-fee	327	11,276	25%	-20%		

For subject chapters, “Rel%” are relative to all, not to a subject segment.

## Articles and Journals by Year, Agriculture

	2021	2020	2019	2018	2017	2016
Journals	571	574	564	543	524	499
%No-fee	55%	55%	56%	57%	56%	57%
Articles	44,961	38,116	30,674	27,474	24,990	23,759
%No-fee	25%	31%	35%	39%	43%	43%
Change	18%	24%	12%	10%	5%	

Growth the last four years; continued shift toward fees.

## Article Volume, Agriculture

	Journals	Articles	%No-fee	\$/article
Largest: 600+	11	19,482	3%	\$2,246
Large: 150-599	39	6,755	22%	\$755
Med.: 60-149	166	10,210	41%	\$467
Small: 20-59	295	7,649	57%	\$242
Smallest: 0-19	83	865	76%	\$113

As usual, the largest journals have *by far* the highest fees.

**Fees and Revenue, Agriculture**

	<b>Journals</b>	<b>Articles</b>	<b>Revenue</b>	<b>\$/article</b>
\$2,000+	29	18,614	\$45,357,213	\$2,437
\$1,000-\$1,999	37	4,337	\$7,093,919	\$1,636
\$500-\$999	26	2,479	\$1,875,450	\$757
\$0.01-\$499	165	8,255	\$1,247,050	\$151
No fee	314	11,276		
Total	571	44,961	\$55,573,632	\$1,236

**Region, Agriculture**

<b>Region</b>	<b>Journals</b>	<b>Articles</b>	<b>%No-fee</b>	<b>\$/article</b>
Western Europe	114	24,451	9%	\$2,051
Latin America	135	6,182	52%	\$158
Eastern Europe	129	5,634	56%	\$172
Asia	118	4,370	24%	\$264
Middle East	66	2,919	47%	\$36
Pacific/English	24	1,178	3%	\$1,880
Africa	8	227	90%	\$31

**Publisher Category, Agriculture**

<b>Category</b>	<b>Journals</b>	<b>Articles</b>	<b>%No-fee</b>	<b>\$/article</b>
Open Access	53	17,149	4%	\$1,983
Univ./college	374	14,595	59%	\$103
Traditional	88	9,051	13%	\$1,904
Society/govt	79	4,166	20%	\$678

OA publishers now outdo universities slightly.

**Country of Publication, Agriculture, >200 articles in 2021**

In addition to these 32, there are 29 countries with fewer articles. Switzerland's very high costs have gone up another \$220/article.

Country	Journals	Articles	%no-fee	\$/article
Switzerland	14	18,365	0%	\$2,357
Brazil	66	4,014	41%	\$214
United Kingdom	38	3,096	9%	\$1,827
Indonesia	80	1,873	29%	\$55
Russia	21	1,475	58%	\$51
Turkey	22	1,253	56%	\$13
Iran	35	1,190	44%	\$29
United States	24	1,178	3%	\$1,880
Romania	19	1,149	61%	\$113
China	11	949	27%	\$748
Netherlands	11	914	27%	\$1,055
Germany	8	805	96%	\$17
Czechia	13	553	28%	\$332
Poland	26	534	63%	\$272
Italy	17	506	53%	\$310
Colombia	14	393	95%	\$5
Mexico	6	390	28%	\$114
Argentina	16	388	58%	\$105
Malaysia	2	382	5%	\$289
Ukraine	11	344	45%	\$60
Cuba	11	340	100%	\$0
Bulgaria	5	338	28%	\$686
Spain	10	302	100%	\$0
France	8	296	100%	\$0
Serbia	13	286	74%	\$37
Croatia	7	273	100%	\$0
Bangladesh	6	247	0%	\$65
India	5	242	32%	\$30
Japan	2	241	0%	\$385
South Korea	4	227	32%	\$358
Iraq	3	214	0%	\$171
Estonia	3	213	23%	\$272



## 20. Anthropology

### Key Facts, Anthropology

	Journals	Articles	Art%	Rel%	\$/Art	Rel%
All	737	24,242			\$266	-81%
Fee	128	9,397	39%	-44%	\$685	-66%
No-fee	609	14,845	61%	96%		

Includes archaeology, sports sciences and tourism. Mostly no-fee, and the fees are relatively low.

### Articles and Journals by Year, Anthropology

	2021	2020	2019	2018	2017	2016
Journals	698	712	697	676	650	613
%No-fee	82%	83%	83%	83%	84%	84%
Articles	24,242	24,026	22,931	22,039	21,260	18,075
%No-fee	61%	65%	64%	64%	65%	69%
Change	1%	5%	4%	4%	18%	

Flat or slow growth, with a slow drift toward fee articles.

### Article Volume, Anthropology

	Journals	Articles	%No-fee	\$/article
Largest: 600+	3	1,517	0%	\$719
Large: 150-599	14	3,331	1%	\$768
Med.: 60-149	101	6,176	58%	\$309
Small: 20-59	463	11,641	84%	\$69
Smallest: 0-19	156	1,577	88%	\$53

Few articles in larger (and more expensive) journals, typical of H&SS.

**Fees and Revenue, Anthropology**

	Journals	Articles	Revenue	\$/article
\$2,000+	8	474	\$1,026,490	\$2,166
\$1,000-\$1,999	24	3,130	\$4,363,256	\$1,394
\$500-\$999	7	286	\$209,972	\$734
\$0.01-\$499	85	5,507	\$841,822	\$153
No fee	574	14,845		
Total	698	24,242	\$6,441,540	\$266

**Region, Anthropology**

Region	Journals	Articles	%No-fee	\$/article
Western Europe	239	7,580	57%	\$554
Latin America	183	5,555	93%	\$12
Eastern Europe	163	5,451	56%	\$73
Pacific/English	46	2,344	35%	\$571
Middle East	47	1,823	38%	\$160
Asia	54	1,315	56%	\$80
Africa	5	174	30%	\$266

Another case where Latin America is second most active. Few/low fees.

**Publisher Category, Anthropology**

Category	Journals	Articles	%No-fee	\$/article
Univ./college	551	16,377	73%	\$67
Open Access	67	3,085	26%	\$690
Traditional	53	3,070	22%	\$1,036
Society/govt	66	1,710	87%	\$21

As is typical for H&SS, universities dominate.

**Country of Publication, Anthropology, >110 articles in 2021**

In addition to these 31, another 32 have fewer articles.

Country	Journals	Articles	%no-fee	\$/article
Brazil	86	3,236	88%	\$20
Spain	84	2,514	72%	\$71
United States	31	2,008	24%	\$664
Poland	50	1,762	51%	\$81
Switzerland	10	1,635	1%	\$1,563
Romania	33	1,393	36%	\$102
Turkey	24	1,070	45%	\$207
United Kingdom	31	862	32%	\$1,255
Indonesia	40	856	46%	\$38
Argentina	32	696	98%	\$1
Ukraine	14	605	20%	\$113
France	25	576	100%	\$0
Iran	18	569	37%	\$81
Italy	26	541	100%	\$0
Colombia	16	399	100%	\$0
Russia	7	375	83%	\$68
Germany	12	372	76%	\$456
Mexico	14	351	100%	\$0
Cuba	6	337	100%	\$0
Netherlands	6	317	50%	\$560
Portugal	16	295	80%	\$43
Canada	13	294	97%	\$12
Czechia	12	228	100%	\$0
Chile	10	227	100%	\$0
Serbia	14	211	100%	\$0
Croatia	7	205	100%	\$0
Norway	9	161	100%	\$0
South Africa	3	156	22%	\$297
Finland	11	154	100%	\$0
Moldova	4	143	100%	\$0
Malaysia	4	141	100%	\$0

## 21. Arts & Architecture

### Key Facts, Arts & Architecture

	Journals	Articles	Art%	Rel%	\$/Art	Rel%
All	456	13,281			\$213	-85%
Fee	63	3,453	26%	-62%	\$818	-59%
No-fee	393	9,828	74%	137%		

Modest fees, with no fees for just under three-quarters of articles.

### Articles and Journals by Year, Arts & Architecture

	2021	2020	2019	2018	2017	2016
Journals	424	438	437	420	393	369
%No-fee	87%	87%	87%	88%	87%	88%
Articles	13,281	12,798	11,981	11,614	10,118	8,949
%No-fee	74%	78%	78%	76%	81%	83%
Change	4%	7%	3%	15%	13%	

Modest year-to-year growth, but 10% more journals than in GOA6.

### Article Volume, Arts & Architecture

	Journals	Articles	%No-fee	\$/article
Largest: 600+	1	676	0%	\$1,969
Large: 150-599	6	993	21%	\$511
Med.: 60-149	61	4,099	74%	\$121
Small: 20-59	272	6,336	87%	\$58
Smallest: 0-19	116	1,177	90%	\$102

Unlike last year, there is one largest (and expensive) journal.

**Fees and Revenue, Arts & Architecture**

	Journals	Articles	Revenue	\$/article
\$2,000+	2	42	\$96,249	\$2,292
\$1,000-\$1,999	12	1,321	\$2,181,213	\$1,651
\$500-\$999	8	271	\$171,155	\$632
\$0.01-\$499	35	1,819	\$374,852	\$206
No fee	367	9,828		
Total	424	13,281	\$2,823,468	\$213

**Region, Arts & Architecture**

Region	Journals	Articles	%No-fee	\$/article
Western Europe	213	5,842	70%	\$408
Latin America	99	3,207	99%	\$1
Eastern Europe	66	2,140	67%	\$76
Middle East	26	1,052	29%	\$200
Asia	23	529	74%	\$18
Pacific/English	27	473	92%	\$114
Africa	2	38	100%	\$0

The average Western Europe cost has increased by \$16—and, for what it's worth, the average Latin America cost has increased by \$1—to \$1.

**Publisher Category, Arts & Architecture**

Category	Journals	Articles	%No-fee	\$/article
Univ./college	345	9,014	87%	\$41
Open Access	58	2,266	40%	\$814
Society/govt	30	1,246	59%	\$146
Traditional	23	755	46%	\$569

**Country of Publication, Arts & Architecture, 60+ articles in 2021**

In addition to these 32 countries, 35 have fewer articles. Note that 12 of the 32, including the United States, have no fees at all. But then, that's also true for 34 of the 35 others, all except Australia.

Country	Journals	Articles	%no-fee	\$/article
Brazil	47	2,027	98%	\$1
Spain	68	1,818	96%	\$15
Italy	47	1,075	88%	\$29
Switzerland	6	856	3%	\$1,787
Russia	12	845	52%	\$160
United Kingdom	26	598	31%	\$809
Egypt	2	446	2%	\$393
Indonesia	18	380	64%	\$25
United States	22	379	100%	\$0
Argentina	17	349	100%	\$0
Ukraine	10	338	59%	\$11
Portugal	12	335	58%	\$407
Turkey	15	322	84%	\$8
France	11	316	100%	\$0
Colombia	9	241	100%	\$0
Chile	10	236	100%	\$0
Norway	11	212	75%	\$335
Poland	9	210	81%	\$11
Germany	6	190	47%	\$212
Romania	8	190	100%	\$0
Netherlands	10	178	76%	\$369
Ecuador	6	157	100%	\$0
Serbia	9	150	100%	\$0
Iran	6	147	0%	\$155
Iraq	2	115	3%	\$83
Croatia	6	96	83%	\$118
Greece	4	91	100%	\$0
Moldova	1	90	0%	\$46
Slovakia	3	79	71%	\$69
Mexico	3	69	100%	\$0
Slovenia	4	69	100%	\$0
China	1	61	100%	\$0

## 22. Biology

### Key Facts, Biology

	Journals	Articles	Art%	Rel%	\$/Art	Rel%
All	454	82,114			\$2,277	66%
Fee	317	76,245	93%	35%	\$2,452	23%
No-fee	137	5,869	7%	-77%		

Much as you'd expect: very few no-fee, very high fees (\$117/article more than in GOA6).

### Articles and Journals by Year, Biology

	2021	2020	2019	2018	2017	2016
Journals	433	418	402	387	375	342
%No-fee	30%	31%	31%	32%	31%	31%
Articles	82,114	65,899	51,195	43,054	36,963	33,859
%No-fee	7%	9%	9%	10%	11%	11%
Change	25%	29%	19%	16%	9%	

Strong growth continues.

### Article Volume, Biology

	Journals	Articles	%No-fee	\$/article
Largest: 600+	36	55,807	2%	\$2,566
Large: 150-599	66	14,288	10%	\$2,117
Med.: 60-149	87	5,976	26%	\$1,388
Small: 20-59	201	5,474	33%	\$888
Smallest: 0-19	64	569	49%	\$561

Two-thirds of all articles are in the largest 8% of journals.

**Fees and Revenue, Biology**

	Journals	Articles	Revenue	\$/article
\$2,000+	129	60,037	\$166,109,232	\$2,767
\$1,000-\$1,999	76	11,725	\$19,191,217	\$1,637
\$500-\$999	29	1,658	\$1,183,491	\$714
\$0.01-\$499	71	2,825	\$455,653	\$161
No fee	128	5,869		
Total	433	82,114	\$186,939,593	\$2,277

Very expensive journals continue to dominate.

**Region, Biology**

Region	Journals	Articles	%No-fee	\$/article
Western Europe	208	63,074	2%	\$2,547
Pacific/English	52	10,245	6%	\$2,295
Eastern Europe	61	2,918	49%	\$228
Asia	67	2,413	37%	\$278
Middle East	32	1,779	18%	\$678
Latin America	31	1,630	73%	\$158
Africa	3	55	100%	\$0

Three-quarters of the articles are published in Western Europe.

**Publisher Category, Biology**

Category	Journals	Articles	%No-fee	\$/article
Traditional	175	37,745	4%	\$2,651
Open Access	97	31,607	2%	\$2,253
Univ./college	131	8,177	39%	\$936
Society/govt	51	4,585	11%	\$1,752

**Country of Publication, Biology, >50 articles in 2021**

32 countries in the table; 23 more with fewer articles.



