

Navigating Open Access and Transformative Agreements

A Case Study of the University of Maryland

Alexander Dodd

“What should we be doing as a public institution when it comes to open access and transformative publishing agreements?” Most large US research institutions are facing this question, including the University of Maryland, College Park. This article explores this issue by looking at the University’s publishing landscape from a high level. It then dives deeper into three recent transformative agreements the University library has entered, investigating pricing, usage, and publishing data for a nonprofit society publisher, a for-profit commercial publisher, and, finally, a university press. The goal is to better understand how these agreements intersect with university-sponsored scholarship, library budgets, and the implications for the academic publishing landscape.

As a public land-grant university, how should the University of Maryland, College Park (“the University”) approach open scholarship and open research in a way that aligns with our greater mission—achieving excellence in teaching, research, and public service—while also providing our researchers with the resources they need to succeed? This is the question facing many US public research institutions as they immerse themselves in a world of academic publishing in ways not previously experienced. Universities and their libraries are currently using multiple ongoing transitional frameworks to support open access research. Some of these frameworks include subscribe to open, “a promising alternative to APC [article processing charges] based models for its flexibility, simplicity, and requirement for participation from current subscribers”; SCOAP3 (Sponsoring Consortium for Open Access Publishing in Particle Physics); and Open Library of the Humanities, which enables research libraries to collectively support open articles and journals in their respective fields.¹ One of the more popular methods in the publishing landscape over the past few years is variations of transformative agreements. Transformative agreements are typically in the form of read and publish agreements or publish and read agreements, both essentially bundling payment for reading and publishing into one single contract. Although there is considerable discourse on whether transformative agreements are doing what they set out to, or if it is worth continuing these agreements at all, they are growing in popularity in the academic publishing world, as evidenced by the numerous major publishers offering new and alternative subscription models that incorporate publishing into the total cost of a subscription.² Arguments abound surrounding the effectiveness and equity of transformative agreements, and there is further research to be done on whether transformative agreements will influence where an institution’s authors publish or increase the institution’s overall open access publishing output. This paper focuses on questions and data to explore when entering into a publishing agreement. Its purpose is to examine the monetary cost, general institutional usage of, and

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institutional publishing output for three publishers with whom the University has recently entered into transformative agreements: a nonprofit society, a for-profit commercial publisher, and a university press.

Literature Review

Scholarly Publishing

Commercial publishers dominate scholarly publishing in the natural and medical sciences, where the five major publishers accounted for 20 percent of all publishing in 1973, 30 percent in 1996, 50 percent in 2006, and 53 percent in 2013.³ Delving deeper, in 2013, the top three publishers accounted for 47 percent of all publishing. In social sciences and humanities, the five major publishers accounted for less than 10 percent of all publishing output until 1990, 15 percent through the mid-nineties, and 50 percent in 2013. This monopoly on publishing held by a small group of commercial publishers creates issues throughout the entire information ecosystem, including skyrocketing subscription and inflation costs, “exploitation of the unpaid labour of authors, reviewers, and editors in serious journals and books,” and equity issues for researchers, especially those not from the global north.⁴ This author argues that regardless of how one characterizes commercial publishers, from predatory to partner, the academic community should work collectively to shift away from these profit-driven publishers and embrace a more open and equitable alternative.⁵

The University and the Concept of “Public Good”

University presses have generally sought to align themselves with their university’s mission and position themselves as an alternative to commercial publishing, although this alignment and commitment to nonprofit endeavors have not always been uniform in practice.

Gilman’s linking of the mission of university presses to the purpose of universities themselves helped lay an important legal cornerstone for a large part of today’s system of formal scholarly communications. Through nonprofit enterprises, university presses seek to fulfill the university’s mission of serving the public good through education, rather than of maximizing profits increasing owners’ equity and paying out shareholders dividends.⁶

Ideas of the “public good” and how they interact with higher education, however, have been the focus of many political and societal debates since public education was first formed in the United States.⁷ Even the underlying concept of higher education as a public good is not agreed upon by all.⁸ But with university libraries becoming more involved in the publishing landscape outside of the traditional university press, one can still see the importance of linking the library’s mission with that of the university, often with the “public good” specifically mentioned.

- University of Washington Libraries: “Advance Research for the Public Good.”⁹
- University of Maryland Libraries: “Participate in large scale, digital collections initiatives for the public good.”¹⁰

- University of Nebraska Lincoln Libraries: “We create, curate, deliver, and preserve information resources that are central to higher education, the public good, the underrepresented and marginalized voices of the state and region, and the achievement of equity and justice.”¹¹
- University of Tennessee Libraries: “Promote the power of open research, open science, and open systems to advance the public good.”¹²

This push toward open access and open research is not only driven by universities. The White House Office of Science and Technology Policy’s “Ensuring Free, Immediate, and Equitable Access to Federally Funded Research” was released in August 2022. This memorandum serves as a directive to federal agencies regarding the management of their research and development budgets and the necessary adjustments to their public access protocols. The recommendation put forth suggests that these agencies should promptly revise their policies, aiming for completion no later than December 31, 2025, to ensure the immediate public accessibility to research publications and their associated data. Additionally, it advises the establishment of transparent processes to uphold the integrity of scientific and research practices within these public access policies.¹³

To be clear, this directive requires research to be made publicly available immediately but does not mandate a specific publication model. The research needs to be publicly accessible and can be met through green open access initiatives such as institutional repositories. Although this position was welcomed by many stakeholders in the scholarly publishing community as a good first step, some have argued that official mandates and policies coming from the top are not what is needed; “the conditions for the adoption of open access should reflect and be answerable to the various communities of practice that conduct and publish research. The important thing here is for funders, institutions, and governments to back away from implementing restrictive mandates and instead facilitate experimentation governed by communities themselves.”¹⁴ Although the Office of Science and Technology Policy memo will have major implications in the scholarly publishing landscape, the question of how it will affect public universities is less understood. Either way, the directive has made it clear that the push toward open scholarship will continue to be an important issue for public research in the United States; universities and university libraries will play a major role in meeting the directive in the years to come.

