

Gold Open Access Journals 2011-2015: A Subject Approach

Supplement to
Gold Open Access Journals
2011-2015

Walt Crawford

GOLD OPEN ACCESS JOURNALS 2011-2015: A SUBJECT APPROACH

Supplement to *Gold Open
Access Journals 2011-2015*

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Corrected growth & shrinkage tables

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Preface

This book is a supplement to *Gold Open Access Journals 2011-2015*, providing more details on each of 28 subjects.

Chapters 9, 10 and 11 of that book appear, with slight expansions and renumbered figures and tables, as Chapters 1, 4 and 16 of this book. Each of those chapters (discussing broad subject segments) is followed by chapters for each subject within the segment, typically using a consistent set of ten tables and two figures (modified slightly for subjects where at least 95% of articles don't involve APCs).

The easiest way to find a particular subject, if you're not sure what segment it's in, may be the index, which includes chapter names in SMALL CAPS.

Thanks again to SPARC for sponsoring this project.

1. Biology and Medicine

Biomed—subjects related to human biology and the many subjects related to human medicine, including pharmacies, some aspects of nutrition and most aspects of sports and sports medicine—is distinctly where the money is.

Of the three segments, this one has the fewest journals. It's roughly tied with STEM for most articles and percentage of articles in APC-charging journals (although that's without *PLOS One*). But it has *by far* the most revenue: in 2015, more than the other two combined (with or without *PLOS One*).

Journals and Articles

	Journals	Active 2015	Articles	Art/Jrnl
Free	1,429	1,328	69,280	52
Pay	1,447	1,359	137,782	101
Total	2,876	2,687	207,062	77
Free%	50%	49%	33%	

Table 1.1. Journals and articles, biomed

Table 1.1 shows that half of the biomed journals in *DOAJ* are free—but just under half of those actually publishing articles are free, and they published only one-third of the articles in 2015. On average, fee-charging journals have just under twice as many articles per year as free ones.

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	2015	2014	2013	2012	2011
Journals	2,687	2,793	2,637	2,401	2,140
%Free	49%	50%	50%	51%	52%
Articles	207,062	207,332	167,847	148,951	128,465
%Free	33%	35%	41%	43%	45%

Table 1.2. Journals and articles by year, biomed

There’s been dramatic growth in OA biomed articles in the last four years—and also a substantial drop in the percentage of articles without APCs. Free articles grew about 10% from 2011 to 2012 and more slowly the next two years, falling slightly in 2015. Articles in APC-charging journals grew roughly 20% per year from 2011 to 2013 and around 35% in 2014; growth slowed to slightly more than 2% from 2014 to 2015. Figure 1.1 shows free and pay articles graphically.

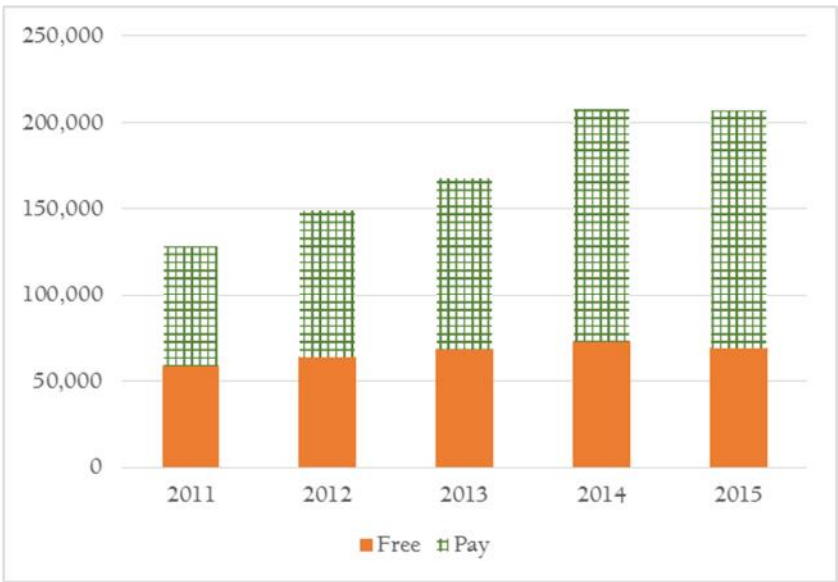


Figure 1.1. Free and pay articles by year, biomed

Article Volume	Journals	%Free	Articles	%Free
Largest: 600+	41	7%	49,408	6%
Large: 150-599	253	29%	64,813	25%
Med.: 60-149	534	51%	47,929	50%
Small: 20-59	1,017	61%	36,566	61%
Smallest: 0-19	1,031	45%	8,346	49%

Table 1.3. Article volume, biomed

The biggest journals are rarely free: that's much truer for biomed than for other segments. The most articles are in large journals; oddly, the highest percentage of free articles is small rather than smallest journals.

APC Levels and Revenues

	Jour.	%APC	%All	Art.	%APC	%All
\$1,400+	615	43%	21%	84,339	61%	41%
\$600-\$1.399	409	28%	14%	20,025	15%	10%
\$200-\$599	271	19%	9%	15,046	11%	7%
\$2-\$199	152	11%	5%	18,372	13%	9%
Free	1,429		50%	69,280		33%

Table 1.4. APC levels, biomed

The first row in Table 1.4 fairly screams “Biomed: it’s where the OA money is.” The most articles, the most APC-charging journals, and a much larger portion of the whole than in other segments are in the most expensive bracket. Not surprisingly, the average charge per article is also very high: \$1,533 among articles in APC-charging journals, \$1,020 per article overall.

	Articles	Revenue	\$/article
\$1,400+	84,339	\$183,898,752	\$2,180
\$600-\$1.399	20,025	\$19,762,626	\$987
\$200-\$599	15,046	\$5,776,317	\$384
\$2-\$199	18,372	\$1,789,773	\$97
Free	69,280		
Total	207,062	\$211,227,468	\$1,020

Table 1.5. Potential revenues, biomed

Starting Date

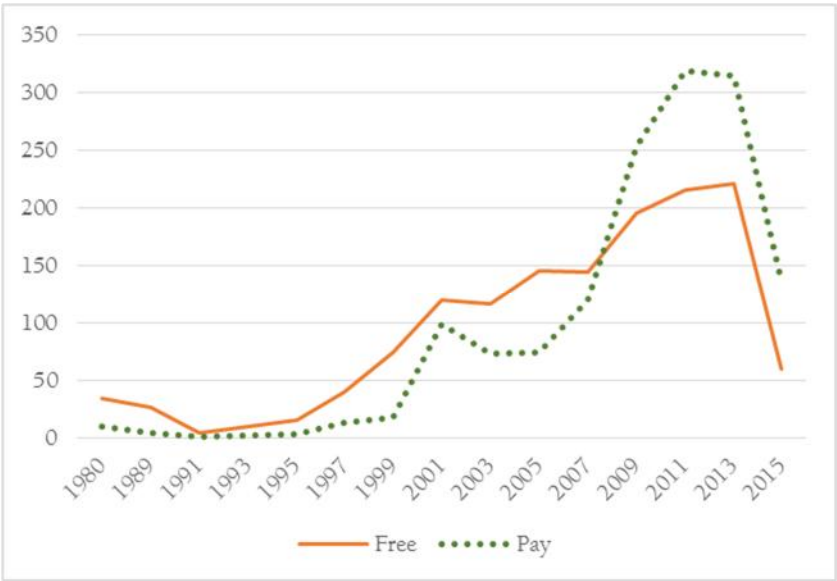


Figure 1.2. Starting dates, biomed

Figure 1.2 shows a fair number of early journals that are now no-fee OA—and an early boomlet in fee-based OA that returns with a vengeance in 2008, much exceeding the growth in no-fee startups.

Regions and “World”

Table 1.6 separates out APCLand—the biggest factor in biomed by far—and shows journals and articles by region of OAWorld, sorted by 2015 articles. The free% numbers are interesting, setting aside the fact that nearly all biomed journals in APCLand charge fees: even biomed publishing is predominantly free in Latin America, the Middle East and Eastern Europe, while the minority of APC-charging journals in Asia and Africa publish most of the articles. (Reminder: Pacific/English is Australia, New Zealand, Canada and the United States.)

APCLand	841	5%	80,706	2%
Asia	442	59%	40,785	35%
Pacific/English	366	35%	21,921	31%
Latin America	350	93%	18,980	86%
Western Europe	333	64%	17,353	55%
Middle East	311	89%	16,205	81%
Eastern Europe	194	82%	8,414	78%
Africa	39	67%	2,698	31%

Table 1.6. Journals by region, biomed

Publisher Category

Category	Journals	%Free	Articles	%Free
Open Access	1,004	9%	88,381	6%
Univ/college	883	90%	44,080	78%
Miscellaneous	433	66%	35,243	42%
Traditional	313	26%	22,099	19%
Society/govt	243	74%	17,259	62%

Table 1.7. Publisher categories, biomed

Table 1.7 is also arranged by number of articles. Multijournal OA publishers almost all charge APCs, while roughly one-quarter of journals from traditional publishers don’t (many of these are society-sponsored).

Not surprisingly, university and institute journals are predominantly free—much more so than society-published journals.

Growth and Shrinkage

Change 2014-15	Count	Percent	Cum%
Grew 50%+	405	14.1%	
Grew 25-49.9%	258	9.0%	23.1%
Grew 10-24.99%	273	9.5%	32.5%
Even, ±9.99%	629	21.9%	54.4%
Shrank 10-24.99%	350	12.2%	66.6%
Shrank 25-49.99%	409	14.2%	80.8%
Shrank 50%+	469	16.3%	97.1%
No 2014 count	83	2.9%	

Table 1.8. Growth and shrinkage, biomed

The picture here is not that much different from OA as a whole, but with slightly higher shrinkage percentages, slightly fewer cases of very rapid growth.

Subjects

Someone with an understanding of medicine could probably break that subject down into a small number of coherent subgroups, but I lack that understanding. Table 1.9 offers a rough breakdown.

Subject	Journals	%Free	Articles	%Free
Biology	426	37%	33,140	18%
Medicine	2,450	52%	173,922	36%

Table 1.9. Subjects, biomed

Gray OA and DOAJ16

	GrayOA	%Gray	DOAJ16
Journals/Free	468	33%	961
Journals/Pay	203	14%	1,244
Free%	70%		44%
Articles/Free	22,199	32%	47,081
Articles/Pay	21,313	15%	116,469
Free%	51%		29%
Articles/Journal	65		74

Table 1.10.Gray OA and DOAJ16, biomed

Free biomed journals disappeared from *DOAJ* much more frequently than APC-charging journals, with remaining free percentages down somewhat, but not enormously.

Countries in OAWorld (partial)

Table 1.11 shows the countries with the most biomed articles (leaving out APCLand), arranged by number of 2015 articles. This partially fleshes out Table 1.6. Note, for example, the dominance of free OA in Brazil, Iran, Turkey, Spain, Colombia and Cuba (among others)—and the dominance of APC-charging journals in India and China as well as the United States, United Kingdom and Canada.

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Country	Journals	%Free	Articles	%Free
India	231	55%	22,771	35%
United States	252	36%	18,116	31%
Brazil	168	89%	12,452	84%
Iran, Islamic Republic of	192	87%	10,108	75%
China	30	33%	7,173	10%
United Kingdom	75	41%	4,916	30%
Turkey	94	99%	4,623	99%
Japan	36	58%	4,125	44%
Poland	67	84%	2,898	73%
Netherlands	7	57%	2,451	96%
Canada	45	49%	2,246	34%
Italy	76	68%	2,232	52%
Switzerland	21	29%	1,801	31%
Spain	52	90%	1,637	87%
Colombia	48	100%	1,535	100%
Cuba	35	100%	1,525	100%
Chile	23	83%	1,348	69%
Uganda	3	67%	1,321	15%
Romania	28	75%	1,318	68%
Indonesia	39	72%	1,297	73%
South Korea	15	33%	1,223	16%
Russian Federation	25	100%	1,133	100%
Pakistan	23	61%	1,131	60%
Sweden	18	17%	1,119	22%
Germany	22	86%	924	81%

Table 1.11. Countries with more than 900 articles, biomed

2. Biology

Biology includes most everything with “bio” in the title and more specifically all aspects of human biology, biochemistry and the like. Some areas such as marine biology are included in zoology.

Journals and Articles

	Journals	Active 2015	Articles	Art/Jrnl
Free	158	145	6,079	42
Pay	268	249	27,061	109
Total	426	394	33,140	84
Free%	37%	37%	18%	

Table 2.1. Journals and articles, biology

Nearly two-thirds of biology journals, publishing nearly nine of ten articles, charge APCs: an unusually high percentage of fee journals.

	2015	2014	2013	2012	2011
Journals	394	418	390	348	300
%Free	37%	37%	37%	37%	39%
Articles	33,140	31,931	26,433	23,966	21,496
%Free	18%	20%	23%	22%	22%

Table 2.2. Journals and articles by year, biology

Continuing growth, with even more articles in pay journals. Figure 2.1 is fairly striking in showing this.

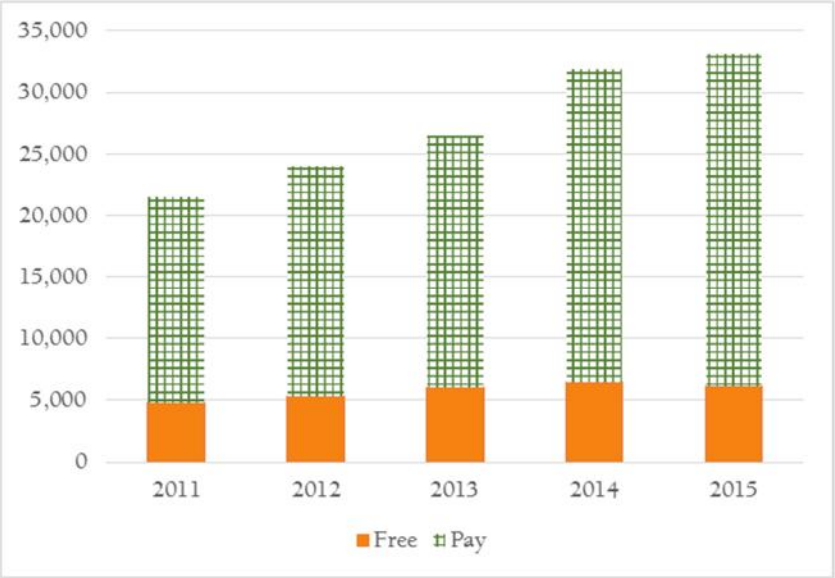


Figure 2.1. Free and pay articles by year, biology

Article Volume

	Journals	%Free	Articles	%Free
Largest: 600+	9	11%	10,606	7%
Large: 150-599	37	11%	10,129	7%
Med.: 60-149	73	34%	6,612	34%
Small: 20-59	127	43%	4,344	41%
Smallest: 0-19	180	41%	1,449	42%

Table 2.3. Article volume, biology

Large and largest journals dominate the subject and are almost never free. No matter how small the journals, most charge APCs.

APC Levels and Revenues

	Jour.	%APC	%All	Art.	%APC	%All
\$1,400+	119	44%	28%	20,481	76%	62%
\$600-\$1.399	72	27%	17%	2,444	9%	7%
\$200-\$599	47	18%	11%	2,140	8%	6%
\$2-\$199	30	11%	7%	1,996	7%	6%
Free	158		37%	6,079		18%

Table 2.4. APC levels, biology

There are as many expensive journals as in the next two brackets combined, and those journals publish six of ten biology articles. Thus, the very high cost-per-article figures: \$1,799 fee, \$1,469 overall.

	Articles	Revenue	\$/article
\$1,400+	20,481	\$45,480,549	\$2,221
\$600-\$1.399	2,444	\$2,167,633	\$887
\$200-\$599	2,140	\$866,534	\$405
\$2-\$199	1,996	\$155,613	\$78
Free	6,079		
Total	33,140	\$48,670,329	\$1,469

Table 2.5. Potential revenues, biology

Starting Date

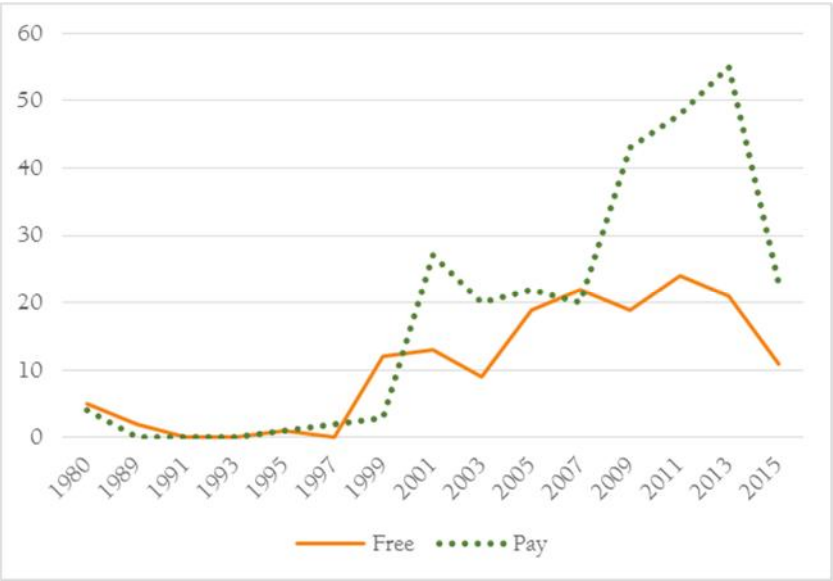


Figure 2.2. Starting dates, biology

New pay journals outran new free journals as early as 2000, and only dipped below once, in 2006-2007.

Regions and “Worlds”

Region	Journals	%Free	Articles	%Free
APCLand	158	3%	20,154	0%
Asia	66	38%	3,078	28%
Latin America	41	83%	2,447	63%
Pacific/English	47	36%	2,397	25%
Western Europe	39	51%	2,375	46%
Eastern Europe	41	76%	1,480	71%
Middle East	28	86%	1,135	71%
Africa	6	33%	74	23%

Table 2.6. Journals by region, biology

Other than the dominant role of APCLand, it's interesting that most journals and articles are free in the Middle East, Latin America and Eastern Europe.

Publisher Category

Category	Journals	%Free	Articles	%Free
Open Access	188	11%	18,418	3%
Traditional	51	27%	4,421	7%
Miscellaneous	76	55%	4,387	45%
Society/govt	45	56%	3,306	40%
Univ/college	66	85%	2,608	73%

Table 2.7. Publisher categories, biology

Unlike biomed, traditional publishers are the second most prolific (in articles, not in journals), and most articles are in APC-charging journals.

Growth and Shrinkage

Change 2014-15	Count	Percent	Cum%
Grew 50%+	75	17.6%	
Grew 25-49.9%	42	9.9%	27.5%
Grew 10-24.99%	37	8.7%	36.2%
Even, ±9.99%	83	19.5%	55.6%
Shrank 10-24.99%	52	12.2%	67.8%
Shrank 25-49.99%	56	13.1%	81.0%
Shrank 50%+	73	17.1%	98.1%
No 2014 count	8	1.9%	

Table 2.8. Growth and shrinkage, biology

Fairly typical patterns.

Gray OA and DOAJ16

	GrayOA	%Gray	DOAJ16
Journals/Free	45	28%	113
Journals/Pay	36	13%	232
Free%	56%		33%
Articles/Free	1,296	21%	4,783
Articles/Pay	2,112	8%	24,949
Free%	38%		16%
Articles/Journal	42		86

Table 2.9. Gray OA and DOAJ16, biology

Similar patterns to biomed in general.

Countries in OAWorld

Table 2.10 shows countries with more than 100 2015 OAWorld articles in biology.

Country	Journals	%Free	Articles	%Free
United States	32	41%	2,053	25%
Brazil	22	73%	1,892	54%
India	29	34%	1,476	30%
United Kingdom	9	22%	1,174	63%
Iran, Islamic Republic of	17	76%	796	58%
Switzerland	2	0%	586	0%
Bangladesh	1	0%	434	0%
Poland	14	86%	337	52%
Turkey	8	100%	279	100%
Serbia	2	100%	267	100%
Indonesia	11	55%	260	67%
Romania	7	86%	247	81%
Bulgaria	6	17%	212	25%
Germany	6	83%	173	92%
Argentina	9	89%	167	71%
Malaysia	5	40%	156	21%
South Korea	3	0%	147	0%
Australia	2	50%	145	10%
New Zealand	11	9%	144	13%
Colombia	4	100%	142	100%
Ukraine	3	100%	134	100%
Japan	5	60%	128	32%
Chile	1	100%	108	100%
France	2	100%	102	100%

Table 2.10. Countries with more than 100 articles, biology

3. Medicine

Medicine includes all aspects of *human* health, including exercise (and sports medicine) and some aspects of nutrition (where they don't seem to be related to agriculture). It is by far the largest subject area; I lack the expertise to subdivide it into a reasonable number of narrower subjects. Since medicine makes up most of biomed, what comments I add to tables and figures are mostly ones that don't repeat Chapter 1.

Journals and Articles

	Journals	Active 2015	Articles	Art/Jrnl
Free	1,271	1,183	63,201	53
Pay	1,179	1,110	110,721	100
Total	2,450	2,293	173,922	76
Free%	52%	52%	36%	

Table 3.1. Journals and articles, medicine

Most journals free, two-thirds of articles in APC-charging journals.

	2015	2014	2013	2012	2011
Journals	2,293	2,375	2,247	2,053	1,840
%Free	52%	52%	52%	54%	54%
Articles	173,922	175,401	141,414	124,985	106,969
%Free	36%	38%	44%	47%	50%

Table 3.2. Journals and articles by year, medicine

The slight drop in 2015 is entirely within free journals.

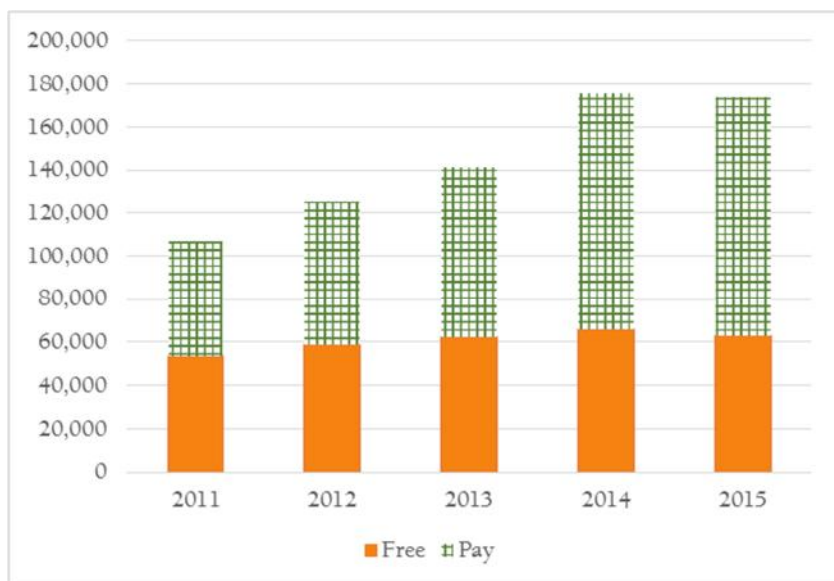


Figure 3.1. Free and pay articles by year, medicine

Article Volume

	Journals	%Free	Articles	%Free
Largest: 600+	32	6%	38,802	6%
Large: 150-599	216	32%	54,684	28%
Med.: 60-149	461	53%	41,317	52%
Small: 20-59	890	64%	32,222	64%
Smallest: 0-19	851	46%	6,897	50%

Table 3.3. Article volume, medicine

Very much the same pattern as for biomed as a whole: mostly free except for large and largest journals, with the oddity of the highest free percentage being in small, not smallest, journals.

APC Levels and Revenues

	Jour.	%APC	%All	Art.	%APC	%All
\$1,400+	496	42%	20%	63,858	58%	37%
\$600-\$1.399	337	29%	14%	17,581	16%	10%
\$200-\$599	224	19%	9%	12,906	12%	7%
\$2-\$199	122	10%	5%	16,376	15%	9%
Free	1,271		52%	63,201		36%

Table 3.4. APC levels, medicine

Cost per article: \$1.468 APC-charging, \$935 overall.

	Articles	Revenue	\$/article
\$1,400+	63,858	\$138,418,203	\$2,168
\$600-\$1.399	17,581	\$17,594,993	\$1,001
\$200-\$599	12,906	\$4,909,783	\$380
\$2-\$199	16,376	\$1,634,160	\$100
Free	63,201		
Total	173,922	\$162,557,139	\$935

Table 3.5. Potential revenues, medicine

Starting Date

Figure 3.2 shows strong free-journal activity, growing through 2012-2013, with the surge in APC-charging journals catching up in 2006-2007 and staying higher ever since.



Figure 3.2. Starting dates, medicine.

Regions and “Worlds”

Region	Journals	%Free	Articles	%Free
APCLand	683	5%	60,552	2%
Asia	376	63%	37,707	36%
Pacific/English	319	34%	19,524	31%
Latin America	309	94%	16,533	90%
Middle East	283	89%	15,070	82%
Western Europe	294	66%	14,978	57%
Eastern Europe	153	84%	6,934	80%
Africa	33	73%	2,624	31%

Table 3.6. Journals by region, medicine

Same patterns as for biomed as a whole.

Publisher Category

Category	Journals	%Free	Articles	%Free
Open Access	931	19%	74,571	13%
Miscellaneous	384	72%	31,491	42%
Univ/college	514	86%	29,296	69%
Society/govt	334	87%	21,931	79%
Traditional	287	30%	16,633	18%

Table 3.7. Publisher categories, medicine

Growth and Shrinkage

Omitted; not significantly different percentages than Table 1.8.

Gray OA and DOAJ16

	GrayOA	%Gray	DOAJ16
Journals/Free	423	33%	848
Journals/Pay	167	14%	1,012
Free%	72%		46%
Articles/Free	20,903	33%	42,298
Articles/Pay	19,201	17%	91,520
Free%	52%		32%
Articles/Journal	68		72

Table 3.8. Gray OA and DOAJ16, medicine

While the patterns are similar to biomed, the percentages are slightly different: slightly more pay articles went gray.

Countries in OAWorld

Mostly similar to Table 1.11, but some changes in rank.

Country	Journals	%Free	Articles	%Free
India	202	58%	21,295	35%
United States	220	35%	16,063	32%
Brazil	146	92%	10,560	90%
Iran, Islamic Republic of	175	88%	9,312	77%
China	28	32%	7,127	10%
Turkey	86	99%	4,344	99%
Japan	31	58%	3,997	44%
United Kingdom	66	44%	3,742	19%
Poland	53	83%	2,561	76%
Netherlands	5	60%	2,428	97%
Italy	71	66%	2,196	52%
Canada	43	47%	2,191	32%
Spain	48	92%	1,590	88%
Cuba	34	100%	1,495	100%
Colombia	44	100%	1,393	100%
Uganda	3	67%	1,321	15%
Chile	22	82%	1,240	66%
Switzerland	19	32%	1,215	46%
Russian Federation	24	100%	1,116	100%
South Korea	12	42%	1,076	18%
Romania	21	71%	1,071	66%
Sweden	16	19%	1,065	23%
Indonesia	28	79%	1,037	75%
Pakistan	21	67%	1,033	66%
Germany	16	88%	751	79%
Hong Kong	9	67%	727	88%
Australia	14	71%	711	38%
Nigeria	7	43%	634	13%

Table 3.11. Countries with more than 600 articles, medicine

4. Science, Technology, Engineering and Math

STEM—in this case, excluding human biology and medicine, as well as social sciences—includes slightly more gold OA journals than biomed, almost the same number of 2014 articles, almost the same percentage of APC-charging journals and articles in those journals—but a *lot* less revenue than biomed. (*PLOS One* is *not* included in these discussions.)

Journals and Articles

	Journals	Active 2015	Articles	Art/Jrnl
Free	1,861	1,740	85,894	49
Pay	1,123	1,037	122,079	118
Total	2,984	2,777	207,973	75
Free%	62%	63%	41%	

Table 4.1. Journals and articles, STEM

Table 4.1 shows that six out of ten STEM journals in *DOAJ* are free, as are almost two-thirds of journals active in 2015—but the APC-charging journals publish almost six out of ten articles. On average, fee-charging journals published 2.4 times as many articles per journal in 2015 as free ones did.

	2015	2014	2013	2012	2011
Journals	2,777	2,879	2,768	2,478	2,193
%Free	63%	62%	63%	65%	68%
Articles	207,973	197,924	178,943	157,026	123,498
%Free	41%	45%	45%	48%	52%

Table 4.2. Journals and articles by year, STEM

STEM article count keeps growing, substantially in 2015 if not quite as dramatically as in 2012-2014. Figure 4.1 shows free and pay articles graphically: free articles rising through 2014 and declining slightly in 2015, pay articles continuing strong growth.



Figure 4.1. Free and pay articles by year, STEM

Article Volume

	Journals	%Free	Articles	%Free
Largest: 600+	51	22%	77,618	24%
Large: 150-599	164	34%	43,993	28%
Med.: 60-149	430	55%	38,594	55%
Small: 20-59	1,076	72%	36,885	71%
Smallest: 0-19	1,263	62%	10,883	70%

Table 4.3. Article volume, STEM

While most of the largest journals charge APCs, there are a significant number of free journals—and those journals are slightly *more* prolific than the average of APC-charging journals. Other patterns are typical, with mostly-free journals and articles in all but the two larger brackets.

APC Levels and Revenue

	Jour.	%APC	%All	Art.	%APC	%All
\$1,400+	116	10%	4%	41,515	34%	20%
\$600-\$1.399	401	36%	13%	21,968	18%	11%
\$200-\$599	284	25%	10%	23,675	19%	11%
\$2-\$199	322	29%	11%	34,921	29%	17%
Free	1,861		62%	85,894		41%

Table 4.4. APC levels, STEM

Unlike biomed, STEM has relatively few very expensive journals—but those journals publish one-third of all articles in fee journals. There are a surprising number of journals with very low APCs, publishing more articles than either intermediate group. Average cost per article in APC-charging journals is \$903; for all journals it's \$530.

	Articles	Revenue	\$/article
\$1,400+	41,515	\$77,407,621	\$1,865
\$600-\$1.399	21,968	\$21,047,716	\$958
\$200-\$599	23,675	\$8,413,053	\$355
\$2-\$199	34,921	\$3,362,493	\$96
Free	85,894		
Total	207,973	\$110,230,883	\$530

Table 4.5. Potential revenues, STEM

No real revelations in Table 4.5: high APCs bring in the big revenue.

Starting Date



Figure 4.2. Starting dates, STEM

Figure 4.2 shows steady growth among free journals in most of the late 1990s through 2011, with modest growth in fee-charging journals until a dramatic rise from 2005 through 2013.