Country	Journals	Articles	%no-fee	\$/article
Switzerland	43	36,971	0%	\$2,564
United Kingdom	121	21,793	1%	\$2,644
United States	42	9,689	5%	\$2,311
Netherlands	17	2,426	0%	\$2,884
Brazil	14	1,104	61%	\$233
France	2	897	96%	\$25
Saudi Arabia	1	853	0%	\$1,250
India	10	779	46%	\$333
Indonesia	30	685	29%	\$71
Russia	12	648	63%	\$47
Iran	18	623	38%	\$189
Bulgaria	10	611	9%	\$466
Ukraine	12	595	39%	\$18
Germany	11	550	22%	\$1,686
Australia	7	520	17%	\$2,161
Poland	14	440	41%	\$759
China	7	273	54%	\$536
Egypt	8	241	13%	\$90
Pakistan	3	223	13%	\$253
Italy	8	222	38%	\$138
Slovakia	1	198	100%	\$0
Serbia	4	192	100%	\$0
Finland	2	161	0%	\$859
South Korea	3	152	34%	\$335
Ecuador	1	132	100%	\$0
Colombia	5	130	100%	\$0
Peru	3	117	100%	\$0
Japan	3	95	0%	\$897
Malaysia	3	90	32%	\$75
Romania	3	88	100%	\$0
Argentina	3	55	100%	\$0
Austria	2	52	0%	\$1,409

## 23. Chemistry

### Key Facts, Chemistry

	Journals	Articles	Art%	Rel%	\$/Art	Rel%
All	241	71,011			\$1,956	42%
Fee	148	64,411	91%	32%	\$2,157	8%
No-fee	93	6,600	9%	-70%		

### Articles and Journals by Year, Chemistry

	2021	2020	2019	2018	2017	2016
Journals	235	215	199	177	171	161
%No-fee	38%	43%	45%	47%	47%	47%
Articles	71,011	56,599	44,368	36,385	30,177	20,328
%No-fee	9%	10%	13%	13%	14%	21%
Change	25%	28%	22%	21%	48%	

Strong growth continues, nearly doubling since 2018.

### Article Volume, Chemistry

	Journals	Articles	%No-fee	\$/article
Largest: 600+	17	56,049	4%	\$2,185
Large: 150-599	35	7,543	18%	\$1,444
Med.: 60-149	61	4,570	35%	\$870
Small: 20-59	90	2,482	48%	\$551
Smallest: 0-19	38	367	45%	\$642

The largest journals now average more than \$300/article higher than in GOA6, and publish 79% of all articles.

**Fees and Revenue, Chemistry**

	Journals	Articles	Revenue	\$/article
\$2,000+	31	47,778	\$120,068,306	\$2,513
\$1,000-\$1,999	72	13,321	\$17,503,675	\$1,314
\$500-\$999	13	1,665	\$1,013,830	\$609
\$0.01-\$499	30	1,647	\$343,711	\$209
No fee	89	6,600		
Total	235	71,011	\$138,929,522	\$1,956

Revenues are up nearly \$47 million.

**Region, Chemistry**

Region	Journals	Articles	%No-fee	\$/article
Western Europe	104	59,753	6%	\$2,127
Pacific/English	16	6,038	4%	\$1,715
Eastern Europe	46	2,139	52%	\$383
Asia	35	1,480	53%	\$189
Middle East	20	770	59%	\$229
Latin America	15	683	39%	\$175
Africa	5	148	48%	\$416

**Publisher Category, Chemistry**

Category	Journals	Articles	%No-fee	\$/article
Open Access	53	46,791	1%	\$2,381
Society/govt	42	12,872	29%	\$814
Traditional	77	9,109	9%	\$1,863
Univ./college	69	2,239	71%	\$35

**Country of Publication, Chemistry, >40 articles in 2021**

In addition to the 29 countries in the table, 12 others published fewer articles—but Switzerland published two-thirds of the articles, with average costs per article \$329 higher than in GOA6 and \$710 higher than any other country.

Country	Journals	Articles	%no-fee	\$/article
Switzerland	42	46,741	1%	\$2,449
United Kingdom	34	9,151	27%	\$937
United States	13	5,953	3%	\$1,739
Netherlands	17	2,173	20%	\$1,350
Italy	2	936	0%	\$628
Germany	7	664	45%	\$870
Poland	13	654	5%	\$1,117
China	6	636	78%	\$111
Brazil	7	535	23%	\$224
Iran	14	513	65%	\$38
Indonesia	22	502	33%	\$98
Serbia	6	311	63%	\$108
Russia	4	231	100%	\$0
Ukraine	7	224	87%	\$4
Romania	2	200	20%	\$189
Croatia	5	175	100%	\$0
India	3	161	52%	\$88
Saudi Arabia	1	125	0%	\$1,250
Turkey	3	120	100%	\$0
Slovenia	1	108	100%	\$0
Japan	1	104	0%	\$1,367
Kazakhstan	3	92	0%	\$81
France	2	88	100%	\$0
South Africa	2	88	13%	\$700
Cuba	2	52	100%	\$0
Canada	2	46	100%	\$0
Moldova	1	44	100%	\$0
Hungary	2	43	79%	\$209
North Macedonia	1	42	100%	\$0

## 24. Computer Science

### Key Facts, Computer Science

	Journals	Articles	Art%	Rel%	\$/Art	Rel%
All	474	27,247			\$973	-29%
Fee	223	19,048	70%	2%	\$1,392	-30%
No-fee	251	8,199	30%	-3%		

Relatively inexpensive for STEM.

### Articles and Journals by Year, Computer Science

	2021	2020	2019	2018	2017	2016
Journals	443	424	391	372	351	309
%No-fee	51%	55%	58%	60%	60%	60%
Articles	27,247	22,595	19,231	18,236	15,021	13,663
%No-fee	30%	35%	39%	39%	45%	43%
Change	21%	17%	5%	21%	10%	

Strong growth in recent years, no-fee percentages dropping.

### Article Volume, Computer Science

	Journals	Articles	%No-fee	\$/article
Largest: 600+	5	4,759	0%	\$1,163
Large: 150-599	36	8,286	17%	\$1,370
Med.: 60-149	96	6,971	42%	\$849
Small: 20-59	257	6,529	52%	\$535
Smallest: 0-19	80	702	68%	\$304

The three middle sizes have the most articles—and the largest journals are slightly less expensive than the large ones.

**Fees and Revenue, Computer Science**

	<b>Journals</b>	<b>Articles</b>	<b>Revenue</b>	<b>\$/article</b>
\$2,000+	32	4,875	\$11,810,861	\$2,423
\$1,000-\$1,999	97	8,356	\$12,766,098	\$1,528
\$500-\$999	27	2,207	\$1,577,571	\$715
\$0.01-\$499	60	3,610	\$361,723	\$100
No fee	227	8,199		
Total	443	27,247	\$26,516,253	\$973

**Region, Computer Science**

<b>Region</b>	<b>Journals</b>	<b>Articles</b>	<b>%No-fee</b>	<b>\$/article</b>
Western Europe	192	15,886	12%	\$1,411
Pacific/English	41	3,821	36%	\$864
Eastern Europe	92	3,242	78%	\$87
Asia	102	2,947	41%	\$160
Latin America	20	621	100%	\$0
Middle East	21	621	78%	\$17
Africa	6	109	51%	\$338

Only Western Europe exceeds \$900. A big drop for Pacific/English.

**Publisher Category, Computer Science**

<b>Category</b>	<b>Journals</b>	<b>Articles</b>	<b>%No-fee</b>	<b>\$/article</b>
Traditional	135	11,746	9%	\$1,621
Univ./college	218	8,642	54%	\$162
Open Access	66	5,102	26%	\$1,073
Society/govt	55	1,757	64%	\$343

**Country of Publication, Computer Science, >60 articles in 2021**

In addition to the 30 countries in the table, 27 others published fewer articles. 14 of the top 30 and 17 of the others had no fees. Unusually, Canada had the highest average cost per article.

Country	Journals	Articles	%no-fee	\$/article
United Kingdom	87	7,167	2%	\$1,906
Switzerland	36	4,233	2%	\$1,516
United States	32	3,203	31%	\$853
Germany	15	2,267	16%	\$282
Indonesia	70	1,859	35%	\$48
Netherlands	13	934	19%	\$1,653
Russia	19	887	100%	\$0
Poland	19	754	78%	\$181
Ukraine	15	737	60%	\$11
China	12	651	29%	\$527
France	12	488	78%	\$320
Iran	13	372	80%	\$14
Australia	2	327	100%	\$0
Cuba	3	319	100%	\$0
Canada	6	290	12%	\$1,969
Romania	13	277	55%	\$225
Spain	9	263	100%	\$0
Finland	2	210	100%	\$0
Brazil	8	173	100%	\$0
Malaysia	5	145	100%	\$0
Serbia	4	128	100%	\$0
Saudi Arabia	1	115	100%	\$0
Italy	4	98	100%	\$0
Belarus	3	95	100%	\$0
India	3	84	100%	\$0
Austria	1	76	100%	\$0
Belgium	8	71	100%	\$0
Lithuania	3	70	23%	\$439
Singapore	2	65	100%	\$0
Turkey	3	64	70%	\$17

## 25. Earth Sciences

### Key Facts, Earth Sciences

	Journals	Articles	Art%	Rel%	\$/Art	Rel%
All	559	38,664			\$1,344	-2%
Fee	174	26,760	69%	1%	\$1,941	-3%
No-fee	385	11,904	31%	-1%		

### Articles and Journals by Year, Earth Sciences

	2021	2020	2019	2018	2017	2016
Journals	529	533	522	506	486	458
%No-fee	69%	70%	70%	71%	72%	72%
Articles	38,664	32,904	27,239	24,064	19,828	18,571
%No-fee	31%	38%	43%	46%	52%	54%
Change	18%	21%	13%	21%	7%	

Solid growth each year since 2017. Sharp drop in no-fee percentage.

### Article Volume, Earth Sciences

	Journals	Articles	%No-fee	\$/article
Largest: 600+	9	15,885	0%	\$2,415
Large: 150-599	37	7,307	26%	\$1,115
Med.: 60-149	96	6,419	51%	\$560
Small: 20-59	310	8,114	74%	\$213
Smallest: 0-19	107	939	84%	\$123

The largest journals are more than twice as expensive as the large ones, partly because they're entirely fee-based.



**Fees and Revenue, Earth Sciences**

	<b>Journals</b>	<b>Articles</b>	<b>Revenue</b>	<b>\$/article</b>
\$2,000+	22	14,894	\$38,335,717	\$2,574
\$1,000-\$1,999	68	8,271	\$12,310,041	\$1,488
\$500-\$999	24	1,073	\$826,769	\$771
\$0.01-\$499	51	2,522	\$476,450	\$189
No fee	364	11,904		
Total	529	38,664	\$51,948,976	\$1,344

**Region, Earth Sciences**

<b>Region</b>	<b>Journals</b>	<b>Articles</b>	<b>%No-fee</b>	<b>\$/article</b>
Western Europe	185	24,551	12%	\$1,934
Latin America	105	3,887	88%	\$12
Eastern Europe	139	3,497	84%	\$72
Asia	65	3,123	42%	\$378
Pacific/English	23	2,188	12%	\$1,347
Middle East	37	1,201	74%	\$27
Africa	5	217	80%	\$20

As noted last year: the cost disparities could scarcely be starker.

**Publisher Category, Earth Sciences**

<b>Category</b>	<b>Journals</b>	<b>Articles</b>	<b>%No-fee</b>	<b>\$/article</b>
Open Access	78	15,954	8%	\$1,914
Traditional	102	9,691	22%	\$1,772
Univ./college	286	8,453	81%	\$98
Society/govt	93	4,566	37%	\$744

**Country of Publication, Earth Sciences, >100 articles in 2021**

In addition to these 33, there are 27 others with fewer articles. Note the sharp contrasts among the top six countries, the first 165 times as costly per article as the third.

Country	Journals	Articles	%no-fee	\$/article
Switzerland	21	15,987	0%	\$2,417
United Kingdom	52	3,536	3%	\$1,761
Brazil	65	2,803	86%	\$15
Germany	35	2,466	37%	\$710
China	24	2,163	44%	\$315
United States	19	2,126	10%	\$1,386
Russia	35	1,421	97%	\$1
Netherlands	12	751	46%	\$814
Poland	27	670	57%	\$298
Iran	22	596	69%	\$26
France	12	549	79%	\$254
Spain	20	427	100%	\$0
Indonesia	23	422	52%	\$58
Ukraine	17	413	60%	\$7
Colombia	9	336	100%	\$0
Italy	10	330	86%	\$121
Turkey	11	317	100%	\$0
Mexico	6	244	78%	\$24
Serbia	9	195	100%	\$0
Argentina	10	171	94%	\$1
Japan	4	157	3%	\$1,547
Romania	17	156	100%	\$0
Egypt	3	155	100%	\$0
Slovakia	7	153	100%	\$0
Croatia	6	139	100%	\$0
Iraq	1	133	0%	\$125
Cuba	5	127	100%	\$0
South Africa	2	125	100%	\$0
Portugal	3	123	100%	\$0
South Korea	4	122	30%	\$191
Chile	5	119	100%	\$0
Taiwan	1	108	0%	\$1,858
Finland	5	103	61%	\$373

## 26. Ecology

### Key Facts, Ecology

	Journals	Articles	Art%	Rel%	\$/Art	Rel%
All	551	83,647			\$1,531	11%
Fee	259	61,725	74%	7%	\$2,075	4%
No-fee	292	21,922	26%	-16%		

### Articles and Journals by Year, Ecology

	2021	2020	2019	2018	2017	2016
Journals	523	504	470	438	408	376
%No-fee	52%	55%	57%	59%	59%	59%
Articles	83,647	60,171	42,649	34,322	23,903	20,442
%No-fee	26%	28%	30%	33%	32%	34%
Change	39%	41%	24%	44%	17%	

Very rapid growth, more than quadrupling since 2016.

### Article Volume, Ecology

	Journals	Articles	%No-fee	\$/article
Largest: 600+	16	56,226	22%	\$1,855
Large: 150-599	45	10,246	16%	\$1,250
Med.: 60-149	125	8,741	34%	\$737
Small: 20-59	269	7,502	55%	\$558
Smallest: 0-19	96	932	73%	\$328

The largest journals predominate and cost the most, but large journals have an even lower percentage of no-fee articles.

