

Springer Open Pricing Trends 2018 – 2019

by Heather Morrison

Abstract

270 SpringerOpen journals were studied. 33 (12%) have ceased publication, 15 have been transferred to another publisher, and 7 are now hybrid. Of the 215 active journals published by SpringerOpen, 54% charge APCs. The average APC was 1,212 EUR, an increase of 8% over the 2018 average, 6 times the EU inflation rate for June 2019 of 1.3%. 58% of the 96 journals for which we have 2018 and 2018 data did not change in price; 5% decreased in price; and 36% increased in price. Price increases for journals that increased in price ranged from 3% to 109% (double the inflation rate to double in price). Journals with the highest volume of publishing were the most likely to have increased in price. This will amplify the effective percentage of articles with price increases for APC payers. 40% of the journals are sponsored by a university, society, government, or other not-for-profit partner, and have no publication fee. The sustainability of these sponsorships is not clear. 12 journals appear to have recently switched from “no APC” to “now APC”, with APCs only slightly below the SpringerOpen average. The affordability of the SpringerOpen partnership approach is called into question. SpringerOpen’s average APC does not compare favorably either to average academic salaries in a low to middle income country (with Egypt as an example) or to OJS Premium journal hosting services (the break-even point is 2 articles per year, i.e. a journal that publishes 3 articles per year saves money with OJS Premium as compared to SpringerOpen). Even a sponsor based in Germany only pays half the APC, raising a question about whether SpringerOpen sponsorships are sustainable anywhere.

Details

Table 1: 2019 SpringerOpen Journal Publication and APC status summary

2019 SpringerOpen Journal Publication and APC status summary		
Status *	# Journals	Percent
APC	117	43%
No publication fee	85	31%
Ceased publication	33	12%
Transferred to another publisher	15	6%
No cost found	13	5%
Now hybrid	7	3%
Total **	270	100%

* status data is found in "2019 APC publisher website original currency" column

** total excludes 1 predecessor title and 12 journals previously listed under Springer now listed under BMC

Pricing trends 2018 – 2019

Of the 270 journals total:

- 13 titles are new in 2019 (included in 2019 overall analysis but not 2018 – 2019 trend analysis)
- 33 are ceased, 7 now hybrid, 15 transferred to another publisher: these titles are not included in the price trends analysis

Total journals included in price trend analysis:

- 2019 overall: 215
- 2018 – 2019 comparison: 202

Of the 215 titles, as illustrated in the chart and table below, an APC amount is confirmed for just over half the journals (54%). 40% are confirmed as having no publication fee, while for 6% of the journals it was not possible to confirm whether or not a publication fee is charged.

Chart 1: % of SpringerOpen active times by APC status (has APC, no publication fee, no cost found)

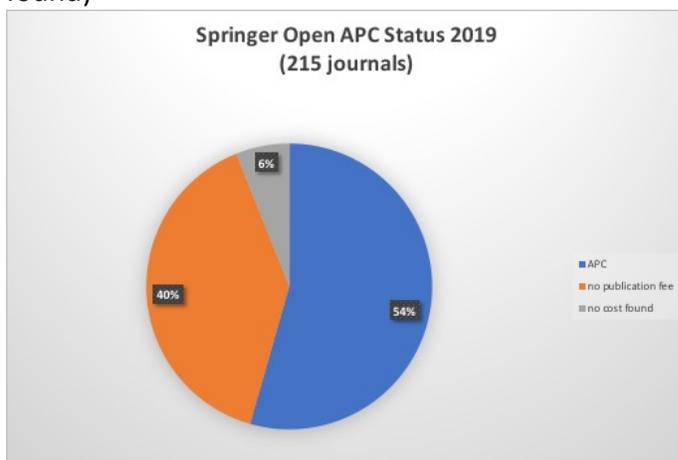


Table 2: SpringerOpen active titles 2019 by APC status

Springer Open active titles 2019 by APC status		
Status	Number	Percentage
APC	117	54%
No publication fee	85	40%
No cost found *	13	6%
Grand Total	215	

* No cost found = we could not identify whether or not there is a publication charge.

