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## Fee Waivers for Open Access Journals

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**Abstract:** Open access journals which charge article processing charges (APCs) sometimes offer fee waivers to authors who cannot afford to pay them. This article measures the extent of this practice among the largest toll access and open access publishers by gathering stated fee waiver policies from publishers' websites. A majority (68.8%) were found to offer fee waivers and sometimes they are only available to authors from low- and middle-income countries. This has implications for the ability of authors without funding to publish in journals from these publishers.

**Keywords:** article processing charges; fee waivers; open access publishing

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### 1. Introduction

Open access journals make their content openly available for anyone to read and re-use without needing to pay a subscription fee to access it. There are a variety of funding mechanisms to cover the costs of this publication model, as identified by Suber [1]. For example, some small open access journals are run entirely by volunteers with minimal overheads, which they meet themselves, and others are funded by institutional subsidies. Still others are funded by charging fees known as article processing charges (APCs) in order to publish articles.

There is a long history of subscription and print journals supplementing their subscription income by charging other kinds of publication fee [2], such as submission charges, as well as additional author-side fees including page and colour charges. King and Alvarado-Albertorio [3] report on a study that showed that 50% of articles in 1977 had some form of author-side payment [4], although the practice declined somewhat in subsequent years as the financial costs of publication were shifted onto higher subscription fees. The practice still exists among some online closed-access journals. For

example, Proceedings of the National Academy of Sciences charges a publication fee of \$1700 for all research articles [5] and Cell charges \$1000 for a single colour figure [6]. Solomon and Björk, Tenopir and King report that page charges have tended to be more common among society publishers than commercial publishers [7]. As with APCs, not all journals charge these fees and the costs can vary widely.

The existence of a multiplicity of different fees adds complexity to the narrative sometimes used by those sceptical towards open access who argue that it results in a situation where authors have to “pay to publish”. In fact, publishing journal articles as open access does not usually require payment by the author or on the author’s behalf, and some closed access journals do require payment. For those journals that do charge APCs, it is usually a single fee (albeit one which is potentially subject to waivers and discounts), which is designed to cover all aspects of publication rather than an unbundled collection of smaller fees. Occasionally, open access journals do levy additional page and colour charges—or even additional charges for applying a more liberal Creative Commons license [8]—and some publishers (e.g., Copernicus and F1000Research) charge a variable APC dependent on the length or type of article. So although a single fee is the dominant form of APC it is not the only one.

According to the Directory of Open Access Journals (DOAJ), 32% of open access journals that are indexed in the DOAJ charge APCs [9] (this does not necessarily mean that less than 32% of articles are published after paying an APC, because journals vary in size and many open access journals publish few articles). The practice has grown more widespread over the last few years because large commercial publishers now all offer a “hybrid” option for the majority of their journals. This hybrid option allows authors to make an article open access within an otherwise closed access journal by paying an APC. Several thousand journals from large commercial publishers now offer a hybrid option [10] and on average their APC cost (around \$3000) is higher than full open access journals from open access publishers (around \$2000) [10,11].

The majority of APCs are not paid directly by authors but rather by the authors’ research funder or institution on their behalf [12], with the notable exception of some megajournals such as SAGE Open which have fees significantly lower (\$195) than the average figure stated above [13]. This is why although the terms “author fee” or “author pays” are sometimes used in relation to this fee, “APC” (used interchangeably to represent “article processing charge” or “article publishing charge”) is a more neutral and accurate term. Some publishers will waive their APCs for authors who wish to publish in one of their journals but cannot afford the cost of the APC [14]. BioMed Central have also offered fee waivers since at least 2003 [15].

One of the primary reasons that many people support open access is to help create a more equitable global system of participation in the scholarly conversation [16], and overcome the strong North to South bias in the flow of academic information [17]. Public Library of Science (PLOS), perhaps the largest open access publisher, has offered fee waivers [18] since it was founded in 2003—although the criteria for eligibility have changed [19]—and offer evidence that their programs to offer fee waivers to authors from low- and middle-income countries have led to an increased number of submissions from those countries [20]. In 2013, PLOS’ fee waivers totalled \$3.9 million [20]. Solomon and Björk’s [12] survey of authors found a small difference in the number who said they had used fee waivers in countries with a per capita GNP of less than \$25,000 (14%) and countries with a per capita

GNP of greater than \$25,000 (12%). The same study found that fee waivers were more commonly used for authors publishing in humanities and social sciences journals rather than science journals.