**Fees and Revenue, Ecology**

	Journals	Articles	Revenue	\$/article
\$2,000+	54	45,342	\$111,734,840	\$2,464
\$1,000-\$1,999	99	9,581	\$13,658,859	\$1,426
\$500-\$999	28	2,188	\$1,694,214	\$774
\$0.01-\$499	70	4,614	\$969,378	\$210
No fee	272	21,922		
Total	523	83,647	\$128,057,290	\$1,531

Revenue is up 55% from GOA6, and it's almost all expensive journals.

**Region, Ecology**

Region	Journals	Articles	%No-fee	\$/article
Western Europe	199	67,662	23%	\$1,749
Pacific/English	47	4,661	17%	\$1,666
Eastern Europe	94	3,284	47%	\$254
Asia	65	3,193	34%	\$272
Latin America	89	2,974	73%	\$35
Middle East	44	1,664	50%	\$58
Africa	13	209	69%	\$81

**Publisher Category, Ecology**

Category	Journals	Articles	%No-fee	\$/article
Open Access	77	36,818	2%	\$2,233
Traditional	171	33,683	41%	\$1,263
Univ./college	228	8,117	57%	\$236
Society/govt	75	5,029	57%	\$274

**Country of Publication, Ecology, >100 articles in 2021**

In addition to the 31 countries in the table, another 31 published fewer articles. (As elsewhere, if a country has journals but no 2021 articles, it's omitted.) This time, France is the low-cost/no-cost leader.

Country	Journals	Articles	%no-fee	\$/article
Switzerland	29	36,821	0%	\$2,366
France	9	12,765	99%	\$19
United Kingdom	106	12,498	16%	\$1,931
United States	38	4,415	16%	\$1,676
Germany	15	2,944	6%	\$1,208
Netherlands	21	1,979	9%	\$1,621
Brazil	51	1,867	59%	\$53
Iran	38	1,359	53%	\$57
Indonesia	23	1,283	21%	\$210
Poland	29	1,255	42%	\$243
India	7	635	6%	\$577
Russia	12	493	86%	\$65
China	13	488	71%	\$265
Taiwan	2	317	22%	\$234
Lithuania	4	302	4%	\$1,012
Spain	8	293	78%	\$222
Italy	6	277	51%	\$135
Mexico	6	259	88%	\$23
Ukraine	8	228	35%	\$34
Costa Rica	4	211	100%	\$0
Egypt	3	211	4%	\$96
Serbia	5	206	31%	\$286
Romania	10	201	82%	\$11
Colombia	7	175	100%	\$0
Bulgaria	7	139	0%	\$562
Croatia	4	124	62%	\$179
Canada	5	123	37%	\$452
Montenegro	1	121	0%	\$178
Australia	3	108	12%	\$2,850
South Korea	3	108	38%	\$157
Peru	5	103	100%	\$0

## 27. Economics

### Key Facts, Economics

	Journals	Articles	Art%	Rel%	\$/Art	Rel%
All	998	28,948			\$188	-86%
Fee	245	11,659	40%	-41%	\$467	-77%
No-fee	753	17,289	60%	92%		

### Articles and Journals by Year, Economics

	2021	2020	2019	2018	2017	2016
Journals	931	964	946	913	880	813
%No-fee	75%	75%	75%	76%	76%	76%
Articles	28,948	30,222	26,783	25,724	24,489	22,814
%No-fee	60%	61%	63%	62%	65%	64%
Change	-4%	13%	4%	5%	7%	

Off year after a strong 2020.

### Article Volume, Economics

	Journals	Articles	%No-fee	\$/article
Largest: 600+	3	2,072	0%	\$276
Large: 150-599	29	4,722	23%	\$539
Med.: 60-149	117	5,908	67%	\$201
Small: 20-59	569	13,282	74%	\$78
Smallest: 0-19	280	2,964	84%	\$33

Most articles are in small journals.

**Fees and Revenue, Economics**

	<b>Journals</b>	<b>Articles</b>	<b>Revenue</b>	<b>\$/article</b>
\$2,000+	4	314	\$842,790	\$2,684
\$1,000-\$1,999	24	1,906	\$2,557,986	\$1,342
\$500-\$999	21	2,191	\$1,323,263	\$604
\$0.01-\$499	185	7,248	\$717,883	\$99
No fee	697	17,289		
Total	931	28,948	\$5,441,922	\$188

**Region, Economics**

<b>Region</b>	<b>Journals</b>	<b>Articles</b>	<b>%No-fee</b>	<b>\$/article</b>
Eastern Europe	284	9,298	53%	\$75
Asia	229	5,870	48%	\$125
Latin America	212	5,021	100%	\$0
Western Europe	143	4,641	46%	\$750
Middle East	76	2,565	43%	\$145
Pacific/English	38	1,139	90%	\$47
Africa	16	414	65%	\$259

Distinctive: mostly low-cost/no-fee regions.

**Publisher Category, Economics**

<b>Category</b>	<b>Journals</b>	<b>Articles</b>	<b>%No-fee</b>	<b>\$/article</b>
Univ./college	745	19,076	65%	\$43
Open Access	94	3,926	43%	\$458
Traditional	98	3,265	54%	\$675
Society/govt	61	2,681	55%	\$232

Two-thirds of articles from academia, two-thirds of those no-fee.

**Country of Publication, Economics, >130 articles in 2021**

In addition to these 32 (10 with no fees), another 43 (29 without fees) published fewer articles.

Country	Journals	Articles	%no-fee	\$/article
Indonesia	186	3,833	50%	\$38
Brazil	96	2,663	99%	\$0
Ukraine	36	2,524	9%	\$54
United Kingdom	52	2,016	33%	\$1,053
Romania	54	1,627	64%	\$26
Turkey	35	1,558	46%	\$201
Russia	33	1,445	93%	\$10
Poland	63	1,334	65%	\$100
Switzerland	10	1,274	29%	\$964
South Korea	9	1,216	11%	\$447
Colombia	46	911	100%	\$0
Iran	37	889	42%	\$46
Canada	10	637	100%	\$0
Serbia	22	502	91%	\$19
Spain	28	458	93%	\$75
Lithuania	13	422	18%	\$410
United States	21	418	73%	\$129
Mexico	18	359	100%	\$0
Pakistan	11	327	100%	\$0
Croatia	18	291	92%	\$26
Argentina	20	268	100%	\$0
Venezuela	3	244	100%	\$0
Ecuador	8	227	100%	\$0
Czechia	12	205	57%	\$178
Italy	12	192	75%	\$45
Belarus	3	162	38%	\$93
Latvia	3	159	7%	\$727
Morocco	7	149	93%	\$8
Netherlands	8	149	69%	\$277
Bulgaria	6	145	100%	\$0
China	4	136	81%	\$134
South Africa	6	135	0%	\$786



## 28. Education

### Key Facts, Education

	Journals	Articles	Art%	Rel%	\$/Art	Rel%
All	1,019	41,227			\$92	-93%
Fee	215	11,168	27%	-61%	\$340	-83%
No-fee	804	30,059	73%	134%		

Even for H&SS, low fees and high percentage of no-fee articles.

### Articles and Journals by Year, Education

	2021	2020	2019	2018	2017	2016
Journals	943	984	960	929	898	823
%No-fee	78%	79%	79%	80%	81%	82%
Articles	41,227	37,118	31,477	29,908	27,059	24,583
%No-fee	73%	78%	78%	79%	81%	83%
Change	11%	18%	5%	11%	10%	

Healthy growth in most years.

### Article Volume, Education

	Journals	Articles	%No-fee	\$/article
Largest: 600+	3	2,778	40%	\$530
Large: 150-599	37	7,902	61%	\$138
Med.: 60-149	214	14,269	76%	\$48
Small: 20-59	573	14,354	82%	\$33
Smallest: 0-19	192	1,924	77%	\$37

Most articles are in medium and small journals.

**Fees and Revenue, Education**

	Journals	Articles	Revenue	\$/article
\$1,000-\$1,999	9	1,282	\$1,826,574	\$1,425
\$500-\$999	15	1,035	\$837,676	\$809
\$0.01-\$499	182	8,851	\$1,128,314	\$127
No fee	737	30,059	\$0	\$0
Total	943	41,227	\$3,792,565	\$92

No very expensive journals,

**Region, Education**

Region	Journals	Articles	%No-fee	\$/article
Latin America	294	16,179	95%	\$13
Western Europe	203	7,647	67%	\$349
Asia	225	6,964	24%	\$48
Eastern Europe	105	4,220	73%	\$35
Pacific/English	106	3,164	91%	\$42
Middle East	72	2,479	73%	\$54
Africa	14	574	33%	\$269

Latin America is largest with almost no fees.

**Publisher Category, Education**

Category	Journals	Articles	%No-fee	\$/article
Univ./college	814	31,397	74%	\$36
Open Access	91	4,896	66%	\$301
Society/govt	80	2,964	89%	\$37
Traditional	34	1,970	49%	\$552

Three-quarters of the articles are from universities and colleges.

**Country of Publication, Education, >150 articles in 2021**

In addition to 32 countries in the table (14 no-fee), another 43 published fewer articles (32 all no-fee).

Country	Journals	Articles	%no-fee	\$/article
Brazil	178	11,075	92%	\$19
Indonesia	198	6,208	20%	\$39
United States	69	2,179	87%	\$61
Spain	73	2,058	96%	\$19
Cuba	15	1,853	100%	\$0
Switzerland	4	1,457	6%	\$1,226
Turkey	43	1,424	81%	\$61
United Kingdom	35	1,191	67%	\$381
Colombia	31	1,164	100%	\$0
Uzbekistan	1	1,101	100%	\$0
Ukraine	24	844	26%	\$25
Germany	14	818	32%	\$406
Iran	20	672	60%	\$49
Argentina	20	662	100%	\$0
Canada	24	637	100%	\$0
Russia	12	614	52%	\$89
Poland	22	584	76%	\$110
South Africa	12	539	29%	\$287
Italy	12	505	100%	\$0
Costa Rica	7	374	100%	\$0
Netherlands	5	364	93%	\$70
Norway	18	353	93%	\$61
Mexico	11	293	100%	\$0
Portugal	11	286	100%	\$0
Australia	9	222	100%	\$0
Romania	12	220	94%	\$8
Malaysia	5	200	23%	\$185
Czechia	8	181	91%	\$11
France	6	179	100%	\$0
Serbia	7	169	100%	\$0
Peru	5	156	100%	\$0
Chile	6	155	100%	\$0

## 29. Engineering

### Key Facts, Engineering

	Journals	Articles	Art%	Rel%	\$/Art	Rel%
All	545	59,225			\$1,416	3%
Fee	219	47,782	81%	17%	\$1,755	-12%
No-fee	326	11,443	19%	-38%		

### Articles and Journals by Year, Engineering

	2021	2020	2019	2018	2017	2016
Journals	515	509	494	473	439	401
%No-fee	59%	60%	62%	63%	64%	64%
Articles	59,225	58,491	51,516	37,427	27,495	22,398
%No-fee	19%	20%	23%	31%	41%	45%
Change	1%	14%	38%	36%	23%	

Nearly flat in 2021 after four years of solid growth.

### Article Volume, Engineering

	Journals	Articles	%No-fee	\$/article
Largest: 600+	16	33,832	1%	\$2,018
Large: 150-599	46	8,560	25%	\$853
Med.: 60-149	134	8,992	41%	\$668
Small: 20-59	267	7,008	66%	\$311
Smallest: 0-19	82	833	79%	\$112

**Fees and Revenue, Engineering**

	<b>Journals</b>	<b>Articles</b>	<b>Revenue</b>	<b>\$/article</b>
\$2,000+	34	19,280	\$47,868,239	\$2,483
\$1,000-\$1,999	54	19,294	\$31,851,250	\$1,651
\$500-\$999	35	4,088	\$2,997,580	\$733
\$0.01-\$499	89	5,120	\$1,138,207	\$222
No fee	303	11,443		
Total	515	59,225	\$83,855,276	\$1,416

**Region, Engineering**

<b>Region</b>	<b>Journals</b>	<b>Articles</b>	<b>%No-fee</b>	<b>\$/article</b>
Western Europe	126	28,220	4%	\$2,028
Pacific/English	25	13,530	2%	\$1,730
Eastern Europe	146	6,527	56%	\$210
Asia	109	4,933	44%	\$186
Middle East	52	3,290	60%	\$240
Latin America	80	2,535	84%	\$47
Africa	7	190	65%	\$156

**Publisher Category, Engineering**

<b>Category</b>	<b>Journals</b>	<b>Articles</b>	<b>%No-fee</b>	<b>\$/article</b>
Open Access	52	16,364	4%	\$2,124
Society/govt	47	15,390	5%	\$1,581
Traditional	131	15,209	10%	\$1,555
Univ./college	315	12,262	68%	\$91

**Country of Publication, Engineering, >160 articles in 2021**

In addition to these 31 countries (seven of which have no fees), another 33 countries—25 with no fee—published fewer articles.

Country	Journals	Articles	%no-fee	\$/article
Switzerland	19	15,010	0%	\$2,426
United States	17	13,242	1%	\$1,734
United Kingdom	65	8,980	4%	\$1,930
Netherlands	16	3,120	9%	\$1,008
Indonesia	64	1,682	48%	\$39
China	16	1,615	39%	\$387
Poland	36	1,426	31%	\$420
Brazil	20	1,147	65%	\$104
Serbia	21	1,114	58%	\$90
Iran	23	954	78%	\$23
Malaysia	12	921	18%	\$233
Egypt	3	885	0%	\$847
Turkey	14	841	100%	\$0
Russia	17	688	90%	\$7
Croatia	7	662	23%	\$464
Colombia	28	637	100%	\$0
Romania	17	487	81%	\$7
Ukraine	14	465	58%	\$23
Greece	2	343	36%	\$380
Czechia	6	323	73%	\$128
Bosnia and Herzegovina	4	308	100%	\$0
Bahrain	1	300	100%	\$0
Germany	9	292	23%	\$343
Lithuania	5	270	0%	\$783
Australia	5	213	15%	\$2,046
Iraq	7	210	0%	\$80
Hungary	5	198	82%	\$237
Pakistan	3	184	56%	\$27
Belarus	3	179	100%	\$0
Cuba	6	178	100%	\$0
India	2	162	100%	\$0

## 30. History

### Key Facts, History

	Journals	Articles	Art%	Rel%	\$/Art	Rel%
All	531	14,116			\$11	-99%
Fee	33	898	6%	-91%	\$178	-91%
No-fee	498	13,218	94%	200%		

Extremely low costs—even lower than in GOA6.