Regions and “World”

Region	Journals	%Free	Articles	%Free
APCLand	480	15%	49,057	9%
Asia	498	46%	48,936	21%
Western Europe	433	73%	37,194	67%
Eastern Europe	573	87%	25,516	75%
Latin America	502	88%	18,989	80%
Pacific/English	290	53%	17,869	31%
Middle East	161	75%	6,984	69%
Africa	47	47%	3,428	40%

Table 4.6. Journals by region, STEM

As with biomed, APCLand publishes the most STEM articles, but here it's almost tied with Asia, which has more journals. Additionally, Latin America and Pacific/English rank much lower than for biomed, with Western and Eastern Europe both ranking higher.

Publisher Category

Category	Journals	%Free	Articles	%Free
Univ/college	1,085	86%	52,958	65%
Miscellaneous	572	64%	52,110	45%
Open Access	630	18%	45,827	16%
Traditional	325	53%	31,012	31%
Society/govt	372	73%	26,066	42%

Table 4.7. Publisher categories, STEM

Table 4.7, also arranged by 2015 article count, shows a very different picture than for biomed, with universities and colleges publishing the most journals (predominantly free) and articles (two-thirds free), while OA multijournal publishers trail miscellaneous publishers (with one or two journals) in articles, although OA publishers have more journals.

Growth and Shrinkage

Change 2014-15	Count	Percent	Cum%
Grew 50%+	458	15.3%	
Grew 25-49.9%	282	9.4%	24.8%
Grew 10-24.99%	251	8.4%	33.2%
Even, $\pm 9.99\%$	635	21.3%	54.5%
Shrank 10-24.99%	358	12.0%	66.5%
Shrank 25-49.99%	383	12.8%	79.3%
Shrank 50%+	513	17.2%	96.5%
No 2014 count	105	3.5%	

Table 4.8. Growth and shrinkage, STEM

Subjects

Subject	Journals	%Free	Articles	%Free
Agriculture	436	62%	21,939	44%
Chemistry	168	52%	15,015	33%
Computer Science	381	51%	26,271	21%
Earth Sciences	321	78%	10,451	60%
Ecology	256	68%	12,196	55%
Engineering	342	60%	28,044	38%
Mathematics	277	72%	11,239	55%
Other Sciences	195	59%	33,488	25%
Physics	162	51%	22,493	56%
Technology	202	68%	15,700	64%
Zoology	244	59%	11,137	45%

Table 4.9. Subjects, STEM

Table 4.9 is in alphabetic order for easy reference. “Other Sciences” includes multidisciplinary journals that appear predominantly oriented to science and medicine (others appear in “Miscellany” within HSS).

Gray OA and DOAJ16

	GrayOA	%Gray	DOAJ16
Journals/Free	531	29%	1,330
Journals/Pay	229	20%	894
Free%	70%		60%
Articles/Free	23,237	27%	62,657
Articles/Pay	26,674	22%	95,405
Free%	47%		40%
Articles/Journal	66		71

Table 4.10. Gray OA and DOAJ16, STEM

Compared to biomed, STEM had a lower percentage of free journals and articles and considerably higher percentage of APC-charging journals and articles dropped from *DOAJ*—and although there’s a sharp drop in percentage of remaining journals that are free, it’s still a considerable majority.

Countries in OAWorld (partial)

Table 4.11, on the next page, shows the OAWorld countries (that is, excluding APCLand) that published at least 1,000 articles in STEM in 2015. India leads the pack and mostly charges fees; the US and UK are nearly tied for second. Among the top ten, Brazil, Poland, Italy, Romania and France stand out for high percentages of free articles and journals.

Country	Journals	%Free	Articles	%Free
India	173	27%	27,269	10%
United States	228	50%	15,888	27%
United Kingdom	56	29%	14,981	58%
Brazil	240	85%	11,899	73%
Germany	95	65%	8,711	51%
Poland	156	90%	6,456	79%
Italy	58	79%	5,052	91%
Pakistan	28	39%	4,187	4%
Romania	114	86%	4,113	77%
France	44	93%	3,593	98%
South Korea	22	41%	3,361	10%
Russian Federation	42	90%	3,157	82%
Turkey	62	84%	2,806	81%
Serbia	43	93%	2,625	54%
Iran, Islamic Republic of	66	76%	2,578	77%
Indonesia	99	57%	2,495	51%
Japan	44	61%	2,471	41%
Malaysia	30	73%	2,423	97%
Spain	84	96%	2,266	91%
Ukraine	35	91%	1,995	93%
Hong Kong	22	55%	1,877	38%
China	15	80%	1,829	50%
Czech Republic	39	67%	1,788	37%
Colombia	69	96%	1,759	99%
Chile	37	86%	1,617	85%
Mexico	47	89%	1,372	92%
Croatia	40	90%	1,236	91%
Singapore	15	13%	1,197	8%
Nigeria	13	15%	1,170	10%
Canada	32	72%	1,053	61%

Table 4.11. Countries in OAWorld (partial), STEM

5. Agriculture

Agriculture includes aquaculture, fisheries and other aspects of raising and processing plants and food, including some aspects of nutrition.

Journals and Articles

	Journals	Active 2015	Articles	Art/Jrnl
Free	269	250	9,613	38
Pay	167	157	12,326	79
Total	436	407	21,939	54
Free%	62%	61%	44%	

Table 5.1. Journals and articles, agriculture

The only major difference from STEM as a whole is that journals are somewhat smaller.

	2015	2014	2013	2012
Journals	407	418	409	384
%Free	61%	62%	62%	62%
Articles	21,939	20,257	20,087	18,570
%Free	44%	46%	46%	48%

Table 5.2. Journals and articles by year, agriculture

Article growth in agriculture has been relatively slow since 2013, but both free and pay journals publish more each year (except for a slight dip in free articles in 2014, with growth returning in 2015).

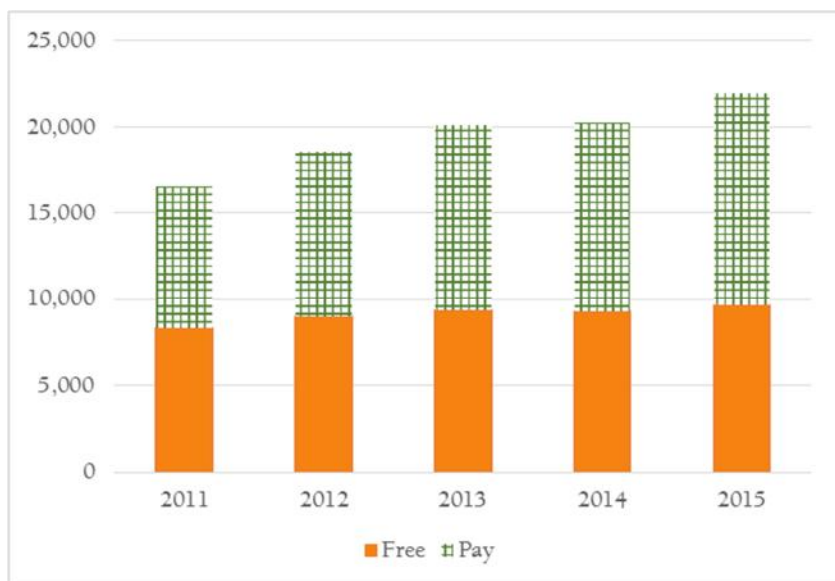


Figure 5.1. Free and pay articles by year, agriculture

Article Volume

	Journals	%Free	Articles	%Free
Largest: 600+	4	0%	3,404	0%
Large: 150-599	12	17%	3,463	18%
Med.: 60-149	81	52%	7,108	51%
Small: 20-59	186	66%	6,606	66%
Smallest: 0-19	153	67%	1,358	71%

Table 5.3. Article volume, agriculture

All of the largest journals charge APCs, but most articles are in small or medium-sized journals, both mostly free.

APC Levels and Revenues

	Jour.	%APC	%All	Art.	%APC	%All
\$1,400+	13	8%	3%	2,649	21%	12%
\$600-\$1.399	40	24%	9%	2,965	24%	14%
\$200-\$599	57	34%	13%	3,261	26%	15%
\$2-\$199	57	34%	13%	3,451	28%	16%
Free	269		62%	9,613		44%

Table 5.4. APC levels, agriculture

Most fee-based articles are in lower-priced journals. Average cost per article is \$703 for fee journals, \$395 overall.

	Articles	Revenue	\$/article
\$1,400+	2,649	\$5,025,061	\$1,897
\$600-\$1.399	2,965	\$2,244,394	\$757
\$200-\$599	3,261	\$1,064,098	\$326
\$2-\$199	3,451	\$334,376	\$97
Free	9,613		
Total	21,939	\$8,667,929	\$395

Table 5.5. Potential revenues, agriculture

There’s simply not a huge amount of money to be made in agriculture OA publishing, at least compared to some STEM fields and biomed.

Starting Date

Figure 5.2 shows rapidly growing free OA publishing from 2003 through 2011, with a sharp dropoff of new free journals since then—and a relatively brief spurt of pay journals from 2006 through 2009, leveling off and declining since then.



Figure 5.2. Starting dates, agriculture

Regions and “Worlds”

Region	Journals	%Free	Articles	%Free
Latin America	127	75%	5,763	59%
Eastern Europe	96	77%	3,867	65%
APCLand	40	15%	3,518	5%
Asia	56	45%	3,268	22%
Western Europe	51	71%	2,397	59%
Middle East	25	64%	1,317	78%
Africa	7	29%	908	8%
Pacific/English	34	44%	901	36%

Table 5.6. Journals by region, agriculture

Latin America stands out here—and note that Africa has more articles (in a lot fewer journals) than Pacific/English.

Publisher Category

Category	Journals	%Free	Articles	%Free
Univ/college	193	77%	8,515	61%
Miscellaneous	96	59%	5,330	39%
Open Access	47	9%	4,040	2%
Society/govt	59	59%	2,922	53%
Traditional	41	61%	1,132	58%

Table 5.7. Publisher categories, agriculture

That universities and colleges dominate OA publishing in agriculture isn't all that surprising.

Growth and Shrinkage

Change 2014-15	Count	Percent	Cum%
Grew 50%+	69	15.8%	
Grew 25-49.9%	51	11.7%	27.5%
Grew 10-24.99%	36	8.3%	35.8%
Even, \pm 9.99%	103	23.6%	59.4%
Shrank 10-24.99%	47	10.8%	70.2%
Shrank 25-49.99%	53	12.2%	82.3%
Shrank 50%+	59	13.5%	95.9%
No 2014 count	18	4.1%	

Table 5.8. Growth and shrinkage, agriculture

Somewhat more moderate growth and less rapid shrinkage than in some other subjects; a healthy overall picture.

Gray OA and DOAJ16

	GrayOA	%Gray	DOAJ16
Journals/Free	89	33%	180
Journals/Pay	42	25%	125
Free%	68%		59%
Articles/Free	2,750	29%	6,863
Articles/Pay	2,465	20%	9,861
Free%	53%		41%
Articles/Journal	40		55

Table 5.9. Gray OA and DOAJ16, agriculture

Slightly higher rates of disappearance from DOAJ than in STEM as a whole—and a *big* shift toward APC-based articles!

Countries in OAWorld

Table 5.10 shows countries with more than 140 articles in OAWorld agriculture journals in 2015, and it's an interesting list, with Brazil, China, Romania and Nigeria at the top—and the three overall STEM leaders well down the list (10th, 12th and 9th respectively). Why does India have relatively little agriculture OA?

Country	Journals	%Free	Articles	%Free
Brazil	67	67%	3,930	45%
China	4	50%	1,092	18%
Romania	17	82%	1,035	71%
Nigeria	5	0%	834	0%
Poland	26	77%	799	61%
Italy	14	64%	785	82%
Turkey	16	69%	782	82%
Pakistan	10	20%	689	2%
United Kingdom	3	0%	594	0%
India	11	9%	585	8%
Czech Republic	13	38%	567	16%
United States	25	36%	537	32%
Chile	12	83%	496	84%
Spain	10	100%	377	100%
Mexico	8	63%	371	82%
Colombia	13	92%	355	96%
Croatia	10	100%	350	100%
Iran, Islamic Republic of	7	57%	329	81%
Indonesia	17	71%	322	64%
Australia	4	50%	302	32%
Bangladesh	6	33%	268	14%
Japan	6	67%	260	66%
Cuba	7	100%	247	100%
Slovakia	5	80%	218	57%
Russian Federation	4	75%	165	62%
Serbia	5	100%	164	100%
Costa Rica	4	100%	161	100%
Ukraine	3	100%	146	100%

Table 5.10. Countries in OAWorld (partial), agriculture

6. Chemistry

No real explanation required except to note that biochemistry was treated as part of biology.

Journals and Articles

	Journals	Active 2015	Articles	Art/Jrnl
Free	87	85	4,943	58
Pay	81	70	10,072	144
Total	168	155	15,015	97
Free%	52%	55%	33%	

Table 6.1. Journals and articles, chemistry

A relatively small field where pay-journal articles predominate.

	2015	2014	2013	2012	2011
Journals	155	161	158	129	111
%Free	55%	51%	52%	54%	58%
Articles	15,015	13,827	13,905	12,656	9,846
%Free	33%	35%	36%	36%	42%

Table 6.2. Journals and articles by year, chemistry

After a pause in 2014, growth resumed in 2015. Most growth is in APC-charging journals.

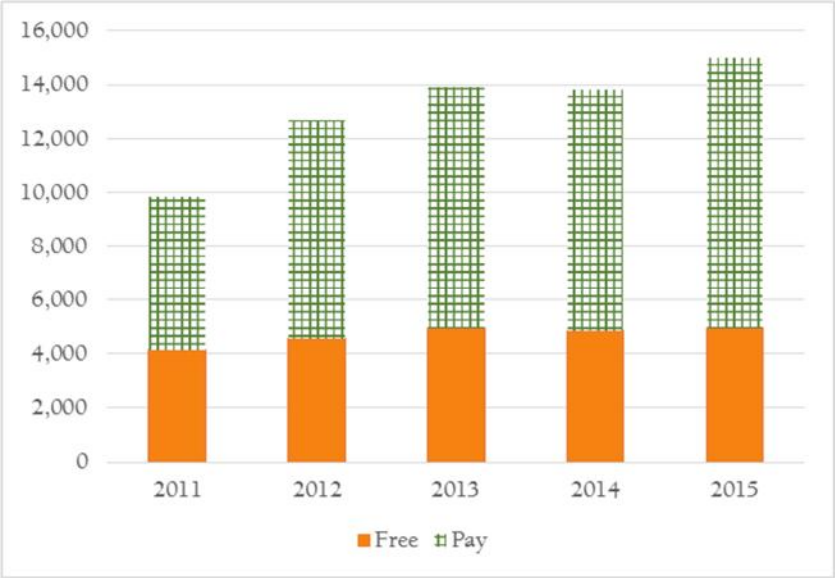


Figure 6.1. Free and pay articles by year, chemistry

Article Volume

	Journals	%Free	Articles	%Free
Largest: 600+	6	0%	6,457	0%
Large: 150-599	13	54%	3,145	50%
Med.: 60-149	32	59%	2,980	60%
Small: 20-59	55	69%	2,032	67%
Smallest: 0-19	62	37%	401	61%

Table 6.3. Article volume, chemistry

Another case where none of the largest journals are free—and although every other size category, even large journals, is at least half free, it all balances out to mostly-pay.

APC Levels and Revenues

	Jour.	%APC	%All	Art.	%APC	%All
\$1,400+	10	12%	6%	4,064	40%	27%
\$600-\$1.399	46	57%	27%	2,127	21%	14%
\$200-\$599	10	12%	6%	1,275	13%	8%
\$2-\$199	15	19%	9%	2,606	26%	17%
Free	87		52%	4,943		33%

Table 6.4. APC levels, chemistry

Most APC-charging journals are in the medium range, but the expensive ones publish the most articles (although free ones publish even more). Average cost per article: \$1,023 in fee journals, \$686 overall.

	Articles	Revenue	\$/article
\$1,400+	4,064	\$7,083,039	\$1,743
\$600-\$1.399	2,127	\$2,358,244	\$1,109
\$200-\$599	1,275	\$565,524	\$444
\$2-\$199	2,606	\$293,057	\$112
Free	4,943		
Total	15,015	\$10,299,864	\$686

Table 6.5. Potential revenues, chemistry

Starting Date

Figure 6.2 is unusual in that free OA journal startups peaked in 2006-2007 (the same time APC-charging startups started to increase rapidly) and have faded ever since, while pay journals didn't peak until 2012-2013, after a slight dip in 2010-2011.



Figure 6.2. Starting dates, chemistry

Regions and “Worlds”

Region	Journals	%Free	Articles	%Free
APCLand	55	15%	5,587	5%
Eastern Europe	35	86%	2,708	55%
Asia	31	58%	2,670	45%
Western Europe	13	54%	1,861	30%
Pacific/English	11	27%	882	19%
Latin America	12	92%	808	95%
Middle East	8	100%	389	100%
Africa	3	67%	110	73%

Table 6.6. Journals by region, chemistry

Chemistry appears to be strong in Eastern Europe and Asia—and unusually weak (relative to overall STEM activity) in four regions.

Publisher Category

Category	Journals	%Free	Articles	%Free
Open Access	58	16%	5,118	8%
Miscellaneous	26	58%	3,137	25%
Society/govt	25	84%	3,125	54%
Univ/college	36	89%	2,248	69%
Traditional	23	43%	1,387	36%

Table 6.7. Publisher categories, chemistry

Given the strength of APCLand in chemistry, it's not surprising that OA publishers account for the most journals and articles.

Growth and Shrinkage

Change 2014-15	Count	Percent	Cum%
Grew 50%+	24	14.3%	
Grew 25-49.9%	16	9.5%	23.8%
Grew 10-24.99%	13	7.7%	31.5%
Even, ±9.99%	38	22.6%	54.2%
Shrank 10-24.99%	15	8.9%	63.1%
Shrank 25-49.99%	21	12.5%	75.6%
Shrank 50%+	34	20.2%	95.8%
No 2014 count	7	4%	

Table 6.8. Growth and shrinkage, chemistry

A little more rapid shrinkage than usual but otherwise fairly typical percentages for STEM.

Gray OA and DOAJ16

	GrayOA	%Gray	DOAJ16
Journals/Free	28	32%	59
Journals/Pay	11	14%	70
Free%	72%		46%
Articles/Free	2,116	43%	2,827
Articles/Pay	1,903	19%	8,169
Free%	53%		26%
Articles/Journal	103		85

Table 6.9. Gray OA and DOAJ16, chemistry

High rates of delisting among free journals and a *big* shift toward fees in those that remain.

Countries in OAWorld

Table 6.10 shows the countries with more than 50 articles in OA chemistry journals in 2015, and it's an interesting list—with Serbia joining the UK and India in having at least 1,000 articles.

Country	Journals	%Free	Articles	%Free
India	17	41%	2,027	31%
United Kingdom	4	0%	1,243	0%
Serbia	6	67%	1,175	23%
United States	8	25%	845	17%
Brazil	6	100%	630	100%
Germany	3	100%	373	100%
Russian Federation	3	100%	341	100%
Turkey	5	100%	267	100%
Poland	7	86%	227	66%
China	1	100%	217	100%
Japan	2	100%	216	100%
Czech Republic	3	67%	198	19%
Indonesia	8	63%	159	58%
Slovenia	1	100%	149	100%
France	2	100%	134	100%
Iran, Islamic Republic of	3	100%	122	100%
Croatia	3	100%	109	100%
Romania	3	100%	107	100%
Hungary	2	50%	94	11%
Chile	1	100%	92	100%
Moldova, Republic of	2	100%	92	100%
Ukraine	2	100%	83	100%
Slovakia	1	100%	61	100%
Italy	1	0%	53	0%

Table 6.10. Countries in OAWorld (partial), chemistry

7. Computer Science

Computer science includes software, data processing, AI, robotics and portions of information science.

Journals and Articles

	Journals	Active 2015	Articles	Art/Jrnl
Free	196	177	5,562	31
Pay	185	176	20,709	118
Total	381	353	26,271	74
Free%	51%	50%	21%	

Table 7.1. Journals and articles, computer science

This is an unusual subject right from the start—with an unusually low percentage of free journals and articles, and pay journals that average 3.8 times as many articles as free ones.

	2015	2014	2013	2012	2011
Journals	353	360	357	332	284
%Free	50%	51%	51%	51%	54%
Articles	26,271	24,567	24,577	22,493	14,367
%Free	21%	26%	26%	27%	32%

Table 7.2. Journals and articles by year, computer science

Another case where growth stalled in 2014 and resumed in 2015—but the growth in 2015 was all pay, with free dropping significantly.

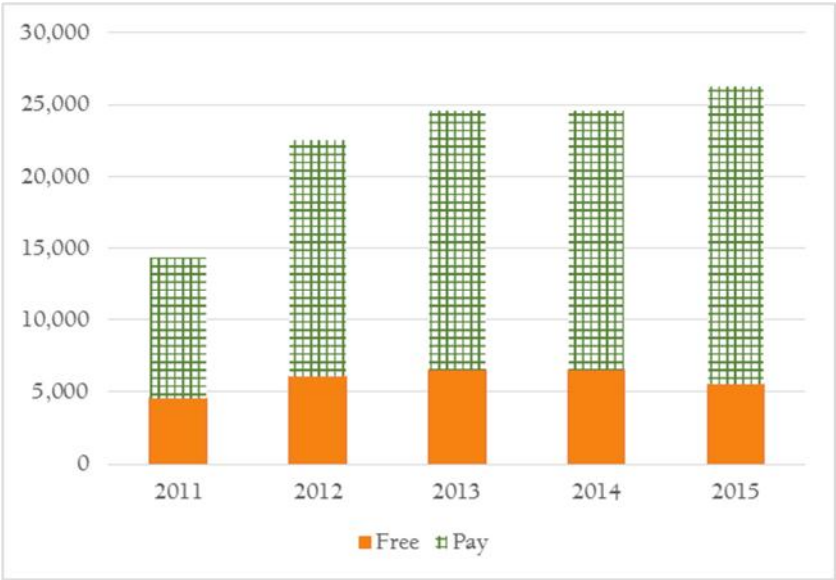


Figure 7.1. Free and pay articles by year, computer science

Article Volume

	Journals	%Free	Articles	%Free
Largest: 600+	7	0%	9,340	0%
Large: 150-599	26	12%	6,945	8%
Med.: 60-149	50	42%	4,711	41%
Small: 20-59	114	59%	3,692	58%
Smallest: 0-19	184	57%	1,583	61%

Table 7.3. Article volume, computer science

Not unusual: all of the largest journals charge APCs. Unusual: so do nearly all of the large and most of the medium-size journals, and there aren't that many articles in the smaller categories.

APC Levels and Revenues

	Jour.	%APC	%All	Art.	%APC	%All
\$1,400+	12	6%	3%	1,659	8%	6%
\$600-\$1.399	33	18%	9%	1,387	7%	5%
\$200-\$599	54	29%	14%	6,919	33%	26%
\$2-\$199	86	46%	23%	10,744	52%	41%
Free	196		51%	5,562		21%

Table 7.4. APC levels, computer science

Even more unusual: more than half of articles in pay journals involve nominal fees, and very few involve medium or high fees. The average cost per article in fee journals is a very low (for STEM) \$373, down to \$294 for all articles.

	Articles	Revenue	\$/article
\$1,400+	1,659	\$2,929,793	\$1,766
\$600-\$1.399	1,387	\$1,213,875	\$875
\$200-\$599	6,919	\$2,736,095	\$395
\$2-\$199	10,744	\$844,555	\$79
Free	5,562		
Total	26,271	\$7,724,318	\$294

Table 7.4. Potential revenues, computer science

All those nominal fees don't add up to very much revenue.

Starting Date

Steady growth of new free journals from 1996 through 2009, but not since—with APC-charging journals taking off starting in 2004 and peaking in 2010-2011.

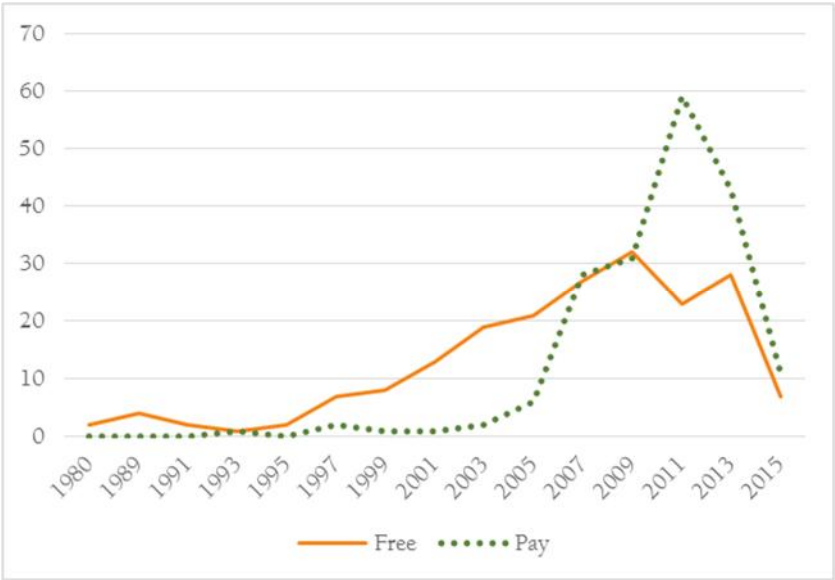


Figure 7.2. Starting dates, computer science

Regions and “Worlds”

Region	Journals	%Free	Articles	%Free
Asia	139	29%	16,340	9%
APCLand	46	13%	2,535	7%
Pacific/English	42	55%	2,517	37%
Western Europe	52	71%	1,870	37%
Eastern Europe	57	91%	1,580	86%
Middle East	16	75%	594	55%
Latin America	24	96%	578	96%
Africa	5	40%	257	5%

Table 7.6. Journals by region, computer science

Asia absolutely dominates this subject, and it's almost all APC-based. By contrast, Latin America and the Middle East have very little here.

Publisher Category

Category	Journals	%Free	Articles	%Free
Miscellaneous	96	52%	9,582	13%
Open Access	117	17%	7,411	16%
Univ/college	106	84%	6,588	34%
Society/govt	38	82%	1,449	57%
Traditional	24	25%	1,241	8%

Table 7.7. Publisher categories, computer science

Lots of independent journals, and it's probably worth noting that at least two-thirds of the multijournal OA-publisher activity is *not* from the APCLand group.

Growth and Shrinkage

Change 2014-15	Count	Percent	Cum%
Grew 50%+	61	16.0%	
Grew 25-49.9%	31	8.1%	24.1%
Grew 10-24.99%	27	7.1%	31.2%
Even, $\pm 9.99\%$	68	17.8%	49.1%
Shrank 10-24.99%	37	9.7%	58.8%
Shrank 25-49.99%	67	17.6%	76.4%
Shrank 50%+	69	18.1%	94.5%
No 2014 count	21	5.5%	

Table 7.8. Growth and shrinkage, computer science

The percentages here aren't substantially different than overall figures for STEM.

Gray OA and DOAJ16

	GrayOA	%Gray	DOAJ16
Journals/Free	57	29%	139
Journals/Pay	59	32%	126
Free%	49%		52%
Articles/Free	1,395	25%	4,167
Articles/Pay	7,828	38%	12,881
Free%	15%		24%
Articles/Journal	80		64

Table 4.9. Gray OA and DOAJ16, computer science

Table 4.9 is *very* unusual, with a higher rate of delisting among pay journals than free ones.

Countries in OAWorld

Table 4.10 includes all OAWorld countries with at least 150 articles in open access computer science journals in 2015 (as always, the cutoff is the lowest “round” figure that allows the table to fit on one page).

While India is *by far* the largest—as many articles as the next seventeen countries combined—it’s not the only Asian factor. For South Korea represents more than two-thirds of its entire STEM OA activity; for Hong Kong it’s well over half.

Country	Journals	%Free	Articles	%Free
India	64	11%	10,547	3%
South Korea	11	27%	2,497	3%
United States	28	50%	1,942	22%
Hong Kong	15	73%	1,032	67%
Pakistan	6	33%	788	5%
Germany	7	43%	658	5%
Singapore	7	0%	615	0%
Romania	18	78%	455	53%
Austria	3	67%	323	40%
Brazil	10	100%	287	100%
Finland	6	33%	285	7%
Russian Federation	4	100%	284	100%
Australia	7	71%	245	95%
Japan	6	83%	243	93%
Indonesia	14	43%	224	57%
Ukraine	6	100%	220	100%
Korea, Republic of	1	0%	219	0%
Spain	12	100%	216	100%
Turkey	4	100%	206	100%
Canada	4	50%	204	79%
Mauritius	1	0%	193	0%
Iran, Islamic Republic of	3	67%	179	37%
United Kingdom	6	33%	160	63%

Table 7.10. Countries in OAWorld (partial), computer science

8. Earth Sciences

Earth sciences include geography, geology, oceanography, some place-related fields (including aspects of tourism)—and astronomy. It’s the smallest STEM area in terms of 2015 articles, although not in journals.

Journals and Articles

	Journals	Active 2015	Articles	Art/Jrnl
Free	251	234	6,297	27
Pay	70	65	4,154	64
Total	321	299	10,451	35
Free%	78%	78%	60%	

Table 8.1. Journals and articles, earth sciences

Since portions of this set of subjects could belong in social sciences, perhaps it’s only natural that more than three-quarters of journals and three out of five articles are free.

	2015	2014	2013	2012	2011
Journals	299	313	295	268	249
%Free	78%	78%	81%	84%	85%
Articles	10,451	10,532	9,317	8,525	7,398
%Free	60%	66%	71%	73%	76%

Table 8.2. Journals and articles by year, earth sciences

Table 8.2 shows a distinct shift of free to pay over time.

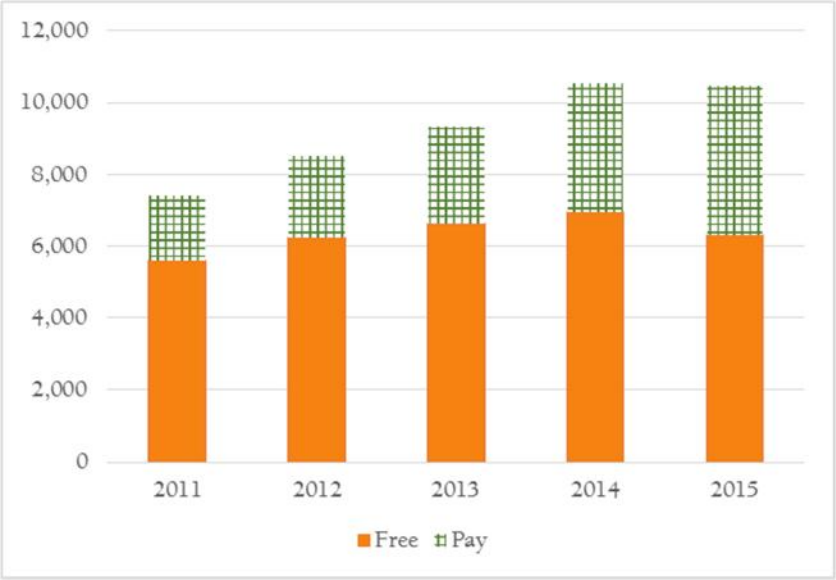


Figure 8.1. Free and pay articles by year, earth sciences

Steady growth in fee articles is masked for 2015 by an almost 10% drop in articles in free journals (although some of that drop may disappear).