Of the 85 titles with no publication fee in 2019, 73 were published in partnership with a university (31), society (17), government (17), or not-for-profit organization (8). Many of these

journals’ websites indicate that there is no publication fee due to sponsorship, for example “...agreement between Springer Nature and the Specialized Presidential Council for Education and Scientific Research (Government of Egypt), therefore author-payable article-processing charges do not apply”. 7 of these titles are new to the Springer Open website in 2019. This suggests that either Springer Nature is actively soliciting sponsoring partners, or that not-for-profit publishers are actively seeking commercial partnerships.

APC Model, currency and some notes re data collection

SpringerOpen uses a straightforward per-article article processing charge. A SpringerOpen APC list that includes pricing for Springer, BioMedCentral, and Nature journals was downloaded from the Springer website on July 16, 2019. Pricing is listed in 3 currencies for each journal: EUR, GBP, and USD. EUR was selected for analysis as this was the currency included in the 2018 OA Main spreadsheet, hence the best for comparison (because Springer is based in Germany, it was assumed that this was the “primary” currency).

For some journals the SpringerOpen APC list states “see website” for pricing. Pricing information for these journals was taken from the SpringerOpen website.

Information about waivers etc., and pricing information for hybrid journals, was not gathered as outside the scope for this project.

APC information from the Jan. 31, 2019 DOAJ metadata forms part of the main spreadsheet. Originally, I had hoped to be able to rely on this data, at least for journals added to DOAJ in 2018 and 2019, at least for journals that do not charge APCs. However, after a quick check I realized that there are a number of journals that indicated no publication charge in DOAJ that currently have a publication charge in the SpringerOpen APC list or website. For this reason, DOAJ data is not used as a basis for 2019 information.

Table 3: 2019 and 2018 SpringerOpen APC central tendency in EUR

2019 and 2018 APC central tendency in EUR			
	2019	2018	% increase
Average	1,212	1,128	8
Median	1,155	1,035	12

The table above provides the central tendencies for all SpringerOpen titles with an APC for either 2019 (117 journals) or 2018 (104 journals) in EUR. There has been an 8% increase in the average APC and a 12% increase in the median APC.

Price changes 2018 – 2019

There are 96 journals for which we have an APC amount in both 2018 and 2019.

Table 4: SpringerOpen price changes 2018 – 2019 (96 journals)

Direction of change *	
Price decrease	5%
No change	58%
Price increase	36%
* Note: does not include change to / from no publication fee	

As illustrated in the Table 4 above, a majority of these journals (58%) did not change prices in EUR from 2018 to 2019, while more than a third (36%) increased in price and a few (5%) decreased in price.

The 2018 prices of journals with price increases ranged from 630 EUR (well below average) to 1,750 EUR (well above average). The 2018 average price of these journals was 1,160 EUR, above the 2018 average of 1,128 EUR. The median was 1,100 EUR, above the 2018 median of 1,035 EUR. In other words, while some journals with below-average APCs increased in price, a majority of journals with price increases had above-average APCs in 2018.

For the 35 journals that increased in price, the increases in percentages ranged from 3% to 109% (slightly more than double in price). According to the European Commission (2019), “Euro area annual inflation was 1.3 % in June 2019, up from 1.2 % in May 2019.” All prices increased were more than double the inflation rate. 23 journals had price increases of 14% or more, more than 10 times the current inflation rate.

All of the 5 journals with APC price decreases had above-average APCs in 2018 (from 1,050 to 2,035 EUR).

Volume of publishing and direction of APC price change

Volume of publishing per journal was calculated using Walt Crawford’s (2018) Global Open Access Journals. The number of articles published per year was summed to get a total # of articles published per journal from 2011 – 2018. A few journals for which no such data was available were excluded. Not surprisingly, volume of publication appears to correlate with APC pricing trend. As illustrated in the table below, journals that decreased in price had on average fewer articles than journals that did change in price, with the highest volume of publication noted for journals with price increases.