### Articles and Journals by Year, History

	2021	2020	2019	2018	2017	2016
Journals	493	512	514	507	485	448
%No-fee	93%	94%	94%	94%	94%	95%
Articles	14,116	15,347	14,023	14,230	13,571	12,865
%No-fee	94%	93%	92%	93%	92%	92%
Change	-8%	9%	-1%	5%	5%	

Down year, essentially undoing a good 2020.

### Article Volume, History

	Journals	Articles	%No-fee	\$/article
Large: 150-599	8	572	81%	\$40
Med.: 60-149	70	3,904	91%	\$10
Small: 20-59	333	8,422	96%	\$3
Smallest: 0-19	120	1,218	89%	\$57

No largest journals, and most articles are in small journals.

### Fees and Revenue, History

	Journals	Articles	Revenue	\$/article
\$2,000+	1	14	\$45,570	\$3,255
\$500-\$999	1	19	\$11,245	\$592
\$0.01-\$499	31	865	\$103,234	\$119
No fee	460	13,218	\$0	\$0
Total	493	14,116	\$160,049	\$11

One very small *very* pricey journal, one very small journal near the bottom of the moderate range, and all the others are modest or no-fee.

### Region, History

Region	Journals	Articles	%No-fee	\$/article
Western Europe	215	5,189	96%	\$17
Latin America	142	4,470	100%	\$0
Eastern Europe	106	3,033	86%	\$18
Middle East	22	681	82%	\$12
Pacific/English	30	499	100%	\$0
Asia	13	197	50%	\$38
Africa	3	47	32%	\$86

The lowest Western Europe fee—even lower than in GOA6 (by \$1).

### Publisher Category, History

Category	Journals	Articles	%No-fee	\$/article
Univ./college	442	11,673	95%	\$8
Society/govt	41	1,365	99%	\$1
Open Access	44	962	70%	\$68
Traditional	4	116	100%	\$0

### Country of Publication, History, >55 articles in 2021

Of the 31 countries in the table, 20 had no fees. Of 18 other countries with fewer articles, only two had any fees.



Country	Journals	Articles	%no-fee	\$/article
Brazil	66	2,440	100%	\$0
Spain	86	2,229	97%	\$5
Russia	25	1,054	81%	\$37
Argentina	37	903	100%	\$0
Italy	37	848	91%	\$5
France	23	634	100%	\$0
Ukraine	14	459	56%	\$32
Turkey	14	432	91%	\$2
Mexico	12	427	100%	\$0
Poland	20	417	100%	\$0
United States	19	345	100%	\$0
Portugal	13	331	94%	\$34
Colombia	12	309	100%	\$0
United Kingdom	17	276	83%	\$216
Chile	10	255	100%	\$0
Netherlands	6	210	100%	\$0
Romania	9	179	97%	\$1
Serbia	8	177	100%	\$0
Iran	7	175	51%	\$40
Hungary	3	168	100%	\$0
Germany	7	157	100%	\$0
Norway	6	152	100%	\$0
Finland	5	151	100%	\$0
Czechia	6	145	100%	\$0
Croatia	8	129	100%	\$0
Indonesia	9	126	33%	\$50
Austria	6	108	100%	\$0
Canada	7	100	100%	\$0
Iraq	1	74	100%	\$0
Greece	4	60	100%	\$0
Moldova	2	59	66%	\$5

## 31. Language & Literature

### Key Facts, Language & Literature

	Journals	Articles	Art%	Rel%	\$/Art	Rel%
All	1,105	29,715			\$53	-96%
Fee	127	6,031	20%	-71%	\$261	-87%
No-fee	978	23,684	80%	156%		

Low fees and high no-fee percentage even for H&SS.

### Articles and Journals by Year, Language & Literature

	2021	2020	2019	2018	2017	2016
Journals	1,016	1,062	1,048	1,014	962	908
%No-fee	88%	88%	88%	89%	89%	90%
Articles	29,715	29,861	27,636	26,442	25,598	22,709
%No-fee	80%	85%	87%	85%	86%	89%
Change	0%	8%	5%	3%	13%	

Flat after a good 2020.

### Article Volume, Language & Literature

	Journals	Articles	%No-fee	\$/article
Largest: 600+	1	1,664	0%	\$200
Large: 150-599	13	1,889	32%	\$340
Med.: 60-149	145	8,093	91%	\$23
Small: 20-59	654	15,391	86%	\$23
Smallest: 0-19	292	2,678	91%	\$20

There were no largest journals in GOA6.

**Fees and Revenue, Language & Literature**

	<b>Journals</b>	<b>Articles</b>	<b>Revenue</b>	<b>\$/article</b>
\$2,000+	1	40	\$80,000	\$2,000
\$1,000-\$1,999	6	309	\$442,245	\$1,431
\$500-\$999	9	341	\$227,143	\$666
\$0.01-\$499	102	5,341	\$825,242	\$155
No fee	898	23,684		
Total	1,016	29,715	\$1,574,631	\$53

There were no very expensive journals in GOA6 either.

**Region, Language & Literature**

<b>Region</b>	<b>Journals</b>	<b>Articles</b>	<b>%No-fee</b>	<b>\$/article</b>
Latin America	209	7,800	100%	\$1
Western Europe	398	7,738	89%	\$78
Eastern Europe	240	6,713	86%	\$29
Asia	143	3,020	48%	\$38
Middle East	46	3,006	22%	\$184
Pacific/English	58	1,088	94%	\$19
Africa	11	350	27%	\$247

Another H&SS subject where Latin America leads, with almost no fees.

**Publisher Category, Language & Literature'**

<b>Category</b>	<b>Journals</b>	<b>Articles</b>	<b>%No-fee</b>	<b>\$/article</b>
Univ./college	902	24,913	82%	\$29
Open Access	92	2,161	53%	\$281
Society/govt	73	1,717	97%	\$1
Traditional	38	924	57%	\$265

Universities publish 84% of the articles.

**Country of Publication, Language & Literature, >150 2021 articles**

In addition to the 32 countries in the table (16 with no fees), another 36 countries published fewer articles (34 of them with no fees).

Country	Journals	Articles	%no-fee	\$/article
Brazil	136	5,733	100%	\$0
Indonesia	120	2,544	43%	\$31
Spain	131	2,535	100%	\$0
Russia	37	2,267	74%	\$64
Italy	75	1,959	84%	\$15
Poland	79	1,939	97%	\$14
Iraq	2	1,722	3%	\$193
France	63	917	100%	\$0
United States	44	859	93%	\$24
United Kingdom	38	748	59%	\$314
Argentina	22	670	100%	\$0
Iran	26	648	45%	\$37
Turkey	17	615	50%	\$320
Romania	25	513	82%	\$19
Ukraine	17	409	48%	\$31
Colombia	16	400	100%	\$0
Mexico	14	397	100%	\$0
Czechia	16	382	100%	\$0
Switzerland	4	295	28%	\$1,106
Germany	19	284	100%	\$0
Chile	9	264	100%	\$0
Serbia	9	227	100%	\$0
Lithuania	11	210	100%	\$0
Netherlands	11	201	86%	\$54
Canada	11	191	100%	\$0
Slovenia	11	191	100%	\$0
Malaysia	5	182	34%	\$199
India	7	173	100%	\$0
Norway	16	171	100%	\$0
Croatia	11	158	100%	\$0
South Africa	7	155	0%	\$511
Portugal	11	152	100%	\$0

## 32. Law

### Key Facts, Law

	Journals	Articles	Art%	Rel%	\$/Art	Rel%
All	533	14,553			\$68	-95%
Fee	57	2,161	15%	-78%	\$457	-77%
No-fee	476	12,392	85%	173%		

Few fee articles even by H&SS standards.

### Articles and Journals by Year, Law

	2021	2020	2019	2018	2017	2016
Journals	492	511	498	475	445	409
%No-fee	89%	89%	89%	89%	90%	90%
Articles	14,553	15,334	13,642	13,335	12,380	11,359
%No-fee	85%	87%	88%	89%	90%	89%
Change	-5%	12%	2%	8%	9%	

Slight decline after a strong 2020.

### Article Volume, Law

	Journals	Articles	%No-fee	\$/article
Large: 150-599	10	1,250	80%	\$9
Med.: 60-149	73	4,219	79%	\$156
Small: 20-59	323	7,920	88%	\$38
Smallest: 0-19	127	1,164	92%	\$13

No largest journals; mostly small journals.

**Fees and Revenue, Law**

	Journals	Articles	Revenue	\$/article
\$2,000+	1	12	\$36,000	\$3,000
\$1,000-\$1,999	8	457	\$667,283	\$1,460
\$500-\$999	4	217	\$144,052	\$664
\$0.01-\$499	42	1,475	\$140,249	\$95
No fee	437	12,392		
Total	492	14,553	\$987,584	\$68

Another subject with just one very expensive (very small) journal.

**Region, Law**

Region	Journals	Articles	%No-fee	\$/article
Latin America	166	4,597	100%	\$0
Western Europe	132	3,692	86%	\$173
Eastern Europe	104	3,124	85%	\$24
Asia	82	1,527	61%	\$56
Middle East	20	961	65%	\$20
Pacific/English	22	426	79%	\$277
Africa	7	226	33%	\$217

Latin America leads with no fees.

**Publisher Category, Law**

Category	Journals	Articles	%No-fee	\$/article
Univ./college	424	11,478	90%	\$15
Society/govt	43	1,347	76%	\$23
Open Access	46	1,174	73%	\$276
Traditional	20	554	39%	\$821

No surprises here.

**Country of Publication, Law, >60 articles in 2021**

Of the 31 countries in the table, 18 have no fees. An additional 26 countries published fewer articles, 20 of them without fees.

Country	Journals	Articles	%no-fee	\$/article
Brazil	84	2,811	100%	\$0
Indonesia	74	1,410	58%	\$35
Spain	41	1,338	100%	\$0
Italy	26	892	100%	\$0
Poland	25	739	93%	\$7
Russia	19	732	94%	\$3
Colombia	34	636	100%	\$0
United Kingdom	26	634	68%	\$397
Turkey	7	504	50%	\$22
Ukraine	11	401	49%	\$102
Romania	12	312	77%	\$66
Argentina	11	288	100%	\$0
Serbia	10	273	84%	\$23
Netherlands	9	271	30%	\$877
Chile	10	241	100%	\$0
United States	11	239	62%	\$494
Peru	8	216	100%	\$0
South Africa	6	207	27%	\$237
Iran	8	203	84%	\$15
Croatia	7	196	100%	\$0
Germany	7	166	100%	\$0
Qatar	2	163	100%	\$0
Switzerland	6	160	41%	\$779
Australia	8	130	100%	\$0
Ecuador	5	115	100%	\$0
France	4	109	100%	\$0
Lithuania	4	93	100%	\$0
Mexico	5	75	100%	\$0
Slovakia	4	72	100%	\$0
Uruguay	2	72	100%	\$0
Georgia	2	63	100%	\$0

## 33. Library Science

### Key Facts, Library Science

	Journals	Articles	Art%	Rel%	\$/Art	Rel%
All	175	5,422			\$49	-96%
Fee	11	383	7%	-90%	\$696	-65%
No-fee	164	5,039	93%	198%		

A relatively small field with very few fee journals or articles.

### Articles and Journals by Year, Library Science

	2021	2020	2019	2018	2017	2016
Journals	164	168	165	168	157	148
%No-fee	93%	93%	93%	93%	93%	93%
Articles	5,422	4,710	4,357	4,873	4,732	4,284
%No-fee	93%	94%	93%	86%	84%	81%
Change	15%	8%	-11%	3%	10%	

Healthy growth the past two years.

### Article Volume, Library Science

	Journals	Articles	%No-fee	\$/article
Largest: 600+	2	1,010	89%	\$84
Large: 150-599	1	62	100%	\$0
Med.: 60-149	26	1,576	91%	\$107
Small: 20-59	96	2,282	96%	\$3
Smallest: 0-19	50	492	92%	\$11



**Fees and Revenue, Library Science**

	<b>Journals</b>	<b>Articles</b>	<b>Revenue</b>	<b>\$/article</b>
\$1,000-\$1,999	1	57	\$87,298	\$1,532
\$500-\$999	2	196	\$166,927	\$852
\$0.01-\$499	8	130	\$12,320	\$95
No fee	153	5,039	\$0	\$0
Total	164	5,422	\$266,545	\$49

No very expensive journals.

**Region, Library Science**

<b>Region</b>	<b>Journals</b>	<b>Articles</b>	<b>%No-fee</b>	<b>\$/article</b>
Western Europe	47	1,314	89%	\$131
Latin America	36	1,213	100%	\$0
Middle East	10	1,165	98%	\$4
Pacific/English	32	759	100%	\$0
Eastern Europe	30	527	95%	\$1
Asia	18	418	59%	\$210
Africa	2	26	50%	\$68

Pacific/English being all no-fee is unusual. Latin America, less so.

**Publisher Category, Library Science**

<b>Category</b>	<b>Journals</b>	<b>Articles</b>	<b>%No-fee</b>	<b>\$/article</b>
Univ./college	122	2,986	96%	\$3
Open Access	25	1,510	88%	\$116
Society/govt	26	824	100%	\$0
Traditional	2	102	16%	\$801

**Country of Publication, Library Science, 20+ articles in 2021**

The rows are squeezed a bit to get in 34 countries (29 with no fees); another 16 countries had fewer articles (14 with no fees).