Article Volume

	Journals	%Free	Articles	%Free
Largest: 600+	1	0%	783	0%
Large: 150-599	6	17%	1,696	13%
Med.: 60-149	23	61%	2,176	58%
Small: 20-59	130	84%	4,308	82%
Smallest: 0-19	161	79%	1,488	85%

Table 8.3. Article volume, earth sciences

Here, most articles are in small and very small journals—and four out of five of those are free. There's only one very large journal, not free.

APC Levels and Revenues

	Jour.	%APC	%All	Art.	%APC	%All
\$1,400+	6	9%	2%	1,108	27%	11%
\$600-\$1.399	39	56%	12%	2,306	56%	22%
\$200-\$599	20	29%	6%	604	15%	6%
\$2-\$199	5	7%	2%	136	3%	1%
Free	251		78%	6,297		60%

Table 8.4. APC levels, earth sciences

The APC-charging journals that publish most of the fee articles have relatively high fees, with few low-cost but many free journals. Average cost per article is \$999 in fee journals, \$397 overall,

	Articles	Revenue	\$/article
\$1,400+	1,108	\$1,892,766	\$1,708
\$600-\$1.399	2,306	\$1,973,277	\$856
\$200-\$599	604	\$272,875	\$452
\$2-\$199	136	\$10,045	\$74
Free	6,297		
Total	10,451	\$4,148,963	\$397

Table 8.5. Potential revenues, earth sciences

The most potential revenue is in the second most expensive tier, because that's where most fee articles are.

Starting Date

The pay and free lines follow similar patterns starting in 2006 (a peak in 2008-2009, a dip in 2010-2011, and a higher peak in 2012-2013), but new free journals had been emerging at a growing rate since the late 1990s.



Figure 8.2. Starting dates, earth sciences

Regions and “Worlds”

Region	Journals	%Free	Articles	%Free
Western Europe	91	77%	3,903	50%
APCLand	37	11%	1,909	6%
Latin America	79	97%	1,887	98%
Eastern Europe	70	99%	1,482	99%
Asia	18	78%	761	81%
Pacific/English	17	47%	278	32%
Middle East	9	100%	231	100%

Table 8.6. Journals by region, earth sciences

Western Europe shows up on top. Third and fourth, Latin America and Eastern Europe, are essentially all free—and Africa doesn’t have any OA journals in these subjects.

Publisher Category

Category	Journals	%Free	Articles	%Free
Open Access	55	35%	4,094	23%
Univ/college	141	96%	3,113	96%
Miscellaneous	51	92%	1,370	89%
Traditional	33	48%	951	46%
Society/govt	41	83%	923	77%

Table 8.7. Publisher categories, earth sciences

The contrasts here are clear: OA publishers, more than half *not* in APCLand, charge APCs 77% of the time; universities and colleges, the second largest group, almost never do.

Growth and Shrinkage

Change 2014-15	Count	Percent	Cum%
Grew 50%+	43	13.4%	
Grew 25-49.9%	32	10.0%	23.4%
Grew 10-24.99%	35	10.9%	34.3%
Even, $\pm 9.99\%$	67	20.9%	55.1%
Shrank 10-24.99%	46	14.3%	69.5%
Shrank 25-49.99%	37	11.5%	81.0%
Shrank 50%+	53	16.5%	97.5%
No 2014 count	8	2.5%	

Table 8.8. Growth and shrinkage, earth sciences

At some point, these tables begin to be interesting in a “dog that did not bark in the night” way: the variations seem smaller than one might expect. Here, just slightly less rapid growth, made up for with just slightly more moderate growth.

Gray OA and DOAJ16

	GrayOA	%Gray	DOAJ16
Journals/Free	56	22%	195
Journals/Pay	6	9%	64
Free%	90%		75%
Articles/Free	1,326	21%	4,971
Articles/Pay	203	5%	3,951
Free%	87%		56%
Articles/Journal	25		34

Table 8.9. Gray OA and DOAJ16, earth sciences

The story here is clear enough: a smaller-than-usual percentage of free journals and *much* smaller-than-usual percentage of articles moved to gray OA—and most articles are still free.

Countries in OAWorld

Single subjects are where you'd expect to see the most variation in country of publication patterns, and so it is here: Germany, fifth overall in STEM, moves to first; Spain 19th in STEM overall, moves up to third; the United States, second in STEM overall, drops to eleventh.

Country	Journals	%Free	Articles	%Free
Germany	31	58%	2,436	27%
Brazil	42	100%	1,255	100%
Spain	23	100%	592	100%
Poland	21	100%	544	100%
India	7	86%	341	83%
Italy	9	78%	309	85%
Romania	19	100%	307	100%
Mexico	10	90%	252	92%
Russian Federation	6	100%	214	100%
Iran, Islamic Republic of	7	100%	190	100%
United States	13	38%	188	32%
France	8	75%	167	66%
Malaysia	1	100%	147	100%
Croatia	7	86%	100	80%
Argentina	10	90%	98	78%
Greece	3	100%	97	100%
Indonesia	5	60%	96	60%
Colombia	6	100%	89	100%
Chile	4	100%	88	100%
Slovenia	4	100%	85	100%
China	2	100%	73	100%
Switzerland	1	100%	69	100%
Canada	2	50%	67	9%
Finland	3	33%	65	25%
South Korea	2	50%	64	20%

Table 8.10. Countries in OAWorld (partial), earth sciences

9. Ecology

Ecology includes environmental fields and any journal where most coverage seemed devoted to ecological issues.

Journals and Articles

	Journals	Active 2015	Articles	Art/Jrnl
Free	174	164	6,768	41
Pay	82	78	5,428	70
Total	256	242	12,196	50
Free%	68%	68%	55%	

Table 9.1. Journals and articles, ecology

Unusual in that a small majority of articles are in free journals—and pay journals average much less than twice the article volume of free ones.

	2015	2014	2013	2012	2011
Journals	242	247	237	202	182
%Free	68%	68%	69%	70%	72%
Articles	12,196	12,712	10,992	9,977	8,285
%Free	55%	60%	60%	60%	61%

Table 9.2. Journals and articles by year, ecology

The slight drop in 2015 combines a small growth in pay-journal articles and a significant drop in free-journal articles. That may or may not be clear in Figure 9.1.

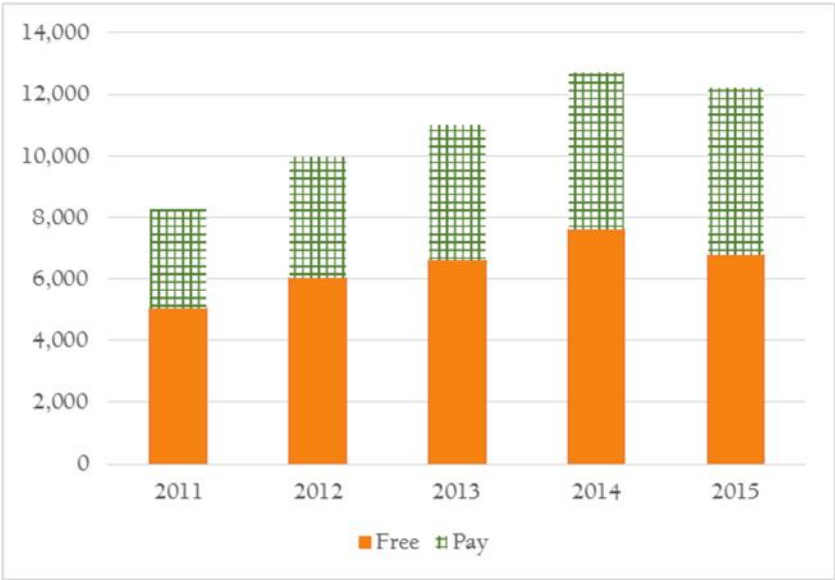


Figure 9.1. Free and pay articles by year, ecology

Article Volume

	Journals	%Free	Articles	%Free
Largest: 600+	3	33%	2,440	32%
Large: 150-599	14	50%	3,392	47%
Med.: 60-149	22	55%	1,952	55%
Small: 20-59	95	75%	3,298	75%
Smallest: 0-19	122	68%	1,114	77%

Table 9.3. Article volume, ecology

There are free journals even at the largest volumes. Otherwise, it's mildly interesting that medium-sized journals are fairly rare.

APC Levels and Revenues

	Jour.	%APC	%All	Art.	%APC	%All
\$1,400+	11	13%	4%	872	16%	7%
\$600-\$1.399	31	38%	12%	3,232	60%	27%
\$200-\$599	20	24%	8%	706	13%	6%
\$2-\$199	20	24%	8%	618	11%	5%
Free	174		68%	6,768		55%

Table 9.4. APC levels, ecology

If an ecology article involves a fee, chances are it's in a medium-priced journal, with three of five fee-based articles. That's unusual, as is the low percentage of articles in expensive journals. Average cost per article in APC-based journals in 2015 is \$952; among all articles it's \$424.

	Articles	Revenue	\$/article
\$1,400+	872	\$1,679,111	\$1,926
\$600-\$1.399	3,232	\$3,191,707	\$988
\$200-\$599	706	\$240,819	\$341
\$2-\$199	618	\$54,128	\$88
Free	6,768		
Total	12,196	\$5,165,765	\$424

Table 9.5. Potential revenues, ecology

Given Table 9.4, the oddity in Table 9.5 is no surprise: there's a lot more revenue in medium-priced journals than in all others combined.

Starting Date

Figure 9.2 is fairly idiosyncratic, with strong growth in free journals through much of the 1990s, a jagged path from 2000 through 2007, and a sharp rise peaking in 2010-2011 and declining since then. Pay journals started picking up in 2003 and reached a modest peak in 2012-2013, still well below free startups.



Figure 9.2. Starting dates, ecology

Regions and “Worlds”

Region	Journals	%Free	Articles	%Free
Western Europe	52	81%	4,826	59%
APCLand	34	21%	2,119	11%
Latin America	58	90%	1,495	91%
Eastern Europe	41	85%	1,265	80%
Pacific/English	37	54%	1,217	62%
Asia	22	45%	853	29%
Middle East	8	63%	233	49%
Africa	4	75%	188	93%

Table 9.6. Journals by region, ecology

As with earth sciences, Western Europe is most active, with Latin America and Eastern Europe following APCLand, but in this case Pacific/English is right behind Eastern Europe and free percent ages are quite different in some cases.

Publisher Category

Category	Journals	%Free	Articles	%Free
Open Access	45	31%	5,430	37%
Univ/college	94	86%	2,380	82%
Miscellaneous	50	72%	2,376	59%
Society/govt	32	66%	1,261	70%
Traditional	35	63%	749	71%

Table 9.7. Publisher categories, ecology

Multijournal OA publishers are the biggest group, and that’s true even without APCLand. That’s partly because these mostly-APC journals publish a lot more articles per journal than most others.

Growth and Shrinkage

Change 2014-15	Count	Percent	Cum%
Grew 50%+	45	17.6%	
Grew 25-49.9%	20	7.8%	25.4%
Grew 10-24.99%	18	7.0%	32.4%
Even, ±9.99%	58	22.7%	55.1%
Shrank 10-24.99%	31	12.1%	67.2%
Shrank 25-49.99%	32	12.5%	79.7%
Shrank 50%+	43	16.8%	96.5%
No 2014 count	9	3.5%	

Table 9.8. Growth and shrinkage, ecology

Growth and shrinkage is once again very similar to overall STEM patterns, with *slightly* less very fast shrinkage and a little more very fast growth.

Gray OA and DOAJ16

	GrayOA	%Gray	DOAJ16
Journals/Free	40	23%	134
Journals/Pay	12	15%	70
Free%	77%		66%
Articles/Free	783	12%	5,985
Articles/Pay	504	9%	4,924
Free%	61%		55%
Articles/Journal	25		53

Table 9.9. Gray OA and DOAJ16, ecology

Delisting was somewhat lower than usual for both free and pay journals—and *much* lower than usual in terms of articles. Most articles are still free.

Countries in OAWorld

Table 9.10 shows OAWorld countries with 50 or more 2015 articles in open access ecology journals. As with earth sciences, Germany and Brazil top the list, with Germany publishing as many articles as the next four countries combined. But in this case most of those German articles (or, rather, articles in German journals) are in free journals, and the U.S. and UK are fairly close followers of Brazil.

Country	Journals	%Free	Articles	%Free
Germany	16	69%	3,337	56%
Brazil	29	83%	1,003	89%
United States	28	54%	879	74%
United Kingdom	8	63%	771	49%
Poland	17	94%	529	80%
Canada	7	57%	318	27%
India	5	40%	246	27%
Italy	5	80%	244	64%
Spain	11	100%	223	100%
Iran, Islamic Republic of	6	67%	201	54%
Mexico	7	100%	195	100%
Japan	5	40%	186	30%
Singapore	1	0%	180	0%
France	7	86%	153	94%
Romania	4	75%	153	54%
Croatia	5	80%	131	75%
Indonesia	6	50%	127	57%
Russian Federation	3	67%	101	66%
Hungary	3	100%	95	100%
South Africa	1	100%	88	100%
Nigeria	2	50%	84	85%
Ukraine	1	100%	83	100%
Colombia	5	100%	60	100%
South Korea	1	0%	52	0%
Finland	1	100%	50	100%

Table 9.10. Countries in OAWorld (partial), ecology

10. Engineering

Engineering journals were distinguished from technology journals primarily based on journal titles and narrower subject headings.

Journals and Articles

	Journals	Active 2015	Articles	Art/Jrnl
Free	204	194	10,563	54
Pay	138	128	17,481	137
Total	342	322	28,044	87
Free%	60%	60%	38%	

Table 10.1. Journals and articles, engineering

So far, engineering looks like STEM in general: mostly free journals, mostly pay articles, with APC-charging journals averaging around 2.5 times the articles of free ones. But then...

	2015	2014	2013	2012	2011
Journals	322	333	322	284	243
%Free	60%	59%	61%	65%	68%
Articles	28,044	25,205	23,833	17,641	13,041
%Free	38%	35%	35%	41%	55%

Table 10.2. Journals and articles by year, engineering

We see in Table 10.2 that article count has grown considerably more than usual for STEM—more than doubling over five years.

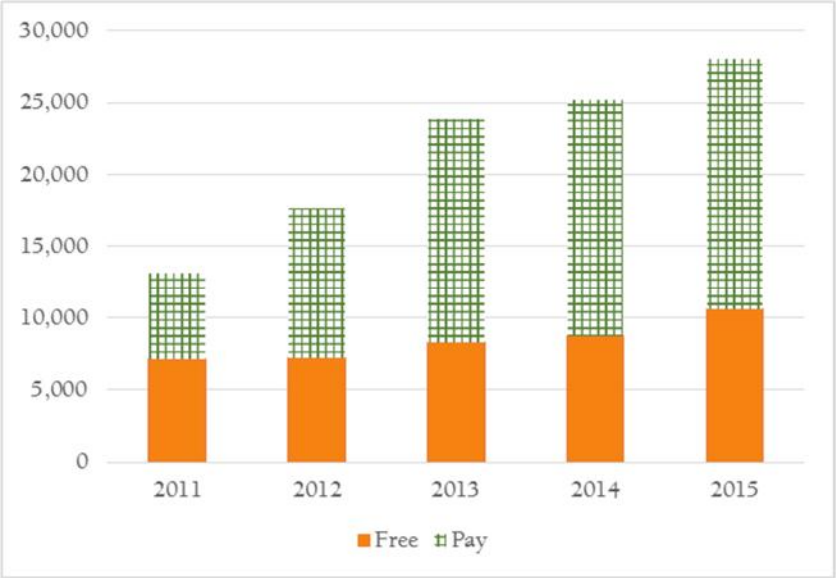


Figure 10.1. Free and pay articles by year, engineering

Figure 10.1 shows the dramatic change. Free journals have certainly grown, with 48% more articles in 2015 than in 2011, but over that same period APC journal articles have nearly tripled, growing by 195%.

Article Volume

	Journals	%Free	Articles	%Free
Largest: 600+	9	11%	11,555	20%
Large: 150-599	21	33%	5,725	25%
Med.: 60-149	59	61%	5,363	58%
Small: 20-59	125	70%	4,228	70%
Smallest: 0-19	128	57%	1,173	65%

Table 10.3. Article volume, engineering

There’s nothing special to say about article volume distribution.

APC Levels and Revenues

	Jour.	%APC	%All	Art.	%APC	%All
\$1,400+	10	7%	3%	3,685	21%	13%
\$600-\$1,399	52	38%	15%	1,633	9%	6%
\$200-\$599	40	29%	12%	3,762	22%	13%
\$2-\$199	36	26%	11%	8,401	48%	30%
Free	204		60%	10,563		38%

Table 10.4. APC levels, engineering

While a fair number of articles appear in expensive journals (and, oddly, the free percentage is the lowest in what's also the smallest set, medium-priced journals), nearly half of all fee articles are in journals with nominal fees. Average charge is a moderate \$591, or \$368 across all journals.

	Articles	Revenue	\$/article
\$1,400+	3,685	\$6,386,050	\$1,733
\$600-\$1,399	1,633	\$1,514,142	\$927
\$200-\$599	3,762	\$1,426,314	\$379
\$2-\$199	8,401	\$997,178	\$119
Free	10,563		
Total	28,044	\$10,323,684	\$368

Table 10.5. Potential revenue, engineering

Still, expensive journals are where the money is: 21% of the fee-based articles yield 62% of the potential revenue.

Starting Date

While the line for APC-charging journals is fairly similar to STEM as a whole—fairly rapid growth from 2004-2005 through 2012-2013—free journals show a more irregular pattern, although the peak in 2010-2011 is familiar.

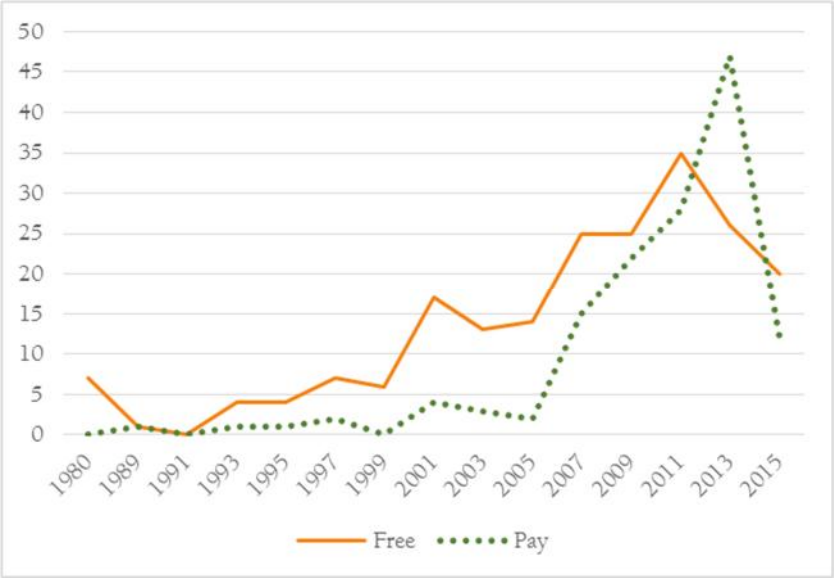


Figure 10.2. Starting dates, engineering

Regions and “Worlds”

Region	Journals	%Free	Articles	%Free
Asia	72	43%	10,978	12%
Western Europe	24	54%	5,037	55%
Eastern Europe	75	91%	3,515	83%
APCLand	65	14%	3,495	15%
Latin America	48	100%	1,859	100%
Pacific/English	28	36%	1,766	7%
Middle East	26	85%	1,228	77%
Africa	4	75%	166	69%

Table 10.6. Journals by region, engineering

Asia far out in the lead with very few free articles, Western Europe a distant second with mostly free articles, Eastern Europe third with pre-

dominantly free articles—and Latin America (*entirely* free) and Pacific/English (almost entirely pay) relatively lightweight in this subject, compared to overall activity.

Publisher Category

Category	Journals	%Free	Articles	%Free
Miscellaneous	53	57%	10,527	36%
Univ/college	134	87%	6,875	66%
Open Access	81	10%	4,862	6%
Traditional	45	60%	3,261	33%
Society/govt	29	76%	2,519	36%

Table 10.7. Publisher categories, engineering

Independent journals and very small publishers stand out here.

Growth and Shrinkage

Change 2014-15	Count	Percent	Cum%
Grew 50%+	49	14.3%	
Grew 25-49.9%	39	11.4%	25.7%
Grew 10-24.99%	29	8.5%	34.2%
Even, $\pm 9.99\%$	65	19.0%	53.2%
Shrank 10-24.99%	53	15.5%	68.7%
Shrank 25-49.99%	40	11.7%	80.4%
Shrank 50%+	58	17.0%	97.4%
No 2014 count	9	2.6%	

Table 10.8. Growth and shrinkage, engineering

Somewhat more moderate shrinkage (10%-49%) than for STEM as a whole, with slightly fewer “even” journals and slightly more moderate growth. Still, the general pattern is the same.

Gray OA and DOAJ16

	GrayOA	%Gray	DOAJ16
Journals/Free	53	26%	151
Journals/Pay	25	18%	113
Free%	68%		57%
Articles/Free	1,966	19%	8,597
Articles/Pay	6,642	38%	10,839
Free%	23%		44%
Articles/Journal	110		74

Table 10.9. Gray OA and DOAJ16, engineering

While the percentage of delisted pay journals is fairly low (and the percentage of delisted free journals is slightly low), those journals had lots of articles: the loss in pay articles is quite high (while the loss in free articles is fairly low). These are unusual figures in general

Countries in OAWorld

Table 10.10 lists countries with at least 100 articles in 2015 in open access engineering journals that aren't part of APCLand. As with STEM as a whole, India has a sizable lead over any other country—but here, the US is fourth rather than second and Pakistan is third rather than eighth. The rest of the list is also unusual and interesting.

Country	Journals	%Free	Articles	%Free
India	24	17%	6,135	8%
United Kingdom	7	29%	4,253	54%
Pakistan	2	0%	2,352	0%
United States	25	28%	1,717	5%
Brazil	18	100%	877	100%
Romania	13	92%	762	97%
Hong Kong	3	0%	750	0%
Poland	22	95%	711	95%
Indonesia	18	39%	681	17%
Serbia	10	90%	559	43%
Colombia	13	100%	496	100%
Turkey	9	89%	496	63%
Iran, Islamic Republic of	10	100%	495	100%
Russian Federation	6	100%	397	100%
Czech Republic	6	83%	338	62%
Croatia	6	83%	327	92%
Malaysia	10	90%	322	98%
Ukraine	5	80%	300	86%
Germany	8	63%	249	35%
Singapore	3	0%	240	0%
Greece	2	50%	172	85%
Japan	3	67%	149	21%
Cuba	5	100%	140	100%
Mexico	5	100%	140	100%
Italy	2	100%	134	100%
Chile	4	100%	130	100%
Spain	2	50%	128	27%
Korea, Democratic People's Republic of	1	100%	121	100%

Table 10.10. Countries in OAWorld (partial), engineering

11. Mathematics

Mathematics includes statistics.

Journals and Articles

	Journals	Active 2015	Articles	Art/Jrnl
Free	200	190	6,149	32
Pay	77	66	5,090	77
Total	277	256	11,239	44
Free%	72%	74%	55%	

Table 11.1. Journals and articles, mathematics

Higher percentages of free journals and articles than most of STEM.

	2015	2014	2013	2012	2011
Journals	256	269	259	219	195
%Free	74%	72%	74%	81%	82%
Articles	11,239	13,922	12,504	10,466	7,615
%Free	55%	43%	46%	49%	58%

Table 11.2. Journals and articles by year, mathematics

Table 11.2 is unusual in two regards: there's a substantial drop in 2015—and as the free percentages suggest, it's a drop in pay journal articles. (In fact, free-journal article count continues to grow each year.)

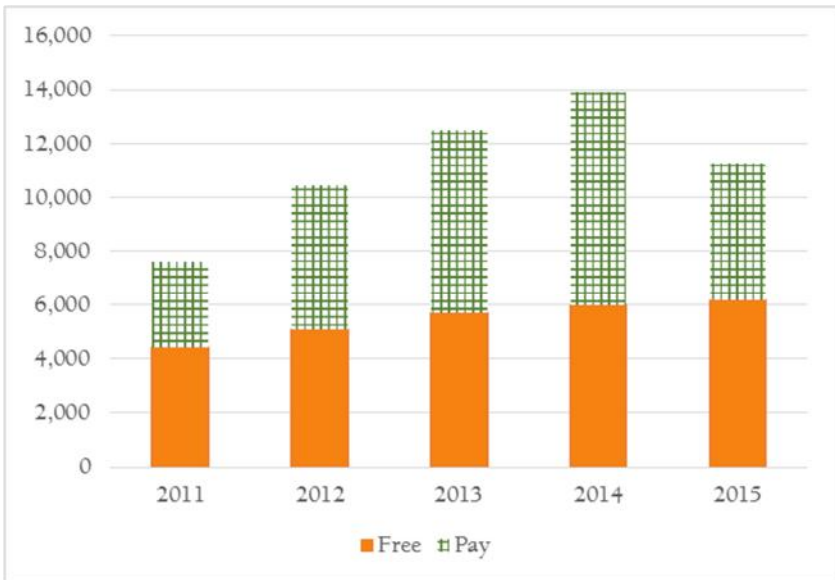


Figure 11.1. Free and pay articles by year, mathematics

Article Volume

	Journals	%Free	Articles	%Free
Largest: 600+	1	0%	2,309	0%
Large: 150-599	8	38%	2,260	35%
Med.: 60-149	23	78%	2,133	77%
Small: 20-59	102	83%	3,365	83%
Smallest: 0-19	143	66%	1,172	80%

Table 11.3. Article volume, mathematics

The one *very* large journal charges APCs—but very few medium and smaller journals do.

APC Levels and Revenues

	Jour.	%APC	%All	Art.	%APC	%All
\$1,400+	2	3%	1%	2,435	48%	22%
\$600-\$1.399	55	71%	20%	2,107	41%	19%
\$200-\$599	9	12%	3%	306	6%	3%
\$2-\$199	11	14%	4%	242	5%	2%
Free	200		72%	6,149		55%

Table 11.4. APC levels, mathematics

	Articles	Revenue	\$/article
\$1,400+	2,435	\$4,807,000	\$1,974
\$600-\$1.399	2,107	\$2,050,034	\$973
\$200-\$599	306	\$93,979	\$307
\$2-\$199	242	\$28,066	\$116
Free	6,149		
Total	11,239	\$6,979,079	\$621

Table 11.5. Potential revenues, mathematics

APC-charging mathematics journals mostly charge moderate or high fees, and the most expensive publish nearly half of all fee articles—so it’s no surprise that those two account for more than half the revenue. Average cost per APC-based article is \$1,371, dropping to \$621 overall.

Starting Date

Other than the notch in 2002-2003, Figure 11.2 shows a fairly typical STEM curve for new free journals—but the spurt in fee-charging journals comes even later than usual, starting in 2008-2009.



Figure 11.2. Starting dates, mathematics

Regions and “Worlds”

Region	Journals	%Free	Articles	%Free
APCLand	60	10%	4,625	4%
Eastern Europe	64	95%	2,112	91%
Pacific/English	47	91%	1,890	98%
Western Europe	35	77%	779	70%
Asia	25	84%	708	91%
Middle East	24	88%	666	82%
Latin America	21	100%	447	100%
Africa	1	0%	12	0%

Table 11.6. Journals by region, mathematics

APCLand looms large here, almost never free—but the two other sizable regions, Eastern Europe and Pacific/English, are almost always free.

Publisher Category

Category	Journals	%Free	Articles	%Free
Open Access	61	7%	3,490	4%
Univ/college	108	97%	3,387	97%
Traditional	29	66%	1,932	24%
Society/govt	40	93%	1,225	95%
Miscellaneous	39	90%	1,205	89%

Table 11.7. Publisher categories, mathematics

Another almost never/almost always situation: the two dominant categories are OA publishers (almost never free) and academia (almost always free).

Growth and Shrinkage

Change 2014-15	Count	Percent	Cum%
Grew 50%+	32	11.6%	
Grew 25-49.9%	20	7.2%	18.8%
Grew 10-24.99%	24	8.7%	27.4%
Even, $\pm 9.99\%$	71	25.6%	53.1%
Shrank 10-24.99%	31	11.2%	64.3%
Shrank 25-49.99%	29	10.5%	74.7%
Shrank 50%+	62	22.4%	97.1%
No 2014 count	8	2.9%	

Table 11.8. Growth and shrinkage, mathematics

Patterns of growth and shrinkage are atypical, with considerably more fast shrinkage than usual and a high percentage of steady journals.

Gray OA and DOAJ16

	GrayOA	%Gray	DOAJ16
Journals/Free	78	39%	122
Journals/Pay	7	9%	70
Free%	92%		64%
Articles/Free	2,787	45%	3,362
Articles/Pay	90	2%	5,000
Free%	97%		40%
Articles/Journal	34		44

Table 11.9. Gray OA and DOAJ16, mathematics

A high rate of delisting for free journals (and an even higher rate for free articles), with a very low delisting rate for pay journals and almost none for fee-based articles.

Countries in OAWorld

Table 11.10 shows countries with 60 or more non-APC/Land articles in OA mathematics journals in 2015. The United States is by far the most active (almost entirely free), with Poland and Iran trailing (also mostly free). Note that the next seven countries—an unusual mix from around the world—publish *entirely* no-fee mathematics OA journals. And then there's the United Kingdom, almost entirely fee-based.

