ASSOCIATION OF RESEARCH LIBRARIES

Substituting Article Processing Charges for Subscriptions: The Cure Is Worse than the Disease

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For more than 20 years, many in the scholarly funding agency and government communities have worked to ensure that access to scholarly communications by faculty, students, and the general public is not excessively encumbered by the price of access to that literature. Recently, some of these actors have advocated a switch in tactics from attempts to control the economic power of the buyers and sellers in the market to "flipping" from a pricing system based on subscriptions to scholarly journals to one based on article processing charges (APCs). This analysis examines the economics of the prevailing market-power control tactics that have been used thus far and those associated with "flipping" to APCs.

Market Control

The price increase problem has its roots in the imbalance of market power between the buyers (now primarily libraries) and sellers (scholarly journal publishers) of scholarly communications, with the sellers increasingly having more market power than the buyers. The root of the sellers' market power has been the granting by authors of all ownership and distribution rights to their work to the journals owned by the sellers. The root of the sellers' increasing market power has been the consolidation of top journals into the hands of fewer and fewer publishing entities.

One attempts to reduce excessive prices and price increases by reducing the market power held by the sellers and/or by increasing the market power of the buyers. The table below lists major methods available to alter the market power of the two actors and provides limited examples of application to the market for scholarly journals.

Methods of Reducing the Market Power Held by Sellers	Examples
Apply antitrust laws (application of the Sherman Antitrust Act or the like)	Not applied (some largely ineffective pressure to stop mergers and acquisitions, but antitrust laws are poorly designed for effective application in the scholarly communications market)
Create more competitors	University/library-published journals, PLOS Journals, BioOne, etc.
Authors withhold specific distribution rights from journals, using those rights to provide free access to article content	• Authors' retention of the right to post the manuscript on their own computers, the department or university server, a server organized by their discipline, or in a digital repository. • Funding agency, government, or employer requirement of authors that a freely available copy of the manuscript must be posted immediately or after some specified delay in a publically accessible site.

Methods of Reducing the Market Power Held by Sellers	Examples
Author boycott of publishers that abuse market power	Multiple attempts with little evidence of long-run successful application of the tactic
Distribution of scholarly journal content without consent of sellers	Sci-Hub, currently, and others over time (generally regarded as copyright infringement)
Withdrawal of purchasing power from buyers	Since 2008 the purchasing power of public university libraries has been dramatically curtailed as their funders' budgets have been diminished, forcing those buyers to be very selective in their purchase of journals.

Methods of Increasing the Market Power Held by Buyers	Examples
Concerted action by buyers to compel sellers to use less of their market power	Not applied (fear of antitrust consequences by private buyers and of political consequences by public buyers)
Refusal by larger buyers (libraries) to accept conditions of sale offered by sellers	Many individual examples of successful high-stakes bargaining by libraries. Sometimes prices are reduced and sometimes the buyer no longer subscribes to the journal or set of journals.
Concentration of buying power of individual universities into a much larger collective of universities for purposes of negotiation and acquisition of journals	OhioLINK, and many others

APCs

APCs are not novel; they are in use in a number of journals. The underlying notion is that manuscript authors (or someone on behalf of authors) pay article processing charges when a manuscript is accepted for publication and that the resulting journal becomes available (digitally) with a zero subscription price to all who wish it. Supporters of this tactic contend that flipping from subscriptions-based financing of scholarly journals to APC financing will result in superior control of total expenditures for journals. While the arguments mustered to support this contention are varied and nuanced, two underlying elements are central:

1. APCs are ultimately based on the cost of *processing* an article rather than on the demand/supply factors associated with that article. Hence an APC-based system would result in prices for scholarly communications that vary as publishing costs vary rather than as market conditions, i.e., demand/supply, vary. Clearly, journal subscription prices have risen over time more rapidly than the cost of publishing has risen. The implicit contention is that, had an APC-based system been in effect over the last decades, scholarly communications would have risen much less in price than under the demand/supply-based

system.

2. For journals that offer both APC and subscription-based methods of access, some research university libraries have calculated that, had the APC route of acquisition (rather than the subscription route) been followed when their faculty published, university total outlay to obtain the same amount of scholarly communications would have been smaller. Hence, flipping to an APC-based system would cost research universities less or equal to the same amount they now spend on subscriptions.

Element 1 is simply bad economics. APCs might be based by some journals on the cost of publishing articles but in the long run APCs are based in the supply/demand factors of the scholarly communications market. This is evident in the high variability of APCs from journal to journal, a variability that clearly bears no relationship to costs. Furthermore, "cost" is a highly elastic term stretched by some nonprofit scholarly journals today to incorporate the entire cost of running their societies into journal subscription rates and by for-profit publishers to include multi-million dollar executive compensation and other elective cost elements.