Country	Journals	Articles	%no-fee	\$/article
Iran	5	1,041	100%	\$0
Brazil	24	866	100%	\$0
United States	26	602	100%	\$0
Italy	6	238	100%	\$0
Ukraine	7	217	89%	\$2
United Kingdom	11	207	96%	\$16
Spain	11	199	100%	\$0
Poland	13	169	100%	\$0
Switzerland	3	155	8%	\$1,090
Germany	4	153	100%	\$0
Canada	5	151	100%	\$0
China	2	143	23%	\$596
Portugal	3	139	100%	\$0
Indonesia	7	135	57%	\$14
Netherlands	3	98	100%	\$0
Colombia	2	94	100%	\$0
Turkey	2	67	100%	\$0
Mexico	2	64	100%	\$0
Sweden	1	55	100%	\$0
Argentina	2	52	100%	\$0
India	1	45	100%	\$0
South Korea	2	44	100%	\$0
Cuba	1	41	100%	\$0
Uruguay	1	34	100%	\$0
Croatia	2	33	100%	\$0
Costa Rica	2	30	100%	\$0
Finland	1	29	100%	\$0
Slovakia	1	28	100%	\$0
Lithuania	2	27	100%	\$0
Egypt	1	23	100%	\$0
Peru	1	23	100%	\$0
Iraq	1	22	0%	\$200
Austria	1	21	100%	\$0
Norway	3	20	100%	\$0

## 34. Mathematics

### Key Facts, Mathematics

	Journals	Articles	Art%	Rel%	\$/Art	Rel%
All	334	20,749			\$1,149	-16%
Fee	107	13,800	67%	-3%	\$1,727	-14%
No-fee	227	6,949	33%	7%		

### Articles and Journals by Year, Mathematics

	2021	2020	2019	2018	2017	2016
Journals	320	321	315	303	283	255
%No-fee	68%	68%	68%	68%	67%	69%
Articles	20,749	17,872	13,361	12,046	10,185	9,353
%No-fee	33%	37%	45%	47%	54%	53%
Change	16%	34%	11%	18%	9%	

Continued strong growth, doubling since 2017.

### Article Volume, Mathematics

	Journals	Articles	%No-fee	\$/article
Largest: 600+	6	9,507	0%	\$2,017
Large: 150-599	11	2,489	30%	\$1,113
Med.: 60-149	45	2,863	69%	\$342
Small: 20-59	186	4,989	72%	\$162
Smallest: 0-19	86	901	69%	\$110

**Fees and Revenue, Mathematics**

	<b>Journals</b>	<b>Articles</b>	<b>Revenue</b>	<b>\$/article</b>
\$2,000+	5	4,691	\$10,927,450	\$2,329
\$1,000-\$1,999	39	7,866	\$12,686,419	\$1,613
\$500-\$999	8	208	\$137,645	\$662
\$0.01-\$499	50	1,035	\$80,905	\$78
No fee	218	6,949		
Total	320	20,749	\$23,832,420	\$1,149

**Region, Mathematics**

<b>Region</b>	<b>Journals</b>	<b>Articles</b>	<b>%No-fee</b>	<b>\$/article</b>
Western Europe	77	11,926	7%	\$1,837
Pacific/English	30	2,757	46%	\$545
Eastern Europe	88	2,368	76%	\$151
Asia	67	1,372	54%	\$34
Latin America	38	1,297	100%	\$0
Middle East	31	969	95%	\$5
Africa	3	60	78%	\$165

**Publisher Category, Mathematics**

<b>Category</b>	<b>Journals</b>	<b>Articles</b>	<b>%No-fee</b>	<b>\$/article</b>
Traditional	70	7,991	8%	\$1,834
Open Access	41	6,273	14%	\$1,410
Univ./college	198	5,755	83%	\$36
Society/govt	25	730	89%	\$163

**Country of Publication, Mathematics, 40+ articles in 2021**

Of the 32 countries in the table, 16 have no fees. Of 15 more countries with fewer articles, 12 have no fees.

Country	Journals	Articles	%no-fee	\$/article
United Kingdom	33	6,826	1%	\$2,066
Switzerland	9	4,076	0%	\$1,865
United States	25	2,384	38%	\$630
Indonesia	56	1,090	44%	\$36
Brazil	23	1,009	100%	\$0
Poland	32	853	54%	\$413
Iran	16	528	95%	\$5
Russia	12	422	93%	\$3
Turkey	12	377	100%	\$0
Ukraine	14	371	75%	\$6
Germany	6	295	100%	\$0
Australia	1	230	100%	\$0
France	7	185	77%	\$273
Spain	8	181	72%	\$229
Italy	8	172	76%	\$20
Lithuania	6	163	94%	\$13
Romania	9	155	95%	\$3
Netherlands	4	152	15%	\$747
Pakistan	4	116	100%	\$0
Czechia	4	111	100%	\$0
India	2	104	98%	\$1
Hungary	1	94	100%	\$0
Canada	2	81	100%	\$0
Colombia	5	73	100%	\$0
Argentina	3	69	100%	\$0
New Zealand	2	62	100%	\$0
Serbia	3	54	100%	\$0
Chile	2	50	100%	\$0
Croatia	3	47	100%	\$0
Morocco	2	47	100%	\$0
Kazakhstan	1	44	0%	\$12
Israel	1	43	100%	\$0

## 35. Media & Communications

### Key Facts, Media & Communications

	Journals	Articles	Art%	Rel%	\$/Art	Rel%
All	352	9,981			\$175	-87%
Fee	34	1,780	18%	-74%	\$979	-51%
No-fee	318	8,201	82%	164%		

### Articles and Journals by Year, Media & Communications

	2021	2020	2019	2018	2017	2016
Journals	327	331	324	317	297	285
%No-fee	90%	92%	92%	92%	92%	92%
Articles	9,981	10,299	9,123	9,006	8,441	7,597
%No-fee	82%	90%	90%	90%	92%	93%
Change	-3%	13%	1%	7%	11%	

Another H&SS subject off slightly after a strong 2020.

### Article Volume, Media & Communications

	Journals	Articles	%No-fee	\$/article
Large: 150-599	5	846	30%	\$909
Med.: 60-149	50	2,839	78%	\$212
Small: 20-59	226	5,661	91%	\$64
Smallest: 0-19	71	635	89%	\$20

No largest journals, and small journals publish most articles.

**Fees and Revenue, Media & Communications**

	<b>Journals</b>	<b>Articles</b>	<b>Revenue</b>	<b>\$/article</b>
\$2,000+	5	407	\$895,400	\$2,200
\$1,000-\$1,999	4	279	\$363,771	\$1,304
\$500-\$999	4	446	\$399,678	\$896
\$0.01-\$499	21	648	\$83,541	\$129
No fee	293	8,201		
Total	327	9,981	\$1,742,391	\$175

Potential revenue more than doubled from GOA6.

**Region, Media & Communications**

<b>Region</b>	<b>Journals</b>	<b>Articles</b>	<b>%No-fee</b>	<b>\$/article</b>
Western Europe	143	4,423	72%	\$350
Latin America	96	3,149	100%	\$0
Eastern Europe	38	794	89%	\$13
Pacific/English	36	785	89%	\$187
Asia	25	441	38%	\$72
Middle East	14	389	72%	\$17

No active journals in Africa.

**Publisher Category, Media & Communications**

<b>Category</b>	<b>Journals</b>	<b>Articles</b>	<b>%No-fee</b>	<b>\$/article</b>
Univ./college	269	6,934	93%	\$11
Society/govt	36	1,189	83%	\$134
Traditional	16	1,004	17%	\$1,272
Open Access	31	854	68%	\$269

**Country of Publication, Media & Communications, 50+ articles in 2021**

In addition to the 32 countries in the table (of which 21 have no fees), there are 12 countries with fewer articles (ten with no fees).

Country	Journals	Articles	%no-fee	\$/article
Brazil	58	2,084	100%	\$0
Spain	45	1,302	87%	\$26
United Kingdom	21	765	28%	\$1,325
United States	22	537	84%	\$274
Switzerland	5	465	23%	\$759
Portugal	15	423	73%	\$300
Indonesia	23	411	41%	\$72
Argentina	13	368	100%	\$0
Italy	14	353	100%	\$0
Turkey	11	344	76%	\$13
France	9	269	96%	\$2
Poland	7	233	100%	\$0
Colombia	8	172	100%	\$0
Austria	4	165	100%	\$0
Germany	8	162	86%	\$113
Peru	4	132	100%	\$0
Croatia	5	130	100%	\$0
Canada	7	125	100%	\$0
Romania	9	116	100%	\$0
Russia	5	110	35%	\$91
Ukraine	5	101	85%	\$2
Mexico	4	97	100%	\$0
Chile	3	96	100%	\$0
Australia	6	95	100%	\$0
Denmark	5	90	100%	\$0
Cuba	2	89	100%	\$0
Norway	4	84	100%	\$0
Ireland	2	76	100%	\$0
Netherlands	4	70	100%	\$0
Belgium	2	64	100%	\$0
Finland	2	58	100%	\$0
Sweden	2	57	100%	\$0



## 36. Medicine

### Key Facts, Medicine

	Journals	Articles	Art%	Rel%	\$/Art	Rel%
All	3,558	407,429			\$1,685	23%
Fee	1,834	311,794	77%	11%	\$2,202	10%
No-fee	1,724	95,635	23%	-25%		

By far the largest subject.

### Articles and Journals by Year, Medicine

	2021	2020	2019	2018	2017	2016
Journals	3,406	3,350	3,248	3,072	2,923	2,694
%No-fee	48%	49%	50%	50%	50%	50%
Articles	407,429	337,673	265,493	234,231	210,542	193,118
%No-fee	23%	27%	29%	32%	36%	38%
Change	21%	27%	13%	11%	9%	

Continued strong growth, and no-fee has dropped below one-quarter.

### Article Volume, Medicine

	Journals	Articles	%No-fee	\$/article
Largest: 600+	117	163,061	6%	\$2,422
Large: 150-599	532	115,523	19%	\$1,698
Med.: 60-149	1,079	81,533	45%	\$873
Small: 20-59	1,517	44,322	60%	\$507
Smallest: 0-19	313	2,990	54%	\$552

The largest journals keep getting more expensive.

**Fees and Revenue, Medicine**

	Journals	Articles	Revenue	\$/article
\$2,000+	683	209,053	\$580,322,824	\$2,776
\$1,000-\$1,999	437	53,960	\$86,543,966	\$1,604
\$500-\$999	247	19,393	\$13,645,226	\$704
\$0.01-\$499	411	29,388	\$5,979,823	\$203
No fee	1,628	95,635		
Total	3,406	407,429	\$686,491,839	\$1,685

Up \$94 million from GOA6.

**Region, Medicine**

Region	Journals	Articles	%No-fee	\$/article
Western Europe	1,352	246,066	9%	\$2,250
Pacific/English	379	52,532	10%	\$2,108
Asia	651	43,165	48%	\$313
Latin America	381	25,196	80%	\$91
Middle East	391	18,977	71%	\$109
Eastern Europe	358	18,973	65%	\$165
Africa	46	2,520	21%	\$426

**Publisher Category, Medicine**

Category	Journals	Articles	%No-fee	\$/article
Traditional	1,310	203,830	9%	\$2,285
Open Access	766	101,051	26%	\$1,450
Univ./college	1,060	69,799	48%	\$876
Society/govt	422	32,749	57%	\$400

**Country of Publication, Medicine, >150 articles in 2021**

A special two-page list of 63 countries (14 with no fees) still omits another 30 countries (20 with no fees).

Country	Jour.	Articles	%no-fee	\$/article
United Kingdom	825	123,076	7%	\$2,373
Switzerland	152	87,126	1%	\$2,567
United States	300	45,151	8%	\$2,150
India	253	19,195	56%	\$232
Brazil	184	16,667	71%	\$132
Netherlands	121	14,492	13%	\$1,570
Iran	253	11,344	64%	\$131
Spain	88	7,507	71%	\$383
Russia	105	6,863	94%	\$15
South Korea	88	5,733	51%	\$285
Turkey	97	5,700	90%	\$48
China	44	4,836	35%	\$808
Indonesia	146	4,686	31%	\$74
Poland	84	4,643	42%	\$428
Australia	36	4,411	16%	\$1,944
Italy	52	4,062	35%	\$683
Germany	39	3,634	54%	\$995
Cuba	43	2,976	100%	\$0
Canada	43	2,970	28%	\$1,708
Pakistan	22	2,214	20%	\$182
Ukraine	43	1,930	56%	\$62
Romania	34	1,907	44%	\$98
France	12	1,851	8%	\$2,258
Colombia	46	1,655	96%	\$4
Hong Kong	10	1,361	25%	\$1,068
Nepal	17	1,276	63%	\$53
South Africa	26	1,260	20%	\$578
Japan	18	1,106	33%	\$706
Norway	8	1,032	98%	\$10
Portugal	22	965	98%	\$4
Peru	17	886	100%	\$0
Taiwan	9	799	59%	\$442

Country	Jour.	Articles	%no-fee	\$/article
Bulgaria	7	736	28%	\$161
Greece	12	729	77%	\$289
Sweden	5	716	35%	\$1,303
Argentina	17	706	100%	\$0
Mexico	20	647	100%	\$0
Serbia	19	592	60%	\$61
Saudi Arabia	6	585	74%	\$325
Croatia	15	538	100%	\$0
Chile	12	509	76%	\$168
Sri Lanka	8	460	100%	\$0
Iraq	15	437	3%	\$131
Nigeria	5	429	0%	\$439
Malaysia	9	419	57%	\$83
Czechia	9	394	23%	\$528
Egypt	10	359	43%	\$95
Bangladesh	8	355	100%	\$0
Cameroon	1	326	0%	\$207
Paraguay	12	321	100%	\$0
Bosnia and Herzegovina	8	311	34%	\$456
Ireland	4	296	23%	\$1,315
Finland	7	292	68%	\$683
Thailand	5	272	82%	\$18
Oman	2	231	100%	\$0
Iceland	1	210	100%	\$0
Singapore	7	210	51%	\$339
Uruguay	7	201	100%	\$0
Costa Rica	7	194	100%	\$0
Slovenia	5	192	71%	\$311
Ecuador	8	178	100%	\$0
Kenya	2	155	0%	\$549
Philippines	5	154	100%	\$0

## 37. Miscellany

### Key Facts, Miscellany

	Journals	Articles	Art%	Rel%	\$/Art	Rel%
All	256	13,797			\$232	-83%
Fee	46	4,438	32%	-53%	\$721	-64%
No-fee	210	9,359	68%	118%		

Mostly multidisciplinary journals in H&SS.