Publishing and the University

Academic publishing is essential for university faculty and researchers, especially for those who are applying for tenure and promotion. One study of university faculty librarians from 2020 showed 53 percent of respondents were required to publish peer-reviewed articles for promotion, with an additional 37 percent of respondents calling it “recommended.” Another study from 2011 indicated that about 60 percent of respondents were required to publish for promotion.¹⁵ The university’s role in the publishing landscape has ebbed and flowed significantly since the first university press was formed in 1878: “From 1920 to 1970, new university presses continued to open at a rate of one a year. Between 1970 and 1974, ten more new presses were founded, but only five more were started between 1975 and

2000.”¹⁶ While commercial publishers consolidated their market share, the university library typically has focused their energy on access and acquisition of resources. Now, with the rise in open access publishing, the library has seen a resurgence in its involvement in disseminating academic publications, whether that be through library author funds; university’s institutional repositories, which are often under the purview of the library; or through the licensing of resources, which now can cover both access to, and publishing in, publishers and titles.¹⁷ Because the university and university libraries are increasing their direct involvement in academic publishing, it becomes increasingly important to ensure that these agreements and open publishing initiatives fall within the university’s mission.

Open Access and Transformative Agreements

Open access pertains to scholarly work that is freely available to the public, without access barriers such as paywalls, and is typically devoid of significant copyright and licensing restrictions.¹⁸ Although this may seem simple, there are numerous types of open access publishing models. Green open access, also known as self-archiving, is when an author posts a version of their manuscript into some form of repository, such as an institutional repository or subject-specific repository like PubMed Central.¹⁹ Some institutions, such as Harvard University, have mandates that give their authors the right to publish any institutionally sponsored research into their institutional repositories; however, many publishers require an embargo period, sometimes up to thirty-six months or longer, before the full text may be publicly shared.²⁰ Gold open access is when the version of record, or the final published version, of an article is published open access and immediately open to all. This form of open access most commonly requires the author, institution, or funder to pay an article processing charge (APC).²¹ Also known as a publication fee, an APC can range in price from a few hundred dollars per article to almost \$12,000 for articles in selective journals such as *Nature*.²² Platinum and diamond open access both refer to the open access publication at no cost to the author, institution, or funders. This is typically accomplished with journal-level funding from an outside source. Bronze open access refers to an article that has been made open at the pleasure of the publisher, but there is no guarantee this will always be the case, as publishers can revoke bronze status at any time. Many in the field do not consider bronze open access to be a true form of open access because it is not permanently available.²³ This paper does not include bronze open access as part of its open access data. Another significant facet of open access involves the use of Creative Commons licenses or similar arrangements that enable the reuse of articles and article data without requiring permission from the publisher. The absence of these agreements in bronze open access underscores why it is often excluded from being considered a genuine form of open access.

Transformative agreements intend to shift the payments from a library away from subscription-based reading and instead use that money to fund open access publishing for their researchers. In a *Scholarly Kitchen* blog post, Hinchcliffe defined *transformative agreements* using four principal components: transparency, the goal being terms and conditions of these agreements are made publicly available for others to use and benchmark; costs, the goal being to shift costs from paying for access to paying for publishing; copyright, the goal being to shift copyright for published materials from the publisher back

to the author; and transitional, the goal being that these agreements are meant to be both developmental and temporary.²⁴ These agreements are meant to be a pathway to increasing open access but should not be considered the end goal. There is quite a bit of conversation around whether we are seeing that final goal come to fruition, but as a study from 2020 shows, it's "hard to assess whether transformative agreements are transitory or will perpetuate the current structure of the scholarly communication system."²⁵ Transformative agreements come in different forms, the most basic being an offsetting agreement, whereby as an institution's publishing costs go up in the publisher, their subscription costs will go down. Publish and read agreements and read and publish agreements are also quite popular. These are agreements whereby an institution will either have the cost of publishing and reading combined into one contract (read and publish) or the institution will only pay for publishing and read access is included (publish and read).²⁶ Individual agreements may mix elements of the diverse open access initiatives and models. The majority of transformative agreements at the University of Maryland cover unlimited publishing for all affiliated researchers, so long as they are the corresponding author. Some agreements cover publishing charges for the entire publisher catalog, whereas others only cover select journal titles. The goal of these agreements for the University is to allow our researchers to have multiple options when it comes to publishing their research open access at no cost to themselves, whether that be by using our institutional repository or by publishing their work in a gold or hybrid journal.

Methods

This paper used a multifaceted approach to gathering data, using institutional data, Scopus data, and public data available from individual publishers' websites. To begin, five years of pricing data for each publisher was pulled from the University's integrated library system (ILS) Aleph, starting in fiscal year 2018 and ending in fiscal year 2022. The University uses the fiscal year (July to June) for pricing data, and calendar year (January to December) for usage and publishing data. Although this is not an exact correlation, we find it to be the easiest way to compare the data, as each of our agreements can begin at different points in the year. For publishers with multiyear agreements, the total price was divided by the number of years of the agreement to come up with the average yearly price. Future pricing came from the individual publisher agreements the University has signed.