Table 5: average SpringerOpen articles published 2011 – 2018 by APC trend

Average # articles published* 2011 - 2018 by APC trend			
	Price decrease	No change	Price increase
Average # articles	118	162	674
Median # articles	41	115	243
* from Walt Crawford's Gold Open Access Journals (2018)			

Table 6: 2018 -2019 price changes and # of articles by journal title

Journal title	2019 APC (EUR)	2018 APC (EUR)	2019 - 2018 #	2019 - 2018 %	WC # articles total 2011 - 2018
Environmental Sciences Europe	2,040	975	1,065	109%	216
Environmental Systems Research	1,690	885	805	91%	150
Injury Epidemiology	1,465	930	535	58%	176
Agricultural and Food Economics	1,000	650	350	54%	136
Chemical and Biological Technologies in Agriculture	1,570	1,085	485	45%	135
EJNMMI Research	2,170	1,600	570	36%	609
Intensive Care Medicine Experimental	1,870	1,425	445	31%	1,351
Progress in Earth and Planetary Science	1,300	1,000	300	30%	244
Heritage Science	1,180	930	250	27%	276
Boundary Value Problems	1,180	930	250	27%	1,532
Advances in Difference Equations	1,180	930	250	27%	2,523
Journal of Inequalities and Applications	1,180	930	250	27%	2,786
International Journal of Corporate Social Responsibility	1,000	800	200	25%	37
Annals of Intensive Care	2,170	1,750	420	24%	581
Nanoscale Research Letters	1,570	1,300	270	21%	4,038
EURASIP Journal on Information Security	760	630	130	21%	91
Applied Adhesion Science	1,180	1,000	180	18%	119
Journal of Big Data	1,180	1,000	180	18%	161
EPJ Quantum Technology	1,290	1,100	190	17%	54
EURASIP Journal on Audio, Speech, and Music Processing	1,290	1,100	190	17%	200

Journal title	2019 APC (EUR)	2018 APC (EUR)	2019 - 2018 #	2019 - 2018 %	WC # articles total 2011 - 2018
The Journal of Mathematical Neuroscience	1,290	1,105	185	17%	104
Pastoralism	1,290	1,105	185	17%	190
Rice	1,990	1,745	245	14%	335
Journal of Cloud Computing: Advances, Systems and Applications	860	800	60	8%	419
EURASIP Journal on Image and Video Processing	1,290	1,200	90	8%	475
EURASIP Journal on Advances in Signal Processing	1,290	1,200	90	8%	1,035
EURASIP Journal on Wireless Communications and Networking	1,290	1,200	90	8%	1,962
Critical Ultrasound Journal	1,870	1,745	125	7%	241
Crime Science	990	930	60	6%	107
Fixed Point Theory and Applications	990	930	60	6%	1,181
European Transport Research Review	1,200	1,150	50	4%	270
International Journal of Bipolar Disorders	1,790	1,745	45	3%	162
Sports Medicine - Open	1,790	1,745	45	3%	171
AMB Express	1,790	1,745	45	3%	851
Botanical Studies	1,690	1,745	-55	-3%	355
European Journal of Hybrid Imaging	1,570	1,745	-175	-10%	42
Mechanics of Advanced Materials and Modern Processes	690	1,050	-360	-34%	40
CVIR Endovascular	1,060	1,745	-685	-39%	35

Table 6 above lists all Springer journals with APC changes from 2018 – 2019 in descending order by % change, with the total number of articles published from 2011 – 2018 from Crawford (2018)

“No APC” to “Now APC” journals (12 journals)

As of July 26, 2019, there are 12 journals listed in DOAJ where DOAJ indicates “No” Article Processing Charges (APCs) that have APCs according to the Springer Open website. For example, DOAJ information on Brain Informatics is as follows

“PUBLICATION CHARGES

Article Processing Charges (APCs): [No.](#)

Submission Charges: [No.](#)

Waiver policy for charges? No.”