### Articles and Journals by Year, Miscellany

	2021	2020	2019	2018	2017	2016
Journals	232	243	240	230	219	201
%No-fee	81%	82%	83%	84%	84%	84%
Articles	13,797	13,981	12,379	11,652	10,185	8,589
%No-fee	68%	70%	77%	81%	80%	76%
Change	-1%	13%	6%	14%	19%	

### Article Volume, Miscellany

	Journals	Articles	%No-fee	\$/article
Largest: 600+	5	4,118	67%	\$275
Large: 150-599	19	3,230	48%	\$514
Med.: 60-149	44	2,552	74%	\$92
Small: 20-59	149	3,518	80%	\$47
Smallest: 0-19	39	379	95%	\$25

**Fees and Revenue, Miscellany**

	<b>Journals</b>	<b>Articles</b>	<b>Revenue</b>	<b>\$/article</b>
\$2,000+	1	16	\$33,440	\$2,090
\$1,000-\$1,999	7	2,092	\$2,797,914	\$1,337
\$500-\$999	6	277	\$193,421	\$698
\$0.01-\$499	31	2,053	\$175,541	\$86
No fee	187	9,359		
Total	232	13,797	\$3,200,316	\$232

**Region, Miscellany**

<b>Region</b>	<b>Journals</b>	<b>Articles</b>	<b>%No-fee</b>	<b>\$/article</b>
Western Europe	59	5,317	73%	\$353
Latin America	87	3,947	86%	\$11
Eastern Europe	41	1,433	67%	\$29
Pacific/English	18	1,125	19%	\$973
Asia	25	942	27%	\$44
Middle East	17	788	63%	\$56
Africa	9	245	59%	\$242

**Publisher Category, Miscellany**

<b>Category</b>	<b>Journals</b>	<b>Articles</b>	<b>%No-fee</b>	<b>\$/article</b>
Univ./college	204	7,530	78%	\$21
Traditional	19	5,150	55%	\$540
Open Access	20	769	56%	\$323
Society/govt	13	348	69%	\$30

**Country of Publication, Miscellany, >70 articles in 2021**

In addition to the 30 countries listed (16 with no fees), there are 29 more with fewer articles (21 with no fees). Note the fee discrepancies among the top four countries.

Country	Journals	Articles	%no-fee	\$/article
France	9	2,604	100%	\$0
Brazil	38	2,070	95%	\$3
United Kingdom	18	1,468	15%	\$1,135
United States	13	1,039	12%	\$1,053
Indonesia	13	565	13%	\$34
Chile	5	534	14%	\$68
Colombia	17	432	100%	\$0
Ecuador	7	336	100%	\$0
Turkey	6	332	100%	\$0
Portugal	4	325	100%	\$0
Spain	13	292	96%	\$32
Russia	5	264	52%	\$27
Poland	8	260	40%	\$64
Netherlands	1	203	100%	\$0
Switzerland	4	202	36%	\$983
India	3	196	0%	\$114
Lithuania	2	183	100%	\$0
Iraq	5	167	43%	\$96
Lebanon	1	156	0%	\$150
Costa Rica	2	128	100%	\$0
Ukraine	4	121	45%	\$33
Mexico	5	120	100%	\$0
Peru	5	115	100%	\$0
Romania	4	111	100%	\$0
Italy	4	107	100%	\$0
South Africa	4	85	8%	\$670
Croatia	5	79	100%	\$0
Slovenia	2	76	100%	\$0
Malaysia	4	74	100%	\$0
Argentina	3	73	100%	\$0

## 38. Other Sciences

### Key Facts, Other Sciences

	Journals	Articles	Art%	Rel%	\$/Art	Rel%
All	229	86,377			\$2,198	60%
Fee	94	81,633	95%	37%	\$2,326	16%
No-fee	135	4,744	5%	-82%		

Includes megajournals and multidisciplinary science journals.

### Articles and Journals by Year, Other Sciences

	2021	2020	2019	2018	2017	2016
Journals	214	213	207	203	192	183
%No-fee	57%	59%	61%	62%	64%	63%
Articles	86,377	76,815	64,337	59,650	64,667	61,281
%No-fee	5%	7%	7%	7%	7%	7%
Change	12%	19%	8%	-8%	6%	

Solid growth, but very few no-fee articles, even though a majority of the journals are no-fee.

### Article Volume, Other Sciences

	Journals	Articles	%No-fee	\$/article
Largest: 600+	13	75,226	0%	\$2,442
Large: 150-599	28	5,254	27%	\$682
Med.: 60-149	53	3,142	47%	\$574
Small: 20-59	106	2,454	66%	\$289
Smallest: 0-19	29	301	81%	\$374

The largest journals keep getting more expensive.



**Fees and Revenue, Other Sciences**

	<b>Journals</b>	<b>Articles</b>	<b>Revenue</b>	<b>\$/article</b>
\$2,000+	10	24,343	\$91,063,675	\$3,741
\$1,000-\$1,999	25	52,771	\$96,737,271	\$1,833
\$500-\$999	17	2,261	\$1,660,835	\$735
\$0.01-\$499	39	2,258	\$417,633	\$185
No fee	123	4,744		
Total	214	86,377	\$189,879,415	\$2,198

**Region, Other Sciences**

<b>Region</b>	<b>Journals</b>	<b>Articles</b>	<b>%No-fee</b>	<b>\$/article</b>
Western Europe	51	54,276	1%	\$2,544
Pacific/English	17	25,303	0%	\$2,002
Eastern Europe	32	1,741	46%	\$154
Asia	48	1,701	54%	\$186
Latin America	48	1,608	91%	\$6
Middle East	26	1,333	44%	\$400
Africa	7	415	81%	\$32

**Publisher Category, Other Sciences**

<b>Category</b>	<b>Journals</b>	<b>Articles</b>	<b>%No-fee</b>	<b>\$/article</b>
Traditional	31	41,886	1%	\$2,616
Open Access	30	33,836	0%	\$1,973
Univ./college	150	5,602	71%	\$136
Society/govt	18	5,053	8%	\$2,535

**Country of Publication, Other Sciences, >70 articles in 2021**

Of 31 listed, 10 have no fees; of 26 with fewer articles, 18 have no fees. The startling row in this table: Germany's \$4,458 average cost.

Country	Journals	Articles	%no-fee	\$/article
United Kingdom	19	38,076	1%	\$2,607
United States	15	25,228	0%	\$2,004
Switzerland	9	13,856	0%	\$2,411
Germany	8	1,072	8%	\$4,458
Netherlands	3	944	0%	\$524
Brazil	19	794	86%	\$10
Russia	9	531	51%	\$55
Iraq	12	514	37%	\$84
Thailand	10	441	94%	\$12
Indonesia	23	425	48%	\$55
Saudi Arabia	1	380	0%	\$1,250
Bulgaria	4	377	60%	\$156
Serbia	6	328	23%	\$362
China	3	309	0%	\$628
Turkey	6	289	100%	\$0
Colombia	10	230	100%	\$0
South Africa	2	228	66%	\$58
Taiwan	1	180	0%	\$509
Mexico	5	173	100%	\$0
Italy	5	140	27%	\$700
Spain	2	130	100%	\$0
Ukraine	4	128	67%	\$5
Romania	3	125	27%	\$34
Bangladesh	2	124	100%	\$0
Ecuador	4	113	100%	\$0
Algeria	2	99	100%	\$0
Cuba	1	94	100%	\$0
Iran	2	80	100%	\$0
Sri Lanka	2	80	100%	\$0
Canada	2	75	0%	\$1,350
Costa Rica	2	74	59%	\$30

## 39. Philosophy

### Key Facts, Philosophy

	Journals	Articles	Art%	Rel%	\$/Art	Rel%
All	314	8,567			\$102	-93%
Fee	23	1,077	13%	-82%	\$809	-59%
No-fee	291	7,490	87%	180%		

### Articles and Journals by Year, Philosophy

	2021	2020	2019	2018	2017	2016
Journals	292	304	299	293	280	265
%No-fee	92%	93%	93%	92%	93%	94%
Articles	8,567	9,231	8,697	7,955	7,883	7,540
%No-fee	87%	91%	91%	91%	93%	94%
Change	-7%	6%	9%	1%	5%	

Another H&SS field with fewer articles in 2021.

### Article Volume, Philosophy

	Journals	Articles	%No-fee	\$/article
Large: 150-599	3	291	42%	\$987
Med.: 60-149	49	2,632	80%	\$136
Small: 20-59	200	5,067	94%	\$32
Smallest: 0-19	62	577	87%	\$111

No largest journals, mostly small.

### Fees and Revenue, Philosophy

	Journals	Articles	Revenue	\$/article
\$2,000+	1	59	\$139,672	\$2,367
\$1,000-\$1,999	8	391	\$598,323	\$1,530
\$500-\$999	3	170	\$103,816	\$611
\$0.01-\$499	11	457	\$29,501	\$65
No fee	269	7,490		
Total	292	8,567	\$871,313	\$102

### Region, Philosophy

Region	Journals	Articles	%No-fee	\$/article
Latin America	90	2,653	98%	\$23
Eastern Europe	78	2,374	84%	\$44
Western Europe	91	2,338	82%	\$294
Pacific/English	36	762	93%	\$7
Middle East	9	262	39%	\$40
Asia	9	148	91%	\$14
Africa	1	30	100%	\$0

Only Western Europe exceeds \$44.

### Publisher Category, Philosophy

Category	Journals	Articles	%No-fee	\$/article
Univ./college	250	6,850	91%	\$24
Society/govt	27	790	100%	\$0
Traditional	16	515	32%	\$1,101
Open Access	21	412	75%	\$335

### Country of Publication, Philosophy, >35 articles in 2021

Of 32 countries in the table, 22 have no fees. Of 15 more with fewer articles, 13 have no fees.

Country	Journals	Articles	%no-fee	\$/article
Brazil	47	1,725	100%	\$0
Spain	25	815	100%	\$0
Russia	10	586	100%	\$0
Italy	26	544	100%	\$0
Poland	25	493	91%	\$54
United States	20	460	92%	\$1
Ukraine	12	381	39%	\$30
United Kingdom	12	325	24%	\$1,232
Colombia	12	282	100%	\$0
Chile	9	227	82%	\$264
Iran	6	225	28%	\$47
Canada	12	203	93%	\$26
Croatia	4	198	100%	\$0
Czechia	8	183	100%	\$0
Mexico	5	182	100%	\$0
Argentina	13	173	100%	\$0
Romania	9	139	100%	\$0
Serbia	2	124	100%	\$0
Switzerland	2	114	8%	\$1,209
France	6	113	100%	\$0
Armenia	1	112	0%	\$600
Portugal	5	96	100%	\$0
Germany	4	88	33%	\$1,587
Austria	3	80	100%	\$0
Australia	3	78	100%	\$0
Indonesia	4	64	100%	\$0
Denmark	1	49	100%	\$0
Slovakia	1	39	100%	\$0
Kazakhstan	1	37	100%	\$0
Turkey	3	37	100%	\$0
Finland	3	36	100%	\$0
India	1	36	100%	\$0

## 40. Physics

### Key Facts, Physics

	Journals	Articles	Art%	Rel%	\$/Art	Rel%
All	238	50,383			\$1,577	15%
Fee	138	38,012	75%	10%	\$2,090	5%
No-fee	100	12,371	25%	-21%		

### Articles and Journals by Year, Physics

	2021	2020	2019	2018	2017	2016
Journals	229	225	208	187	175	163
%No-fee	41%	42%	44%	44%	47%	50%
Articles	50,383	43,152	35,983	30,531	25,803	22,354
%No-fee	25%	28%	35%	38%	45%	48%
Change	17%	20%	18%	18%	15%	

Solid growth every year, just short of doubling since 2017.

### Article Volume, Physics

	Journals	Articles	%No-fee	\$/article
Largest: 600+	19	34,604	23%	\$1,704
Large: 150-599	35	9,031	21%	\$1,621
Med.: 60-149	53	3,644	35%	\$1,055
Small: 20-59	102	2,855	44%	\$673
Smallest: 0-19	29	249	60%	\$370

Two-thirds of articles are in the largest journals.

**Fees and Revenue, Physics**

	<b>Journals</b>	<b>Articles</b>	<b>Revenue</b>	<b>\$/article</b>
\$2,000+	35	24,341	\$58,946,635	\$2,422
\$1,000-\$1,999	63	10,582	\$18,883,384	\$1,784
\$500-\$999	10	2,056	\$1,402,801	\$682
\$0.01-\$499	27	1,033	\$230,010	\$223
No fee	94	12,371		
Total	229	50,383	\$79,462,830	\$1,577

**Region, Physics**

<b>Region</b>	<b>Journals</b>	<b>Articles</b>	<b>%No-fee</b>	<b>\$/article</b>
Western Europe	110	38,110	24%	\$1,599
Pacific/English	22	7,785	5%	\$2,262
Asia	47	2,285	48%	\$301
Eastern Europe	37	1,402	76%	\$121
Latin America	11	505	80%	\$100
Middle East	10	235	90%	\$7
Africa	1	61	0%	\$43

Unusual: Pacific/English considerably costlier than Western Europe.

**Publisher Category, Physics**

<b>Category</b>	<b>Journals</b>	<b>Articles</b>	<b>%No-fee</b>	<b>\$/article</b>
Open Access	49	22,544	7%	\$2,016
Traditional	84	15,098	49%	\$1,040
Society/govt	32	8,229	9%	\$2,086
Univ./college	73	4,512	63%	\$255

**Country of Publication, Physics, >ten articles in 2021**

Of 32 countries in the table, nine have no fees. There are only three more with fewer articles—and none of them have fees.

Country	Journals	Articles	%no-fee	\$/article
Switzerland	26	21,604	0%	\$2,191
United States	22	7,785	5%	\$2,262
Germany	16	6,023	89%	\$247
United Kingdom	44	4,759	3%	\$2,174
Netherlands	16	2,965	45%	\$481
France	4	1,257	94%	\$64
Italy	2	1,189	100%	\$0
China	8	667	27%	\$416
Indonesia	27	498	50%	\$22
Ukraine	10	492	84%	\$24
South Korea	2	468	91%	\$38
Japan	3	446	14%	\$728
Brazil	4	397	80%	\$121
Russia	6	289	100%	\$0
Iran	9	235	90%	\$7
Austria	1	234	0%	\$533
Poland	7	198	46%	\$587
Romania	3	112	100%	\$0
Serbia	2	94	51%	\$87
Kazakhstan	3	88	55%	\$5
Singapore	3	81	60%	\$698
India	2	80	100%	\$0
Ireland	1	79	0%	\$1,768
Nigeria	1	61	0%	\$43
Czechia	1	50	0%	\$568
Latvia	1	46	100%	\$0
Malaysia	1	36	100%	\$0
Peru	1	36	100%	\$0
Cuba	2	31	100%	\$0
Colombia	2	22	100%	\$0
Argentina	2	19	0%	\$142
Slovenia	1	17	0%	\$237



# 41. Political Science

## Key Facts, Political Science

	Journals	Articles	Art%	Rel%	\$/Art	Rel%
All	535	14,491			\$111	-92%
Fee	61	2,600	18%	-74%	\$620	-69%
No-fee	474	11,891	82%	163%		

## Articles and Journals by Year, Political Science

	2021	2020	2019	2018	2017	2016
Journals	494	516	511	486	456	427
%No-fee	88%	89%	90%	90%	90%	90%
Articles	14,491	15,206	14,241	14,447	12,879	12,392
%No-fee	82%	86%	87%	88%	86%	85%
Change	-5%	7%	-1%	12%	4%	

Fairly common H&SS pattern, down in 2021.