Country	Journals	%Free	Articles	%Free
United States	38	89%	1,636	98%
Poland	20	95%	554	86%
Iran, Islamic Republic of	13	92%	407	90%
Serbia	5	100%	367	100%
Romania	13	100%	239	100%
Canada	6	100%	236	100%
Hungary	3	100%	235	100%
Brazil	8	100%	231	100%
Ukraine	4	100%	187	100%
Japan	7	100%	183	100%
United Kingdom	6	17%	177	4%
Russian Federation	3	100%	142	100%
South Korea	2	100%	142	100%
Turkey	7	100%	141	100%
Italy	7	100%	119	100%
Germany	6	50%	114	47%
France	5	100%	111	100%
Bulgaria	1	0%	91	0%
Slovakia	3	100%	88	100%
Colombia	4	100%	74	100%
Hong Kong	2	50%	74	35%
Spain	5	100%	72	100%
India	4	50%	66	95%
Lithuania	3	100%	65	100%
Taiwan, Province of China	2	100%	63	100%
Egypt	3	67%	62	66%
Chile	3	100%	61	100%
Austria	2	100%	60	100%

Table 11.10. Countries in OAWorld (partial), mathematics

12. Other Sciences

Other sciences covers a range of fields that don't seem to fit anywhere else—but mostly it's megajournals that are predominantly science and medicine, and a small group of journals comprised of conference papers. (*PLOS One* is not included.) Given the diversity of topics and approaches and mix of megajournals and others, it's not clear that you can assign significance to these figures. I'll just provide the tables and figures with no commentary. The average cost per fee-based article in 2015 was \$1,114, or \$835 across all journals. Headings are smaller to save space.

Journals and Articles

	Journals	Active 2015	Articles	Art/Jrnl
Free	115	101	8,381	83
Pay	80	74	25,107	339
Total	195	175	33,488	191
Free%	59%	58%	25%	

Table 12.1. Journals and articles, other sciences

	2015	2014	2013	2012	2011
Journals	175	189	177	158	138
%Free	58%	59%	61%	63%	67%
Articles	33,488	31,378	22,412	18,340	13,277
%Free	25%	42%	41%	53%	49%

Table 12.2. Journals and articles by year, other sciences

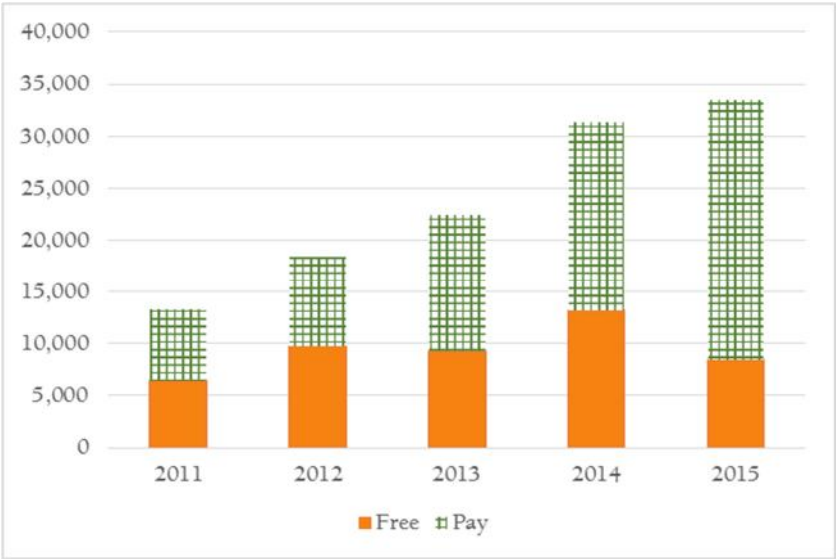


Figure 12.1. Free and pay articles by year, other sciences

Article Volume

	Journals	%Free	Articles	%Free
Largest: 600+	9	22%	22,803	17%
Large: 150-599	20	35%	5,531	27%
Med.: 60-149	25	60%	2,298	58%
Small: 20-59	60	60%	2,161	57%
Smallest: 0-19	81	68%	695	70%

Table 12.3. Article volume, other sciences

APC Levels and Revenues

	Jour.	%APC	%All	Art.	%APC	%All
\$1,400+	7	9%	4%	13,134	52%	39%
\$600-\$1.399	15	19%	8%	3,376	13%	10%
\$200-\$599	22	28%	11%	3,400	14%	10%
\$2-\$199	36	45%	18%	5,197	21%	16%
Free	115		59%	8,381		25%

Table 12.4. APC levels, other sciences

	Articles	Revenue	\$/article
\$1,400+	13,134	\$22,947,460	\$1,747
\$600-\$1.399	3,376	\$3,780,611	\$1,120
\$200-\$599	3,400	\$803,373	\$236
\$2-\$199	5,197	\$443,746	\$85
Free	8,381		
Total	33,488	\$27,975,190	\$835

Table 12.5. Potential revenues, other sciences

Starting Date

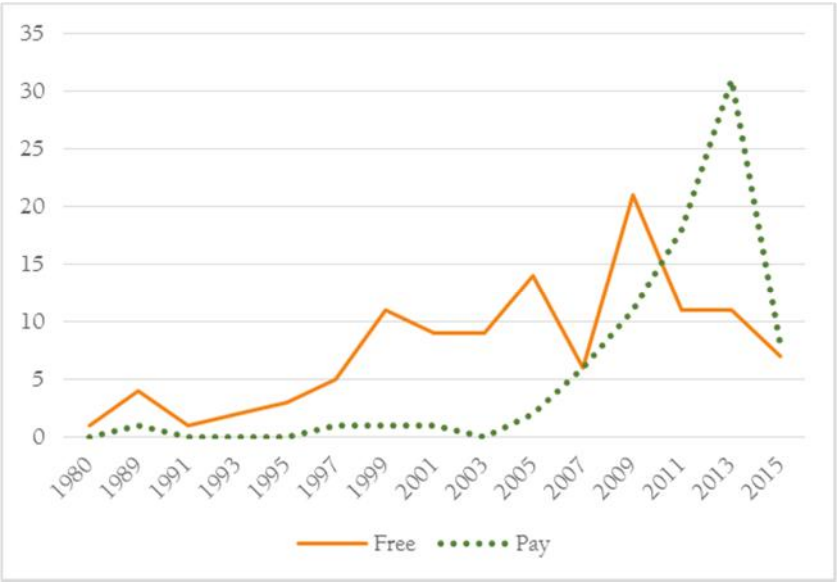


Figure 12.2. Starting dates, other sciences

Regions and “Worlds”

Region	Journals	%Free	Articles	%Free
APCLand	20	20%	15,369	3%
Asia	47	40%	6,521	8%
Western Europe	30	67%	4,239	88%
Eastern Europe	17	76%	2,550	52%
Pacific/English	18	50%	1,735	9%
Latin America	35	100%	1,428	100%
Middle East	18	61%	1,093	37%
Africa	10	40%	553	65%

Table 12.6. Journals by region, other sciences

Publisher Category

Category	Journals	%Free	Articles	%Free
Traditional	14	36%	12,859	5%
Miscellaneous	61	44%	7,963	45%
Univ/college	84	86%	7,177	47%
Society/govt	15	60%	3,916	18%
Open Access	21	10%	1,573	3%

Table 12.7. Publisher categories, other sciences

Growth and Shrinkage

Change 2014-15	Count	Percent	Cum%
Grew 50%+	42	21.4%	
Grew 25-49.9%	13	6.6%	28.1%
Grew 10-24.99%	14	7.1%	35.2%
Even, $\pm 9.99\%$	36	18.4%	53.6%
Shrank 10-24.99%	20	10.2%	63.8%
Shrank 25-49.99%	21	10.7%	74.5%
Shrank 50%+	44	22.4%	96.9%
No 2014 count	6	3.1%	

Table 12.8. Growth and shrinkage, other sciences

Gray OA and DOAJ16

	GrayOA	%Gray	DOAJ16
Journals/Free	29	25%	86
Journals/Pay	19	24%	61
Free%	60%		59%
Articles/Free	3,876	46%	4,505
Articles/Pay	4,716	19%	20,391
Free%	45%		18%
Articles/Journal	179		169

Table 12.9. Gray OA and DOAJ16, other sciences

Countries in OAWorld

Countries with at least 50 non-APCLand articles in this mix of journals in 2015.

Country	Journals	%Free	Articles	%Free
India	15	13%	5,451	1%
Italy	4	75%	3,021	100%
United States	13	46%	1,653	8%
Russian Federation	3	67%	1,284	65%
United Kingdom	7	29%	715	36%
Jordan	1	0%	584	0%
Brazil	13	100%	576	100%
Poland	2	50%	477	8%
Czech Republic	2	50%	355	18%
Thailand	6	67%	298	73%
Turkey	8	88%	274	94%
Chile	1	100%	247	100%
Indonesia	7	29%	247	13%
Bulgaria	1	100%	215	100%
France	2	100%	215	100%
South Africa	2	100%	171	100%
Algeria	1	100%	170	100%
China	3	100%	147	100%
Spain	5	100%	146	100%
Iran, Islamic Republic of	4	50%	139	60%
Venezuela, Bolivarian Republic of	3	100%	119	100%
Mexico	3	100%	117	100%
Nigeria	3	0%	116	0%
Taiwan, Province of China	3	67%	107	52%
Costa Rica	3	100%	105	100%
Nepal	1	0%	101	0%
Canada	4	75%	82	29%
Zambia	2	0%	78	0%
Colombia	6	100%	77	100%
Ukraine	1	100%	65	100%
Argentina	2	100%	59	100%
Romania	4	100%	54	100%
Latvia	1	0%	52	0%
Bangladesh	3	33%	51	0%
Peru	1	100%	50	100%

Table 12.10. Countries in OAWorld (partial), other sciences

13. Physics

Physics includes optics.

Journals and Articles

	Journals	Active 2015	Articles	Art/Jrnl
Free	83	80	12,559	157
Pay	79	70	9,934	142
Total	162	150	22,493	150
Free%	51%	53%	56%	

Table 13.1. Journals and articles, physics

Table 13.1 is unusual in two respects: most articles are in free journals—and, especially unusual, free journals actually average *more* articles per journal than APC-charging ones. Two important points: “free” includes SCOAP³ participants—and the averages are thrown off by two large conference-reports journals that are typically supported indirectly (at the conference level) rather than by APCs.

	2015	2014	2013	2012	2011
Journals	150	157	147	125	108
%Free	53%	52%	50%	56%	54%
Articles	22,493	21,477	19,325	17,889	16,127
%Free	56%	57%	56%	58%	57%

Table 13.2. Journals and articles by year, physics

Percentages really haven't changed much—and both free and pay journals have grown every year (noting that only *current* status counts).

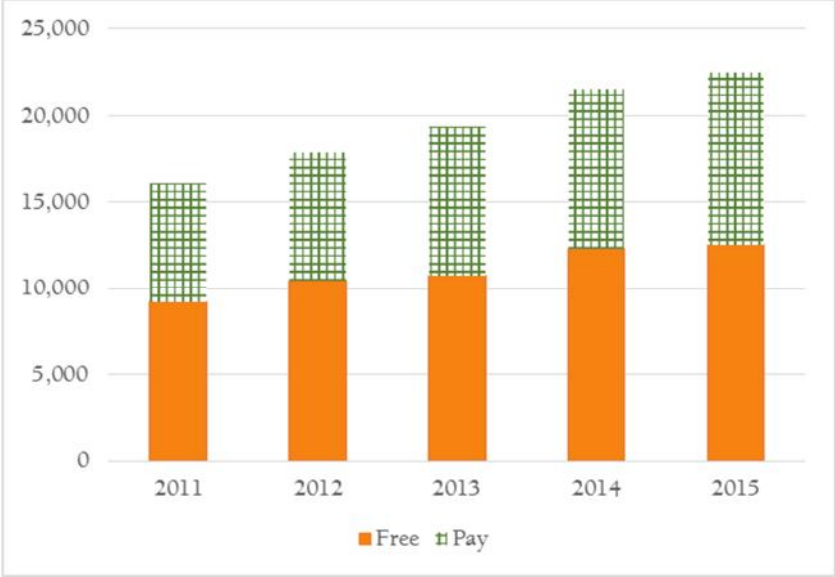


Figure 13.1. Free and pay articles by year, physics

Article Volume

	Journals	%Free	Articles	%Free
Largest: 600+	7	57%	13,451	63%
Large: 150-599	15	40%	4,201	30%
Med.: 60-149	30	50%	2,605	51%
Small: 20-59	49	69%	1,810	70%
Smallest: 0-19	61	39%	426	48%

Table 13.3. Article volume, physics

The few largest journals dominate physics OA, with 60% of all articles—and, oddly, the *smallest* journals mostly charge APCs while the largest mostly don't.

APC Levels and Revenues

	Jour.	%APC	%All	Art.	%APC	%All
\$1,400+	17	22%	10%	8,110	82%	36%
\$600-\$1.399	47	59%	29%	1,266	13%	6%
\$200-\$599	11	14%	7%	383	4%	2%
\$2-\$199	4	5%	2%	175	2%	1%
Free	83		51%	12,559		56%

Table 13.4. APC levels, physics

Speaking of dominating: more than four out of five fee-based articles are in the most expensive journals; almost none are in the two lowest brackets. Average cost: \$1,898 for fee-based, \$838 overall.

	Articles	Revenue	\$/article
\$1,400+	8,110	\$17,439,091	\$2,150
\$600-\$1.399	1,266	\$1,252,816	\$990
\$200-\$599	383	\$152,080	\$397
\$2-\$199	175	\$14,880	\$85
Free	12,559		
Total	22,493	\$18,858,867	\$838

Table 13.5. Potential revenues, physics

The most expensive journals may bring in more than *ten times* as much as all other fee journals combined.

Starting Date

Figure 13.2 is less smooth than some, partly because there are fewer journals involved. APC-based journals that aren't now paid for in other ways started to take off in 2006-2007, later than in many fields, and peaked in 2008-2009.

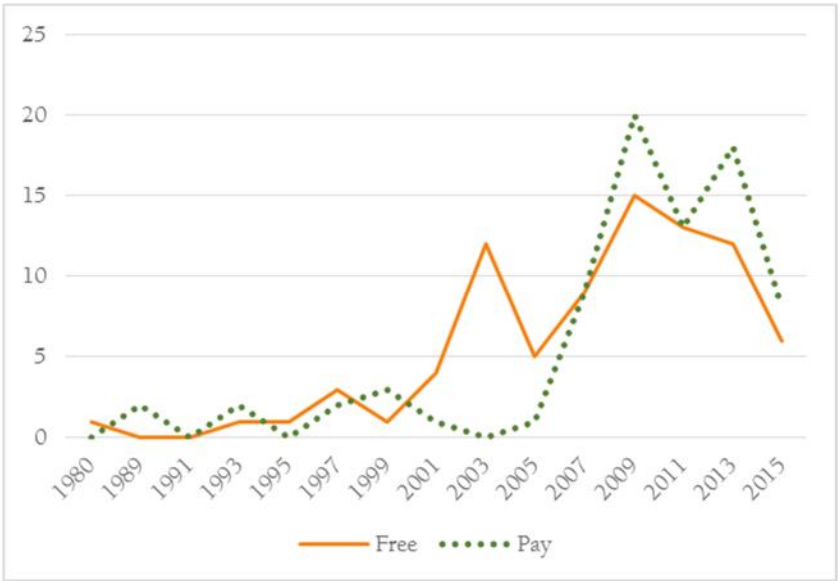


Figure 13.2. Starting dates, physics

Regions and “Worlds”

Region	Journals	%Free	Articles	%Free
Western Europe	16	50%	8,375	86%
Pacific/English	23	39%	5,514	12%
APCLand	60	20%	5,302	33%
Eastern Europe	31	94%	2,133	97%
Asia	17	76%	544	71%
Latin America	9	78%	362	91%
Middle East	5	100%	206	100%
Africa	1	0%	57	0%

Table 13.6. Journals by region, physics

Western Europe does the most, and it’s predominantly free; Pacific/English is second but is predominantly fee-based.

Publisher Category

Category	Journals	%Free	Articles	%Free
Miscellaneous	14	79%	6,071	97%
Society/govt	28	68%	5,829	17%
Open Access	58	22%	4,090	21%
Traditional	33	45%	3,666	84%
Univ/college	29	86%	2,837	61%

Table 13.7. Publisher categories, physics

Independent publishers and societies play the largest roles.

Growth and Shrinkage

Change 2014-15	Count	Percent	Cum%
Grew 50%+	22	13.6%	
Grew 25-49.9%	14	8.6%	22.2%
Grew 10-24.99%	13	8.0%	30.2%
Even, $\pm 9.99\%$	32	19.8%	50.0%
Shrank 10-24.99%	22	13.6%	63.6%
Shrank 25-49.99%	19	11.7%	75.3%
Shrank 50%+	35	21.6%	96.9%
No 2014 count	5	3.1%	

Table 13.8. Growth and shrinkage, physics

A low percentage of fast-growing journals and slightly high percentages of shrinking journals

Gray OA and DOAJ16

	GrayOA	%Gray	DOAJ16
Journals/Free	28	34%	55
Journals/Pay	9	11%	70
Free%	76%		44%
Articles/Free	1,333	11%	11,226
Articles/Pay	296	3%	9,638
Free%	82%		54%
Articles/Journal	44		167

Table 13.9. Gray OA and DOAJ16, physics

The most interesting story here may not be the higher-than-usual percentage of delisted free journals and much lower than usual percentage of delisted APC-charging journals, but the fact that such low percentages of articles appeared in delisted journals.

Countries in OAWorld

Table 13.10 delves much deeper than in most STEM country tables, all the way down to 20 articles, because physics publishing is so heavily concentrated in just five countries: the UK (only one of six journals is free but it publishes most of the articles), the US (predominantly fee-based), France (*all* free), Poland (*almost* all free) and the Ukraine (*all* free).

Country	Journals	%Free	Articles	%Free
United Kingdom	6	17%	6,693	84%
United States	22	36%	5,503	12%
France	4	100%	1,442	100%
Poland	11	91%	1,156	96%
Ukraine	7	100%	664	100%
India	5	80%	312	73%
Brazil	3	100%	234	100%
Sweden	3	0%	141	0%
Russian Federation	5	80%	116	90%
Mexico	3	67%	99	85%
Romania	3	100%	97	100%
Indonesia	6	83%	82	73%
Iran, Islamic Republic of	2	100%	76	100%
Japan	3	100%	73	100%
Nigeria	1	0%	57	0%
Iraq	1	100%	54	100%
Italy	1	100%	52	100%
Armenia	2	100%	49	100%
Czech Republic	2	100%	47	100%
Spain	1	100%	44	100%
United Arab Emirates	1	100%	42	100%
Turkey	1	100%	34	100%
Singapore	1	0%	29	0%
Malaysia	1	0%	26	0%
South Korea	1	100%	22	100%

Table 13.10. Countries in OAWorld (partial), physics

14. Technology

Technology journals were distinguished from engineering (and chemistry and physics) journals by journal title or apparent focus: it's a fuzzy distinction.

Journals and Articles

	Journals	Active 2015	Articles	Art/Jrnl
Free	138	130	10,021	77
Pay	64	59	5,679	96
Total	202	189	15,700	83
Free%	68%	69%	64%	

Table 14.1. Journals and articles, technology

Mostly-free articles, and pay journals publish only slightly more articles on average than free journals.

	2015	2014	2013	2012	2011
Journals	189	196	180	165	137
%Free	69%	69%	71%	72%	74%
Articles	15,700	13,128	11,575	9,430	7,023
%Free	64%	61%	63%	65%	62%

Table 14.2. Journals and articles by year, technology

Continued growth in both free and pay articles each year, and most 2015 growth is in free journals.

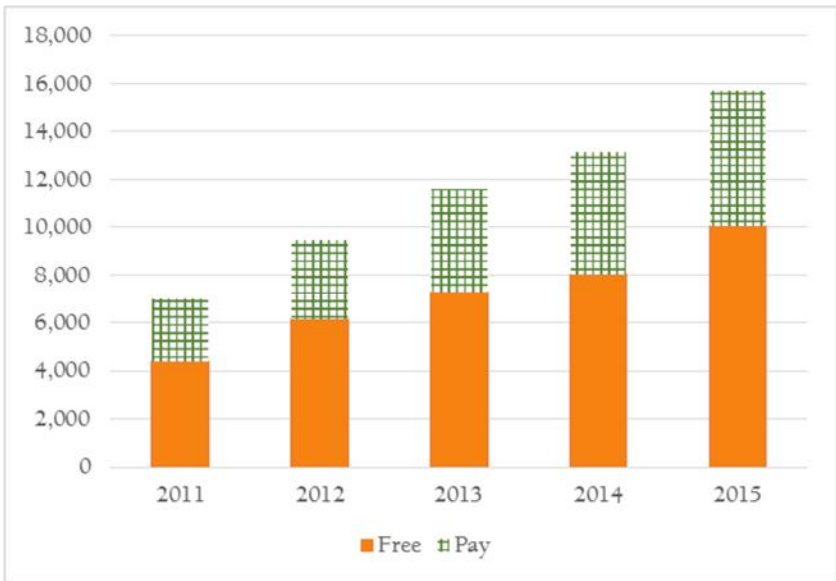


Figure 14.1. Free and pay articles by year, technology

Article Volume

	Journals	%Free	Articles	%Free
Largest: 600+	4	75%	5,076	67%
Large: 150-599	15	53%	4,052	50%
Med.: 60-149	41	61%	3,725	64%
Small: 20-59	62	81%	2,085	79%
Smallest: 0-19	80	65%	762	69%

Table 14.3. Article volume, technology

Unusual in that article volume is “laddered”—it declines as articles per journals decline (even though number of journals keeps increasing—and in that *all* levels are at least half free.

APC Levels and Revenues

	Jour.	%APC	%All	Art.	%APC	%All
\$1,400+	14	22%	7%	2,696	47%	17%
\$600-\$1.399	21	33%	10%	791	14%	5%
\$200-\$599	14	22%	7%	935	16%	6%
\$2-\$199	15	23%	7%	1,257	22%	8%
Free	138		68%	10,021		64%

Table 14.4. APC levels, technology

	Articles	Revenue	\$/article
\$1,400+	2,696	\$5,078,049	\$1,884
\$600-\$1.399	791	\$770,758	\$974
\$200-\$599	935	\$384,710	\$411
\$2-\$199	1,257	\$109,327	\$87
Free	10,021		
Total	15,700	\$6,342,844	\$404

Table 14.5. Potential revenues, technology

Almost all of the revenue is from the most expensive journals. Average cost per article in fee journals is \$1,117; overall, it's \$404

Starting Date

Figure 14.2 shows more ragged distribution of startups than in some fields, with APC-charging journals never reaching the heights.



Figure 14.2. Starting dates, technology

Regions and “Worlds”

Region	Journals	%Free	Articles	%Free
Asia	38	63%	3,842	71%
APCLand	33	24%	3,114	13%
Western Europe	32	72%	2,978	83%
Eastern Europe	44	86%	2,631	82%
Latin America	31	97%	1,422	95%
Africa	4	50%	910	47%
Pacific/English	18	61%	728	59%
Middle East	2	100%	75	100%

Table 14.6. Journals by region, technology

Asia first, APCLand second, Europe third and fourth—and Pacific/English barely there at all. And four of the five top regions mostly free, excluding APCLand.

Publisher Category

Category	Journals	%Free	Articles	%Free
Univ/college	73	92%	5,554	91%
Open Access	39	26%	3,960	31%
Miscellaneous	44	68%	2,790	44%
Traditional	28	61%	2,573	78%
Society/govt	18	78%	823	61%

Table 14.7. Publisher categories, technology

Reasonably typical of STEM except more OA publisher activity.

Growth and Shrinkage

Change 2014-15	Count	Percent	Cum%
Grew 50%+	38	18.8%	
Grew 25-49.9%	18	8.9%	27.7%
Grew 10-24.99%	20	9.9%	37.6%
Even, \pm 9.99%	42	20.8%	58.4%
Shrank 10-24.99%	27	13.4%	71.8%
Shrank 25-49.99%	30	14.9%	86.6%
Shrank 50%+	21	10.4%	97.0%
No 2014 count	6	3.0%	

Table 14.8. Growth and shrinkage, technology

Compared to STEM in general, there's a lot less rapid shrinkage, a little more slow shrinkage, and somewhat more rapid growth.

Gray OA and DOAJ16

	GrayOA	%Gray	DOAJ16
Journals/Free	29	21%	109
Journals/Pay	16	25%	48
Free%	64%		69%
Articles/Free	3,130	31%	6,891
Articles/Pay	804	14%	4,875
Free%	80%		59%
Articles/Journal	87		75

Table 4.9. Gray OA and DOAJ16, technology

The rate of delisting is on the low side for free journals and a little above normal (for STEM) for pay journals—but for articles, it's the other way around: above normal for free and below normal for pay.

Countries in OAWorld

Table 14.10 shows countries with at least 100 articles in OA technology journals (not in APCLand) in 2015. It's quite an interesting list, with all-free Malaysia in first place followed by Germany and Poland (both predominantly free), then France and Brazil (both entirely free).

Country	Journals	%Free	Articles	%Free
Malaysia	4	100%	1,813	100%
Germany	9	78%	1,295	91%
Poland	11	82%	1,113	82%
France	3	100%	1,049	100%
Brazil	16	100%	914	100%
Morocco	2	50%	884	48%
India	15	53%	590	59%
United States	16	56%	574	48%
Japan	4	0%	460	0%
South Korea	1	0%	405	0%
Indonesia	9	89%	382	100%
Chile	4	75%	318	75%
United Kingdom	4	0%	303	0%
Romania	8	88%	270	71%
Hungary	2	100%	208	100%
Slovakia	2	100%	184	100%
China	3	67%	164	92%
Slovenia	1	100%	155	100%
Ukraine	4	75%	151	65%
New Zealand	1	100%	123	100%
Spain	5	80%	122	85%
Lithuania	1	0%	114	0%
Croatia	3	67%	104	63%

Table 14.10. Countries in OAWorld (partial), technology

15. Zoology

Zoology includes veterinary medicine and marine biology.

Journals and Articles

	Journals	Active 2015	Articles	Art/Jrnl
Free	144	135	5,038	37
Pay	100	94	6,099	65
Total	244	229	11,137	49
Free%	59%	59%	45%	

Table 15.1. Journals and articles, zoology

While the free percentages are roughly typical of STEM, pay journals are much smaller in general.

	2015	2014	2013	2012	2011
Journals	229	236	227	212	198
%Free	59%	59%	60%	61%	62%
Articles	11,137	10,919	10,416	11,039	9,978
%Free	45%	45%	49%	47%	48%

Table 15.2. Journals and articles by year, zoology

Article count was down from 2012 in both 2013 and 2014, and slightly ahead in 2015—but free-journal article count still isn't quite back to 2012 levels.

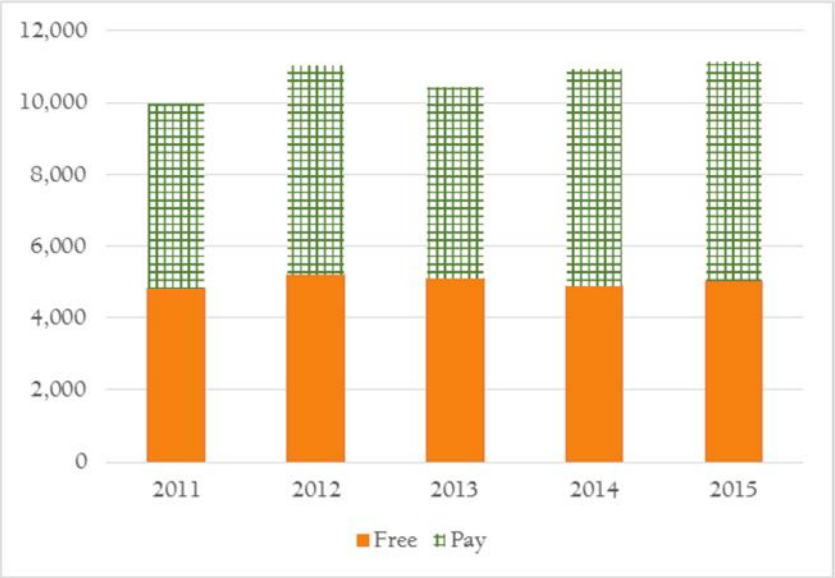


Figure 15.1. Free and pay articles by year, zoology

Article Volume

	Journals	%Free	Articles	%Free
Large: 150-599	14	29%	3,583	21%
Med.: 60-149	44	43%	3,543	43%
Small: 20-59	98	72%	3,300	72%
Smallest: 0-19	88	57%	711	56%

Table 15.3. Article volume, zoology

No zoology journal published more than 400 articles in 2015; it’s nearly a three-way split among the next three brackets, but as usual free percentage increases as journal size decreases—except for the smallest journals, and those don’t account for many articles.

APC Levels and Revenues

	Jour.	%APC	%All	Art.	%APC	%All
\$1,400+	14	14%	6%	1,103	18%	10%
\$600-\$1.399	22	22%	9%	778	13%	7%
\$200-\$599	27	27%	11%	2,124	35%	19%
\$2-\$199	37	37%	15%	2,094	34%	19%
Free	144		59%	5,038		45%

Table 15.4. APC levels, zoology

Most fee-based articles are in less-expensive journals. The average charge per article within fee-based journals is \$614; overall, \$336

	Articles	Revenue	\$/article
\$1,400+	1,103	\$2,140,201	\$1,940
\$600-\$1.399	778	\$697,858	\$897
\$200-\$599	2,124	\$673,186	\$317
\$2-\$199	2,094	\$233,135	\$111
Free	5,038		
Total	11,137	\$3,744,380	\$336

Table 15.5. Potential revenues, zoology

On the other hand, the usual overall situation applies: expensive journals have more potential revenues than all others combined.

Starting Date

There’s an unusual early bump in fee journals, but the magnitudes here are so small that it may not mean much.

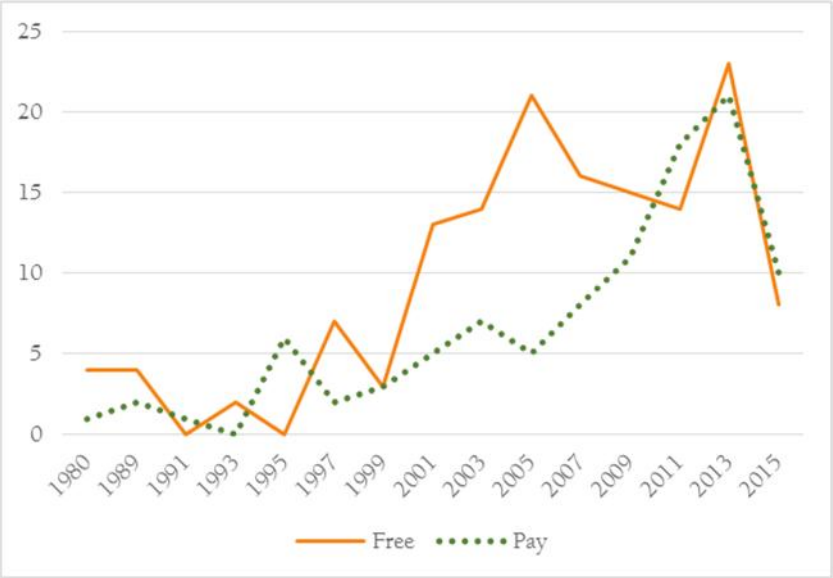


Figure 15.2. Starting dates, zoology

Regions and “Worlds”

Region	Journals	%Free	Articles	%Free
Latin America	58	76%	2,940	63%
Asia	33	45%	2,451	27%
Eastern Europe	43	72%	1,673	56%
APCLand	30	13%	1,484	9%
Middle East	20	50%	952	60%
Western Europe	37	86%	929	75%
Pacific/English	15	27%	441	13%
Africa	8	50%	267	44%

Table 15.6. Journals by region, zoology

Latin America scores high in zoology as it does in agriculture, and the fee-based percentage is high for Latin America.