(Screen scrape from DOAJ website July 26, 2019)

An investigation was conducted to answer the following questions:

- Are these errors in DOAJ or an actual change from non-charging to charging?
- What are the characteristics of these journals (age, country of publication, journal license, current APC, society / institution partnerships, timing of switch from non-charging to charging)

Information to answer these questions was drawn from DOAJ and the APC project (data gathered from the publishers’s website) for 2014 – 2019.

Of the 12 journals, 9 are confirmed as having had no publication fee as of 2016, the first year we began systematic gathering of data from the SpringerOpen website. 1 journal listed as “no cost found” in 2016 is listed as “no publication fee” in 2015 and “0” in 2014 (reflecting a change in data collection practices). The remaining 2 journals were identified as “no publication fee” in 2018. Therefore, it was confirmed that all 12 journals were at some point between 2015 and today “No publication fee” journals, that is, journals that had wording on the website clearly indicating that there is no publication charge.

10 of the 12 journals (83%) have a society or institution listed in DOAJ as of Jan. 31, 2019. This suggests two possible reasons for the change from non-charging to charging: 1) the society or institution may have provided interim sponsorship to cover Springer APCs but did not obtain ongoing funding or 2) Springer may have offered an initial low or no-cost deal then raised prices (a common business strategy). The two reasons are not mutually exclusive, and it is possible that other factors are involved that I am not aware of.

Country of publication of no to now APC journals

As illustrated in the table below, 11/12 (92%) of the journals are published in the EU/UK, suggesting a regional trend. 8/12 (two thirds) of the journals are published in Germany, the home country of the ownership and management of parent company SpringerNature (see Who owns SpringerNature? Section below). Does this hint at a direction the company expects to take with all sponsored journals in future?

Table 7: Country of Publication of SpringerOpen “no” to “now” APC journals

Country	Journals
Germany	8
Netherlands	1
Singapore	1
United Kingdom	2
Grand Total	12

First calendar year journal provided online Open Access content (no to now journals)

The DOAJ metadata element “First calendar year journal provided online Open Access content” for Jan. 31, 2019 was used a surrogate for age of the journals, with the following results.

Table 8: First calendar year of open access (from DOAJ)

Year	Journals
2008	1
2012	1
2013	2
2014	4
2015	1
2016	1
2018	2

The table above indicates a fairly wide range of dates of first online content, with some clustering in 2014. These results are not sufficient to draw inferences about age of journal and tendency to shift from charging to non-charging.

Timing of switch from non-charging to charging

APCs were first found on the SpringerOpen website for these journals as follows:

2017: 1
 2018: 3
 2019: 8

This data suggests a recent increase in tendency to switch from non-charging to charging. This makes sense in the context of funder push for transition to OA via APCs (OA2020, PlanS).

The APC amounts for these journals are very similar to the overall pattern for SpringerOpen journals, as is illustrated in the following table:

Table 9: SpringerOpen APC no to yes APC v. all

SpringerOpen APC 2019 (EUR)		
	No to Yes APC only	All
Average	1,089	1,212
Median	1,000	1,155
Mode	1,155	885
Range	800 - 1,745	510 - 2,480

Table 10: SpringerOpen Transferred publications

Journal title	Transferred to
Bandung: Journal of the Global South	Brill
China Finance and Economic Review	A new publisher
IZA Journal of Development and Migration	Sciendo (de Gruyter imprint)
IZA Journal of Labor Economics	Sciendo (de Gruyter imprint)
IZA Journal of Labor Policy	Sciendo (de Gruyter imprint)
Journal of Open Innovation: Technology, Market, and Complexity	MDPI
Pacific Journal of Mathematics for Industry	World Scientific Publishing
Scientific Phone Apps and Mobile Devices	APD SKEG Pte Ltd
Strategies in Trauma and Limb Reconstruction	Jaypee
Video Journal of Education and Pedagogy	The Association of Visual Pedagogies

Of the 10 journals that were transferred to other publishers, 8 were transferred to other commercial publishers, 1 was transferred to the association partner, and 1 simply indicated “new publisher”. 3 of these journals were picked up by deGruyter imprint Sciendo.