## Article Volume, Political Science

	Journals	Articles	%No-fee	\$/article
Largest: 600+	3	1,072	42%	\$760
Large: 150-599	10	993	62%	\$179
Med.: 60-149	62	3,614	79%	\$71
Small: 20-59	335	7,611	91%	\$35
Smallest: 0-19	125	1,201	85%	\$83

**Fees and Revenue, Political Science**

	Journals	Articles	Revenue	\$/article
\$1,000-\$1,999	10	948	\$1,234,321	\$1,302
\$500-\$999	8	328	\$265,300	\$809
\$0.01-\$499	39	1,324	\$113,020	\$85
No fee	437	11,891		
Total	494	14,491	\$1,612,641	\$111

No very expensive journals.

**Region, Political Science**

Region	Journals	Articles	%No-fee	\$/article
Eastern Europe	152	4,919	82%	\$19
Latin America	146	3,787	99%	\$3
Western Europe	126	3,364	68%	\$395
Asia	52	1,023	65%	\$81
Pacific/English	33	716	94%	\$48
Middle East	20	544	85%	\$12
Africa	6	138	30%	\$408

Somewhat unusual, with Eastern Europe producing the most articles.

**Publisher Category, Political Science**

Category	Journals	Articles	%No-fee	\$/article
Univ./college	406	10,168	89%	\$20
Open Access	41	2,100	51%	\$499
Traditional	51	1,399	74%	\$247
Society/govt	37	824	89%	\$25

**Country of Publication, Political Science, >80 articles in 2021**

Of 32 countries in the table, 15 have no fee. Of 27 more with fewer articles, 26 have no fees.

Country	Journals	Articles	%no-fee	\$/article
Brazil	62	1,888	99%	\$5
Russia	24	1,399	100%	\$0
Poland	45	1,290	95%	\$18
Spain	34	803	100%	\$0
Switzerland	3	772	2%	\$1,222
Ukraine	16	761	22%	\$23
Romania	29	679	96%	\$1
Indonesia	38	600	56%	\$38
Colombia	21	504	100%	\$0
Argentina	19	474	100%	\$0
United Kingdom	25	453	76%	\$315
Mexico	18	443	96%	\$0
United States	20	413	90%	\$83
Turkey	13	364	100%	\$0
Italy	16	310	100%	\$0
Chile	12	254	100%	\$0
Canada	9	250	100%	\$0
Portugal	4	242	36%	\$716
France	8	186	100%	\$0
China	2	184	100%	\$0
Iran	7	180	56%	\$37
Croatia	6	150	100%	\$0
Czechia	9	127	100%	\$0
South Africa	5	121	21%	\$466
Germany	9	117	100%	\$0
Costa Rica	5	107	100%	\$0
Lithuania	4	107	39%	\$252
Austria	7	97	100%	\$0
Netherlands	6	93	31%	\$764
North Macedonia	3	91	25%	\$79
Kazakhstan	2	82	0%	\$208
South Korea	3	81	42%	\$128

## 42. Psychology

### Key Facts, Psychology

	Journals	Articles	Art%	Rel%	\$/Art	Rel%
All	290	15,541			\$1,425	4%
Fee	82	10,062	65%	-6%	\$2,202	10%
No-fee	208	5,479	35%	13%		

Some psychology journals may belong in medicine, and the very high fees may reflect that.

### Articles and Journals by Year, Psychology

	2021	2020	2019	2018	2017	2016
Journals	269	275	273	265	259	244
%No-fee	71%	73%	74%	74%	74%	75%
Articles	15,541	12,633	11,573	10,819	9,339	8,661
%No-fee	35%	47%	49%	51%	56%	56%
Change	23%	9%	7%	16%	8%	

Strong growth in 2021.

### Article Volume, Psychology

	Journals	Articles	%No-fee	\$/article
Largest: 600+	1	6,435	0%	\$2,950
Large: 150-599	9	1,585	13%	\$945
Med.: 60-149	46	2,432	57%	\$384
Small: 20-59	170	4,478	77%	\$141
Smallest: 0-19	64	611	72%	\$176

One very expensive, very large journal.

**Fees and Revenue, Psychology**

	<b>Journals</b>	<b>Articles</b>	<b>Revenue</b>	<b>\$/article</b>
\$2,000+	8	6,872	\$20,149,206	\$2,932
\$1,000-\$1,999	16	1,084	\$1,498,368	\$1,382
\$500-\$999	6	224	\$194,749	\$869
\$0.01-\$499	47	1,882	\$311,107	\$165
No fee	192	5,479		
Total	269	15,541	\$22,153,430	\$1,425

**Region, Psychology**

<b>Region</b>	<b>Journals</b>	<b>Articles</b>	<b>%No-fee</b>	<b>\$/article</b>
Western Europe	75	9,326	10%	\$2,307
Latin America	87	2,526	96%	\$3
Eastern Europe	52	1,664	78%	\$22
Asia	39	769	59%	\$42
Pacific/English	15	642	21%	\$749
Middle East	20	552	53%	\$46
Africa	2	62	0%	\$816

**Publisher Category, Psychology**

<b>Category</b>	<b>Journals</b>	<b>Articles</b>	<b>%No-fee</b>	<b>\$/article</b>
Traditional	23	7,770	3%	\$2,692
Univ./college	213	5,481	79%	\$37
Open Access	35	1,420	30%	\$670
Society/govt	19	870	54%	\$98

**Country of Publication, Psychology, >30 articles in 2021**

Of 32 countries in the table, 16 have no fees. Of 14 more with fewer articles, 13 have no fees.

Country	Journals	Articles	%no-fee	\$/article
Switzerland	5	6,711	0%	\$2,887
Brazil	46	1,683	94%	\$5
United Kingdom	15	966	9%	\$1,562
Spain	18	719	38%	\$204
Russia	14	700	88%	\$10
Indonesia	32	541	50%	\$36
Canada	4	389	6%	\$873
Iran	13	335	22%	\$76
Ukraine	8	299	22%	\$44
Italy	12	290	89%	\$52
Netherlands	4	257	0%	\$1,780
United States	11	253	44%	\$559
Colombia	13	217	100%	\$0
Germany	11	213	87%	\$27
Argentina	7	211	100%	\$0
Poland	9	205	73%	\$85
Turkey	6	205	100%	\$0
India	2	142	100%	\$0
Peru	6	134	100%	\$0
Portugal	4	122	30%	\$62
Chile	4	101	100%	\$0
Czechia	4	101	100%	\$0
Croatia	2	98	100%	\$0
Uruguay	2	70	100%	\$0
Mexico	4	63	100%	\$0
South Africa	2	62	0%	\$816
Serbia	4	58	100%	\$0
South Korea	1	49	0%	\$262
Costa Rica	3	42	100%	\$0
Lithuania	2	38	100%	\$0
Slovakia	1	36	100%	\$0
Moldova	2	34	100%	\$0

## 43. Religion

### Key Facts, Religion

	Journals	Articles	Art%	Rel%	\$/Art	Rel%
All	349	9,900			\$235	-83%
Fee	78	3,952	40%	-42%	\$588	-71%
No-fee	271	5,948	60%	93%		

High percentage of fee articles for H&SS, but very low fees.

### Articles and Journals by Year, Religion

	2021	2020	2019	2018	2017	2016
Journals	323	340	334	312	295	262
%No-fee	77%	77%	77%	78%	78%	79%
Articles	9,900	10,028	9,022	7,915	7,100	6,637
%No-fee	60%	65%	67%	72%	73%	71%
Change	-1%	11%	14%	11%	7%	

Tiny drop in 2021 after three years of solid growth.

### Article Volume, Religion

	Journals	Articles	%No-fee	\$/article
Largest: 600+	2	1,772	0%	\$849
Large: 150-599	1	357	0%	\$1,014
Med.: 60-149	35	1,976	72%	\$134
Small: 20-59	207	4,711	79%	\$34
Smallest: 0-19	104	1,084	73%	\$34

The large journals all have fees, but there are only three of them.

**Fees and Revenue, Religion**

	<b>Journals</b>	<b>Articles</b>	<b>Revenue</b>	<b>\$/article</b>
\$1,000-\$1,999	4	1,548	\$1,919,076	\$1,240
\$500-\$999	5	204	\$180,701	\$886
\$0.01-\$499	65	2,200	\$225,705	\$103
No fee	249	5,948		
Total	323	9,900	\$2,325,482	\$235

No very expensive journals, and the moderately expensive ones are near the bottom of that fee range.

**Region, Religion**

<b>Region</b>	<b>Journals</b>	<b>Articles</b>	<b>%No-fee</b>	<b>\$/article</b>
Western Europe	57	3,074	41%	\$507
Asia	143	2,398	56%	\$39
Eastern Europe	49	1,510	90%	\$41
Middle East	42	1,027	84%	\$11
Latin America	31	904	100%	\$0
Africa	12	761	0%	\$788
Pacific/English	15	226	100%	\$0

A subject where Pacific/English joins Latin America with no fees.

**Publisher Category, Religion**

<b>Category</b>	<b>Journals</b>	<b>Articles</b>	<b>%No-fee</b>	<b>\$/article</b>
Univ./college	295	6,452	80%	\$19
Open Access	30	2,883	13%	\$723
Society/govt	16	330	71%	\$72
Traditional	8	235	68%	\$392

**Country of Publication, Religion, >40 articles in 2021**

Of 32 countries listed, 20 have no fees. Twelve more countries with fewer articles, ten of which have no fees.



Country	Journals	Articles	%no-fee	\$/article
Indonesia	129	2,024	62%	\$22
Switzerland	2	1,148	3%	\$1,276
Germany	6	760	14%	\$51
South Africa	10	730	0%	\$817
Poland	22	675	93%	\$82
Brazil	19	664	100%	\$0
Turkey	21	584	100%	\$0
Russia	9	414	100%	\$0
Spain	11	341	100%	\$0
Iran	18	333	61%	\$25
Pakistan	10	292	9%	\$138
United Kingdom	8	132	71%	\$319
Italy	4	120	100%	\$0
United States	10	116	100%	\$0
Norway	7	114	88%	\$100
Netherlands	3	108	100%	\$0
Argentina	5	94	100%	\$0
Finland	5	94	100%	\$0
Ukraine	5	91	67%	\$13
Malaysia	3	88	39%	\$136
Austria	3	84	100%	\$0
Czechia	3	80	100%	\$0
Qatar	1	75	100%	\$0
Ireland	1	67	100%	\$0
Chile	4	63	100%	\$0
Canada	3	59	100%	\$0
Serbia	3	54	100%	\$0
Kazakhstan	1	52	0%	\$12
Australia	2	51	100%	\$0
Colombia	2	51	100%	\$0
Bulgaria	1	45	100%	\$0
Slovenia	2	41	100%	\$0

## 44. Sociology

### Key Facts, Sociology

	Journals	Articles	Art%	Rel%	\$/Art	Rel%
All	634	20,400			\$193	-86%
Fee	84	5,117	25%	-64%	\$771	-61%
No-fee	550	15,283	75%	140%		

Pretty typical figures for H&SS.

### Articles and Journals by Year, Sociology

	2021	2020	2019	2018	2017	2016
Journals	591	608	598	582	546	506
%No-fee	86%	87%	87%	89%	89%	90%
Articles	20,400	19,972	18,289	18,051	17,232	14,780
%No-fee	75%	79%	82%	81%	84%	85%
Change	2%	9%	1%	5%	17%	

Slow growth in 2021, but still growth.

### Article Volume, Sociology

	Journals	Articles	%No-fee	\$/article
Largest: 600+	1	619	0%	\$2,300
Large: 150-599	13	2,268	35%	\$465
Med.: 60-149	86	5,489	68%	\$183
Small: 20-59	411	10,760	89%	\$38
Smallest: 0-19	123	1,264	90%	\$47

**Fees and Revenue, Sociology**

	<b>Journals</b>	<b>Articles</b>	<b>Revenue</b>	<b>\$/article</b>
\$2,000+	2	818	\$1,841,600	\$2,251
\$1,000-\$1,999	15	959	\$1,285,397	\$1,340
\$500-\$999	11	840	\$603,151	\$718
\$0.01-\$499	53	2,500	\$216,480	\$87
No fee	510	15,283		
Total	591	20,400	\$3,946,629	\$193

Two expensive journals, one largest, one large.

**Region, Sociology**

<b>Region</b>	<b>Journals</b>	<b>Articles</b>	<b>%No-fee</b>	<b>\$/article</b>
Latin America	204	6,005	99%	\$0
Western Europe	160	5,411	64%	\$528
Eastern Europe	103	4,000	75%	\$28
Pacific/English	62	1,871	59%	\$445
Middle East	40	1,606	64%	\$19
Asia	58	1,280	52%	\$34
Africa	7	227	43%	\$315

**Publisher Category, Sociology**

<b>Category</b>	<b>Journals</b>	<b>Articles</b>	<b>%No-fee</b>	<b>\$/article</b>
Univ./college	488	14,661	86%	\$22
Traditional	43	2,311	23%	\$1,262
Open Access	55	1,929	49%	\$340
Society/govt	48	1,499	78%	\$38

**Country of Publication, Sociology, >100 articles in 2021**

Of 33 countries in the table, 14 have no fees. 31 more countries with fewer articles, including 26 with no fees.

