



What goes into making a scientific manuscript public?

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Currently, our libraries are paying about US\$5000 per peer-reviewed subscription article. What is more difficult to find out is where all that money goes. Which steps are required to make an accepted manuscript public? Because of their high-throughput (about 1200 journals with a total of about half a million published articles), low-cost, open access publishing model, I've contacted [SciELO](#) and asked them how they achieve such low costs – figures that range below US\$100 per article, a fraction of commercial publishers. [Abel Packer](#), one of the founders of SciELO, was so kind to answer all my questions.

SciELO receives most of its articles from the participating journals in JATS XML and PDF. It takes that version and publishes it online, makes sure it is indexed in the relevant places (PubMed, Web of Science, etc.) and archives it for long-term accessibility. These services cost about US\$67 (which are covered by the participating governments, not the authors). For other digital services such as a DOI, plagiarism checkers, altmetrics, etc. another US\$4 are incurred. So bare-necessities-publishing costs are just over US\$70 per article at SciELO.

However, this comparison is not quite fair, as only few publishers receive their manuscripts in XML. So for those journals, which do not have an authoring environment such as [PeerJ's "Paper Now"](#) in which you can write your paper and submit it in the right format, there will be costs associated with editors who handle manuscript submissions, peer-review, as well as generating all kinds of formats (XML, PDF, ePub, etc., including proofs going back and forth between authors and staff) from the submitted files (LaTeX, Word, etc.). At SciELO (and their participating journals), these services, if chosen by the authors, average around another US\$130. Taken together, the complete package from, say, MS Word submission to published article can thus be had for a grand total of just over US\$200. However, if/once authors use modern authoring systems, where they write collaboratively on a manuscript that is formatted in, e.g., native XML, then publication costs drop to below US\$80. On the other hand, if SciELO authors opt for English language services, submission services, an enhanced PDF version, a social media campaign, and/or data management services – all offered by SciELO for a fee – a cozy all-inclusive package will cost them almost US\$600, but still a far cry from the 5k commercial publishers charge for their subscription articles.

If even the most comfortable publishing option with all the bells and whistles can be had for just under US\$600, why do current publishers succeed in persuading authors and institutions to pay author processing charges (APCs) averaging around €2000? There is an easy answer to that: currently, each subscription article generates 5k in revenue for the publisher. as such, publishers will strive to approach this figure with their APCs to fight a drop in their revenues. If that is the case, one might ask, why the average figures are not closer to 5k? One reason may indeed be competition by new publishers offering APCs dramatically below 5k. However, I think there may also be another/additional reason: The numbers above appear to corroborate a [conclusion](#) from last July, that subscription

paywalls may indeed incur a cost in the neighborhood of around US\$3000 per article. Dropping these 3k in paywall costs from per article revenue targets of 5k, leads to approximately the average APC which these publishers were able to charge from the institutions studied in the [Schimmer *et al.* white paper](#). In such a scenario, publishers would keep the per-article-profit of just under 2k roughly constant.

This then means, of course, that the only thing the [proposed](#) switch from subscriptions to APCs would do is increase the profit margins of corporate publishers from currently just shy of 40% to about 90% – any publisher’s wet dream. As I’ve [outlined](#) before, this is probably the only way to make the abysmal *status quo* even worse, as it wouldn’t fix any of the other problems we have, besides access, and would exclude the scholarly poor from publishing in the venues that secure a job. Unregulated, universal gold open access has to be avoided by any means necessary.