The extent of these fee waivers, both in terms of the number of journals that offer them and the number of articles that are published using them, had not been studied at all before 2014. The only research known to the author that is investigating this topic, is the survey by Solomon of authors in four megajournals [13] and an article by Jørgen Burchardt on Danish researchers with no institutional affiliation [21]. Neither of these articles have fee waivers as their main focus. Burchardt's article looked only at open access publishers, so did not examine the extent of fee waivers for traditional subscription publishers that also publish hybrid journals. Morrison *et al.* [22] reported in their study into APCs levied by journals in the Directory of Open Access Journals that 80% of journals provide waivers or discounts for authors from low- and middle-income countries.

From a combination of sending emails to publishers and looking at their websites, Burchardt found that of the biggest 27 open access publishers, only four automatically waive APCs for authors from low income countries and with half (13) of the publishers it is possible to apply for a waiver [21]. Papin-Ramcharan and Dawe [23] have highlighted how having an automatic waiver based on the country listed in an author's affiliation can be considered preferable to requiring authors to apply each time. The existence of fees can create a "psychological barrier to participation" even when they are waivable [24].

This article will address the lack of research on fee waivers by collecting information to find out how many publishers and journals offer them. It will also examine what the terms of the waivers are, in particular looking at whether they are exclusively offered to authors from low- and middle-income countries or whether other criteria are also considered.

## 2. Methods

A list was created of publishers that charge APCs. This included both traditional toll access publishers—commercial publishers, society publishers, and university presses, who may publish full open access and/or hybrid open access journals—as well as open access publishers. The 15 largest toll access publishers (Table 1) and 15 largest open access publishers (Table 2) were selected based on the number of journals they publish. The number 15 was chosen purely to limit the sample size due to time constraints in conducting this exploratory research. While this list is far from comprehensive, it is large enough to cover a range of different types of publisher, which, between them, publish a significant portion of the world's research articles. It does not cover the extensive long tail of smaller publishers, who may well have different policies.

**Table 1.** Largest toll-access publishers.

Publishers with Highest Number of Journals		Publishers with Largest Revenue	
Publisher	Number of Journals	Publisher	Revenue <sup>1</sup> (2013) in £m
Elsevier	3111	Elsevier	2,126
Springer	2773 <sup>2</sup>	Springer	783.8
Taylor & Francis	2200	OUP	759.2
Wiley	1544	Wiley	649.8
Sage	>750	Taylor & Francis	367.1
OUP	>300	ACS	301.9

Table 1. Cont.

Publishers with Highest Number of Journals		Publishers with Largest Revenue	
Publisher	Number of Journals	Publisher	Revenue <sup>1</sup> (2013) in £m
CUP	>300	CUP	261.7
LWW/Wolters Kluwer	>300	LWW	-
Emerald	>290	Sage	105.1
IEEE	222	IEEE	95.1
Brill	208	IOP	48.6
NPG	131	AAAS	48.1
IOP	74	NPG	-
ACS	55	Emerald	38.4
<i>Annual Reviews</i> <sup>3</sup>	47	RSC	38.1

<sup>1</sup> These figures do not all correspond to journal revenue only because they are taken from publishers' annual financial reports, which do not always list journal publishing as a separate revenue stream. For example, the figure for Taylor & Francis includes revenues from book publishing. However, these figures are likely to still be a good indication of which are the largest journal publishers by revenue. Figures from 2013 were used because, at the time of writing, many 2014 figures were not yet available; <sup>2</sup> Includes BioMed Central; <sup>3</sup> Annual Reviews does not have an open access option so does not have APCs and were excluded from the sample.

Table 2. Largest open access publishers.