Country	Journals	Articles	%no-fee	\$/article
Brazil	87	3,126	98%	\$1
United Kingdom	28	1,537	21%	\$1,364
Russia	22	1,448	88%	\$12
United States	44	1,361	49%	\$603
Turkey	25	1,264	68%	\$15
Spain	41	1,096	97%	\$5
Indonesia	42	971	43%	\$27
Argentina	32	701	100%	\$0
Poland	26	666	83%	\$37
France	17	635	100%	\$0
Colombia	26	590	100%	\$0
Switzerland	8	489	4%	\$1,150
Mexico	14	428	100%	\$0
Romania	10	404	68%	\$38
Ukraine	6	373	4%	\$24
Italy	17	365	100%	\$0
Iran	15	342	49%	\$31
Germany	11	337	86%	\$8
Canada	12	293	100%	\$0
Serbia	5	278	71%	\$28
Portugal	7	248	45%	\$621
Norway	12	243	89%	\$25
Cuba	4	235	100%	\$0
Chile	10	226	100%	\$0
Ecuador	8	211	100%	\$0
Venezuela	6	207	100%	\$0
Australia	5	173	56%	\$66
South Africa	5	170	24%	\$421
Netherlands	6	168	100%	\$0
Bosnia and Herzegovina	2	153	100%	\$0
Moldova	4	128	79%	\$3
Costa Rica	6	110	100%	\$0
Croatia	3	110	100%	\$0

## 45. Technology

### Key Facts, Technology

	Journals	Articles	Art%	Rel%	\$/Art	Rel%
All	225	16,187			\$1,081	-21%
Fee	101	10,136	63%	-9%	\$1,726	-14%
No-fee	124	6,051	37%	20%		

### Articles and Journals by Year, Technology

	2021	2020	2019	2018	2017	2016
Journals	216	196	181	172	163	149
%No-fee	54%	59%	63%	65%	63%	64%
Articles	16,187	12,148	12,678	19,068	12,869	11,873
%No-fee	37%	50%	60%	73%	67%	65%
Change	33%	-4%	-34%	48%	8%	

A yoyo pattern—the only constant being a shift toward fee articles.

### Article Volume, Technology

	Journals	Articles	%No-fee	\$/article
Largest: 600+	3	3,238	63%	\$860
Large: 150-599	26	6,473	12%	\$1,538
Med.: 60-149	48	3,151	35%	\$1,021
Small: 20-59	116	3,057	65%	\$416
Smallest: 0-19	32	268	49%	\$998

**Fees and Revenue, Technology**

	<b>Journals</b>	<b>Articles</b>	<b>Revenue</b>	<b>\$/article</b>
\$2,000+	24	5,042	\$12,135,275	\$2,407
\$1,000-\$1,999	36	2,545	\$4,218,124	\$1,657
\$500-\$999	15	1,007	\$767,084	\$762
\$0.01-\$499	24	1,542	\$377,610	\$245
No fee	117	6,051		
Total	216	16,187	\$17,498,093	\$1,081

**Region, Technology**

<b>Region</b>	<b>Journals</b>	<b>Articles</b>	<b>%No-fee</b>	<b>\$/article</b>
Western Europe	73	9,931	25%	\$1,503
Eastern Europe	56	2,187	67%	\$105
Asia	45	1,914	46%	\$451
Pacific/English	14	696	3%	\$2,082
Latin America	23	689	98%	\$0
Middle East	11	606	85%	\$6
Africa	3	164	11%	\$167

**Publisher Category, Technology**

<b>Category</b>	<b>Journals</b>	<b>Articles</b>	<b>%No-fee</b>	<b>\$/article</b>
Traditional	51	7,616	24%	\$1,683
Univ./college	111	4,742	64%	\$194
Open Access	37	2,090	12%	\$1,151
Society/govt	26	1,739	54%	\$778

**Country of Publication, Technology, >40 articles in 2021**

Of 33 in the table, 15 have no fees, as is true for 12 of the 16 countries with fewer articles. And then there's Australia...

Country	Journals	Articles	%no-fee	\$/article
United Kingdom	28	5,068	13%	\$1,859
France	3	1,500	95%	\$63
Switzerland	15	1,097	0%	\$1,722
Netherlands	7	893	8%	\$2,027
Poland	14	752	42%	\$152
Germany	9	741	15%	\$1,462
United States	13	654	3%	\$1,959
China	8	556	66%	\$84
Indonesia	23	543	46%	\$199
Japan	4	542	0%	\$1,304
Brazil	11	425	97%	\$0
Italy	2	361	0%	\$1,611
Russia	10	355	62%	\$145
Ukraine	8	304	100%	\$0
Turkey	2	263	100%	\$0
Iran	7	216	59%	\$18
Spain	4	152	51%	\$306
Belarus	2	146	100%	\$0
Iraq	2	127	100%	\$0
Malaysia	2	124	100%	\$0
Nigeria	1	124	0%	\$110
Belgium	4	118	100%	\$0
Serbia	4	116	81%	\$11
Romania	3	114	100%	\$0
Hungary	1	96	100%	\$0
Lithuania	2	87	0%	\$606
Taiwan	3	76	100%	\$0
Colombia	4	75	100%	\$0
India	3	58	100%	\$0
Cuba	2	55	100%	\$0
Ecuador	2	52	100%	\$0
Australia	1	42	0%	\$4,000
Moldova	1	42	100%	\$0

## 46. Zoology

### Key Facts, Zoology

	Journals	Articles	Art%	Rel%	\$/Art	Rel%
All	334	23,037			\$1,138	-17%
Fee	179	18,518	80%	17%	\$1,416	-29%
No-fee	155	4,519	20%	-37%		

Includes marine biology and veterinary medicine.

### Articles and Journals by Year, Zoology

	2021	2020	2019	2018	2017	2016
Journals	320	320	312	305	297	283
%No-fee	46%	47%	47%	47%	47%	48%
Articles	23,037	20,978	16,323	14,709	13,676	12,943
%No-fee	20%	22%	25%	28%	30%	30%
Change	10%	29%	11%	8%	6%	

Growth every year.

### Article Volume, Technology

	Journals	Articles	%No-fee	\$/article
Largest: 600+	4	6,651	0%	\$2,220
Large: 150-599	26	5,651	9%	\$1,113
Med.: 60-149	91	5,810	24%	\$656
Small: 20-59	165	4,486	51%	\$283
Smallest: 0-19	48	439	69%	\$206



**Fees and Revenue, Zoology**

	<b>Journals</b>	<b>Articles</b>	<b>Revenue</b>	<b>\$/article</b>
\$2,000+	18	3,814	\$9,935,468	\$2,605
\$1,000-\$1,999	37	7,802	\$13,894,237	\$1,781
\$500-\$999	27	2,299	\$1,621,061	\$705
\$0.01-\$499	91	4,603	\$774,599	\$168
No fee	147	4,519		
Total	320	23,037	\$26,225,364	\$1,138

**Region, Zoology**

<b>Region</b>	<b>Journals</b>	<b>Articles</b>	<b>%No-fee</b>	<b>\$/article</b>
Western Europe	97	11,378	10%	\$1,843
Asia	61	2,837	11%	\$484
Latin America	57	2,660	41%	\$163
Eastern Europe	62	2,484	44%	\$316
Middle East	40	2,065	40%	\$73
Pacific/English	12	1,462	7%	\$1,668
Africa	5	151	4%	\$457

**Publisher Category, Zoology**

<b>Category</b>	<b>Journals</b>	<b>Articles</b>	<b>%No-fee</b>	<b>\$/article</b>
Traditional	65	6,990	5%	\$1,919
Open Access	39	6,715	5%	\$1,521
Univ./college	173	6,555	42%	\$279
Society/govt	57	2,777	40%	\$279

**Country of Publication, Zoology, >90 articles in 2021**

The 32 countries in the table include five with no fees; another 25 with fewer articles include 20 with no fees.

Country	Journals	Articles	%no-fee	\$/article
Switzerland	9	6,487	0%	\$2,189
United Kingdom	41	2,743	9%	\$1,743
Brazil	28	1,828	26%	\$198
United States	10	1,446	7%	\$1,684
Netherlands	8	1,079	6%	\$1,410
Indonesia	40	1,064	14%	\$81
Bulgaria	15	994	15%	\$657
Iran	14	748	46%	\$48
Egypt	9	668	8%	\$124
South Korea	7	562	0%	\$812
India	2	438	5%	\$573
Turkey	11	400	100%	\$0
China	3	396	0%	\$1,197
Ukraine	10	378	58%	\$8
Poland	14	295	52%	\$203
Germany	10	289	30%	\$1,240
France	4	265	100%	\$0
Iraq	5	232	0%	\$137
Mexico	4	201	61%	\$162
Spain	8	201	94%	\$6
Colombia	6	193	73%	\$54
Czechia	4	181	8%	\$318
Russia	4	172	100%	\$0
Chile	2	168	52%	\$167
Italy	9	159	91%	\$28
Argentina	7	147	100%	\$0
Romania	4	116	60%	\$40
Bangladesh	2	108	22%	\$327
Pakistan	1	107	0%	\$300
Slovakia	2	105	100%	\$0
Libya	1	99	0%	\$350
Serbia	4	96	58%	\$89

# Appendix A. Methods, Changes and Caveats

## The Investigation

This project began with the master dataset prepared for *Gold Open Access 2015-2020: Articles in Journals* (GOA6) and proceeded similarly to last year, but with slightly different dates. I downloaded DOAJ metadata on December 18, 2021 to allow time for matching and normalization. As usual, it made sense to build the base spreadsheet, then add and delete rows for new and deleted journals through just after midnight UMT on January 1, 2022 (that is, 4 pm PST on December 31, 2021).

This year, I also did two things that may go into more detail than I will here. I posted a series of GOA7 posts at [Walt at Random](#) beginning January 4, 2022 and continuing through the project. I also posted almost-daily progress reports on Twitter (I'm always waltcrawford), usually beginning "G7," partly as a way to goad myself into action. Here's a quick summary.

The 2020 dataset included 15,128 analyzed journals and 471 excluded journals. The December 18, 2021 download consisted of 17,270 journals. ISSN matching is the primary means of connecting new journal data to existing information, made slightly complicated because DOAJ records can (legitimately) include two ISSN values.

- The first pass yielded 14,828 titles with exact ISSN matches.
- A second pass using the other ISSN (for unmatched DOAJ records with two ISSNs) yielded another 223 matches. Matching normalized URLs yielded another ten, for a total of 15,061 continuing records and 2,209 added journals.

- Among the 15,061 continuing journals, there were 306 title changes, 106 country changes, 423 publisher changes, and 836 URL changes (many or most http: to https: updates).
- Among GOA6 journals that I did *not* find 2021 matches for, all but 129 appeared in the DOAJ removal log.
- I spent about a week normalizing various data values and assigning subjects and publisher categories for new journals. As always, subject assignment is partially subjective (sorry!), based on DOAJ subjects and keywords. (In some cases, questionable subjects were modified during the scan based on actual article titles.)
- A second interim download and check of the deletion log on December 25 (just before midnight UMT) added 30 more journals and deleted seven, for a new total of 17,293 journals. Final additions and deletions on December 31, 2021, and duplicates discovered during processing, brought the final total to 17,285.
- The first round of testing, with the spreadsheet arranged by publisher then by journal, began January 1, 2021 and was completed on April 20, 2022.
- The second pass included two phases: 680 journals where publication of some 2020 issues may have been late, and 1,780 journals that were problematic during the first pass.
- Phase 1 (journals that might have added issues) took from April 21 to April 22, 2022, adding around 3,500 2021 articles. Checking problematic journals against DOAJ deletions resulted in changing 77 journals to “xo”—no longer in DOAJ—and stopping there. That left 1,044 xx (missing or unworkable) and 658 xm (malware) cases.
- I rechecked the 1,044 xx journals between April 23 and April 30, 2022, clearing up all but 147 in some manner. Checking the 658 malware cases between April 30 and May 3 yielded modest results, as expected (58 cleared one way or another). It’s probably worth noting that more than 400 of the 600 remaining malware cases are from Indonesia.
- By comparing codes for this scan with last year’s, I was able to determine that all but 194 malware cases were also either xx or xm last year. Setting aside the chronic malware cases, I looked for other ways to find the 194, a one-day task (May 4) that succeeded for 50-

odd journals. There were fewer new malware cases this year than last, which is encouraging.

- Some additional doublechecking and consistency checks resulted in removing a few more duplicates and moving two journals that are brand-new and have not yet published any issues to the “excluded” list. This rechecking and consistency work was done May 5-6, 2022. The fact that I could do more than 2,000 more journals in 12 fewer days than in 2021 can be accounted for by improved methodology, some publishers with improved practices, and a run of reasonably good luck on other time demands.
- The book begins with 16,620 fully-analyzed journals (including xx and xm journals that were *not* problematic in 2021 and where DOAJ could provide article counts) and 665 unanalyzed journals in the exclusions page (which will also be uploaded to Figshare), including the two too-new-to-be-analyzed; 92 dead/duplicates with no articles since 2015; 395 malware cases; 47 unavailable/unworkable (xx) cases; ten that don’t appear to be OA journals (including two that now require signin); and 119 that are no longer in DOAJ. Barring restoration, the 119 will be dropped from next year’s study if it happens.

## Changes

Changes in definitions and practice:

- For 31 non-USD currencies, the average conversion rate for 2021 (through December 24) was used, taken from OFX. For eight currencies where such an average was not available, daily rates for December 24, 2021 were taken from [exchangerates.org](https://www.exchangerates.org). Conversions were done to as many decimal places as offered (usually six), but rounded to two places for display. The non-rounded number is used to calculate revenue for 2021.
- The set of overall codes now includes xm2 (repeated xm) and xx2 (repeated xx),
- DOAJ downloadable metadata no longer includes starting date. I have attempted to provide these dates based on evidence at the websites—that is, the oldest available articles or issues.

- While this does not affect any calculations or the results of the study, one additional column will appear in the dataset for this study: URL in DOAJ, a supposedly stable URL. I will attempt to use that column for matching, if there is a GOA8.

## Caveats

The same caveats apply as in previous editions. Briefly, article counts are (generally) inclusive of reviews, short reports and (sometimes) editorials, especially when counting shortcuts were available. I used every counting shortcut I could find; and there are *very* few estimates (I believe there's only one high-activity journal that appears more than 100 times a year). I'm certain that some manual counts are off by one or two. Pre-2019 and sometimes pre-2020 counts for a few newly-added journals may be missing if the journals were unusually hard to count.

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