I retrieved all publishing data used in this study from Scopus. To extract the University's publishing data, I used the "affiliations." When searching by affiliation, there is an option to include "documents, whole institution" or "documents, affiliation only." For this study, "documents, whole institution" was used because I was interested in publishing output from our entire institution, not just those who affiliate with the general University of Maryland, College Park affiliation. When using "documents, whole institution," the affiliation "University of Maryland, College Park" covers all publications with an author affiliated with the general university, as well as six additional affiliations covered under the University of Maryland, College Park umbrella. These sub-affiliations are individual schools within the University of Maryland, College Park, such as the A. James Clark School of Engineering and Robert H.

Smith School of Business, not other campuses within the University system, such as The University of Maryland, Baltimore County.

As of now, Scopus does not have a simple way to export publishing data numbers by the publisher's name within its interface, and because of that, we needed to download both "citation information" and "bibliographic information" for all documents affiliated with the University to be able to analyze the data by publisher. Scopus originally had a download limit of 2,000 documents when exporting information beyond "citation information"; however, Scopus's new search interface allows for up to 20,000 documents to be exported with bibliographic and other metadata. To get to the new search interface, I needed to copy the search query created in the affiliations tab, paste it into the advanced search function, and select the option at the top of the page to use the new search interface (I found no way to get to the new search interface directly from the affiliations tab at the time of writing). Citation and bibliographic data were downloaded for each year, 2018 through 2022. After importing the data into Excel, I ran a deduping process to remove identical entries and cleaned the publisher names. For example, the publisher BioMedCentral shows in the data as "BioMed Central," "BioMedCentral Ltd," and "Biomed Central Ltd." These naming conventions needed to be edited so that all articles were accurately attributed to each publisher. Additionally, I removed all book and book chapters from the dataset. The resulting publishing dataset from 2018–2022 consisted of approximately 35,000 documents. Although this data does not represent the entirety of the publishing ecosystem at the University, it does provide a snapshot of general publishing trends.

Scopus does not currently have a simple way to export publishing data with corresponding author information. Although some articles did contain information about the corresponding author, a majority did not provide such details. Given that transformative agreements typically extend to an institution's corresponding authors, the comparison between the overall publishing output of university-affiliated research and the potential use of a transformative agreement is not a seamless fit.

Scopus has numerous open access designations, including gold, gold hybrid, green, and bronze, and many articles had multiple open access designations. For this study, I defined any article with gold, gold and green, hybrid gold, or hybrid gold and green as open access; I defined any with green or bronze and green as green open access, and bronze or no open access designation, as non-open. Bronze open access should not be considered a sustainable source of open access, as publishers can revoke open status at their pleasure. Green open access remains a notable indicator of University researcher's interest in open publishing, which is why it has been included in each case. For the purpose of this article, however, it is not included in the overall open numbers, as green open access can be achieved by authors submitting a preprint to some form of repository, not necessarily by making the article open on the publisher site at time of publication.

All usage data was retrieved from COUNTER reports using data from both COUNTER Release 4 and COUNTER Release 5. "Required as of January 2019, COUNTER 5 introduces new metrics and reports that replace those of the previous Release 4," and although the two versions cannot be directly

compared, it is nonetheless necessary to consider both when looking at usage over a longer period.²⁷ COUNTER 5 reports were used when available, using the TR_J3 report, and item requests as used in this paper can be defined as “total item requests.” When COUNTER 4 reports were necessary, the JR1 and JR1 GOA reports were pulled, and item requests can be defined as “full-text article requests.” Notably, the JR1 report in COUNTER 4 encompassed both controlled and gold open access, necessitating the use of the JR1 GOA report to distinguish between these access types, whereas the TR_J3 report in COUNTER 5 itemized controlled and gold open access categories. These reports were pulled individually for calendar years 2018–2022.

Average publisher APCs were calculated by taking the most recent APC document released by each publisher and averaging the total price of the charges for all journals. Although this gives a general idea of APCs for the publisher, it is important to note that these charges can vary considerably across a publisher’s portfolio.

General Publishing Landscape at the University

Over the past five years, publishing at the University has stayed relatively even, with an average of 6,350 articles published by affiliated researchers each year, according to the most recent Scopus data. Affiliated researchers include faculty, staff, undergraduate students, and graduate students, as well as other research staff. Publishing numbers dropped around 3 percent between 2018 and 2022. As shown in figure 1, however, there has been a slight increase in publishing in the two years since the University reopened after closing during the COVID-19 pandemic in 2020.

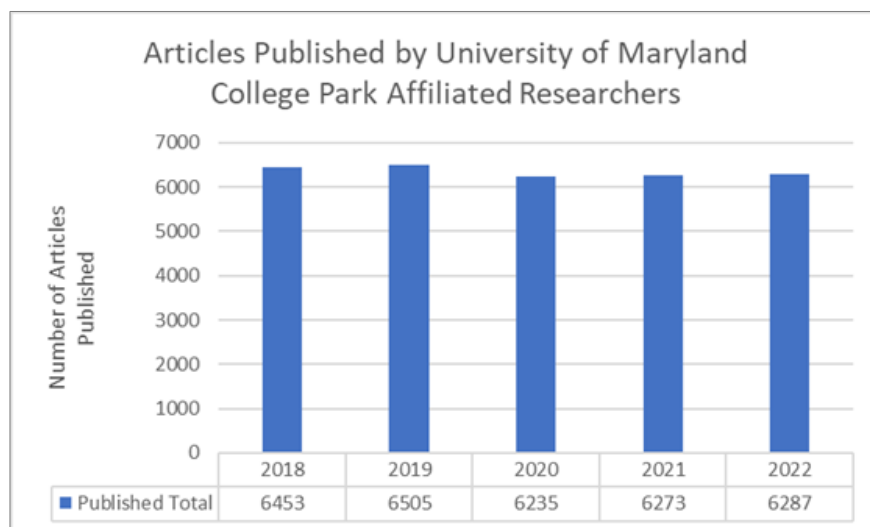


Figure 1. Total Publishing Output of University of Maryland by Year. Data from Scopus.