Publisher Category

Category	Journals	%Free	Articles	%Free
Univ/college	87	75%	4,284	62%
Society/govt	47	64%	2,074	48%
Miscellaneous	42	69%	1,759	52%
Open Access	48	23%	1,759	16%
Traditional	20	45%	1,261	17%

Table 15.7. Publisher categories, zoology

Universities and colleges do the most, as in STEM overall—but after that comes societies, not at all typical.

Growth and Shrinkage

Change 2014-15	Count	Percent	Cum%
Grew 50%+	33	13.5%	
Grew 25-49.9%	28	11.5%	25.0%
Grew 10-24.99%	22	9.0%	34.0%
Even, ±9.99%	55	22.5%	56.6%
Shrank 10-24.99%	29	11.9%	68.4%
Shrank 25-49.99%	34	13.9%	82.4%
Shrank 50%+	35	14.3%	96.7%
No 2014 count	8	3.3%	

Table 15.8. Growth and shrinkage, zoology

The pattern in Table 15.8 is flattened out a bit from overall STEM: less fast shrinkage, a bit more medium shrinkage and stability, slightly more medium growth and slightly less fast growth,

Gray OA and DOAJ16

	GrayOA	%Gray	DOAJ16
Journals/Free	44	31%	100
Journals/Pay	23	23%	77
Free%	66%		56%
Articles/Free	1,775	35%	3,263
Articles/Pay	1,223	20%	4,876
Free%	59%		40%
Articles/Journal	45		46

Table 15.9. Gray OA and DOAJ16, zoology

A little more delisting than usual for free journals.

Countries in OAWorld

Table 15.4 includes all countries where at least 80 articles were published in non-APCLand OA zoology journals in 2015.

Brazil is the biggest zoology OA publisher—and, unusually for Brazil, half of the articles appear in fee journals. For second-place India, 28% of articles in free journals is a relatively high percentage—whereas the six articles in the single free journal from Japan represent a far lower percentage than usual.

Country	Journals	%Free	Articles	%Free
Brazil	28	68%	1,962	50%
India	6	50%	969	28%
Japan	6	17%	646	1%
Romania	12	50%	634	56%
Turkey	7	71%	517	69%
Colombia	10	80%	443	99%
United States	12	33%	414	14%
Bulgaria	6	50%	407	17%
Iran, Islamic Republic of	10	30%	381	41%
Spain	9	89%	316	74%
Italy	11	82%	293	67%
Pakistan	5	60%	277	22%
Poland	9	89%	216	93%
South Africa	4	25%	148	19%
Peru	3	100%	138	100%
China	2	100%	136	100%
Indonesia	6	50%	121	74%
Bangladesh	4	25%	119	12%
Mexico	5	100%	107	100%
South Korea	2	0%	107	0%
France	4	100%	105	100%
Ukraine	2	50%	96	60%
Argentina	4	75%	95	85%
Germany	3	100%	91	100%
Chile	2	0%	87	0%

Table 15.10. Countries in OAWorld (partial), zoology

16. Humanities and Social Sciences

The humanities and social sciences (HSS) have more gold OA journals than other segments (more than 4,000 in all), but they’re mostly smaller journals—and very few charge APCs. Total potential revenue is a tiny fraction of either of the other segments, less than one-seventeenth that of biomed.

Journals and Articles

	Journals	Active 2015	Articles	Art/Jrnl
Free	4,060	3,681	95,780	26
Pay	403	385	26,292	68
Total	4,463	4,066	122,072	30
Free%	91%	91%	78%	

Table 16.1. Journals and articles, HSS

APC-charging journals tended to publish 2.6 times as many articles per journal as free journals—but only one out of eleven HSS journals charges APCs, and less than one-quarter of 2015 articles appeared in those journals.

	2015	2014	2013	2012	2011
Journals	4,066	4,251	4,162	3,933	3,546
%Free	91%	91%	91%	92%	92%
Articles	122,072	122,898	115,176	109,226	94,619
%Free	78%	78%	80%	81%	85%

Table 16.2. Journals and articles by year, HSS

HSS article count declined trivially (less than 1%) in 2015, and this is the segment where delayed posting by very small journals is most likely to change the picture (note the decline in journals with 2015 articles: it's a reasonable bet that some of those will show up later).

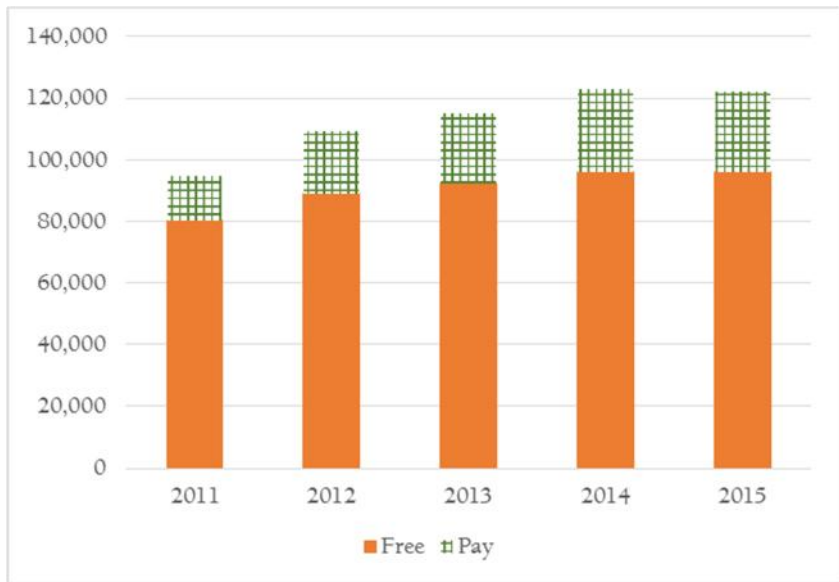


Figure 16.1. Free and pay articles by year, HSS

Figure 16.1 suggests that free articles didn't really decline at all in 2015, and that's about right: they were only down 175, or less than 0.2%. Most of the small and possibly illusory decline was in fee journals.

Article Volume

	Journals	%Free	Articles	%Free
Largest: 600+	10	20%	11,093	15%
Large: 150-599	47	55%	12,238	53%
Med.: 60-149	254	80%	21,187	79%
Small: 20-59	1,760	91%	55,232	90%
Smallest: 0-19	2,392	93%	22,322	94%

Table 16.3. Article volume, HSS

Typically, larger journals are more likely to charge fees and most journals are on the small side—but unlike the other segments, small and, to a lesser extent, smallest journals dominate HSS in terms of total article volume and have even fewer paid instances than in other segments.

APC Levels and Revenue

	Jour.	%APC	%All	Art.	%APC	%All
\$1,400+	18	4%	0%	2,943	11%	2%
\$600-\$1,399	53	13%	1%	1,503	6%	1%
\$200-\$599	134	33%	3%	7,179	27%	6%
\$2-\$199	198	49%	4%	14,667	56%	12%
Free	4,060		91%	95,780		78%

Table 16.4. APC levels, HSS

It may be surprising that there are even 18 high-priced HSS journals—and the article count may be misleading, as one psychology journal accounts for two-thirds of the count. The bulk of the small percentage of APC-charging HSS journals have low or nominal fees. Average cost per article for articles in fee-charging journals was \$407 for 2015—but the average for all HSS articles was \$88.

	Articles	Revenue	\$/article
\$1,400+	2,943	\$5,588,650	\$1,899
\$600-\$1.399	1,503	\$1,466,498	\$976
\$200-\$599	7,179	\$2,379,584	\$331
\$2-\$199	14,667	\$1,266,068	\$86
Free	95,780		
Total	122,072	\$10,700,800	\$88

Table 16.5. Potential revenues, HSS

Most fee-based articles have nominal fees—but the expensive journals still have more than half of all potential revenue.

Starting Date



Figure 16.2. Starting dates, HSS

Quite a few early free journals, and a pattern of growth starting in the mid-1990s and continuing until 2011, with some decline since then. Too few APC journals for the pattern to mean very much.

Region and “World”

Region	Journals	%Free	Articles	%Free
Latin America	1,119	99%	27,329	99%
Eastern Europe	707	92%	27,196	73%
Western Europe	1,340	94%	26,720	93%
Pacific/English	688	89%	15,582	77%
Asia	281	68%	11,555	36%
Middle East	203	87%	8,048	82%
APCLand	70	50%	4,037	20%
Africa	55	49%	1,605	32%

Table 16.6. Journals by region, HSS

Table 16.6 is another example of how sharply humanities and social sciences differ from other segments. The largest number of articles come from Latin America, with only 1% APC-charging journals—and Eastern Europe isn’t far behind. Neither is Western Europe, with the most journals: consider that only 609 articles separate Western Europe from Latin America, about 2% of each region’s output—and Western Europe is nearly as overwhelmingly free as Latin America.

Asia and Africa stand out for relatively low percentages of articles in free journals; APCLand stands out for having so few journals and articles (and, as you’d expect, the lowest free percentage).

Publisher Category

Category	Journals	%Free	Articles	%Free
Univ/college	2,794	96%	68,276	92%
Miscellaneous	980	89%	30,224	73%
Open Access	210	43%	11,638	18%
Society/govt	335	93%	8,069	84%
Traditional	144	75%	3,865	58%

Table 16.7. Publisher categories, HSS

Table 16.7 shows that universities and colleges dominate HSS OA publishing, with more articles (and *many* more journals) than all other categories combined. Even traditional publishers, to the extent they show up at all, mostly publish journals financed by something other than APCs (probably society sponsorship in many cases).

Growth and Shrinkage

Table 16.8 shows one interesting consistency among segments: between 21% and 22% of journals published roughly the same number of articles in-2014 and 2015. Otherwise, HSS shows a slightly lower percentage of journals with very fast shrinkage and a slightly higher percentage with fast growth.

Change 2014-15	Count	Percent	Cum%
Grew 50%+	719	16.1%	
Grew 25-49.9%	400	9.0%	25.1%
Grew 10-24.99%	441	9.9%	35.0%
Even, $\pm 9.99\%$	970	21.7%	56.7%
Shrank 10-24.99%	520	11.7%	68.3%
Shrank 25-49.99%	573	12.8%	81.2%
Shrank 50%+	628	14.1%	95.2%
No 2014 count	212	4.8%	

Table 16.8. Growth and shrinkage, HSS

Subjects

Subject	Journals	%Free	Articles	%Free
Anthropology	287	90%	6,926	87%
Arts & Architecture	246	95%	5,075	91%
Economics	570	79%	15,859	68%
Education	620	91%	15,698	88%
History	296	99%	7,544	99%
Language & Literature	573	97%	13,298	91%
Law	237	96%	5,239	91%
Library Science	141	97%	2,874	98%
Media & Communications	182	93%	4,560	82%
Miscellany	135	84%	11,451	42%
Philosophy	187	96%	3,336	95%
Political Science	228	94%	5,196	87%
Psychology	177	84%	6,457	58%
Religion	137	88%	3,921	67%
Sociology	447	89%	14,638	74%

Table 16.9. Subjects, HSS

As usual, Table 16.9 is in alphabetic order. “Miscellany” covers multi-disciplinary journals that didn’t seem to be predominantly STEM and biomed, and a few that just didn’t fit anywhere else: notably, it’s the only category in which most articles appeared in fee-charging journals.

Gray OA and DOAJ16

	GrayOA	%Gray	DOAJ16
Journals/Free	1,102	27%	2,958
Journals/Pay	100	25%	303
Free%	92%		91%
Articles/Free	22,460	23%	73,320
Articles/Pay	7,187	27%	19,105
Free%	76%		79%
Articles/Journal	25		28

Table 16.10. Gray OA and DOAJ16, HSS

Countries in OAWorld (partial)

Table 16.11, on the next page, shows OAWorld countries with at least 900 articles in 2015 in HSS journals. Brazil leads the pack, with the U.S. a distant second and Spain not far behind—and that's true for both articles and journals. Of the big three, only the U.S. shows much in the way of fee-based OA, and even that's only 22% of articles and 12% of journals. There are only four countries where APC-charging journals published a majority of OA articles in HSS in 2015, and in all four cases the free percentage is dramatically below the 60% of the fifth country: India with 20% free, Macedonia with 16% free, South Africa with 24% free—and Singapore with 3% free. India had more articles than the other three combined, but only slightly more.

Country	Journals	%Free	Articles	%Free
Brazil	584	99%	16,533	99%
United States	472	88%	10,877	78%
Spain	424	99%	9,255	97%
Romania	180	85%	7,303	64%
Turkey	139	90%	6,409	84%
Russian Federation	80	94%	6,335	77%
India	57	56%	4,610	20%
Italy	169	98%	3,601	99%
United Kingdom	169	76%	3,201	73%
Poland	120	96%	3,035	95%
Colombia	146	99%	2,973	99%
Canada	122	91%	2,876	70%
Germany	129	97%	2,583	96%
Indonesia	115	70%	2,537	68%
France	126	99%	2,393	100%
Mexico	96	99%	2,370	99%
Ukraine	26	85%	2,029	60%
Chile	88	99%	2,026	97%
Macedonia, the Former Yugoslav Republic of	12	83%	1,982	16%
Australia	80	93%	1,710	82%
Argentina	95	100%	1,435	100%
Croatia	52	98%	1,281	95%
South Africa	39	44%	1,221	24%
Portugal	55	93%	1,186	84%
Serbia	47	96%	1,110	92%
Singapore	13	38%	1,051	3%
Netherlands	42	88%	1,006	87%
Iran, Islamic Republic of	39	87%	935	91%

Table 16.11. Countries in OAWorld (partial), HSS

17. Anthropology

Anthropology includes archæology and sports sciences.

Journals and Articles

	Journals	Active 2015	Articles	Art/Jrnl
Free	257	228	6,033	26
Pay	29	28	893	32
Total	286	256	6,926	27
Free%	90%	89%	87%	

Table 17.1. Journals and articles, anthropology

Predominantly free journals and articles, as is typical of HSS OA—but pay journals are only slightly larger than free ones, which is unusual.

	2015	2014	2013	2012
Journals	256	268	265	242
%Free	89%	90%	90%	90%
Articles	6,926	6,832	6,359	6,146
%Free	87%	86%	89%	88%

Table 17.2. Journals and articles by year, anthropology

Article count has grown each year, and that's true for both free and pay articles. Percentages have barely budged.

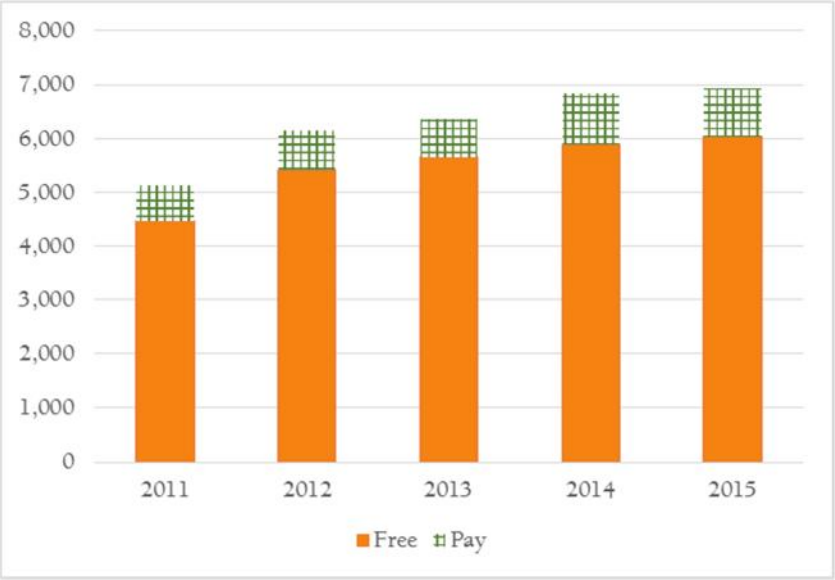


Figure 17.1. Free and pay articles by year, anthropology

Article Volume

	Journals	%Free	Articles	%Free
Large: 150-599	2	100%	334	100%
Med.: 60-149	21	76%	1,805	75%
Small: 20-59	108	89%	3,363	89%
Smallest: 0-19	155	92%	1,424	94%

Table 17.3. Article volume, anthropology

The largest journal had 169 articles in 2015. Most activity is in small journals.

APC Levels and Revenues

	Jour.	%APC	%All	Art.	%APC	%All
\$1,400+	2	7%	1%	131	15%	2%
\$600-\$1.399	3	10%	1%	165	18%	2%
\$200-\$599	11	38%	4%	143	16%	2%
\$2-\$199	13	45%	5%	454	51%	7%
Free	257		90%	6,033		87%

Table 17.4. APC levels, anthropology

	Articles	Revenue	\$/article
\$1,400+	131	\$255,475	\$1,950
\$600-\$1.399	165	\$211,920	\$1,284
\$200-\$599	143	\$47,167	\$330
\$2-\$199	454	\$31,010	\$68
Free	6,033		
Total	6,926	\$545,572	\$79

Table 17.5. Potential revenues, anthropology

Mostly nominal fees when there are fees at all, and while the \$611 cost per article for APC-based articles is high for HSS, the \$79 per article overall is a bit lower than average.

Starting Date

Figure 17.2 is typical HSS except that instead of peaking in 2010-2011, free journal introductions dipped a bit then and peaked in 2012-2013.



Figure 17.2. Starting dates, anthropology

Regions and “Worlds”

Region	Journals	%Free	Articles	%Free
Eastern Europe	68	93%	2,017	85%
Western Europe	103	92%	1,944	96%
Latin America	67	97%	1,582	96%
Asia	13	62%	479	77%
Middle East	10	80%	383	67%
Pacific/English	19	84%	358	82%
APCLand	6	33%	163	17%

Table 17.6. Journals by region, anthropology

Western Europe has more journals but Eastern Europe publishes slightly more articles. Latin America is a strong third, and all three are predominantly free. (Africa has no OA anthropology journals.)

Publisher Category

Category	Journals	%Free	Articles	%Free
Univ/college	159	92%	3,911	86%
Miscellaneous	70	91%	1,635	93%
Society/govt	34	97%	713	97%
Open Access	14	36%	428	53%
Traditional	9	100%	239	100%

Table 17.7. Publisher categories, anthropology

Typical: universities and colleges dominate. Unusual: none of the journals from traditional publishers have APCs.

Growth and Shrinkage

Change 2014-15	Count	Percent	Cum%
Grew 50%+	48	16.8%	
Grew 25-49.9%	28	9.8%	26.6%
Grew 10-24.99%	22	7.7%	34.3%
Even, $\pm 9.99\%$	68	23.8%	58.0%
Shrank 10-24.99%	22	7.7%	65.7%
Shrank 25-49.99%	37	12.9%	78.7%
Shrank 50%+	43	15.0%	93.7%
No 2014 count	18	6.3%	

Table 17.8. Growth and shrinkage, anthropology

Fairly typical patterns for HSS, but with even more steady-state journals than usual and somewhat low levels of modest shrinkage (10-24%) and modest growth.

Gray OA and DOAJ16

	GrayOA	%Gray	DOAJ16
Journals/Free	70	27%	187
Journals/Pay	7	24%	22
Free%	91%		89%
Articles/Free	1,541	26%	4,492
Articles/Pay	156	17%	737
Free%	91%		86%
Articles/Journal	22		25

Table 17.9. Gray OA and DOAJ16, anthropology

Fairly standard levels of delisting, although pay-article delisting percentage is on the low side.

Countries in OAWorld

Brazil and Spain do the most, but France, Poland and Romania are also quite active, Romania being the only one of the five to charge for most articles.

Country	Journals	%Free	Articles	%Free
Brazil	30	93%	1,037	94%
Spain	38	97%	829	97%
France	16	100%	436	100%
Poland	15	87%	420	80%
Romania	10	70%	403	43%
Italy	18	94%	353	99%
Turkey	7	86%	351	67%
Indonesia	8	50%	279	68%
United States	12	83%	270	86%
United Kingdom	15	67%	222	79%
Ukraine	2	100%	219	100%
Argentina	16	100%	196	100%
Macedonia, the Former Yugoslav Republic of	5	100%	192	100%
Serbia	6	100%	156	100%
Croatia	7	100%	154	100%
Slovenia	5	100%	143	100%
India	2	100%	132	100%
Chile	6	100%	117	100%
Mexico	4	100%	86	100%
Czech Republic	5	100%	77	100%
Colombia	4	100%	70	100%
Estonia	3	100%	69	100%
Bosnia and Herzegovina	2	100%	63	100%
Canada	5	100%	59	100%
Japan	2	50%	56	63%
Costa Rica	4	100%	51	100%
Russian Federation	4	100%	51	100%

Table 17.10. Countries in OAWorld (partial), anthropology

18. Arts & Architecture

Arts & architecture includes most journals related to the fine arts and some related to architecture, but note also two later subjects: language & literature and media & communications.

Journals and Articles

	Journals	Active 2015	Articles	Art/Jrnl
Free	234	208	4,608	22
Pay	12	12	467	39
Total	246	220	5,075	23
Free%	95%	95%	91%	

Table 18.1. Journals and articles, arts & architecture

Even fewer pay articles than usual for HSS—and smaller journals.

	2015	2014	2013	2012	2011
Journals	220	237	218	214	195
%Free	95%	95%	95%	96%	96%
Articles	5,075	5,407	5,275	4,856	4,215
%Free	91%	92%	90%	92%	94%

Table 18.2. Journals and articles by year, arts & architecture

A small drop in article volume in 2015, entirely free articles and may be partly illusory. (Pay articles dropped in 2014.)

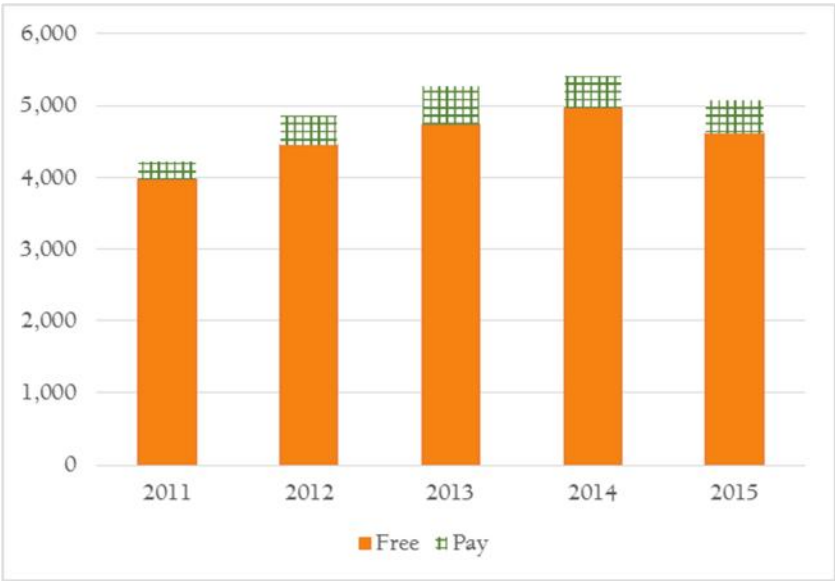


Figure 18.1. Free and pay articles by year, arts & architecture

Article Volume

	Journals	%Free	Articles	%Free
Med.: 60-149	17	82%	1,337	80%
Small: 20-59	66	95%	2,208	94%
Smallest: 0-19	163	96%	1,530	95%

Table 18.3. Article volume, arts & architecture

The two largest journals in this area each published 106 articles in 2015: there just aren't any large journals, and most articles are in small journals—while most journals are *very* small.

APC Levels and Revenues

	Jour.	%APC	%All	Art.	%APC	%All
\$1,400+	1	8%	0%	14	3%	0%
\$600-\$1.399	1	8%	0%	35	7%	1%
\$200-\$599	5	42%	2%	235	50%	5%
\$2-\$199	5	42%	2%	183	39%	4%
Free	234		95%	4,608		91%

Table 18.4. APC levels, arts & architecture

	Articles	Revenue	\$/article
\$1,400+	14	\$30,604	\$2,186
\$600-\$1.399	35	\$43,750	\$1,250
\$200-\$599	235	\$78,260	\$333
\$2-\$199	183	\$7,656	\$42
Free	4,608		
Total	5,075	\$160,270	\$32

Table 18.5. Potential revenues, arts & architecture

There are so few articles in the expensive journal (singular) and the medium-priced journal that the largest revenue slice is in inexpensive journals. Average cost per fee-based article: \$343. Overall average: \$32.

Starting Date

While more erratic than some starting-date curves, Figure 18.2 is still fairly typical—growth starting just before the turn of the century and peaking in 2010-2011, although in this case there's a temporary drop in 2004-2005.



Figure 18.2. Starting dates, arts & architecture

Regions and “Worlds”

Region	Journals	%Free	Articles	%Free
Western Europe	110	95%	1,915	94%
Eastern Europe	31	97%	981	90%
Latin America	42	100%	824	100%
Pacific/English	34	94%	630	77%
Middle East	13	92%	405	100%
Asia	12	83%	181	82%
APCLand	4	75%	139	47%

Table 18.6. Journals by region, arts & architecture

Europe and the Americas dominate this field, with Western Europe the biggest contributor (and Latin America entirely free).

Publisher Category

Category	Journals	%Free	Articles	%Free
Univ/college	162	97%	3,166	94%
Miscellaneous	56	96%	1,293	89%
Society/govt	15	87%	294	97%
Traditional	7	86%	180	81%
Open Access	6	67%	142	36%

Table 18.7. Publisher categories, arts & architecture

As usual for HSS, universities and colleges publish most of the journals; unusually, OA publishers are barely evident.

Growth and Shrinkage

Change 2014-15	Count	Percent	Cum%
Grew 50%+	32	13.0%	
Grew 25-49.9%	32	13.0%	26.0%
Grew 10-24.99%	24	9.8%	35.8%
Even, $\pm 9.99\%$	49	19.9%	55.7%
Shrank 10-24.99%	27	11.0%	66.7%
Shrank 25-49.99%	30	12.2%	78.9%
Shrank 50%+	43	17.5%	96.3%
No 2014 count	9	3.7%	

Table 18.8. Growth and shrinkage, arts & architecture

Slightly higher than usual fast shrinkage and moderate growth, slightly lower fast growth.

Gray OA and DOAJ16

	GrayOA	%Gray	DOAJ16
Journals/Free	60	26%	174
Journals/Pay	2	17%	10
Free%	97%		95%
Articles/Free	951	21%	3,657
Articles/Pay	107	23%	360
Free%	90%		91%
Articles/Journal	17		22

Table 18.9. Gray OA and DOAJ16, arts & architecture

Slightly lower than usual pay journal and article delisting—but with only 12 pay journals to begin with, that just means two instead of three.

Countries in OAWorld

Table 18.10 includes all countries with 30 or more 2015 articles in non-APCLand OA arts & architecture journals. The US being first isn't that odd; Italy is much stronger than usual (Brazil's usually strong). Note that five of the first six countries don't have fees for any of the journals.

Country	Journals	%Free	Articles	%Free
United States	29	93%	599	76%
Italy	26	100%	512	100%
Brazil	19	100%	505	100%
Spain	32	100%	488	100%
Turkey	11	100%	376	100%
Russian Federation	4	100%	355	100%
Romania	9	89%	274	64%
Germany	8	100%	232	100%
Portugal	10	90%	199	78%
United Kingdom	12	83%	185	72%
Chile	7	100%	118	100%
Poland	5	100%	112	100%
Indonesia	8	75%	81	59%
Mexico	4	100%	71	100%
Norway	3	100%	71	100%
India	2	100%	65	100%
Croatia	3	100%	63	100%
Moldova, Republic of	1	100%	60	100%
Colombia	5	100%	55	100%
France	4	100%	52	100%
Serbia	4	100%	47	100%
Slovenia	4	100%	44	100%
Netherlands	4	75%	43	67%
Sweden	1	100%	39	100%
Cuba	2	100%	35	100%
Argentina	4	100%	33	100%

Table 18.10. Countries in OAWorld (partial), arts & architecture

19. Economics

Economics includes most business and management topics.

Journals and Articles

	Journals	Active 2015	Articles	Art/Jrnl
Free	451	425	10,749	25
Pay	119	113	5,110	45
Total	570	538	15,859	29
Free%	79%	79%	68%	

Table 19.1. Journals and articles, economics

While most journals and articles are free, the percentages are much lower than is typical of HSS, perhaps not surprisingly.

	2015	2014	2013	2012	2011
Journals	538	552	545	500	443
%Free	79%	79%	79%	80%	81%
Articles	15,859	16,829	16,870	18,639	16,593
%Free	68%	66%	66%	61%	61%

Table 19.2. Journals and articles by year, economics

Table 19.2 is quite unusual: both pay and free articles peaked in 2012 and are declining again.

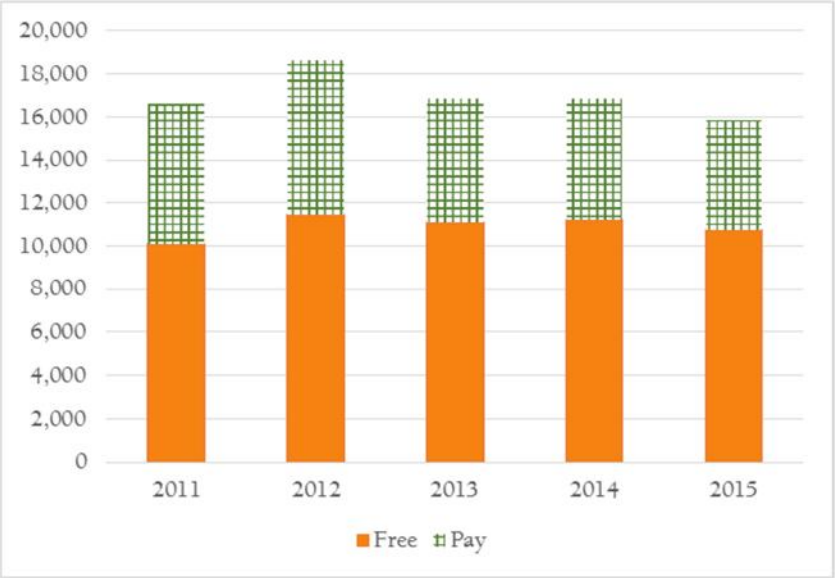


Figure 19.1. Free and pay articles by year, economics

Article Volume

	Journals	%Free	Articles	%Free
Largest: 600+	1	0%	618	0%
Large: 150-599	7	43%	1,622	48%
Med.: 60-149	42	52%	3,398	50%
Small: 20-59	237	80%	7,399	79%
Smallest: 0-19	283	83%	2,822	86%

Table 19.3. Article volume, economics

Most articles are in small journals.