Worse, flipping from subscriptions to APCs changes the incidence of cost from libraries to individual authors, regardless of whether the APC charge is reimbursed or not. Individual faculty members have no market power with journal publishers. Libraries, especially large libraries, have some market power and collectives of libraries have significant market power. Thus, flipping from subscriptions to APCs changes the market situation from one that is now characterized by monopoly (single seller of a specific journal) on the seller's (publisher's) side and oligopsony (few buyers) on the buyer's (libraries') side to one that is still characterized by monopoly power on the seller's (publisher's) side but one where there is zero market power on the buyer's side of the market (as the buyer becomes individual faculty members paying the APCs rather than libraries buying subscriptions).

Market Organization	Seller's Side of Market	Buyer's Side of Market
Current market organization with subscription system financing scholarly journals	Monopoly (only one seller of a specific scholarly journal)	Oligopsony (a few large library buyers of a specific scholarly journal)
Market organization with APCs financing scholarly journals	Monopoly	Competitive (many authors paying APCs)

Individual authors (especially untenured authors) stand to have their entire careers made by having a single article published in a highly respected journal within their discipline. That article may make the difference between tenure and leaving the profession. For a tenured faculty member such an article may enable movement to a better university with a higher salary or to significant improvement of salary at their current university. For an author in a developing nation, such a publication could improve their worldwide exposure such that they can move to an elite university with the compensation and life improvement implications that follow. Thus individual authors would be expected to submit their manuscripts to the journals that might do the most for their careers, largely without respect to the APC associated with that journal. A journal financed by APCs would be expected to literally charge what the market would bear.

It does not matter to this argument whether authors are reimbursed for the APC by their employers. Because of the publication's potential benefit to the author's career, authors would place considerable pressure on their employers to pay the APC regardless of price. While employers might simply refuse the authors' reimbursement requests, the consequence generally would be dissatisfaction. Such dissatisfied employees might well pay the APC desired by their journal of choice out of their own funds and become highly motivated to seek employment elsewhere.

> **The Case of Predatory Journals**: In recent decades we have seen a proliferation of poorly refereed journals, many of which fall into the "predatory" category. Almost all of these journals are financed by APCs. Faculty members pay the APCs and tend to publish in them after their work has been rejected by well-refereed journals, apparently believing that another publication has some career benefit. They often pay the APCs themselves because their employers have information that the articles in these journals are poorly refereed and refuse to reimburse APCs charged by such journals. Nevertheless, hundreds of thousands of manuscripts are sent to these journals each year, APCs are paid by authors, and articles are published. Not only do authors have no "market power" to bring down the APC charges of predatory journals, but their actions encourage proliferation of more such journals.

Element 2 requires examination of the *ceteris paribus* assumption. It may be that, in the current world where APC financing and subscription exist side by side, APC financing appears to produce a lower collective cost for acquiring journals. But when APC financing is the sole way to finance journals, other things are not equal. In that new world all buying power (market power) is taken from the employers of authors and authors, who have no market power, effectively become the buyers. Projections made from the world in which monopoly-oligopsony characterizes the sides of the market with a limited amount of buying done through the APC route, simply become irrelevant to a monopoly-competitive world in which publishers with market power confront individual authors.

Conclusion

The likely result of flipping the market to APCs is that the collective cost of scholarly communications would rise above the level that would prevail under the subscription-financed regime. By dealing with individual authors rather than large, sophisticated buyers, the increased market power advantage of for-profit publishers and nonprofit scholarly societies would allow them to obtain higher prices and profits than they now enjoy. Certainly some publishers, like PLOS, would continue to responsibly set APCs, but their behavior would not be the dominant industry behavior.

An APC pricing regime has the potential to hold down scholarly communications costs only if the market power of publishers is reduced when the market is "flipped" to the APC scheme. Nothing in the "flipping" scenario accomplishes this end. Instead, the relative market power of publishers grows as their buyers effectively become individual authors rather than their authors' somewhat more powerful agents, their libraries.

Consider the actions outlined above that have been employed to reduce the market power of publishers or to increase the market power of purchasers. Not all the efforts have been effective but those that have been effective have operated in an era in which knowledge became more and more valuable, i.e., in an era in which the demand for knowledge dramatically increased. In such a market, journal prices would increase dramatically, arguably even more dramatically than they have. Thus effective actions to limit market power produced moderation of prices, i.e., prices lower than they otherwise would have been, rather than lower prices. Publically accessible archives have reduced the cost of access to much of the scholarly literature to zero for many who would have been excluded from access had university libraries, government and foundation research funding agencies, and disciplinary societies not created them. Access to all the literature is easier for everyone because publishers have not been able to restrict exhaustive searches.

We in the scholarly community should do more to convince/require authors to retain sufficient copyright to place their material in public archives. We should continue political efforts to ensure that reports of research paid for by public funds are available to everyone. We should create more high-quality journals like PLOS to compete with rivals that continue to price their journals exorbitantly. We should insist the antitrust laws be used to break the market power of those whose greed hurts the commonweal or that laws be rewritten such that they can produce that effect if need be. We should encourage the more promising efforts to create new methods of distribution of and access to scholarly literature.

What we should not do is to latch onto “solutions” that strengthen the power of those who have controlled access to scholarly communications and used that control for their enrichment and to the exclusion of society’s benefit. “Flipping” to APCs is such a “cure.” That cure would be worse than the present disease.

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