Open access publishing has also been consistent over the past five years, as shown in figure 2, with an average of 23 percent of university publishing being published in some form of open access at time of publishing, and an average of 26 percent published green open access. This follows the general trend in

academic publishing, where “several studies assessed the number and percentage of scholarly papers freely available online in different periods and disciplines. They found that 20 percent to 54 percent of research articles were available online at no cost.”²⁸

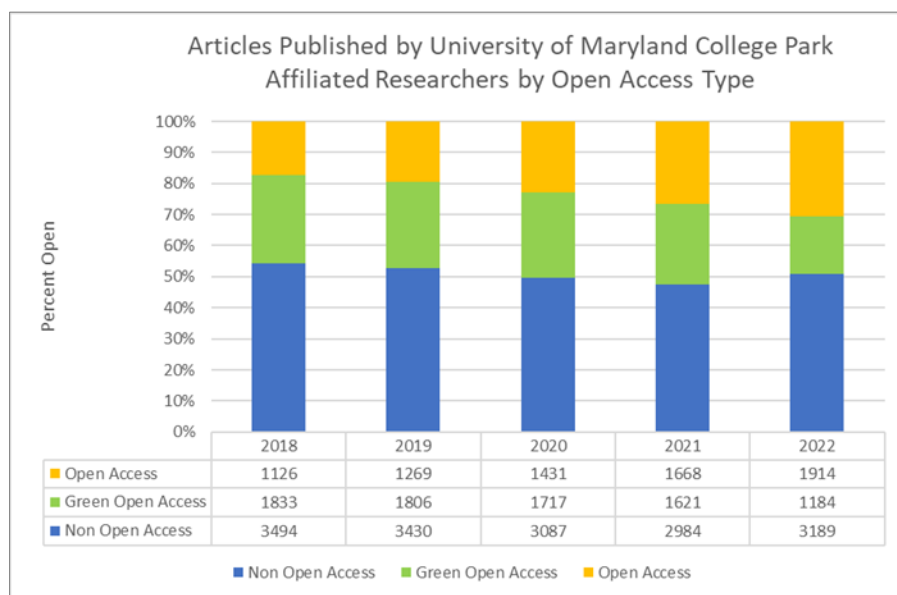


Figure 2. Total Publishing Output of University of Maryland by Year and Open Access Status. Data from Scopus.

This support of open access publishing by University authors can be seen in other ways, such the University’s recently adopted *Equitable Access to Scholarly Articles Authored by University Faculty*. Under this policy, voted on and approved by the University Senate, University faculty grant certain nonexclusive rights to their scholarly articles to the University of Maryland, allowing the University to distribute peer-reviewed versions of articles to the general public through the University’s online repository. This policy, similar to Harvard’s Individual Open-Access License, does not require authors to submit their work to any particular type of journal, and the policy includes a waiver and embargo options to help protect authors’ freedom and control over their work. This policy does not cover non-faculty authors, but any affiliated researchers who wish to be covered under the University policy may sign their own version of this license to provide the same rights.²⁹ This commitment to disseminating University research openly corresponds with the University library’s recent push to add more transformative publishing agreements, hoping to provide University researchers multiple routes to publish their work openly in both pre- and post-print forms.

Case One: Nonprofit Society Publisher

Financial responsibility for covering the costs of open access and transitional agreements varies greatly between publishers. In the case of the nonprofit publisher in case one, that responsibility has fallen onto large research institutions. From 2018 to 2022, the University’s subscription price to this publisher increased by about 27 percent. The average yearly increase for these years was 5 percent. In 2023, the University entered into a new transformative agreement with this publisher, which was a

variation of a traditional read and publish model in that they offer unlimited publishing at a fixed price depending on which pricing tier the University falls under. This tier system is based on the University's corresponding author output for the previous three years, and the University will stay in this tier regardless of whether publishing output increases or decreases during the agreement. This proposed model has the goal of transforming the publisher's complete collection to open access within five to ten years and provides University-affiliated authors with unlimited open access publishing credits, as well as read access to the publisher's archive. The move to this model and away from the traditional subscription model, shown in figure 3, resulted in a subscription price increase of about 158 percent from 2022.

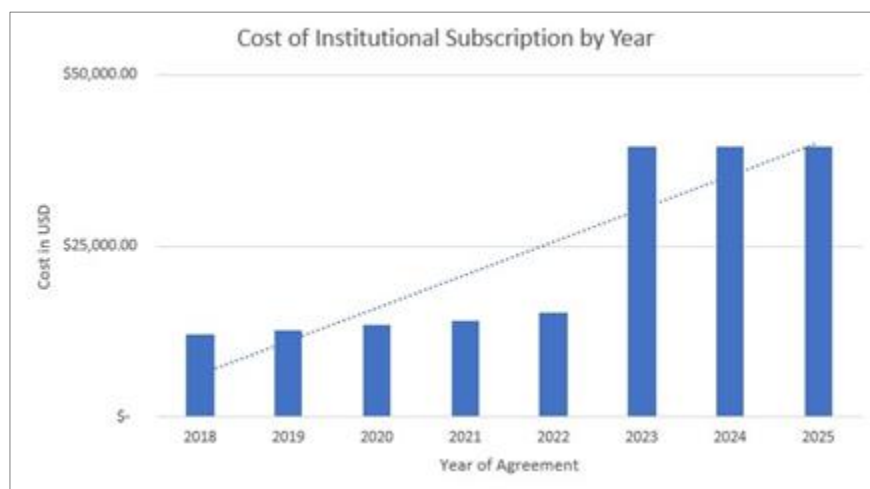


Figure 3. Subscription Price of Case 1 Publisher from 2018 to 2025.