APC Levels and Revenues

	Jour.	%APC	%All	Art.	%APC	%All
\$600-\$1.399	6	5%	1%	170	3%	1%
\$200-\$599	46	39%	8%	1,630	32%	10%
\$2-\$199	67	56%	12%	3,310	65%	21%
Free	451		79%	10,749		68%

Table 19.4. APC levels, economics

	Articles	Revenue	\$/article
\$600-\$1.399	170	\$176,410	\$1,038
\$200-\$599	1,630	\$507,662	\$311
\$2-\$199	3,310	\$265,595	\$80
Free	10,749		
Total	15,859	\$949,667	\$60

Table 19.5. Potential revenues, economics

No expensive journals, mostly nominal fees. A very low \$86 average for fee-based articles; \$60 overall.

Starting Date

Figure 19.2 shows free journal activity picking up fairly early and growing irregularly until the usual 2010-2011 peak. Meanwhile APC-based journals started emerging in 2006-2007 and grew faster than in most of HSS—but also peaked in 2010-2011, which is somewhat unusual.



Figure 19.2. Starting dates, economics

Regions and “Worlds”

Region	Journals	%Free	Articles	%Free
Eastern Europe	163	80%	6,128	65%
Latin America	153	98%	3,231	97%
Western Europe	84	76%	1,720	65%
Asia	53	51%	1,663	39%
Pacific/English	63	70%	1,324	77%
Middle East	30	67%	1,259	44%
APCLand	17	76%	323	79%
Africa	7	29%	211	20%

Table 19.6. Journals by region, economics

Eastern Europe strongest by far, Latin America trailing—and four other regions clustered together, with Asia and the Middle East standing out for being mostly fee publishing.

Publisher Category

Category	Journals	%Free	Articles	%Free
Univ/college	314	91%	8,506	76%
Miscellaneous	126	70%	3,418	73%
Open Access	56	30%	1,906	19%
Society/govt	44	82%	1,320	69%
Traditional	30	83%	709	66%

Table 19.7. Publisher categories, economics

Typical patterns for HSS.

Growth and Shrinkage

Change 2014-15	Count	Percent	Cum%
Grew 50%+	66	11.6%	
Grew 25-49.9%	46	8.1%	19.6%
Grew 10-24.99%	57	10.0%	29.6%
Even, $\pm 9.99\%$	153	26.8%	56.5%
Shrank 10-24.99%	80	14.0%	70.5%
Shrank 25-49.99%	76	13.3%	83.9%
Shrank 50%+	74	13.0%	96.8%
No 2014 count	18	3.2%	

Table 19.8. Growth and shrinkage, economics

An unusually stable group.

Gray OA and DOAJ16

	GrayOA	%Gray	DOAJ16
Journals/Free	119	26%	332
Journals/Pay	43	36%	76
Free%	73%		81%
Articles/Free	2,647	25%	8,102
Articles/Pay	1,527	30%	3,583
Free%	63%		69%
Articles/Journal	26		29

Table 19.9. Gray OA and DOAJ, economics

More pay-journal delisting than usual, and a case where the free percentages are actually higher in DOAJ16.

Countries in OAWorld

Table 19.10 shows countries with at least 100 articles in non-APCLand OA economics journals in 2015. With Romania on top and the mostly-free Ukraine following second-place Brazil, it's another interesting list.

Country	Journals	%Free	Articles	%Free
Romania	61	72%	2,582	64%
Brazil	86	99%	2,109	98%
Ukraine	10	60%	1,022	21%
Turkey	22	64%	958	39%
United States	42	62%	945	73%
Poland	23	91%	585	88%
Russian Federation	8	100%	523	100%
India	14	29%	484	30%
Singapore	6	17%	466	2%
Spain	28	100%	432	100%
United Kingdom	17	18%	431	15%
Indonesia	16	81%	396	83%
Colombia	23	100%	385	100%
Mexico	15	93%	371	93%
Serbia	11	91%	293	78%
Germany	10	100%	280	100%
Canada	11	82%	246	87%
Croatia	10	90%	225	70%
Czech Republic	14	79%	212	82%
Pakistan	9	44%	209	49%
Iran, Islamic Republic of	6	100%	183	100%
Switzerland	1	0%	154	0%
Lithuania	4	75%	139	63%
Slovenia	7	100%	139	100%
Australia	9	89%	131	81%
United Arab Emirates	2	0%	118	0%
Albania	1	0%	110	0%
France	6	83%	102	89%

Table 19.10. Countries in OAWorld (partial), economics

20. Education

Journals and Articles

	Journals	Active 2015	Articles	Art/Jrnl
Free	564	523	13,880	27
Pay	56	54	1,818	34
Total	620	577	15,698	27
Free%	91%	91%	88%	

Table 20.1. Journals and articles, education

	2015	2014	2013	2012	2011
Journals	577	597	579	538	463
%Free	91%	91%	92%	92%	93%
Articles	15,698	15,475	15,234	14,217	11,424
%Free	88%	87%	88%	89%	91%

Table 20.2. Journals and articles by year, education

More journals than any other HSS subject (although economics has more articles), and predominantly free. APC-charging journals average only slightly more articles than free ones: most journals are small (see Table 20.3). Growth has continued each year, although—oddly—articles in APC-based journals actually declined slightly in 2015.

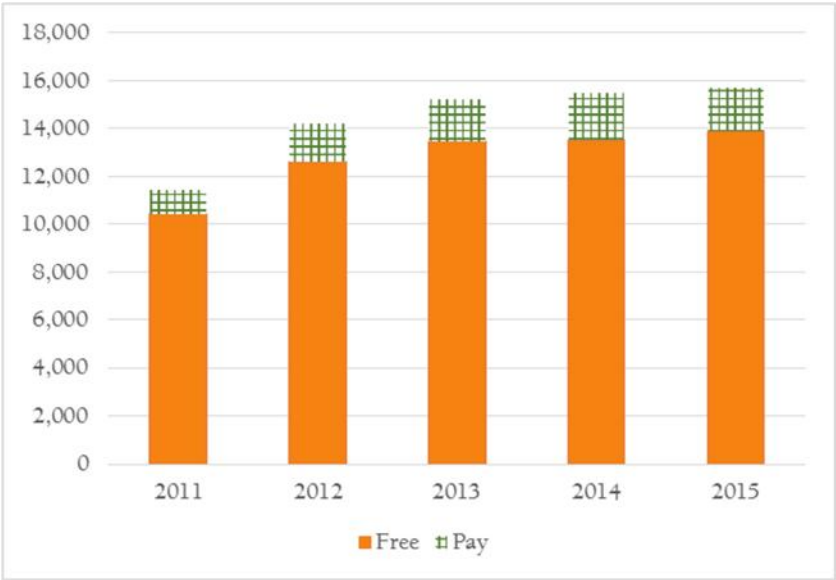


Figure 20.1. Free and pay articles by year, education

Article Volume

	Journals	%Free	Articles	%Free
Large: 150-599	2	50%	735	80%
Med.: 60-149	39	85%	3,292	84%
Small: 20-59	278	89%	8,688	89%
Smallest: 0-19	301	94%	2,983	94%

Table 20.3. Article volume, education

One free journal published 585 articles in 2015; another, with APCs, published 150. Most articles appeared in small journals

APC Levels and Revenues

	Jour.	%APC	%All	Art.	%APC	%All
\$1,400+	5	9%	1%	180	10%	1%
\$600-\$1.399	4	7%	1%	108	6%	1%
\$200-\$599	22	39%	4%	812	45%	5%
\$2-\$199	25	45%	4%	718	39%	5%
Free	564		91%	13,880		88%

Table 20.4. APC levels, education

	Articles	Revenue	\$/article
\$1,400+	180	\$393,630	\$2,187
\$600-\$1.399	108	\$129,680	\$1,201
\$200-\$599	812	\$262,924	\$324
\$2-\$199	718	\$54,684	\$76
Free	13,880		
Total	15,698	\$840,918	\$54

Table 20.5. Potential revenues, education

Most potential revenue is in the handful of expensive journals, but so few articles are involved that, while the average fee per APC-based article was \$463, the overall average was \$54.

Starting Date

The free-journal line in Figure 20.2 is a little lumpy but fundamentally typical of HSS. The pay line shows a little life from 2008 to 2013.



Figure 20.2. Starting dates, education

Regions and “Worlds”

Region	Journals	%Free	Articles	%Free
Latin America	140	99%	4,067	99%
Western Europe	152	95%	3,305	93%
Pacific/English	138	90%	2,533	86%
Eastern Europe	52	92%	2,221	96%
Middle East	65	91%	1,839	83%
Asia	62	69%	1,528	57%
APCLand	6	33%	107	17%
Africa	5	80%	98	80%

Table 20.6. Journals by region, education

Mildly unusual in that Eastern Europe drops to fourth and APCLand is barely there at all.

Publisher Category

Category	Journals	%Free	Articles	%Free
Univ/college	382	95%	9,616	94%
Miscellaneous	148	92%	4,003	87%
Society/govt	52	90%	1,238	83%
Open Access	27	41%	606	35%
Traditional	11	73%	235	59%

Table 20.7. Publisher categories, education

Typical HSS except that OA publishers lag behind societies.

Growth and Shrinkage

Change 2014-15	Count	Percent	Cum%
Grew 50%+	99	16.0%	
Grew 25-49.9%	65	10.5%	26.5%
Grew 10-24.99%	63	10.2%	36.6%
Even, $\pm 9.99\%$	142	22.9%	59.5%
Shrank 10-24.99%	79	12.7%	72.3%
Shrank 25-49.99%	83	13.4%	85.6%
Shrank 50%+	66	10.6%	96.3%
No 2014 count	23	3.7%	

Table 20.8. Growth and shrinkage, education

Relatively low fast shrinkage, otherwise typical HSS.

Gray OA and DOAJ16

	GrayOA	%Gray	DOAJ16
Journals/Free	151	27%	413
Journals/Pay	15	27%	41
Free%	91%		91%
Articles/Free	3,278	24%	10,602
Articles/Pay	504	28%	1,314
Free%	87%		89%
Articles/Journal	23		26

Table 20.9. Gray OA and DOAJ16, education

Utterly typical delisting pattern for HSS.

Countries in OAWorld

Table 20.10 shows countries with at least 100 articles in non-APCLand OA education journals in 2015. Not unusual: Brazil, United States and Spain publish the most articles. India and Jordan stand out for having little or no free OA.

Country	Journals	%Free	Articles	%Free
Brazil	81	100%	2,758	100%
United States	89	87%	1,637	81%
Spain	61	100%	1,439	100%
Turkey	51	92%	1,272	90%
Indonesia	39	72%	903	69%
Russian Federation	5	80%	874	97%
United Kingdom	23	91%	489	76%
Canada	28	100%	440	100%
Mexico	15	100%	429	100%
Australia	18	89%	420	92%
Germany	14	86%	381	76%
Iran, Islamic Republic of	10	100%	290	100%
Romania	12	92%	290	91%
Italy	12	100%	258	100%
India	4	25%	255	2%
Colombia	18	100%	242	100%
Poland	8	88%	238	98%
Ukraine	2	100%	220	100%
Norway	10	90%	209	97%
Costa Rica	4	100%	188	100%
Jordan	1	0%	150	0%
Chile	4	75%	145	61%
Serbia	5	80%	121	78%

Table 20.10. Countries in OAWorld (partial), education

21. History

History includes most aspects of cultural research focused on the past and a number of local and regional journals.

There are so few APC-charging journals in history (four out of 292), with so few articles (78 out of 7,544) that one figure and part or all of some tables have been omitted to save space: just assume 99% or 100% free when it's not stated.

Journals and Articles

	Journals	Active 2015	Articles	Art/Jrnl
Free	292	256	7,466	29
Pay	4	4	78	20
Total	296	260	7,544	29

Table 21.1. Journals and articles, history

	2015	2014	2013	2012	2011
Journals	260	283	271	266	242
Articles	7,544	8,070	7,726	7,624	7,664

Table 21.2. Journals and articles by year, history

Few articles per journal, fewer for pay journals, and a drop in 2015.

Article Volume

	Journals	%Free	Articles	%Free
Large: 150-599	4	100%	1,255	100%
Med.: 60-149	10	100%	869	100%
Small: 20-59	125	98%	3,974	99%
Smallest: 0-19	157	99%	1,446	98%

Table 21.3. Article volume, history

The largest journal had 509 articles; most articles are in small journals.

APC Levels and Revenues

	Jour.	Articles	Revenue	\$/article
\$600-\$1,399	1	14	\$16,800	\$1,200
\$200-\$599	1	36	\$10,800	\$300
\$2-\$199	2	28	\$2,680	\$96
Free	292	7,466		
Total	296	7,544	\$30,280	\$4

Table 21.4. APC levels and potential revenue, history

Table 21.4 combines two tables—and, odd as it is that even 14 articles could demand \$1,200 per article in a field where most OA is free, the real story here is average fee per article: a very low \$388 for articles in APC-charging journals...and \$4, or 1% of that, overall.

Starting Date

An irregular version of the typical HSS free journal line, albeit with a dip in 2008-2009. No real pay-journal line.

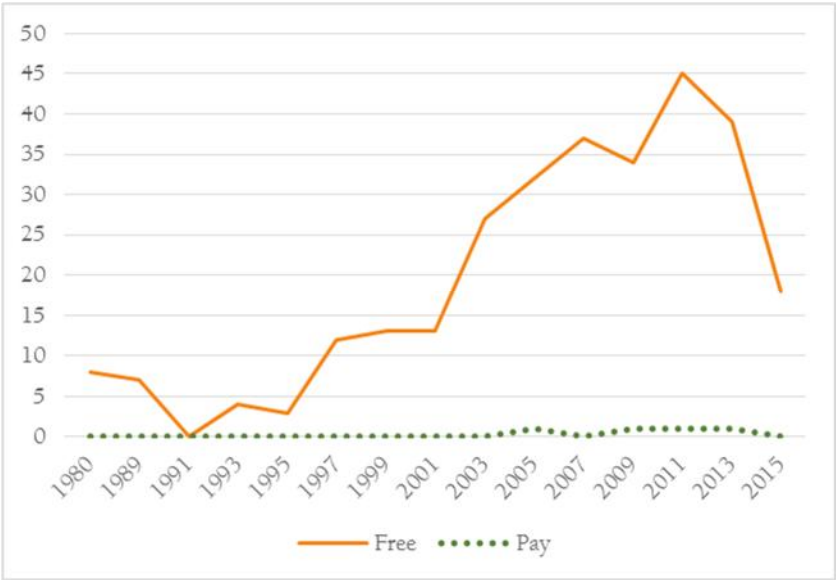


Figure 21.1. Starting dates, history

Regions

Region	Journals	%Free	Articles	%Free
Western Europe	116	100%	2,531	100%
Pacific/English	48	98%	1,805	100%
Latin America	76	100%	1,753	100%
Eastern Europe	31	100%	897	100%
Middle East	10	100%	276	100%
Asia	8	75%	171	67%
Africa	7	86%	111	87%

Table 21.5. Journals by region, history

This time, Africa *does* have journals—but APCLand doesn't. Western Europe, Pacific/English and Latin America dominate, and articles in five of seven regions round out to being entirely free. (The one U.S. pay journal had eight articles in 2015, less than 0.5% of 1,805.)

Publisher Category

Category	Journals	%Free	Articles	%Free
Univ/college	200	100%	4,990	100%
Miscellaneous	61	98%	1,883	100%
Society/govt	28	100%	557	100%
Open Access	3	67%	90	60%
Traditional	4	75%	24	42%

Table 21.6. Publisher categories, history

No real surprise in Table 21.6: universities and colleges absolutely pre-dominate, with independents accounting for most of the rest.

Growth and Shrinkage

Change 2014-15	Count	Percent	Cum%
Grew 50%+	56	18.9%	
Grew 25-49.9%	33	11.1%	30.1%
Grew 10-24.99%	31	10.5%	40.5%
Even, $\pm 9.99\%$	55	18.6%	59.1%
Shrank 10-24.99%	33	11.1%	70.3%
Shrank 25-49.99%	28	9.5%	79.7%
Shrank 50%+	47	15.9%	95.6%
No 2014 count	13	4.4%	

Table 21.7. Growth and shrinkage, history

More growth than usual at all levels, and a little more rapid shrinkage than usual.

Gray OA and DOAJ16

	GrayOA	%Gray	DOAJ16
Journals/Free	65	22%	227
Journals/Pay	2	50%	2
Free%	97%		99%
Articles/Free	1,319	18%	6,147
Articles/Pay	44	56%	34
Free%	97%		99%
Articles/Journal	20		27

Table 21.8. Gray OA and DOAJ, history

Less delisting than usual for free journals (and significantly less for articles)—but half of the APC-charging journals, including more than half of the articles, didn’t make it.

Countries in OAWorld

Table 21.9 shows countries with at least 50 articles in OA history journals in 2015. Since there are no APCLand history journals, the subheading and table name are for consistency.

The United States publishes substantially more OA history than any other country, with the usual candidates Brazil and Spain following.

Country	Journals	%Free	Articles	%Free
United States	34	97%	1,642	100%
Brazil	39	100%	1,031	100%
Spain	39	100%	824	100%
Germany	16	100%	359	100%
Russian Federation	6	100%	351	100%
United Kingdom	10	100%	287	100%
Italy	17	100%	276	100%
Netherlands	5	100%	269	100%
Colombia	10	100%	260	100%
France	12	100%	211	100%
Turkey	7	100%	196	100%
Argentina	12	100%	172	100%
Romania	7	100%	135	100%
Mexico	6	100%	113	100%
South Africa	7	86%	111	87%
Portugal	5	100%	107	100%
Australia	8	100%	104	100%
Croatia	4	100%	96	100%
Chile	4	100%	92	100%
Serbia	4	100%	65	100%
Finland	3	100%	63	100%
Canada	6	100%	59	100%
Indonesia	3	67%	54	63%
Japan	2	100%	54	100%
Moldova, Republic of	1	100%	51	100%

Table 21.9. Countries in OAWorld (partial), history

22. Language & Literature

Language & literature includes linguistics and a number of other fields as well as author-specific journals.

Journals and Articles

	Journals	Active 2015	Articles	Art/Jrnl
Free	553	486	12,050	25
Pay	20	18	1,248	69
Total	573	504	13,298	26
Free%	97%	96%	91%	

Table 22.1. Journals and articles, language & literature

Even higher free percentages than usual for HSS, but the average articles per journal figures are typical.

	2015	2014	2013	2012	2011
Journals	504	526	517	507	456
%Free	96%	96%	96%	97%	97%
Articles	13,298	12,364	11,983	11,836	10,567
%Free	91%	90%	91%	92%	93%

Table 22.2. Journals and articles by year, language & literature

Growth every year, with 2015 growing significantly—although pay journals actually published slightly fewer articles in 2015.

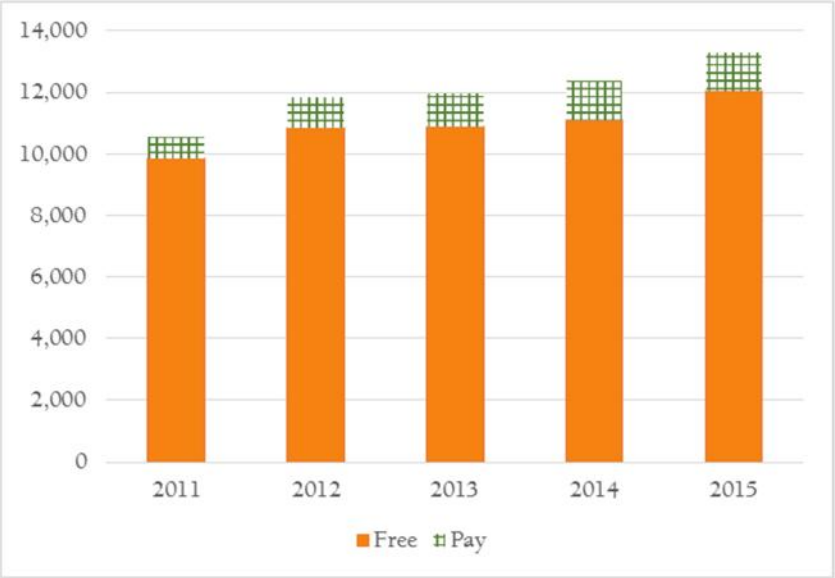


Figure 22.1. Free and pay articles by year, language & literature

Article Volume

	Journals	%Free	Articles	%Free
Largest: 600+	1	100%	830	100%
Large: 150-599	6	50%	1,182	42%
Med.: 60-149	26	88%	2,202	88%
Small: 20-59	198	96%	6,159	96%
Smallest: 0-19	342	98%	2,925	98%

Table 22.3. Article volume, language & literature

Most articles appear in small journals, and the only stronghold for fee-based articles is in large journals.

APC Levels and Revenues

	Jour.	%APC	%All	Art.	%APC	%All
\$600-\$1.399	3	15%	1%	33	3%	0%
\$200-\$599	5	25%	1%	430	34%	3%
\$2-\$199	12	60%	2%	785	63%	6%
Free	553		97%	12,050		91%

Table 22.4. APC levels, language & literature

	Articles	Revenue	\$/article
\$600-\$1.399	33	\$23,460	\$711
\$200-\$599	430	\$142,163	\$331
\$2-\$199	785	\$75,713	\$96
Free	12,050		
Total	13,298	\$241,336	\$18

Table 22.5. Potential revenues, language & literature

There are no very expensive language & literature journals, and most APC-based articles are in low-cost journals. Average cost per article for APC-based articles is \$193, dropping to \$18 overall.

Starting Date

Figure 22.3 shows a fairly typical free-journal picture, but with small dip in 2008-2009.

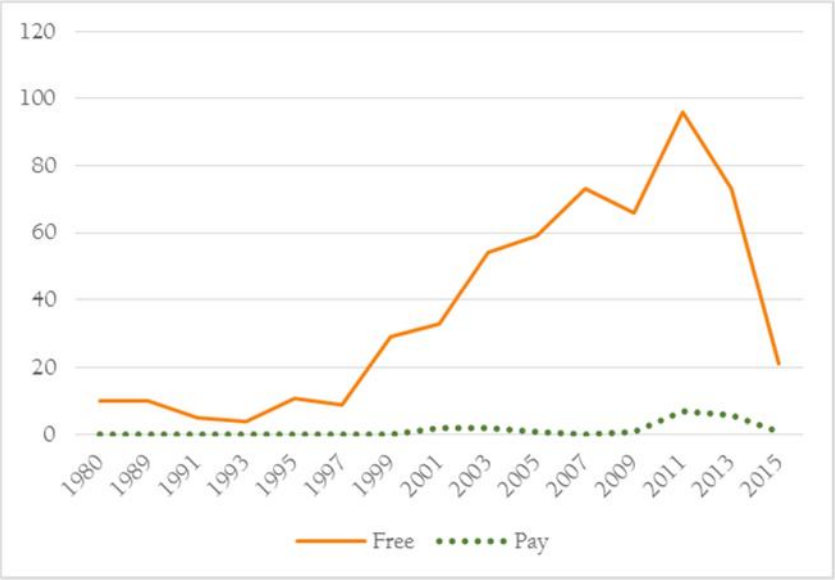


Figure 22.2. Starting dates, language & literature

Regions and “Worlds”

Region	Journals	%Free	Articles	%Free
Western Europe	234	100%	4,081	100%
Latin America	106	100%	2,588	100%
Eastern Europe	96	99%	2,445	98%
Pacific/English	82	94%	2,288	64%
Middle East	17	88%	1,050	99%
Asia	28	82%	669	65%
Africa	8	38%	157	28%
APCLand	2	0%	20	0%

Table 22.6. Journals by region, language & literature

Western Europe publishes the most, with Latin America, Eastern Europe and Pacific/English trailing—and Western Europe and Latin America have no APC-based journals.

Publisher Category

Category	Journals	%Free	Articles	%Free
Univ/college	379	98%	8,512	94%
Miscellaneous	110	95%	3,205	85%
Society/govt	35	100%	703	100%
Open Access	34	88%	644	57%
Traditional	15	87%	234	91%

Table 22.7. Publisher categories, language & literature

Typical pattern for HSS, except that societies outpublish multijournal OA publishers.

Growth and Shrinkage

Change 2014-15	Count	Percent	Cum%
Grew 50%+	113	19.7%	
Grew 25-49.9%	44	7.7%	27.4%
Grew 10-24.99%	60	10.5%	37.9%
Even, $\pm 9.99\%$	104	18.2%	56.0%
Shrank 10-24.99%	59	10.3%	66.3%
Shrank 25-49.99%	65	11.3%	77.7%
Shrank 50%+	81	14.1%	91.8%
No 2014 count	47	8.2%	

Table 22.8. Growth & shrinkage, language & literature

More fast growth than usual.

Gray OA and DOAJ16

	GrayOA	%Gray	DOAJ16
Journals/Free	145	26%	408
Journals/Pay	4	20%	16
Free%	97%		96%
Articles/Free	2,497	21%	9,553
Articles/Pay	597	48%	651
Free%	81%		94%
Articles/Journal	21		24

Table 22.9. Gray OA and DOAJ16, language & literature

The oddity in Table 22.9 isn't the somewhat low percentage of delisted pay journals (since it's only one journal below average)—but that the delisted journals included almost half of all fee-based articles for 2015.

Countries in OAWorld

Table 22.10 shows countries with at least 120 language & literature articles in 2015. Brazil tops the list, entirely free as usual, with also-free Spain and the not-so-free United States trailing.

Country	Journals	%Free	Articles	%Free
Brazil	66	100%	1,770	100%
Spain	73	100%	1,364	100%
United States	55	98%	1,140	76%
Turkey	7	100%	926	100%
Italy	33	100%	791	100%
Canada	18	89%	664	50%
Russian Federation	9	100%	610	100%
France	38	100%	554	100%
Australia	8	75%	484	55%
Romania	11	100%	473	100%
Chile	13	100%	324	100%
Poland	20	100%	279	100%
Germany	17	100%	268	100%
Malaysia	6	83%	261	52%
United Kingdom	15	100%	233	100%
Colombia	8	100%	203	100%
Slovenia	9	100%	191	100%
Argentina	11	100%	185	100%
Belgium	8	100%	175	100%
Indonesia	9	78%	173	51%
Portugal	10	100%	158	100%
Croatia	5	100%	154	100%
Norway	9	100%	154	100%
Estonia	7	100%	137	100%
Sweden	7	100%	129	100%
India	7	71%	128	83%
Lithuania	6	100%	123	100%
Slovakia	4	75%	121	55%

Table 22.10. Countries in OAWorld (partial), language & literature

23. Law

Law includes forensics and criminology.

Journals and Articles

	Journals	Active 2015	Articles	Art/Jrnl
Free	228	207	4,793	23
Pay	9	8	446	56
Total	237	215	5,239	24
Free%	96%	96%	91%	

Table 23.1. Journals and articles, law

	2015	2014	2013	2012	2011
Journals	215	225	222	208	191
%Free	96%	96%	96%	96%	96%
Articles	5,239	5,600	5,162	4,402	4,318
%Free	91%	92%	95%	95%	96%

Table 23.2. Journals and articles by year, law

Although free journals and articles still dominate law OA, there's a noticeable trend toward APCs—and article volume is dropping.

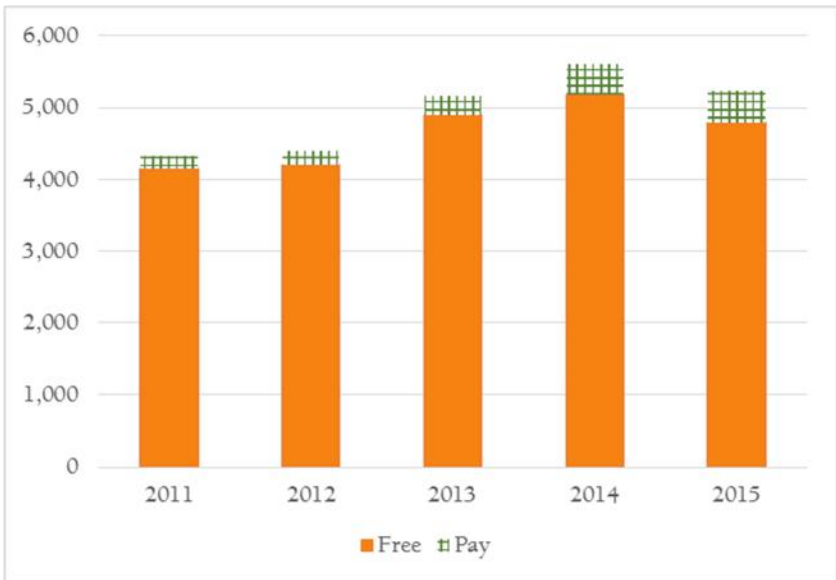


Figure 23.1. Free and pay articles by year, law

Article Volume

	Journals	%Free	Articles	%Free
Large: 150-599	1	0%	242	0%
Med.: 60-149	11	91%	945	93%
Small: 20-59	90	97%	2,821	96%
Smallest: 0-19	135	97%	1,231	98%

Table 22.3. Article volume, law

As is typical for HSS, most articles are in small journals.

APC Levels and Revenues

	Jour.	%APC	%All	Art.	%APC	%All
\$1,400+	1	11%	0%	8	2%	0%
\$600-\$1.399	1	11%	0%	0	0%	0%
\$200-\$599	2	22%	1%	43	10%	1%
\$2-\$199	5	56%	2%	395	89%	8%
Free	228		96%	4,793		91%

Table 23.4. APC levels, law

	Articles	Revenue	\$/article
\$1,400+	8	\$12,536	\$1,567
\$200-\$599	43	\$13,860	\$322
\$2-\$199	395	\$50,590	\$128
Total	5,239	\$76,986	\$15

Table 23.5. Potential revenues, law

No medium-priced articles; \$179 and \$15 average costs.