Publishers with Highest Number of Journals		Publishers with Highest Number of Articles <sup>1</sup>	
Publisher	Number of Journals	Publisher	Number of Articles
Hindawi	531	BioMed Central	136,835
BioMed Central	256	Hindawi	130,908
De Gruyter Open	151	MDPI	49,353
Scientific Research Publishing	121	Copernicus	38,677
MDPI	118	Scientific Research Publishing	34,089
<i>Springer</i> <sup>2</sup>	100	MedKnow Publications	27,033
Dove Medical Press	99	<i>International Union of Crystallography</i> <sup>2</sup>	22,927
Bentham Open	97	Canadian Center of Science and Education	21,681
MedKnow Publications	79	Asian Network for Scientific Information	21,081
Libertas Academica	53	Frontiers	19,758
PAGEPress Publications	47	Dove Press	18,235
Frontiers	47	<i>Elsevier</i> <sup>2</sup>	13,160
Internet Scientific Publications	46	<i>EDP Sciences</i> <sup>2</sup>	13,075
<i>Elsevier</i> <sup>2</sup>	46	Tehran University of Medical Sciences	12,878
Copernicus	42	Consejo Superior de Investigaciones Cientificas <sup>3</sup>	11,870

<sup>1</sup> PLOS ONE is not fully indexed in DOAJ at the article level but only at the journal level, hence PLOS does not appear on this list; <sup>2</sup> Springer, Elsevier, EDP Sciences, and International Union of Crystallography are toll-access publishers that also publish full open access journals, so they have been excluded from the selection; <sup>3</sup> The publishing arm of Consejo Superior de Investigaciones Cientificas is known as Editorial CSIC.

For toll access publishers, figures for the number of journals published were obtained from individual publisher websites (on 13 May 2015). There is no definitive list already available because the Web of Knowledge and Scopus databases do not allow searching by publisher. The author used knowledge of the market to identify the likeliest 20 or so largest publishers, and then checked their websites individually. For open access publishers, the Directory of Open Access Journals (DOAJ) was used to identify the publishers with the highest number of journals (figures obtained on 13 May 2015).

Since there are some publishers that publish a high number of journals but do not produce a high number of articles or generate high income, and *vice versa*, additional categories were chosen in order to ensure that all genuinely large publishers were included in the list: the number of articles published, and annual revenue. For toll access journals, figures for the highest number of articles were not readily available from either industry databases or publisher websites, so the annual revenue criterion was used instead. Revenues were obtained from the publishers' annual financial reports [25], again relying on the author's knowledge of the market to identify the likeliest large publishers.

Revenue figures were difficult to obtain for open access publishers because many of them are either privately owned or wholly owned by a larger commercial publisher. Even the Outsell market research report *Open Access: Market Size, Share, Forecast, and Trends* [26] only lists the revenues for three full open access publishers (PLOS (\$37 million, increasing to \$50.8 million in 2013), Hindawi (\$12 million), and Bentham Open (\$4 million)). It was not felt that this would be a problem, however, since, for toll access publishers, the 15 publishers with the largest revenues almost exactly corresponds to the 15 largest by number of journals. So, for open access journals, the criterion of number of articles published was used instead of revenue. DOAJ also shows the publishers with the highest number of articles, so figures for this were obtained from there (on 13 May 2015). The only anomaly generated by using this selection method is the exclusion of PLOS, who only publish eight journals but since *PLOS One* is the largest journal in the world by number of articles PLOS has been added to the final selection in Table 3.

The final selection resulted in a list of 16 toll access publishers and 18 open access publishers. Some of this data is similar to that used by Burchardt [21], but data from that study is not openly available and appears to date back to 2010. Since the open access landscape is changing rapidly the author felt that a new and more comprehensive data gathering exercise should be undertaken. For the purposes of this research, fee waivers were distinguished from reduced fees due to membership schemes. It is quite common for a society publisher to offer a small discount on its APC to members, but this does not offer the same kind of lowered barrier to open access publication as a fee waiver.

To determine which publishers offer fee waivers, all 34 publisher websites were searched (on 13 May 2015). Several categories of information were collected for each publisher (see Table 3). As well as noting whether an APC fee waiver is offered, it was also noted whether the waiver is full or partial (*i.e.*, covers all or some of the APC cost); whether the publisher offers a waiver for all or some of its journals ("all" meaning all journals which charge APCs); whether the waiver is offered only to authors from low- and middle-income countries (LMIC) or to authors regardless of geographical location; and whether the waiver is automatic in the case of LMIC authors or whether they have to apply. The World Bank classification of Low-income economies and Lower-middle-income economies are usually used by publishers to determine which countries are included [27].