The University's usage of this resource has stayed relatively stable from 2018 to 2022, as shown in figure 4, averaging about 26,000 item requests per year, with about 6 percent of requests coming from gold open access titles. The average cost-per-use over these five years stayed around \$0.50. Assuming 2023 will have similar usage as in the past, the cost-per-use of this resource could potentially jump to \$1.52, or 204 percent.

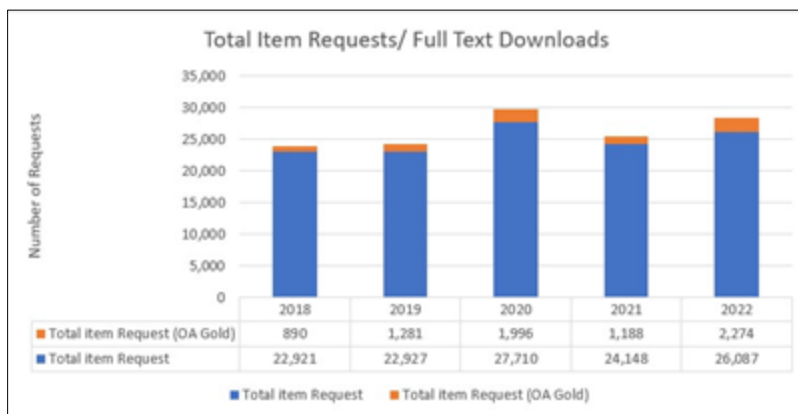


Figure 4. Total Item Requests for Case 1 Publisher from 2018 to 2022. Data from COUNTER 5 TR_J3 and COUNTER 4 JR1 and JR1 GOA reports.

The University's publishing output with this publisher has also stayed relatively consistent, with an average of 158 articles published each year over five years, as show in figure 5, although that number is tending slightly downwards. Scopus data indicates there have been no open access articles published by University-affiliated researchers at the time of publication in the past five years; however, about half of all articles published have deposited into some form of repository. The average APC of this publisher is approximately \$1,083, which could be contributing to the lack of open access publishing.

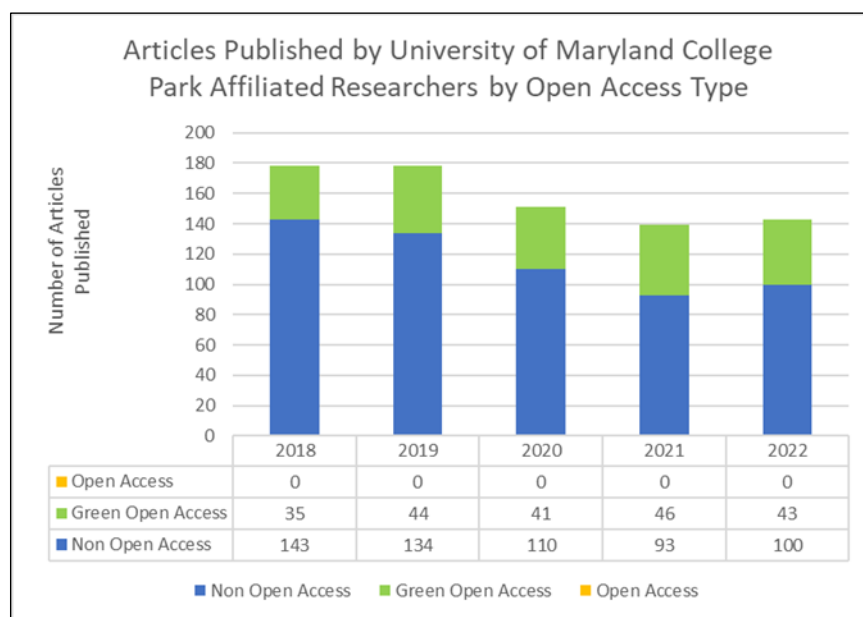


Figure 5. Total Publishing Output of University Maryland for Publisher in Case 1 by Year and Open Access Status. Data from Scopus.

From the data, it can be argued that while the costs for this open access initiative were a significant increase, the return on investment for open access publishing is bolstered by University author interest, primarily evidenced by their engagement in green open access. However, it is important to look at this

agreement not only through supporting data, but also from an ethical viewpoint. Support for open access publishing has grown substantially across the public academic world, as seen by the multitude of announcements and formal policies released. From The University of Washington Open Access Policy:

In 2018 the Faculty of the University of Washington adopted an Open Access Policy intended to make their peer-reviewed scholarly articles freely and widely available . . . and reflects the University's commitment to contribute to the public good through the widest possible sharing of its research and scholarship. The Association of Librarians of the University of Washington adopted its own Open Access Policy a year earlier.³⁰

The University of California shares a similar view: “Public service lies at the heart of the University of California’s mission, and sharing the university’s research output is a way to give back to the public and to demonstrate the value of academic work.”³¹ In these policies, as well as many others, the idea of open and equitable access is often tied directly to the university’s mission of public good. These policies are often broad, and although supporting open scholarship is the main takeaway, the “how” to support it is left to interpretation. Given that the University is a public land-grant research institution, is it part of our duty to support *nonprofit* and other *non-commercial* organizations in their open access initiatives? Or should all support for open access, regardless of where it comes from, be the focus? Does the type of organization even matter, or should we focus on the publisher’s intent? This publisher has a clear mission to transform their entire platform to free and open, which aligns with the University’s mission to make its research open and accessible to all. Although there is large cost increase, it will lead to a complete conversion of our publishing output to open access, helping the University achieve its goal.