Discussion

One of the goals of the *Sustaining the Knowledge Commons* project is to assess the sustainability of approaches to open access. This analysis of Springer Open as of summer 2019 raises some concerns. APC price increases far beyond inflationary rates, particularly when correlated with journals with higher volume, raises questions about the sustainability of the APC approach. The following section focuses on questions about the sustainability of the SpringerOpen partner-sponsor approach that currently accounts for 40% of SpringerOpen journals.

Journal and partnership sustainability

SpringerOpen is a relatively new entrant into open access journal publishing. SpringerOpen appears to be growing through a combination of starting new commercial journals and partnerships with societies, universities, and other not-for-profits that appear to start out with sponsorship approach. In this context, a 12% attrition (“ceased publication”) rate is a concern, particularly when ceased journal titles are no longer listed on the SpringerOpen website or DOAJ, as explained in detail in Morrison (July 22, 2019).

The sustainability of sponsoring partnerships needs further examination. 12 journals that formerly had no publication fees, now have fees. A glance at the list of new sponsoring journals raises questions about sustainability. One of the sponsoring agents is the Government of Egypt. This raises concerns about academic freedom as the Government of Egypt has been described as actively directing academic research and major abuses of the human rights of students and faculty, as discussed in detail elsewhere (Morrison, Aug. 7, 2019). This section will focus on the question of the economic sustainability of this approach.

As we noted a few years ago (Salhab and Morrison, 2015), as of 2015 it would have taken 3 months’ salary for a full professor in Egypt’s public university system to pay an APC of \$1,500 USD. The current average APC rate is 1,212 EUR for Springer, equivalent to 1,357 USD (as of August 8, 2019 according to XE currency converter).

As of July 2019, SpringerOpen publishes 13 journals supported by “Specialized Presidential Council for Education and Scientific Research (Government of Egypt), so author-payable article-processing charges do not apply.” The titles are listed below. This arrangement appears to be in growth mode as 5 of these titles are new to the SpringerOpen list in 2019. In addition, The Journal of Basic and Applied Zoology, is published by an Egyptian society.

Table 11: Egypt sponsored SpringerOpen journals, July 2019

Ain Shams Journal of Anesthesiology
Bulletin of the National Research Centre
Egyptian Journal of Biological Pest Control
Egyptian Journal of Forensic Sciences
Egyptian Journal of Medical Human Genetics
Egyptian Journal of Neurosurgery
Egyptian Journal of Radiology and Nuclear Medicine
Egyptian Pediatric Association Gazette
Journal of the Egyptian Public Health Association
Middle East Current Psychiatry
The Cardiothoracic Surgeon
The Egyptian Heart Journal
The Egyptian Journal of Neurology, Psychiatry and Neurosurgery

I hope that the salaries of professors in Egypt's public university system have improved substantially since 2015. However, if this is not the case, this raises questions about the sustainability of this kind of sponsorship. If the Government of Egypt were to pay SpringerOpen average APCs (1,212 EUR or 1,357 USD) for a small journal publishing 40 articles per year, this sponsorship would cost 54,280 USD per year. If the salary rate for a full professor is still about 6,000 USD per year (1,500 for 3 months x 4), then the cost for sponsoring just one journal with SpringerOpen would be equivalent to the salaries of 9 full professors.

Optimistically guessing that the salaries of professors have doubled in the last few years, sponsoring just one small journal of 40 articles per year would cost the equivalent of the salaries of 4.5 full professors. Egyptian authors would be eligible for a 50% SpringerOpen discount because Egypt is listed as a lower-middle income economy by the World Bank (2019) (SpringerOpen, 2019). Assuming that the discount is applied to the sponsoring partner (the Government of Egypt), this still leaves the situation where a 40-article-per-year journal costs the equivalent of 4.5 full professors' salaries. Assuming these waivers are applied and are not simply absorbed by a SpringerOpen profit rate of 50%, if the sponsor did not pay the full cost, who does?