Table 3. APC fee waivers by publisher.

Publisher	Open Access (OA) or Toll-Access (TA) Publisher	APC Waiver Offered	Full, Partial, or Both	All or Some Journals	LMIC Authors only	Automatic for LMIC Authors	Source	Notes
AAAS	TA	Yes	Both	All	No	No	<a href="http://advances.sciencemag.org/content/article-processing-charges">http://advances.sciencemag.org/content/article-processing-charges</a>	<i>Science Advances is the only AAAS journal with an APC option</i>
American Chemical Society	TA	No	-	-	-	-	<a href="http://acsopenaccess.org/acs-authorchoice/">http://acsopenaccess.org/acs-authorchoice/</a>	
Asian Network for Scientific Information	OA	No	-	-	-	-	<a href="http://www.ansinet.com/charges.php">http://www.ansinet.com/charges.php</a>	
Bentham Open	OA	Yes	Full	All	Yes	No	<a href="http://benthamopen.com/special-fee-waiver.php">http://benthamopen.com/special-fee-waiver.php</a>	
BioMed Central	OA	Yes	Full	All	No	Yes	<a href="http://www.biomedcentral.com/about/apcfaq/">http://www.biomedcentral.com/about/apcfaq/</a>	
Brill	TA	Yes	Both	Some	Yes	No	<a href="http://www.brill.com/brill-open-0">http://www.brill.com/brill-open-0</a>	<i>Waiver applies for full OA journals only</i>
Cambridge University Press	TA	No	-	-	-	-	<a href="http://journals.cambridge.org/action/displaySpecialPage?pageId=4604">http://journals.cambridge.org/action/displaySpecialPage?pageId=4604</a>	
Canadian Center of Science and Education	OA	No	-	-	-	-	<a href="http://web.ccsenet.org/publication-policies.html">http://web.ccsenet.org/publication-policies.html</a>	
Consejo Superior de Investigaciones Científicas	OA	-	-	-	-	-	<a href="http://revistas.csic.es/">http://revistas.csic.es/</a>	<i>No APCs.</i>
Copernicus	OA	Yes	Both	All	No	No	<a href="http://publications.copernicus.org/for_authors/financial_support.html">http://publications.copernicus.org/for_authors/financial_support.html</a>	

Table 3. Cont.

Publisher	Open Access (OA) or Toll-Access (TA) Publisher	APC Waiver Offered	Full, Partial, or Both	All or Some Journals	LMIC Authors only	Automatic for LMIC Authors	Source	Notes
De Gruyter Open	OA	Yes	Full	All	No	Yes	<a href="http://www.degruyter.com/dg/page/947/article-processing-charges">http://www.degruyter.com/dg/page/947/article-processing-charges</a>	
Dove Medical Press	OA	Yes	Both	All	Yes	No	<a href="http://www.dovepress.com/author_guidelines.php?content_id=3120">http://www.dovepress.com/author_guidelines.php?content_id=3120</a>	
Elsevier	TA	Yes	Full	All	No	No	<a href="http://www.elsevier.com/about/policies/pricing-policy#apc-policies">http://www.elsevier.com/about/policies/pricing-policy#apc-policies</a>	
Emerald	TA	No	-	-	-	-	<a href="http://www.emeraldgroupublishing.com/openaccess.htm">http://www.emeraldgroupublishing.com/openaccess.htm</a>	
Frontiers	OA	Yes	Both	All	No	No	<a href="http://www.frontiersin.org/about/PublishingFees">http://www.frontiersin.org/about/PublishingFees</a>	
Hindawi	OA	Yes	Full	All	Yes	Yes	<a href="http://www.hindawi.com/waiver/">http://www.hindawi.com/waiver/</a>	
IEEE	TA	Yes	Both	Some	No	No	<a href="http://www.ieee.org/publications_standards/publications/ieee_access_faqs.pdf">http://www.ieee.org/publications_standards/publications/ieee_access_faqs.pdf</a> & <a href="http://www.ieee.org/publications_standards/publications/authors/open_access.html">http://www.ieee.org/publications_standards/publications/authors/open_access.html</a>	
Institute of Physics Publishing	TA	No	-	-	-	-	<a href="http://iopscience.iop.org/info/page/openaccess#gold">http://iopscience.iop.org/info/page/openaccess#gold</a>	
Internet Scientific Publications	OA	No	-	-	-	-	<a href="https://ispub.com/submit-an-article">https://ispub.com/submit-an-article</a>	
Libertas Academica	OA	Yes	Both	All	Yes	No	<a href="http://www.la-press.com/author_resources.php?folder_id=121">http://www.la-press.com/author_resources.php?folder_id=121</a>	Discounts are automatic; full waivers are not.