Sustainability for transformative agreements hinges on a shift in the financial responsibilities. This principle holds true even for models like “subscribe to open,” where institutions capable of ongoing support play a pivotal role in ensuing universal open access, extending access to those institutions that may not be able to afford traditional subscriptions. In this publisher’s case, the rising cost of publishing has moved away from the “reader,” and rather than move it onto themselves, the publisher has shifted the burden to the academic institution, specifically large research institutions. Meanwhile, most academic libraries have not received budget increases to cover this large cost, and they also do not receive any of the funding that faculty and researchers may have previously spent on APCs. Time will tell whether this shift proves sustainable.

Case Two: For-Profit Commercial Publisher

The shift to a read and publish agreement for one of the University’s major for-profit publishers looked quite different from our non-profit support, as shown in figure 6. From 2018 to 2021, the University’s subscription price for the commercial publisher in case two stayed relatively even, increasing just 4 percent in total over four years. In 2022, the University, through its membership in the Big Ten Academic Alliance (BTAA), joined a one-year subscription price-neutral transformative agreement with this publisher that covered a limited number of University publishing in the publisher’s gold open access journals. In 2023, the University joined a three-year deal with this publisher, again through the

BTAA, that covers all University publishing in most of this publisher’s titles, as well as providing read access to the entire catalog. Throughout this deal, the University’s subscription price for this publisher will increase by 2 percent.

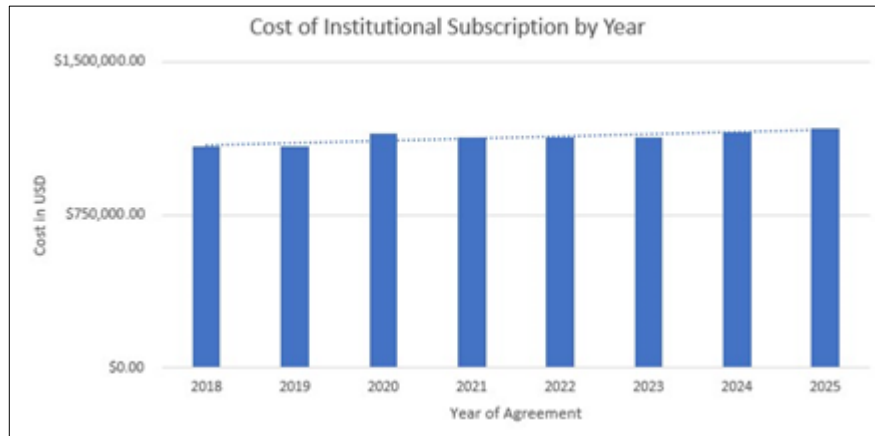


Figure 6. Subscription Price of Case 2 Publisher from 2018 to 2025.

The University’s usage of this resource has noticeably increased from 2018 to 2022, averaging about 390,500 item requests per year, with an increase of 21 percent between 2018 and 2022. Approximately 7 percent of requests for this publisher came from gold open access titles. The average cost-per-use over these five years stayed around \$2.92, with the 2022 cost-per-use landing at approximately \$2.45 as shown in figure 7. Given the relatively small increase year over year, the cost-per-use of this resource should stay relatively stable over the next three years at approximately \$2.50. It is interesting to note that although the cost-per-use for this agreement will remain about the same, it will still be a full dollar higher than the cost-per-use of the agreement in case one, even if the cost-per-use of case one increases the estimated 200 percent.

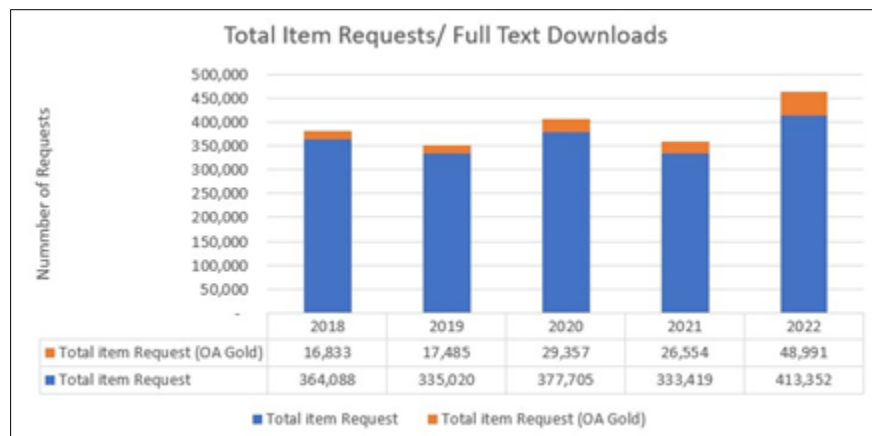


Figure 7. Total Item Requests for Case 2 Publisher 2018–2022. Data from COUNTER 5 TR_J3 and COUNTER 4 JR1 and JR1 GOA reports.

The University’s research output in this publisher has also noticeably increased over the past five years. The University published an average of 330 articles a year but saw an increase of 87 percent in

publishing numbers from 2018 to 2022. Of these 1,651 total articles published over five years, approximately 15 percent have been published open access. This number has also increased over the past five years, with an approximately 212 percent increase in open access articles published from 2018 to 2022. It is possible that part of the reason this number has increased so much is the implementation of the one-year transitional publishing agreement in 2022; however, with just one year of data, we cannot be sure the agreement is the sole cause. The University's overall publishing numbers with this publisher increased 38 percent between 2021 and 2022, with open access publishing increasing by 96 percent, as shown in figure 8. With the average APC of this publisher staying around \$3,500, and the University's authors publishing about fifty-two open access articles a year, University authors could be paying approximately \$182,000 a year to publish, in addition to the University library's yearly subscription fee.