Starting Date

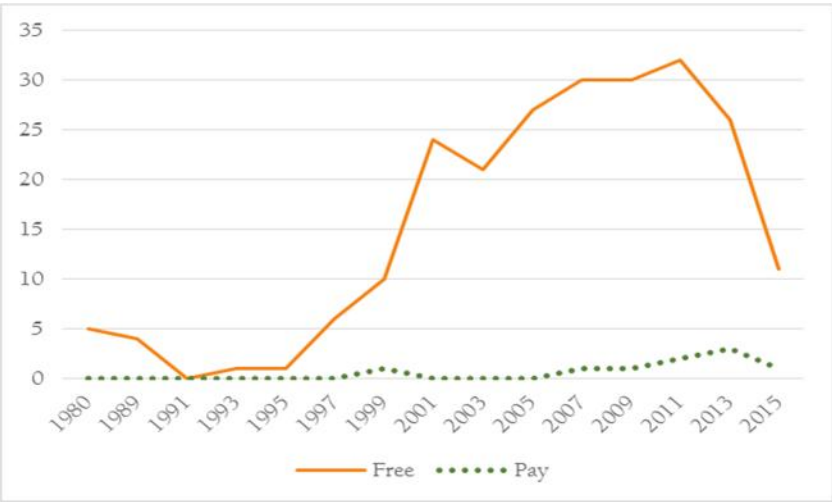


Figure 23.2. Starting dates, law

Regions and “Worlds”

Region	Journals	%Free	Articles	%Free
Latin America	91	100%	2,075	100%
Western Europe	57	98%	1,063	99%
Eastern Europe	29	100%	957	100%
Asia	14	79%	570	41%
Pacific/English	37	97%	378	100%
APCLand	4	50%	100	57%
Africa	4	50%	80	24%
Middle East	1	100%	16	100%

Table 23.6. Journals by region, law

Latin America way out in front and entirely free.

Publisher Category

Category	Journals	%Free	Articles	%Free
Univ/college	166	98%	3,537	96%
Miscellaneous	54	94%	1,447	82%
Open Access	6	67%	135	68%
Society/govt	7	100%	99	100%
Traditional	4	75%	21	100%

Table 23.7. Publisher categories, law

Law reviews and other university and college publications dominate.

Growth and Shrinkage

Change 2014-15	Count	Percent	Cum%
Grew 50%+	40	16.9%	
Grew 25-49.9%	17	7.2%	24.1%
Grew 10-24.99%	25	10.5%	34.6%
Even, $\pm 9.99\%$	39	16.5%	51.1%
Shrank 10-24.99%	30	12.7%	63.7%
Shrank 25-49.99%	34	14.3%	78.1%
Shrank 50%+	40	16.9%	94.9%
No 2014 count	12	5.1%	

Table 23.8. Growth and shrinkage, law

More at both extremes, fewer stable journals than typical for HSS.

Gray OA and DOAJ16

	GrayOA	%Gray	DOAJ16
Journals/Free	81	36%	147
Articles/Free	1,413	29%	3,380
Articles/Journal	17		25

Table 23.9. Gray OA and DOAJ16, law

No pay journals were delisted, so some lines have been omitted,

Countries in OAWorld

Brazil publishes more OA law articles than the next two—Spain and the Russian Federation—combined. Note that the first seven countries are all entirely free.

Country	Journals	%Free	Articles	%Free
Brazil	43	100%	1,047	100%
Spain	19	100%	428	100%
Russian Federation	7	100%	388	100%
Romania	11	100%	385	100%
Colombia	22	100%	370	100%
United States	32	97%	335	100%
Chile	9	100%	285	100%
Indonesia	7	71%	243	62%
Hong Kong	1	0%	242	0%
Italy	6	100%	238	100%
Mexico	6	100%	161	100%
Croatia	3	100%	100	100%
Argentina	4	100%	84	100%
United Kingdom	8	100%	83	100%
India	5	100%	81	100%
Germany	5	100%	77	100%
France	4	100%	69	100%
Norway	5	80%	59	86%
South Africa	2	50%	58	21%
Austria	2	100%	41	100%
Paraguay	1	100%	41	100%
Peru	2	100%	38	100%
Canada	2	100%	36	100%
Lithuania	2	100%	35	100%
Netherlands	3	100%	35	100%
Uruguay	1	100%	25	100%

Table 23.10. Countries in OAWorld (partial), law

24. Library Science

Library science includes bibliography, archives, museums and some aspects of information science. This is another subject with so few fee-based articles (49 in 2015, less than 2%) that some graphs and tables are omitted or modified.

Journals and Articles

	Journals	Active 2015	Articles	Art/Jrnl
Free	137	127	2,825	22
Pay	4	4	49	12
Total	141	131	2,874	22

Table 24.1. Journals and articles, library science

	2015	2014	2013	2012	2011
Journals	131	137	134	131	120
Articles	2,874	2,797	2,708	2,710	2,438

Table 24.2. Journals and articles by year, library science

Even in a field of small journals, the APC-charging ones are unusually small (and shrinking, unlike the slowly-growing free journals).

Article Volume

	Journals	%Free	Articles	%Free
Large: 150-599	1	100%	189	100%
Med.: 60-149	4	100%	333	100%
Small: 20-59	51	98%	1,587	99%
Smallest: 0-19	85	96%	765	97%

Table 24.3. Article volume, library science

One not-very-large journal, and most articles in small journals.

APC Levels and Revenues

	Journals	Articles	Revenue	\$/article
\$200-\$599	3	37	\$14,183	\$383
\$2-\$199	1	12	\$1,476	\$123
Free	137	2,825		
Total	141	2,874	\$15,659	\$5

Table 24.4. APC levels and potential revenues, library science

There are so few pay articles that the average cost is \$320, coming down to \$5 as an overall average.

Starting Date

Figure 24.1 is a little unusual for HSS given the dip in 2002-2003 and the peak coming late, in 2012-2013.

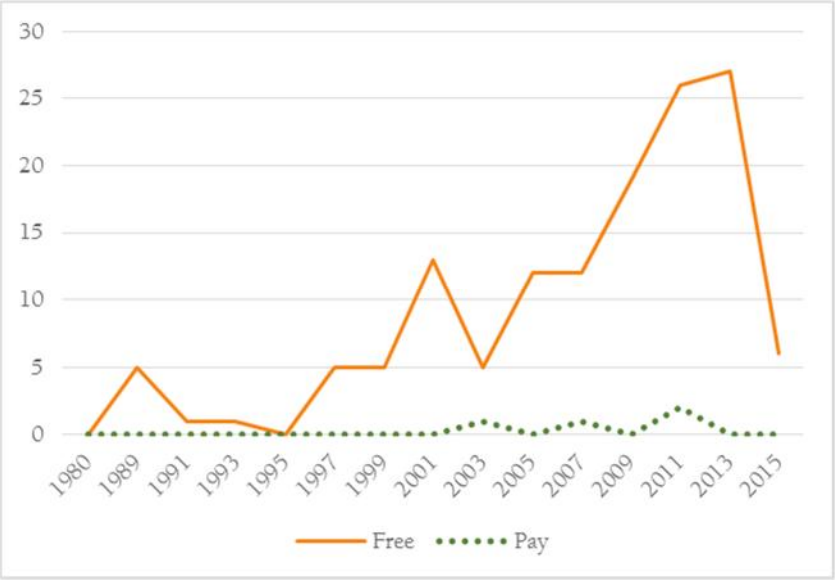


Figure 24.1. Starting dates, library science

Regions and “Worlds”

Region	Journals	%Free	Articles	%Free
Pacific/English	38	97%	927	99%
Western Europe	40	95%	824	96%
Latin America	27	100%	503	100%
Asia	13	100%	224	100%
Eastern Europe	14	100%	214	100%
Middle East	7	100%	150	100%
APCLand	1	100%	20	100%
Africa	1	0%	12	0%

Table 24.5. Journals by region, library science

Table 24.5 is unusual: Pacific/English does the most, with Western Europe following closely and Latin America third.

Publisher Category

Category	Journals	%Free	Articles	%Free
Univ/college	78	97%	1,546	99%
Miscellaneous	33	97%	788	97%
Society/govt	24	100%	406	100%
Open Access	5	80%	105	93%
Traditional	1	100%	29	100%

Table 24.6. Publisher categories, library science

While the patterns are fairly typical, society journals play a larger role than usual.

Growth and Shrinkage

Change 2014-15	Count	Percent	Cum%
Grew 50%+	27	19.1%	
Grew 25-49.9%	9	6.4%	25.5%
Grew 10-24.99%	15	10.6%	36.2%
Even, $\pm 9.99\%$	33	23.4%	59.6%
Shrank 10-24.99%	20	14.2%	73.8%
Shrank 25-49.99%	13	9.2%	83.0%
Shrank 50%+	20	14.2%	97.2%
No 2014 count	4	2.8%	

Table 24.7. Growth and shrinkage, library science

More rapidly-growing journals than usual, but otherwise fairly typical patterns.

Gray OA and DOAJ16

	GrayOA	%Gray	DOAJ16
Journals/Free	42	31%	95
Journals/Pay	1	25%	3
Articles/Free	956	34%	1,869
Articles/Pay	7	14%	42
Articles/Journal	22		20

Table 24.8. Gray OA and DOAJ, library science

Delisting is on the high side for free journals and, especially, articles; the single delisted pay journal had so few articles that the percentage is low.

Countries in OAWorld

Table 24.9 shows countries with at least 16 articles in non-APC Land open access library science journals in 2015. The list includes countries you don't often see on these single-page partial lists, and starts out with the United States, with all-free publishing equal to the next three countries combined. The United Kingdom may deserve special mention, as it's the *only* country with at least 16 articles that has any APC-charging journals in this subject. (You could make the case that neither of the journals is actually library science.)

Country	Journals	%Free	Articles	%Free
United States	33	100%	799	100%
Brazil	15	100%	363	100%
United Kingdom	8	75%	214	86%
Spain	12	100%	186	100%
India	4	100%	132	100%
Canada	3	100%	114	100%
Germany	6	100%	107	100%
Greece	1	100%	84	100%
Poland	4	100%	78	100%
France	3	100%	74	100%
Iran, Islamic Republic of	3	100%	65	100%
Turkey	3	100%	62	100%
Taiwan, Province of China	5	100%	56	100%
Italy	2	100%	55	100%
Croatia	3	100%	52	100%
Lithuania	2	100%	41	100%
Netherlands	2	100%	41	100%
Mexico	1	100%	33	100%
Cuba	2	100%	32	100%
Slovenia	2	100%	28	100%
Egypt	1	100%	23	100%
Denmark	1	100%	22	100%
South Korea	1	100%	20	100%
Venezuela, Bolivarian Re- public of	1	100%	18	100%
Costa Rica	1	100%	17	100%
Argentina	2	100%	16	100%
Colombia	1	100%	16	100%

Table 24.9. Countries in OAWorld (partial), library science

25. Media & Communications

Media & communications includes film, journalism, communication theory and some related fields.

Journals and Articles

	Journals	Active 2015	Articles	Art/Jrnl
Free	169	156	3,722	24
Pay	13	13	838	64
Total	182	169	4,560	27
Free%	93%	92%	82%	

Table 25.1. Journals and articles, media & communications

	2015	2014	2013	2012	2011
Journals	169	172	176	165	155
%Free	92%	92%	93%	94%	94%
Articles	4,560	4,615	4,207	3,537	3,248
%Free	82%	79%	87%	88%	90%

Table 25.2. Journals and articles by year, media & communications

Fairly typical HSS numbers; the small decline in 2015 is pay articles.



Figure 25.1. Free and pay articles by year, media & communications

Article Volume

	Journals	%Free	Articles	%Free
Large: 150-599	2	50%	640	23%
Med.: 60-149	7	86%	609	78%
Small: 20-59	76	93%	2,380	93%
Smallest: 0-19	97	94%	931	96%

Table 25.3. Article volume, media & communications

Most articles are in small journals; fee-based journals tend to be larger.

APC Levels and Revenues

	Jour.	%APC	%All	Art.	%APC	%All
\$1,400+	1	8%	1%	53	6%	1%
\$600-\$1.399	2	15%	1%	35	4%	1%
\$200-\$599	4	31%	2%	630	75%	14%
\$2-\$199	6	46%	3%	120	14%	3%
Free	169		93%	3,722		82%

Table 25.4. APC levels, media & communications

	Articles	Revenue	\$/article
\$1,400+	53	\$103,350	\$1,950
\$600-\$1.399	35	\$30,743	\$878
\$200-\$599	630	\$321,323	\$510
\$2-\$199	120	\$9,412	\$78
Free	3,722		
Total	4,560	\$464,828	\$102

Table 25.5. Potential revenues, media & communications

While most fee-based articles are in low-priced journals, there's a surprising number of high-priced articles. Average cost per article in APC-based journals in 2015 was \$555; overall average was \$102.

Starting Date

In addition to the drop in 2002-2003 and slight drop in 2006-2007, the free line here is unusual in having a smooth, steep drop after 2010-2011, rather than a slight decline for 2012-2013 followed by a steep drop. As usual for HSS, there are too few pay journals to mean much.



Figure 25.2. Starting dates, media & communications

Regions and “Worlds”

Region	Journals	%Free	Articles	%Free
Western Europe	75	95%	1,540	96%
Latin America	49	98%	1,267	99%
Pacific/English	29	93%	692	80%
Asia	6	50%	625	16%
Eastern Europe	16	100%	235	100%
Middle East	3	100%	89	100%
Africa	2	50%	57	25%
APCLand	2	0%	55	0%

Table 25.6. Journals by region, media & communications

Western Europe and Latin America neck-and-neck and almost all free; Pacific/English and Asia nearly tied—with Asia standing out for fees.

Publisher Category

Category	Journals	%Free	Articles	%Free
Univ/college	118	99%	2,612	100%
Miscellaneous	39	90%	943	78%
Open Access	8	25%	568	4%
Society/govt	13	92%	266	90%
Traditional	4	75%	171	69%

Table 25.7. Publisher categories, media & communications

Typical HSS pattern, with universities and colleges dominating.

Growth and Shrinkage

Change 2014-15	Count	Percent	Cum%
Grew 50%+	33	18.1%	
Grew 25-49.9%	18	9.9%	28.0%
Grew 10-24.99%	19	10.4%	38.5%
Even, $\pm 9.99\%$	37	20.3%	58.8%
Shrank 10-24.99%	17	9.3%	68.1%
Shrank 25-49.99%	22	12.1%	80.2%
Shrank 50%+	26	14.3%	94.5%
No 2014 count	10	5.5%	

Table 25.8. Growth and shrinkage, media & communications

Somewhat more fast growth and somewhat less moderate shrinkage than seems typical for HSS.

Gray OA and DOAJ16

	GrayOA	%Gray	DOAJ16
Journals/Free	48	28%	121
Journals/Pay	3	23%	10
Free%	94%		92%
Articles/Free	787	21%	2,935
Articles/Pay	142	17%	696
Free%	85%		81%
Articles/Journal	18		28

Table 25.9. Gray OA and DOAJ16, media & communications

Media & communications delisting is similar to HSS in general except that delisted pay journals had relatively few articles.

Countries in OAWorld

Table 25.10 shows countries with at least 30 articles in non-APC Land media & communications OA journals in 2015. Brazil leads, which is typical for HSS, and Spain comes in second instead of third—but then there's an oddity, South Korea with one large APC-based journal. Also unusual: 42% of U.S. articles are in APC-based journals and *none* of the UK's articles are.

Country	Journals	%Free	Articles	%Free
Brazil	28	100%	770	100%
Spain	26	96%	601	96%
South Korea	1	0%	490	0%
United States	13	85%	324	58%
United Kingdom	12	100%	267	100%
Argentina	5	100%	225	100%
Australia	12	100%	198	100%
Portugal	6	83%	182	82%
Canada	4	100%	170	100%
Italy	7	100%	141	100%
Chile	5	100%	101	100%
Denmark	4	100%	84	100%
Colombia	3	100%	81	100%
Turkey	2	100%	81	100%
Germany	5	100%	62	100%
Romania	5	100%	59	100%
Malaysia	1	100%	55	100%
Mexico	4	100%	50	100%
Netherlands	2	100%	45	100%
Libya	1	0%	43	0%
Austria	1	100%	40	100%
Croatia	2	100%	37	100%
Czech Republic	2	100%	35	100%
Russian Federation	2	100%	33	100%
Ireland	2	100%	32	100%
Sweden	2	100%	32	100%
Taiwan, Province of China	1	100%	31	100%
France	3	100%	30	100%

Table 25.10. Countries in OAWorld (partial), media & communications

26. Miscellany

This odd group of journals includes interdisciplinary and multidisciplinary journals that appear to have strong HSS components, and a few journals that didn't fit anywhere else. It's the only HSS "subject" in which a majority of articles in 2015 were in APC-based journals.

Since this really is a hodgepodge, I don't add many comments.

Journals and Articles

	Journals	Active 2015	Articles	Art/Jrnl
Free	113	102	4,811	47
Pay	22	22	6,640	302
Total	135	124	11,451	92
Free%	84%	82%	42%	

Table 26.1. Journals and articles, miscellany

	2015	2014	2013	2012	2011
Journals	124	130	126	115	98
%Free	82%	83%	84%	84%	86%
Articles	11,451	11,571	10,030	7,406	4,281
%Free	42%	38%	41%	48%	73%

Table 26.2. Journals and articles by year, miscellany

The decline in 2015 is pay articles; free ones have risen each year.

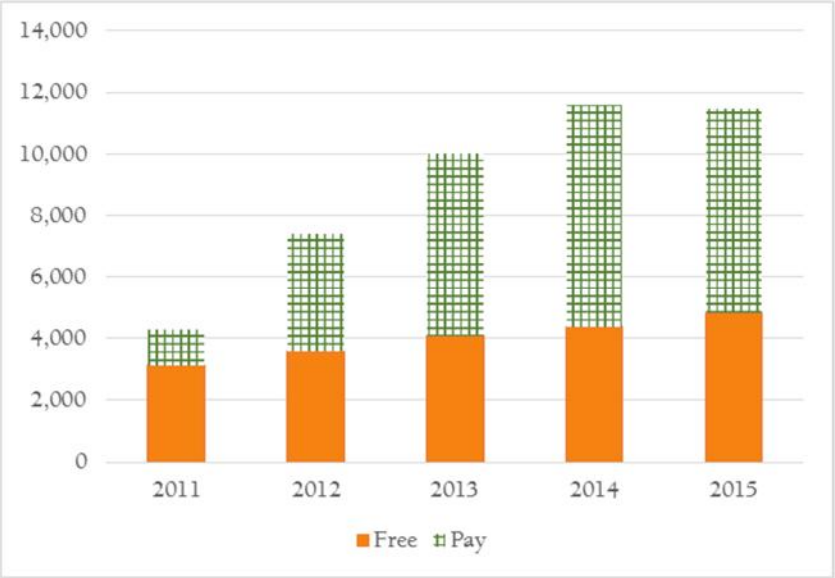


Figure 26.1. Free and pay articles by year, miscellany

Article Volume

	Journals	%Free	Articles	%Free
Largest: 600+	6	17%	6,602	12%
Large: 150-599	5	60%	876	61%
Med.: 60-149	21	90%	1,896	92%
Small: 20-59	50	82%	1,604	80%
Smallest: 0-19	53	92%	473	92%

Table 26.3. Article volume, miscellany

60% of *all the largest journals* in HSS are miscellaneous megajournals. Those are also the reasons most miscellany articles involve fees.

APC Levels and Revenues

	Jour.	%APC	%All	Art.	%APC	%All
\$1,400+	1	5%	1%	21	0%	0%
\$600-\$1,399	4	18%	3%	111	2%	1%
\$200-\$599	2	9%	1%	1,252	19%	11%
\$2-\$199	15	68%	11%	5,256	79%	46%
Free	113		84%	4,811		42%

Table 26.4. APC levels, miscellany

	Articles	Revenue	\$/article
\$1,400+	21	\$31,500	\$1,500
\$600-\$1,399	111	\$109,051	\$982
\$200-\$599	1,252	\$275,044	\$220
\$2-\$199	5,256	\$531,605	\$101
Free	4,811		
Total	11,451	\$947,200	\$83

Table 26.5. Potential revenues, miscellany

Predominantly low fees, so that the average fee per APC-based article is \$143—coming down to \$83 overall.

Starting Date

The raggedy free line is interesting but may not be meaningful; that sharp spike in fee journals in 2011-2012 may be both.



Figure 26.2. Starting dates, miscellany

Regions and “Worlds”

Region	Journals	%Free	Articles	%Free
Eastern Europe	27	63%	4,689	29%
Asia	9	33%	3,237	2%
Latin America	46	100%	1,424	100%
Middle East	7	100%	1,048	100%
Western Europe	31	90%	687	91%
Pacific/English	11	82%	142	63%
Africa	1	100%	123	100%
APCLand	3	67%	101	77%

Table 26.6. Journals by region, miscellany

Publisher Category

Category	Journals	%Free	Articles	%Free
Miscellaneous	30	70%	4,383	13%
Univ/college	90	96%	4,213	93%
Open Access	10	30%	2,616	4%
Traditional	3	67%	183	92%
Society/govt	2	50%	56	20%

Table 26.7. Publisher categories, miscellaneous

It's somehow fitting that the biggest category is miscellaneous.

Growth and Shrinkage

Change 2014-15	Count	Percent	Cum%
Grew 50%+	17	12.6%	
Grew 25-49.9%	11	8.1%	20.7%
Grew 10-24.99%	11	8.1%	28.9%
Even, $\pm 9.99\%$	30	22.2%	51.1%
Shrank 10-24.99%	19	14.1%	65.2%
Shrank 25-49.99%	21	15.6%	80.7%
Shrank 50%+	21	15.6%	96.3%
No 2014 count	5	3.7%	

Table 26.8. Growth and shrinkage, miscellany

Generally more shrinkage and less growth than all of HSS.

Gray OA and DOAJ16

	GrayOA	%Gray	DOAJ16
Journals/Free	33	29%	80
Journals/Pay	4	18%	18
Free%	89%		82%
Articles/Free	1,018	21%	3,793
Articles/Pay	2,368	36%	4,272
Free%	30%		47%
Articles/Journal	92		82

Table 26.9. Gray OA and DOAJ16, miscellany

Relatively few APC-based journals were delisted—but those journals included a *lot* of articles.

Countries in OAWorld

Table 26.10 includes all countries with at least 50 articles in 2015 in non-APCLand miscellany journals, and it's a *very* different list. The top five producers for all of HSS are Brazil, the United States, Spain, Romania and Turkey. While three of those five are within the top six for miscellany, they're fourth, fifth and sixth—and the U.S. and Spain are respectively 21st and tenth. For India to come in first (*entirely* fee-charging journals is somewhat unusual, as is Russia's second place...but Macedonia (also charging for that one megajournal) is 19th for HSS in general. (The rest of Macedonia's HSS journals total 337 articles in eleven journals—all but one of them free.)

Country	Journals	%Free	Articles	%Free
India	5	0%	2,981	0%
Russian Federation	11	64%	2,104	33%
Macedonia, the Former Yugoslav Republic of	1	0%	1,645	0%
Turkey	5	100%	1,023	100%
Brazil	28	100%	830	100%
Romania	4	50%	317	44%
Ukraine	3	100%	266	100%
Philippines	2	50%	187	0%
Netherlands	3	100%	174	100%
Spain	9	89%	168	82%
Azerbaijan	1	100%	137	100%
Colombia	5	100%	134	100%
Ethiopia	1	100%	123	100%
Mexico	5	100%	120	100%
Chile	2	100%	111	100%
Czech Republic	3	0%	105	0%
Portugal	3	100%	99	100%
Cuba	1	100%	89	100%
France	3	100%	85	100%
Venezuela, Bolivarian Republic of	2	100%	85	100%
United States	6	83%	72	90%
Indonesia	2	100%	69	100%
Canada	3	67%	54	17%
Argentina	2	100%	50	100%

Table 26.10. Countries in OAWorld (partial), miscellany

27. Philosophy

Philosophy includes specific philosophers and philosophies (as opposed to religion, for which see Chapter 29). With 96% of journals and 95% of articles free, this is the third case where it makes sense to omit one figure, combine two tables and shorten some tables.

Journals and Articles

	Journals	Active 2015	Articles	Art/Jrnl
Free	180	153	3,182	21
Pay	7	7	154	22
Total	187	160	3,336	21

Table 27.1. Journals and articles, philosophy

	2015	2014	2013	2012	2011
Journals	160	175	173	165	159
Articles	3,336	3,481	3,307	3,400	3,063

Table 27.2. Journals and articles by year, philosophy

Pay articles have risen (from 84 in 2011 to 154 in 2015) while free ones have gone up and down over a narrow range from 2012 through 2015.

Article Volume

	Journals	%Free	Articles	%Free
Med.: 60-149	3	100%	248	100%
Small: 20-59	74	95%	2,266	94%
Smallest: 0-19	110	97%	822	96%

Table 27.3. Article volume, philosophy

No large or largest journals, and medium-sized journals are all free.

APC Levels and Revenues

	Journals	Articles	Revenue	\$/article
\$1,400+	1	20	\$44,140	\$2,207
\$600-\$1,399	2	44	\$55,394	\$1,259
\$2-\$199	4	90	\$5,872	\$65
Free	180	3,182		
Total		3,336	\$105,406	\$32

Table 27.4. APC levels and potential revenues, philosophy

Oddly enough, there are expensive and medium-priced philosophy journals, but no low-priced (\$200-\$599) ones. Average price for articles in the seven APC-based journals was \$684 for 2015; the overall average was \$32.

Starting Date

Erratic seems like the best way to characterize Figure 27.1, although the 2010-2011 peak seems typical of HSS.

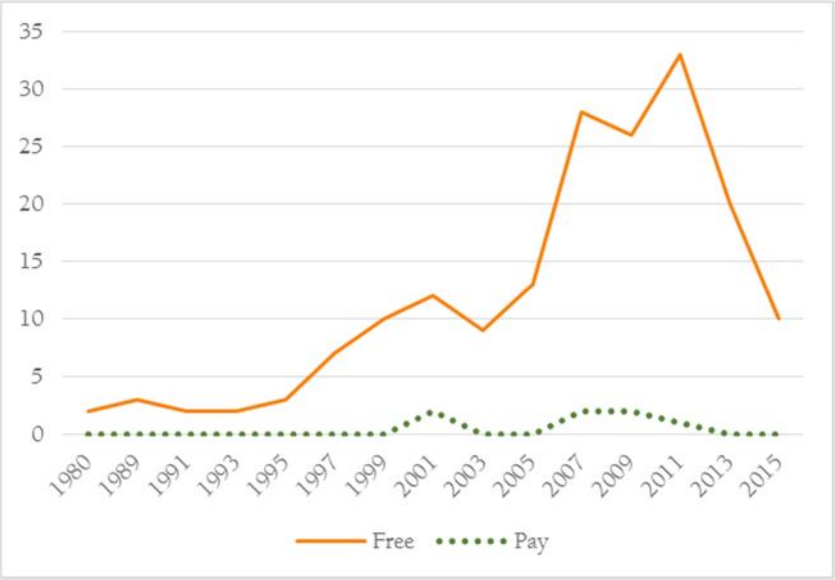


Figure 27.1. Starting dates, philosophy

Regions and “Worlds”

Region	Journals	%Free	Articles	%Free
Western Europe	62	95%	1,038	95%
Latin America	60	100%	1,009	100%
Eastern Europe	31	97%	839	95%
Pacific/English	24	96%	309	89%
Middle East	3	67%	54	85%
Asia	4	100%	52	100%
APCLand	2	50%	35	43%
Africa	1	100%	0	

Table 27.5. Journals by region, philosophy

The usual top four for HSS, but this time Western Europe edges out Latin America instead of the other way around.

Publisher Category

Category	Journals	%Free	Articles	%Free
Univ/college	121	98%	2,133	96%
Miscellaneous	42	95%	810	97%
Society/govt	20	100%	307	100%
Traditional	4	50%	86	41%

Table 27.6. Publisher categories, philosophy

Universities and colleges dominate, even more so than usual.

Growth and Shrinkage

Change 2014-15	Count	Percent	Cum%
Grew 50%+	32	17.1%	
Grew 25-49.9%	16	8.6%	25.7%
Grew 10-24.99%	19	10.2%	35.8%
Even, $\pm 9.99\%$	28	15.0%	50.8%
Shrank 10-24.99%	15	8.0%	58.8%
Shrank 25-49.99%	29	15.5%	74.3%
Shrank 50%+	36	19.3%	93.6%
No 2014 count	12	6.4%	

Table 27.7. Growth and shrinkage, philosophy

Philosophy seems high on extreme change, with more fast-growing and fast-shrinking journals than usual and fewer holding steady.

Gray OA and DOAJ16

	GrayOA	%Gray	DOAJ16
Journals/Free	57	32%	123
Journals/Pay	2	29%	5
Free%	97%		96%
Articles/Free	803	25%	2,379
Articles/Pay	66	43%	88
Free%	92%		96%
Articles/Journal	15		19

Figure 27.8. Gray OA and DOAJ16, philosophy

The two delisted APC-charging journals published 43% of fee-based articles in 2015; with universes that small, odd results happen.

Countries in OAWorld

Table 27.9 lists all countries with at least 21 articles in 2015 in non-APCLand OA philosophy journals (it's an odd number; 20 and up wouldn't fit on one page). Italy shows up second (eighth overall in HSS); Turkey ranks much lower than usual; and India, sixth overall in HSS, doesn't even make the one-page list. (The single Indian journal didn't publish any articles in 2015.)

Country	Journals	%Free	Articles	%Free
Brazil	33	100%	650	100%
Italy	17	94%	373	98%
Spain	12	100%	295	100%
Romania	8	88%	205	81%
United States	16	94%	184	81%
Ukraine	3	100%	161	100%
Poland	8	100%	151	100%
Chile	7	100%	127	100%
Russian Federation	3	100%	123	100%
Serbia	3	100%	118	100%
Colombia	4	100%	89	100%
Canada	7	100%	81	100%
Netherlands	4	75%	74	58%
Germany	5	100%	66	100%
United Kingdom	8	100%	48	100%
Slovakia	1	100%	45	100%
Australia	1	100%	44	100%
Switzerland	1	100%	41	100%
Peru	2	100%	37	100%
Denmark	3	100%	36	100%
Venezuela, Bolivarian Republic of	2	100%	35	100%
Austria	3	100%	34	100%
Iran, Islamic Republic of	2	50%	33	76%
Argentina	7	100%	22	100%
Mexico	3	100%	22	100%
France	3	100%	21	100%
Philippines	1	100%	21	100%
Turkey	1	100%	21	100%

Table 27.9. Countries in OAWorld (partial), philosophy

28. Political Science

Political science includes military and defense topics and most of governmental affairs.