Table 3. Cont.

Publisher	Open Access (OA) or Toll-Access (TA) Publisher	APC Waiver Offered	Full, Partial, or Both	All or Some Journals	LMIC Authors only	Automatic for LMIC Authors	Source	Notes
LWW/Wolters Kluwer	TA	No	-	-	-	-	<a href="http://download.lww.com/wolterskluwer_vitalstream_com/PermaLink/LWW-ES/A/LWW-ES_2013_08_23_OAFAQ_1_SDC1.pdf">http://download.lww.com/wolterskluwer_vitalstream_com/PermaLink/LWW-ES/A/LWW-ES_2013_08_23_OAFAQ_1_SDC1.pdf</a>	
MDPI	OA	Yes	Full	All	No	No	<a href="http://www.mdpi.com/about/apc">http://www.mdpi.com/about/apc</a>	
MedKnow Publications	OA	-	-	-	-	-	<a href="http://www.medknow.com/policies.asp">http://www.medknow.com/policies.asp</a>	<i>Most journals do not have fees. Each journal has its own policy.</i>
Nature Publishing Group	TA	Yes	Full	Some	No	Yes	<a href="http://www.nature.com/ncomms/faq/index.html">http://www.nature.com/ncomms/faq/index.html</a>	<i>Waivers for full OA journals only.</i>
Oxford University Press	TA	Yes	Both	All	Yes	Yes	<a href="http://www.oxfordjournals.org/en/oxford-open/charges.html">http://www.oxfordjournals.org/en/oxford-open/charges.html</a>	
PAGEPress Publications	OA	Yes	Partial	All	Yes	No	<a href="http://www.pagepress.org/files/guidelines_authors.pdf">http://www.pagepress.org/files/guidelines_authors.pdf</a>	<i>authors from UN list of Least Developed Countries (LDCs) are entitled to ask for a discount</i>
PLOS	OA	Yes	Both	All	No	Yes	<a href="http://www.plos.org/publications/publication-fees/">http://www.plos.org/publications/publication-fees/</a>	
Royal Society of Chemistry	TA	No	-	-	-	-	<a href="http://www.rsc.org/Publishing/Journals/OpenScience/Fees.asp">http://www.rsc.org/Publishing/Journals/OpenScience/Fees.asp</a>	
Sage	TA	Yes	Both	Some	No	No	<a href="http://www.uk.sagepub.com/aboutus/waivers.htm">http://www.uk.sagepub.com/aboutus/waivers.htm</a>	



Table 3. Cont.

Publisher	Open Access (OA) or Toll-Access (TA) Publisher	APC Waiver Offered	Full, Partial, or Both	All or Some Journals	LMIC Authors only	Automatic for LMIC Authors	Source	Notes
Scientific Research Publishing	OA	Yes	Both	All	Yes	No	e.g., <a href="http://www.scirp.org/journal/oje/">http://www.scirp.org/journal/oje/</a>	
Springer	TA	Yes	Full	All	No	Yes	<a href="http://www.springeropen.com/authors/oa-waiverfund">http://www.springeropen.com/authors/oa-waiverfund</a>	
Taylor & Francis	TA	Yes	Both	All	No	No	<a href="http://journalauthors.tandf.co.uk/preparation/OpenAccess.asp">http://journalauthors.tandf.co.uk/preparation/OpenAccess.asp</a>	
Tehran University of Medical Sciences	OA	-	-	-	-	-	<a href="http://journals.tums.ac.ir/#">http://journals.tums.ac.ir/#</a>	No APCs.
Wiley	TA	Yes	Both	All	No	Yes	<a href="http://www.wileyopenaccess.com/details/content/13707a1ddf6/Waivers-and-Discounts-on-Article-Publication-Charges.html">http://www.wileyopenaccess.com/details/content/13707a1ddf6/Waivers-and-Discounts-on-Article-Publication-Charges.html</a>	Automatic only for LIC authors.