Are these sponsorships affordable in the long run even for wealthy countries? The following statement of partial coverage of the 1,155 EUR APC of one of SpringerOpen's journals may be relevant here as it suggests that SpringerOpen's business plan involves charging sponsors similar amounts to their average APCs, and raises a question about whether a relatively well-funded research organization based in the same country as SpringerNature can afford to maintain this sponsorship model on an ongoing basis: "50% of the Article Processing Charge for Geothermal Energy is covered by Helmholtz Centre for Environmental Research - UFZ, Helmholtz Centre Potsdam - GFZ German Research Centre for Geosciences, and Karlsruhe Institute of Technology" (from SpringerOpen website, July 2019).

There are other options for a country like Egypt that are more sustainable and a better fit with the original goal of the Budapest Open Access Initiative (2002) to "lay the foundation for uniting humanity in a common intellectual conversation and quest for knowledge". As an initial step, I recommend developing a national open access repository or a system of institutional repositories, including an approach such as LOCKSS for preservation purposes, and developing a policy requiring Egyptian researchers to deposit their work for open access in these repositories. This is important to ensure that Egypt (and any other country) does not risk losing access to its own funded research. Relying for access on servers and suppliers in other countries is not wise in the long run because wars (military and trade) and natural disasters could result in temporary or permanent loss of access.

For publishing, there are significant advantages to a local approach, such as hosting local journals using the open source Open Journal Systems (OJS) and hiring local academics, technicians, and administrative assistants to do the work of publishing. OJS is just one example

that I use, partly due to familiarity and partly due to open posting of their pricing. In the short term, this provides the immediate benefit of the lower and more predictable costs of local wages. In the long term, this approach cultivates the development of local expertise (technical and academic) and prepares Egyptian researchers for a larger role in international research. As an interim step, the Government of Egypt could contract with OJS for hosted systems at a cost of 850 USD – 2,700 USD per journal, depending on the level of service preferred. Assuming a 40-article per year journal and premium OJS service at 2,700 USD, this would save 51,580 USD per year as compared to publishing with SpringerOpen. Assuming SpringerOpen only expects half due to Egypt's income status (27,140 USD), this still saves 24,440 USD per year.

Multiplying by 13 journals would result in an estimated cost savings of 317,720 USD – 670,540 USD per year. Assuming 2015 salary figures are still fairly accurate, this sum would be enough to pay the salaries of 55 – 110 full professors.

If half of this amount is redirected to hiring local staff (e.g., pay part of the time of a full-time professor to oversee academic quality, a librarian shared among several journals to look after journal hosting, a part-time administrative assistant), the Government of Egypt benefits from both cost savings and building of local expertise and leadership, and is developing the expertise to benefit even further down the road as this approach is good preparation for eventual further savings from downloading and hosting the software, eliminating the hosting fees. Aside from cost savings, this approach helps us to move towards equity – equal participation – and away from the charity model of APCs with waivers.

A simpler way to express the difference in affordability of the 2 approaches: 2 APCs at 1,357 USD (SpringerOpen average) = 2,714 USD. OJS premium journal hosting is 2,700 USD. The break-even point for a journal using OJS hosting as compared to partnering with SpringerOpen is 2 articles / year. Any journal that publishes 3 or more articles per year saves money with OJS' premium service.

Perhaps this model would be helpful to institutions like Helmholtz in Germany, too? This basic approach (support local publishing) is a popular model in North and Latin America.

Who owns SpringerNature? According to the SpringerNature website:

“Springer Nature is organised as a German partnership limited by shares... which combines elements of a German stock corporation... and elements of a German limited partnership... Shares in Springer Nature are held by entities controlled by the Holtzbrinck Publishing Group and funds advised by BC Partners.

The management ... is undertaken by a “general partner” (or “GP”)... For Springer Nature the GP is a German stock corporation held by entities controlled by the Holtzbrinck Publishing Group and funds advised by BC Partners....” Screen scraped from July 26, 2019 (German omitted).

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