Journals and Articles

	Journals	Active 2015	Articles	Art/Jrnl
Free	214	194	4,523	23
Pay	14	14	673	48
Total	228	208	5,196	25
Free%	94%	93%	87%	

Table 28.1. Journals and articles, political science

	2015	2014	2013	2012	2011
Journals	208	218	216	200	181
%Free	93%	94%	94%	95%	95%
Articles	5,196	5,507	4,983	4,546	3,941
%Free	87%	88%	91%	93%	96%

Table 28.2. Journals and articles by year, political science

As is typical, the few APC-based journals publish more than twice as many articles per journal as the many free ones. The slight decline in 2015 is mostly within free journals.

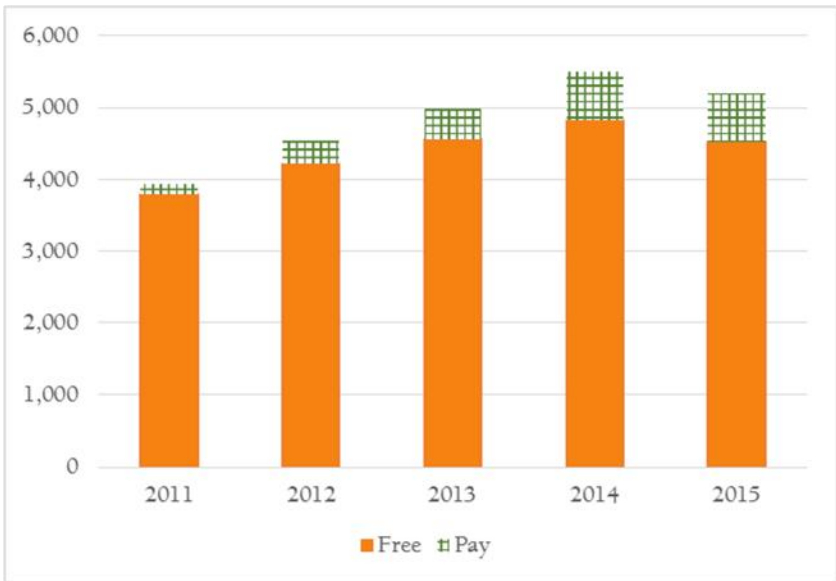


Figure 28.1. Free and pay articles by year, political science

Article Volume

	Journals	%Free	Articles	%Free
Large: 150-599	2	50%	726	45%
Med.: 60-149	4	100%	286	100%
Small: 20-59	89	94%	2,801	93%
Smallest: 0-19	133	94%	1,383	94%

Table 28.3. Article volume, political science

No very large journals, predominantly small and smallest.

APC Levels and Revenues

	Jour.	%APC	%All	Art.	%APC	%All
\$600-\$1.399	4	29%	2%	64	10%	1%
\$200-\$599	3	21%	1%	61	9%	1%
\$2-\$199	7	50%	3%	548	81%	11%
Free	214		94%	4,523		87%

Table 28.4. APC levels, political science

	Articles	Revenue	\$/article
\$600-\$1.399	64	\$56,900	\$889
\$200-\$599	61	\$21,764	\$357
\$2-\$199	548	\$79,412	\$145
Free	4,523		
Total	5,196	\$158,076	\$30

Table 28.5. Potential revenues, political science

No expensive journals and mostly nominal fees; the average fee per article for APC-charging journals is \$235, dropping to \$30 overall.

Starting Date

Figure 28.2 really is unusual, with the peak of new-journal entries coming in 2004-2005.



Figure 28.2. Starting dates, political science

Regions and “Worlds”

Region	Journals	%Free	Articles	%Free
Western Europe	71	90%	1,585	89%
Eastern Europe	58	98%	1,138	99%
Latin America	51	100%	1,060	100%
Asia	6	67%	588	29%
Pacific/English	30	90%	564	92%
Middle East	7	100%	137	100%
APCLand	2	100%	74	100%
Africa	3	67%	50	56%

Table 28.6. Journals by region, political science

The most unusual thing here is that Asia publishes more than Pacific/English.

Publisher Category

Category	Journals	%Free	Articles	%Free
Univ/college	156	96%	3,182	95%
Miscellaneous	46	98%	1,127	99%
Open Access	7	29%	531	6%
Traditional	12	83%	220	95%
Society/govt	7	100%	136	100%

Table 28.7. Publisher categories, political science

Predominantly universities, as usual; what's interesting is that independents are almost all free.

Growth and Shrinkage

Change 2014-15	Count	Percent	Cum%
Grew 50%+	33	14.5%	
Grew 25-49.9%	19	8.3%	22.8%
Grew 10-24.99%	20	8.8%	31.6%
Even, $\pm 9.99\%$	56	24.6%	56.1%
Shrank 10-24.99%	31	13.6%	69.7%
Shrank 25-49.99%	24	10.5%	80.3%
Shrank 50%+	35	15.4%	95.6%
No 2014 count	10	4.4%	

Table 28.8. Growth and shrinkage, political science

A high degree of stability, but more shrinkage than growth.

Gray OA and DOAJ16

	GrayOA	%Gray	DOAJ16
Journals/Free	50	23%	164
Journals/Pay	1	7%	13
Free%	98%		93%
Articles/Free	1,075	24%	3,448
Articles/Pay	1	0%	672
Free%	100%		84%
Articles/Journal	21		23

Table 28.6. Gray OA and DOAJ16, political science

Delisting among free journals was fairly typical—bot only one pay journal, with one 2015 article, was delisted.

Countries in OAWorld

Table 28.10 shows all countries with at least 50 articles in non-APCLand OA political science journals in 2015.

Spain, Romania and Brazil as three of the top four is fairly typical (although all of Romania's journals being free is less so); Hong Kong being fourth is less so—but that's just one large journal.

Country	Journals	%Free	Articles	%Free
Spain	17	100%	627	100%
Romania	24	100%	602	100%
Brazil	24	100%	505	100%
Hong Kong	1	0%	399	0%
United States	18	89%	397	96%
Colombia	7	100%	180	100%
Germany	9	100%	175	100%
Mexico	7	100%	167	100%
Chile	7	100%	127	100%
Italy	7	100%	124	100%
Canada	7	86%	117	74%
Poland	7	100%	112	100%
France	6	100%	108	100%
Netherlands	3	33%	95	31%
United Kingdom	8	63%	94	35%
Russian Federation	3	100%	93	100%
Pakistan	2	100%	88	100%
Czech Republic	5	100%	84	100%
Sweden	6	83%	80	91%
India	1	100%	74	100%
Austria	5	100%	66	100%
Portugal	2	50%	65	31%
Iceland	2	100%	57	100%
Turkey	3	100%	54	100%
Ukraine	2	100%	53	100%
Australia	5	100%	50	100%
South Africa	3	67%	50	56%

Table 28.11. Countries in OAWorld (partial), political science

29. Psychology

Psychology includes a few borderline cases, and in some ways the subject is a more natural fit within STEM or biomed,

Journals and Articles

	Journals	Active 2015	Articles	Art/Jrnl
Free	149	139	3,728	27
Pay	28	27	2,729	101
Total	177	166	6,457	39
Free%	84%	84%	58%	

Table 29.1. Journals and articles, psychology

	2015	2014	2013	2012	2011
Journals	166	176	170	161	151
%Free	84%	84%	86%	87%	89%
Articles	6,457	6,206	5,668	4,857	4,315
%Free	58%	65%	71%	76%	80%

Table 29.2. Journals and articles by year, psychology

Free articles dipped in 2015; pay articles continued to grow.

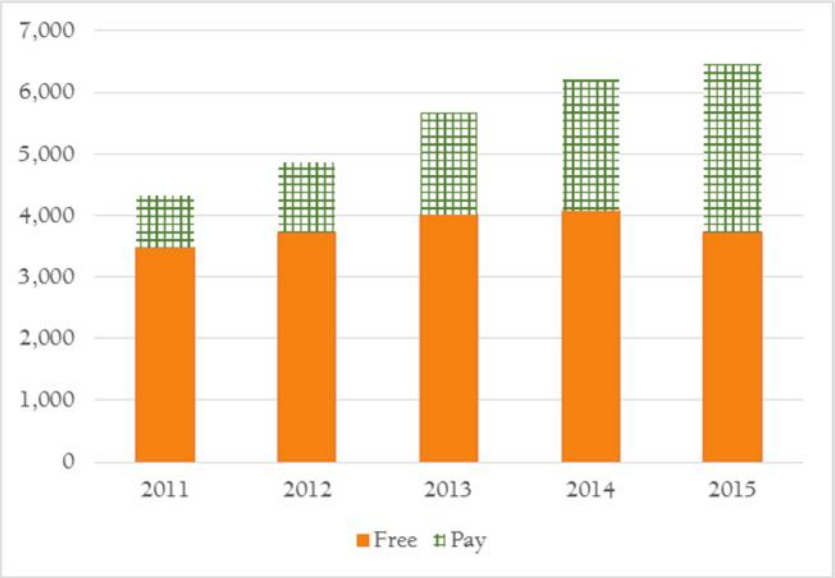


Figure 29.1. Free and pay articles by year, psychology

Article Volume

	Journals	%Free	Articles	%Free
Largest: 600+	1	0%	2,039	0%
Med.: 60-149	13	77%	1,058	73%
Small: 20-59	80	88%	2,574	88%
Smallest: 0-19	83	83%	786	87%

Table 29.3. Article volume, psychology

Psychology has one megajournal (charging APCs) and no other large journals.

APC Levels and Revenues

	Jour.	%APC	%All	Art.	%APC	%All
\$1,400+	4	14%	2%	2,132	78%	33%
\$600-\$1,399	8	29%	5%	205	8%	3%
\$200-\$599	9	32%	5%	286	10%	4%
\$2-\$199	7	25%	4%	106	4%	2%
Free	149		84%	3,728		58%

Table 29.4. APC levels, psychology

	Articles	Revenue	\$/article
\$1,400+	2,132	\$4,049,915	\$1,900
\$600-\$1,399	205	\$193,910	\$946
\$200-\$599	286	\$97,101	\$340
\$2-\$199	106	\$13,375	\$126
Free	3,728		
Total	6,457	\$4,354,301	\$674

Table 29.5. Potential revenues, psychology

Atypically for HSS, most fee-based articles are in expensive journals (predominantly one journal), leading to two extreme averages: cost per article in APC-based journals, \$1,597; average overall, \$674.

Starting Date

Figure 29.2 is somewhat unusual in that the peak for free journals is in 2008-2009, trending down smoothly ever since.

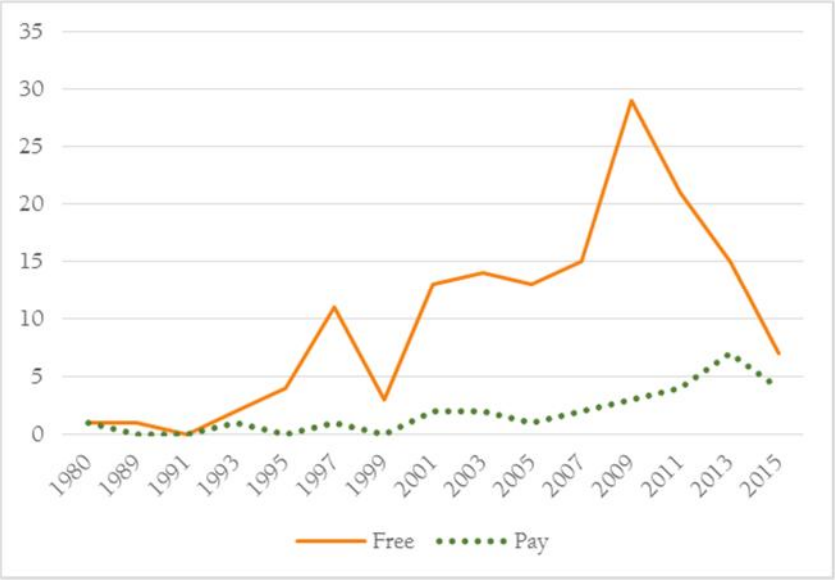


Figure 29.2. Starting dates, psychology

Regions and “Worlds”

Region	Journals	%Free	Articles	%Free
APCLand	6	17%	2,146	1%
Latin America	59	97%	1,750	93%
Western Europe	52	85%	1,039	76%
Eastern Europe	24	100%	848	100%
Pacific/English	21	48%	327	47%
Asia	10	90%	226	92%
Middle East	3	100%	84	100%
Africa	2	50%	37	30%

Table 29.6. Journals by region, psychology

More than half of *all* APCLand HSS articles are in psychology.

Publisher Category

Category	Journals	%Free	Articles	%Free
Univ/college	101	94%	2,652	90%
Open Access	12	17%	2,287	5%
Miscellaneous	32	91%	649	94%
Society/govt	18	94%	518	95%
Traditional	14	43%	351	39%

Table 29.7. Publisher categories, psychology

Growth and Shrinkage

Change 2014-15	Count	Percent	Cum%
Grew 50%+	25	14.1%	
Grew 25-49.9%	16	9.0%	23.2%
Grew 10-24.99%	19	10.7%	33.9%
Even, $\pm 9.99\%$	48	27.1%	61.0%
Shrank 10-24.99%	23	13.0%	74.0%
Shrank 25-49.99%	24	13.6%	87.6%
Shrank 50%+	21	11.9%	99.4%
No 2014 count	1	0.6%	

Table 29.8. Growth and shrinkage, psychology

High stability, low rapid shrinkage and more shrinkage than growth.

Gray OA and DOAJ16

	GrayOA	%Gray	DOAJ16
Journals/Free	40	27%	109
Journals/Pay	4	14%	24
Free%	91%		82%
Articles/Free	837	22%	2,891
Articles/Pay	53	2%	2,676
Free%	94%		52%
Articles/Journal	20		42

Table 29.9. Gray OA and DOAJ16, psychology

Free delisting rate is typical; pay delisting rate is low, and those four journals had few articles.

Countries in OAWorld

Table 29.10 shows countries with more than 16 articles in non-APCLand OA psychology journals in 2015.

Colombia makes it into the top four (it's 11th overall in HSS) while Romania and Turkey don't make the top list at all. (Romania has a single psychology OA journal; Turkey has none.)

Country	Journals	%Free	Articles	%Free
Brazil	26	96%	993	89%
Russian Federation	12	100%	533	100%
Spain	21	90%	526	72%
Colombia	14	93%	376	94%
United States	15	47%	257	43%
Germany	10	90%	200	97%
United Kingdom	8	50%	127	26%
Chile	5	100%	113	100%
Italy	6	100%	113	100%
Poland	4	100%	113	100%
Mexico	4	100%	112	100%
India	2	100%	100	100%
Iran, Islamic Republic of	3	100%	84	100%
Georgia	1	100%	75	100%
Uruguay	2	100%	56	100%
Peru	3	100%	53	100%
Indonesia	4	75%	48	65%
Japan	2	100%	41	100%
Costa Rica	3	100%	40	100%
Czech Republic	2	100%	37	100%
South Africa	2	50%	37	30%
Thailand	2	100%	37	100%
Canada	3	0%	28	0%
Serbia	1	100%	27	100%
New Zealand	1	100%	26	100%
Austria	2	100%	25	100%
Croatia	1	100%	25	100%

Table 29.10. Countries in OAWorld (partial), psychology

30. Religion

Religion includes journals devoted to specific religions and religious leaders, but also aspects of religious and non-religious thought.

Journals and Articles

	Journals	Active 2015	Articles	Art/Jrnl
Free	120	109	2,641	24
Pay	17	17	1,280	75
Total	137	126	3,921	31
Free%	88%	87%	67%	

Table 30.1. Journals and articles, religion

	2015	2014	2013	2012	2011
Journals	126	127	121	120	110
%Free	87%	87%	87%	87%	87%
Articles	3,921	3,381	2,889	2,952	2,717
%Free	67%	67%	66%	71%	68%

Table 30.2. Journals and articles by year, religion

Growth every year except 2013, now tending toward free.

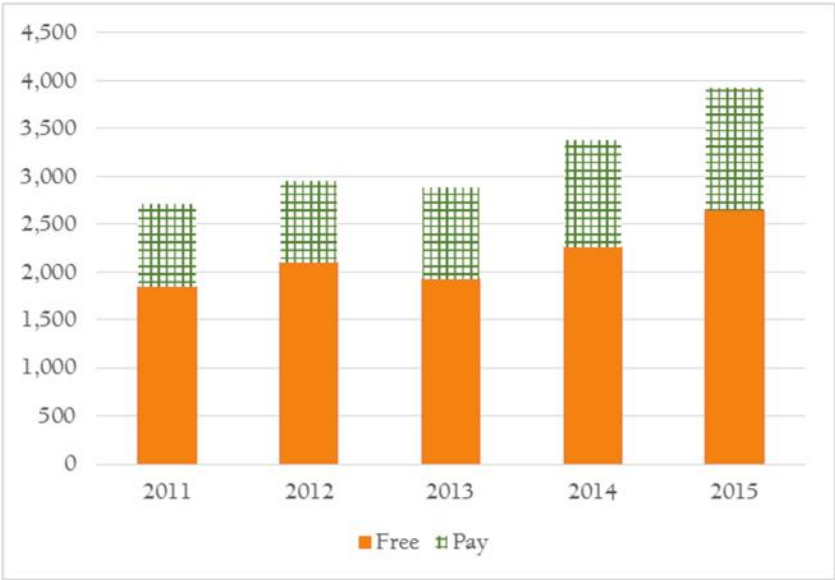


Figure 30.1. Free and pay articles by year, religion

Article Volume

	Journals	%Free	Articles	%Free
Large: 150-599	3	33%	1,034	28%
Med.: 60-149	7	57%	577	55%
Small: 20-59	56	84%	1,623	86%
Smallest: 0-19	71	96%	687	94%

Table 30.3. Article volume, religion

The largest journal published 492 articles in 2015.

APC Levels and Revenues

	Jour.	%APC	%All	Art.	%APC	%All
\$600-\$1.399	1	6%	1%	254	20%	6%
\$200-\$599	8	47%	6%	361	28%	9%
\$2-\$199	8	47%	6%	665	52%	17%
Free	120		88%	2,641		67%

Table 30.4. APC levels, religion

	Articles	Revenue	\$/article
\$600-\$1.399	254	\$171,958	\$677
\$200-\$599	361	\$125,661	\$348
\$2-\$199	665	\$51,564	\$78
Free	2,641		
Total	3,921	\$349,183	\$89

Table 30.5. Potential revenues, religion

No expensive journals and only one medium-priced journal, that single journal having nearly half of all potential revenue. Average fee for articles in APC-based journals in 2015 was \$273; average across all journals was \$89.

Starting Date

Figure 30.2 is generally odd, with the peak in 2012-2013 and a smaller peak in 2008-2009.



Figure 30.2. Starting dates, religion

Regions and “Worlds”

Region	Journals	%Free	Articles	%Free
Latin America	24	96%	936	97%
Pacific/English	34	97%	932	47%
Western Europe	30	93%	630	94%
Africa	8	38%	544	10%
Eastern Europe	15	100%	343	100%
Asia	17	65%	309	60%
Middle East	7	86%	124	84%
APCLand	2	50%	103	12%

Table 30.6. Journals by region, religion

This time, Pacific/English almost ties frequent HSS leader Latin America.

Publisher Category

Category	Journals	%Free	Articles	%Free
Univ/college	86	88%	1,867	87%
Society/govt	7	86%	878	44%
Miscellaneous	32	94%	624	84%
Open Access	5	20%	474	5%
Traditional	7	100%	78	100%

Table 30.7. Publisher categories, religion

Society publications a distant second behind frequent HSS leader universities and colleges.

Growth and Shrinkage

Change 2014-15	Count	Percent	Cum%
Grew 50%+	25	18.2%	
Grew 25-49.9%	9	6.6%	24.8%
Grew 10-24.99%	19	13.9%	38.7%
Even, $\pm 9.99\%$	27	19.7%	58.4%
Shrank 10-24.99%	13	9.5%	67.9%
Shrank 25-49.99%	20	14.6%	82.5%
Shrank 50%+	14	10.2%	92.7%
No 2014 count	10	7.3%	

Table 30.8. Growth and shrinkage, religion

An up pattern, with more fast growth and less fast shrinkage than usual.

Gray OA and DOAJ16

	GrayOA	%Gray	DOAJ16
Journals/Free	34	28%	86
Journals/Pay	2	12%	15
Free%	94%		85%
Articles/Free	584	22%	2,057
Articles/Pay	544	43%	736
Free%	52%		74%
Articles/Journal	31		28

Table 30.9. Gray OA and DOAJ16, religion

While free journal delisting is fairly typical, the fewer-than-usual APC-charging delisted journals published a *lot* of articles.

Countries in OAWorld

Table 30.10 shows all countries with at least twenty 2015 articles in non-APCLand OA religion journals.

This time, the United States is ahead of Brazil—but South Africa and Indonesia rank much higher than usual in HSS, while Spain drops from third to 11th and Romania drops from fourth to 15th. Surprisingly, India has no OA religion journals.

Country	Journals	%Free	Articles		%Free
United States	28	96%	875		44%
Brazil	17	94%	775		97%
South Africa	7	43%	530		11%
Indonesia	13	69%	222		61%
Germany	7	100%	124		100%
Russian Federation	2	100%	109		100%
Poland	5	100%	104		100%
Turkey	5	100%	104		100%
Italy	3	100%	103		100%
France	3	100%	94		100%
Spain	3	100%	91		100%
Malaysia	3	33%	71		46%
Chile	3	100%	69		100%
United Kingdom	4	75%	57		75%
Romania	3	100%	51		100%
Croatia	2	100%	43		100%
Colombia	2	100%	35		100%
Sweden	1	100%	35		100%
Austria	1	100%	33		100%
Costa Rica	1	100%	31		100%
Canada	3	100%	29		100%
Argentina	1	100%	26		100%
Lithuania	1	100%	23		100%
Netherlands	1	0%	23		0%
Iran, Islamic Republic of	2	50%	20		0%

Table 30.10. Countries in OAWorld (partial), religion

31. Sociology

Sociology includes a range of journals that didn't fit elsewhere, including gender studies, social science and more.

Journals and Articles

	Journals	Active 2015	Articles	Art/Jrnl
Free	398	368	10,769	29
Pay	49	44	3,869	88
Total	447	412	14,638	36
Free%	89%	89%	74%	

Table 31.1. Journals and articles, sociology

	2015	2014	2013	2012	2011
Journals	412	428	428	401	368
%Free	89%	89%	90%	91%	92%
Articles	14,638	14,763	12,765	12,098	10,647
%Free	74%	74%	78%	79%	83%

Table 31.2. Journals and articles by year, sociology

The slight drop in 2015 is free articles; pay journals published about 0.4% more articles in 2015, while free ones were down about 1.1%

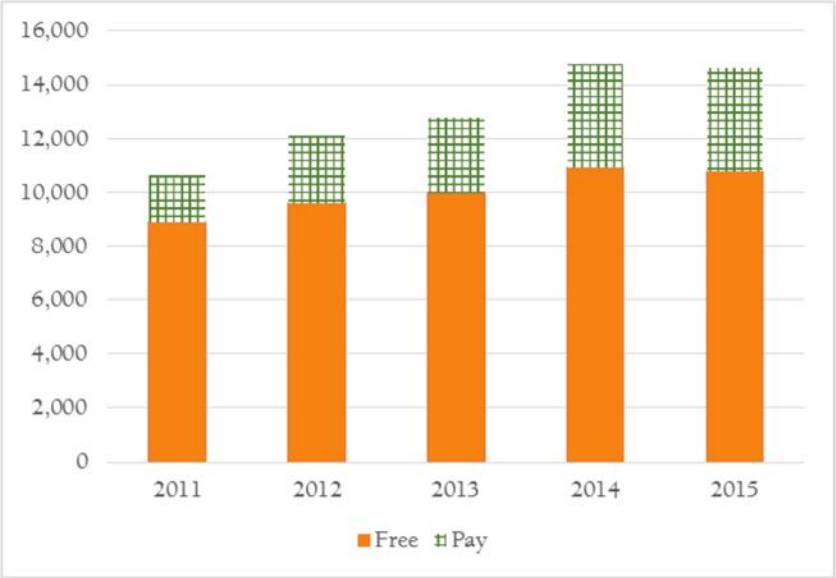


Figure 31.1. Free and pay articles by year, sociology

Article Volume

	Journals	%Free	Articles	%Free
Largest: 600+	1	0%	1,004	0%
Large: 150-599	12	50%	3,403	44%
Med.: 60-149	29	90%	2,332	89%
Small: 20-59	182	92%	5,785	91%
Smallest: 0-19	223	89%	2,114	90%

Table 31.3. Article volume, sociology

A fairly typical pattern, with small journals publishing the most articles and free percentage increasing as journal size decreases.

APC Levels and Revenues

	Jour.	%APC	%All	Art.	%APC	%All
\$1,400+	2	4%	0%	384	10%	3%
\$600-\$1.399	13	27%	3%	265	7%	2%
\$200-\$599	13	27%	3%	1,223	32%	8%
\$2-\$199	21	43%	5%	1,997	52%	14%
Free	398		89%	10,769		74%

Table 31.4. APC levels, sociology

	Articles	Revenue	\$/article
\$1,400+	384	\$667,500	\$1,738
\$600-\$1.399	265	\$246,522	\$930
\$200-\$599	1,223	\$461,672	\$377
\$2-\$199	1,997	\$85,424	\$43
Free	10,769		
Total	14,638	\$1,461,118	\$100

Table 31.5. Potential revenues, sociology

Fairly typical pattern, with most fee-based articles involving nominal fees but expensive journals taking in the most revenue.

Starting Date

Figure 31.2 is one of those starting-date graphs with a secondary peak in 2006-2007 and the primary peak in 2010-2011.

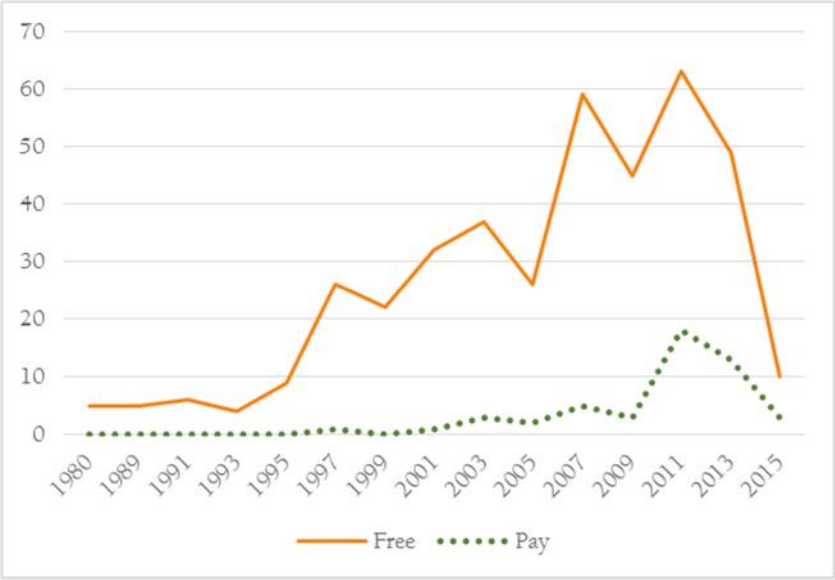


Figure 31.2. Starting dates, sociology

Regions and “Worlds”

Region	Journals	%Free	Articles	%Free
Latin America	128	100%	3,260	100%
Eastern Europe	52	92%	3,244	64%
Western Europe	123	90%	2,818	93%
Pacific/English	79	91%	2,373	62%
Middle East	20	80%	1,134	74%
Asia	26	65%	1,033	33%
APCLand	13	38%	651	23%
Africa	6	17%	125	4%

Table 31.6. Journals by region, sociology

Distribution by region is typical of HSS in general.

Publisher Category

Category	Journals	%Free	Articles	%Free
Univ/college	282	96%	7,833	92%
Miscellaneous	100	86%	4,016	63%
Open Access	17	24%	1,106	25%
Traditional	19	53%	1,105	21%
Society/govt	29	93%	578	89%

Table 31.7. Publisher categories, sociology

The only oddity in Table 31.7 is the small presence of societies.

Growth and Shrinkage

Change 2014-15	Count	Percent	Cum%
Grew 50%+	73	16.3%	
Grew 25-49.9%	37	8.3%	24.6%
Grew 10-24.99%	37	8.3%	32.9%
Even, $\pm 9.99\%$	101	22.6%	55.5%
Shrank 10-24.99%	52	11.6%	67.1%
Shrank 25-49.99%	67	15.0%	82.1%
Shrank 50%+	61	13.6%	95.7%
No 2014 count	19	4.3%	

Table 31.8. Growth and shrinkage, sociology

Sociology follows the HSS pattern closely, with slightly more strongly-shrinking and slightly fewer moderately-growing journals.

Gray OA and DOAJ16

	GrayOA	%Gray	DOAJ16
Journals/Free	107	27%	291
Journals/Pay	10	20%	39
Free%	91%		88%
Articles/Free	2,754	26%	8,015
Articles/Pay	1,071	28%	2,798
Free%	72%		74%
Articles/Journal	33		33

Table 31.9. Gray OA and DOAJ, sociology

Delisting patterns are typical for HSS.

Countries in OAWorld

Table 31.10 shows countries with at least 100 articles in 2015 in non-APCLand OA sociology journals.

Somewhat unusually, Romania does the most—and three quarters of articles are in pay journals. The United States, a close second, also has more pay articles than usual—but Brazil, an even closer third, is all free, as it is in most HSS areas. The biggest oddity in rankings is Russia, which drops from sixth for HSS in general to 18th here.

Country	Journals	%Free	Articles	%Free
Romania	13	85%	1,513	25%
United States	49	90%	1,401	64%
Brazil	49	100%	1,390	100%
Turkey	15	93%	985	79%
Spain	34	97%	957	97%
Canada	19	89%	773	50%
Poland	13	100%	757	100%
Mexico	20	100%	613	100%
Singapore	2	0%	536	0%
Colombia	20	100%	477	100%
France	18	100%	447	100%
United Kingdom	19	68%	429	80%
Chile	9	100%	253	100%
Croatia	4	100%	248	100%
Argentina	15	100%	247	100%
Portugal	7	86%	220	67%
Germany	10	90%	199	100%
Russian Federation	4	100%	188	100%
Australia	9	100%	175	100%
Serbia	3	100%	168	100%
India	9	56%	165	39%
Italy	6	100%	150	100%
Venezuela, Bolivarian Re- public of	7	100%	119	100%
South Africa	4	0%	116	0%
Iran, Islamic Republic of	4	50%	110	57%

Table 31.10. Countries in OAWorld (partial), sociology

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