### 3. Results and Discussion

From the results, we can see that of the 34 publishers selected, two do not charge APCs: Consejo Superior de Investigaciones Científicas and Tehran University of Medical Sciences. For the calculations that follow, the 32 remaining publishers will be used as the base figure, with 16 toll access and 16 open access publishers. The majority of MedKnow Publications journals do not charge APCs and they do not have a specific fee waiver policy covering the ones that do. AAAS only publishes a single journal with an APC option: Science Advances.

Nine publishers do not offer any fee waivers at all under any circumstances. This includes both toll access (6/16) and full open access publishers (3/16). The sample is admittedly small, but at 37.5% compared to 18.8%, this is a notable difference, especially since it includes some of the largest and well-established toll-access scholarly publishers in the world. Brill and Nature Publishing Group offer waivers for articles in full open access journals and not hybrid journals; this means that authors from LMIC countries can still publish in all journals at no cost to themselves, but can only have their work made openly available at no cost in a select number of journals. In the case of the six toll access publishers which do not offer any waivers—American Chemical Society, Cambridge University Press, Emerald, Institute of Physics Publishing, Lippincott Williams & Wilkins/Wolters Kluwer, and Royal Society of Chemistry—LMIC authors do not have the choice to make their work openly available at all if they do not have funds to pay an APC.

Twenty-two of the 32 publishers (68.8%) that charge at least some APCs have an explicit fee waiver policy. Of those 22, all but one (PAGEPress Publications) offer the possibility of a full waiver. Eighteen publishers offer a waiver on all of their journals and four offer it only on some of their journals (e.g., full open access journals but not hybrid journals). Eight publishers—36.4% of those with a waiver policy—only offer them to authors from low income or lower-middle income countries, and eight publishers offer an automatic waiver for those authors (these two groups are not conterminous). These figures differ from those stated by Burchardt (see above). In some cases, different levels of fee reduction are offered depending on whether an author is from a low income or lower-middle income country, e.g., Scientific Research Publishing.

The results offer a snapshot of the situation at one particular time; it is likely that policies will change. The research is limited by relying only on existing public information from publisher websites so further research could conduct a more comprehensive and accurate data gathering exercise by undertaking a survey of publishers. A survey could address whether there is a difference between journals owned by the publisher and those published on behalf of a learned society; collect figures on the extent to which fee waivers are used, such as the number of authors and/or percentage of authors which have used them; and provide information about the geographical location of recipients of fee waivers—for example, the percentage of recipients that are from low income countries.

The fact that fee waivers appear to be primarily designed to assist authors from low- and middle-income countries brings this discussion round to the issues raised by Chan, Kirsop and Arunachalam [28] regarding the North–South divide in scholarly communications. Fee waivers for LMIC authors could be seen as fulfilling a similar role to the “donor solutions” such as the Reseach4Life program that provides free access to subscription journal content to those in the Global South. Chan *et al.* critique these systems as reinforcing the centre/periphery architecture of the

scholarly communication system, with researchers in donor countries relegated to a perceived subordinate role in the system. Fee waivers could similarly be seen as a mechanism that creates a difference between authors' status depending on the country they are based in. However, this is a "difference" that is not visible to anyone other than the author(s), so perhaps the psychological barrier discussed by Peterson *et al.* [24] is a bigger issue here because at least authors' work is made openly available to everyone on equal terms. On the other hand, if the granting of a waiver is at the discretion of a publisher, then there is an unequal power relation between the two parties.

#### 4. Conclusions

Fee waivers for APCs in open access journals are commonly offered by most, but not all, of the largest academic publishers. This is true of both toll access and open access publishers. Toll access publishers are more likely to never offer fee waivers under any circumstances, but the majority do offer them. This research has measured the frequency of a fee waiver *option* being offered by these publishers, but it has not measured the extent to which waivers are actually used.

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#### Conflicts of Interest

The author declares no conflict of interest.

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