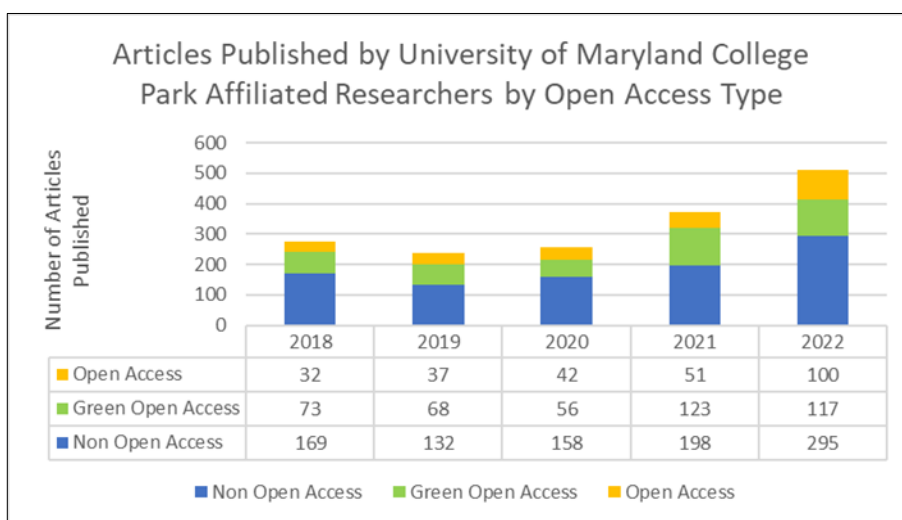


Figure 8. Total Publishing Output of University Maryland for Publisher in Case 2 by Year and Open Access Status. Data from Scopus.

Comparing this publisher to the publisher in case one, we can see that number of requests in usage rose about evenly between the two over five years, whereas University publishing increased at a higher rate in both overall and open access publishing. However, a major difference between the two is that the commercial publisher was able to keep the University's costs at essentially a neutral rate, as opposed to the large increase seen in case one. This difference brings another wrinkle into the question of how the University, as a public institution, should be using its budget to support open access goals. This publisher had higher usage, higher publishing, and a smaller increase in the subscription price than case one, but is a for-profit, commercial publisher. How does the University weigh the institutional advantages for its faculty by supporting a publisher that is heavily used against the societal problems associated with publishing publicly funded research with a for-profit, commercial publisher? The question of supporting nonprofit versus commercial publishing is not a new one in the library world and has been a question long before open access publishing agreements entered the conversation.³² Robert Kaplan, faculty member at the Stanford School of Medicine Clinical Excellence Research Center

and previous chief science officer at the US Agency for Health Care Research and Quality, suggests that commercial publishers should be removed from the equation entirely by shifting to a national digital library:

For the past half century or so, academic publishers have been making vast profits by getting the world's best minds to give them copyrights for research that was often sponsored by public agencies. Next, without compensation, highly accomplished scientists voluntarily review and edit the articles. Then, the for-profit publishers turn around and sell the research to the universities and scientists that gave them the product and labour for free. . . . You might argue that scholarship should be considered a public good, so taxpayers should fund the digital library. But would politicians (or the public) agree?³³

But is the mere status of being a for-profit commercial publisher inherently negative, or should we prioritize evaluating their intentions and terms of their agreements instead? The University has entered into transformative agreements with some nonprofits that currently do not intend to transform their entire portfolio to open access. Is nonprofit status enough to align a publisher with the University's mission, or do librarians need to take a deeper look at each agreement and the intent behind them to get a sense of where the University should be putting their funding?

As of now, this transformative agreement has stayed relatively cost-neutral in comparison with other traditional subscription agreements of which the University is a part. However, the University has no idea if this will persist after the first three years of this agreement. Additionally, although this agreement is transitioning quite a bit of university-funded research to open access, there is not a commitment by the publisher to turn their entire catalog to open access like in case one. As Chadwell and Sutton state, "The academy cannot sustain two parallel systems—one for buying subscriptions and the other for funding or supporting OA systems and platforms."³⁴ Without this commitment to full transition, is the money the University is using to fund this open access agreement truly going to the public good, or is it just creating a new revenue stream for commercial publishers to profit from? With commercial publishing profits at an all-time high, there are signs of which of these is the case.

Case Three: University Press Publisher

In addition to our commercial and nonprofit publisher agreements, the University also has a transformative publishing agreement with a university press publisher. From 2018 to 2021, the University's average subscription price increase for this publisher was approximately 4 percent, with an increase of 8 percent over four years. In 2022, the University joined a transformative agreement run through NorthEast Research Libraries that included unlimited university publishing and read access to the publisher's full catalog. This three-year deal with publishing included a price increase of approximately 6 percent between 2021 and 2022 costs, as shown in figure 9, but is cost-neutral over the three years, between 2022 and 2024.

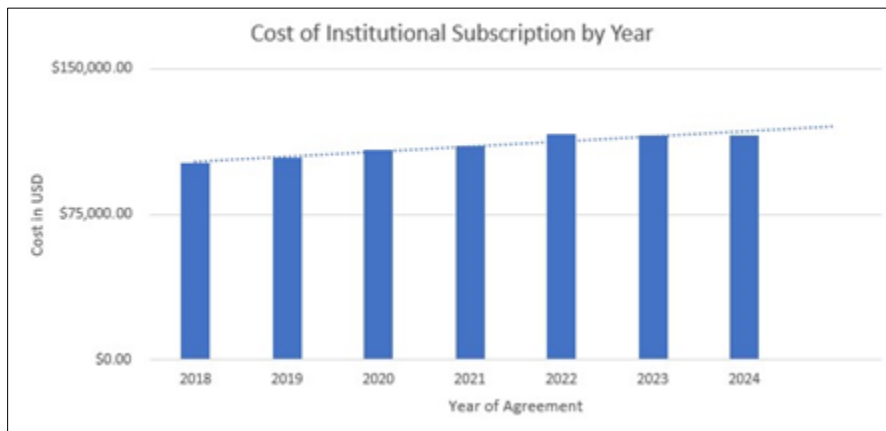


Figure 9. Subscription Price of Case 3 Publisher from 2018 to 2024.

University usage of this publisher was far more varied from 2018 to 2022 than it was with the commercial and nonprofit publishers. The average number of items requested from this publisher was approximately 35,000, with an increase of about 26 percent over five years. Usage has not been consistent, however, with a steady increase of usage between 2018 to 2020 followed by a decrease of approximately 36 percent in 2021, as shown in figure 10. Usage then increased by 28 percent in 2022.

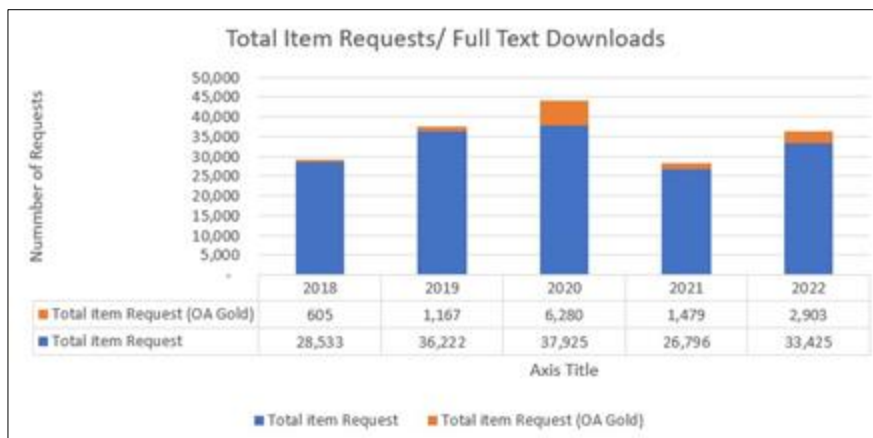


Figure 10. Total Item Requests for Case 3 Publisher 2018–2022. Data from COUNTER 5 TR_J3 and COUNTER 4 JR1 and JR1 GOA reports.

University publishing output in this publisher has stayed relatively stable between 2018 and 2022, with an average of seventy articles published each year. Of the 350 articles published in the past five years, an average of 15 percent have been published open access each year. With the addition of the transformative agreement in 2022, the University saw an increase of 190 percent in open access publishing between 2021 and 2022, as shown in figure 11, with approximately 40 percent of articles published open in 2022. With the average APC of this publisher staying around \$3,100, and the University’s authors publishing approximately five open access articles a year, University authors could be paying around \$15,500 a year to publish, in addition to the university library’s yearly access fee.

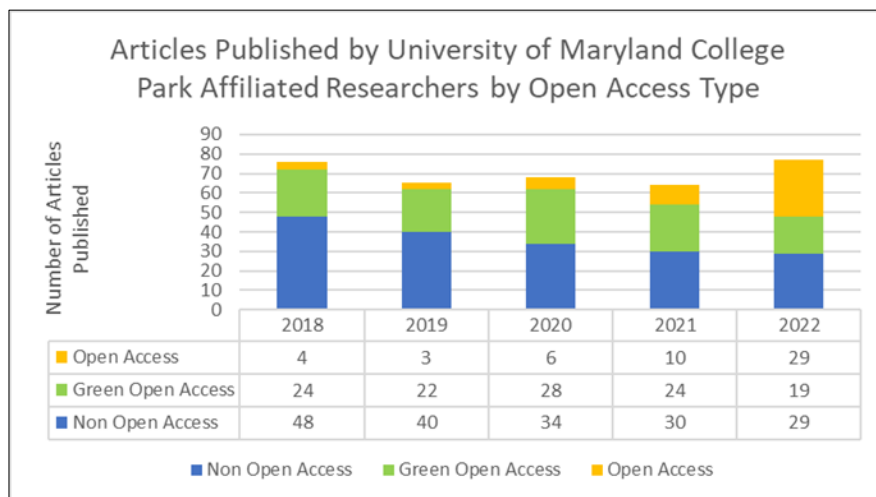


Figure 11. Total Publishing Output of University Maryland for Publisher in Case 3 by Year and Open Access Status. Data from Scopus.

This publisher presents an interesting situation. This is a university press publisher, which inherently more closely aligns with the University's mission than a traditional commercial publisher. However, the raw data around publishing could be seen as evidence that this publisher may not be as useful to faculty as others, as publishing output is relatively low in comparison with case one and case two. In situations like these, the question becomes, should the University continue supporting a publisher that aligns with what we consider to be the public good, even if our community has shown a low interest in publishing with them? Which is more important, that the publisher aligns with the University's mission, or that the University's users have access to read and to publish in what is most useful to them?

Limitations

I identified several limitations while conducting the analysis for this paper. First, although Scopus is a useful tool for analyzing University publishing output, it is an expensive tool that the University had recently subscribed to, limiting the ability for others to replicate this work. Scopus is also just one tool out of many and doesn't provide a complete and total view of University publishing output. It can only display those publishers whose data the tool has access to. Another major limitation is that I found no easy way to collect data by corresponding author. Although some articles did have the corresponding author in the fields, most did not. Because transformative agreements typically only cover an institutions' corresponding authors, comparing general University-affiliated publishing output to potential use of a transformative agreement is not a perfect fit. General publishing data is helpful for seeing where and how University-affiliated researchers publish, but when preparing for a transformative agreement, the University is typically beholden to the data the publisher themselves can produce on corresponding authors. This is also a limitation because publisher data is not always trustworthy or accurate and needs to be fully analyzed to make sure no authors are mistakenly

attributed to the University. General publishing data gives one an idea of where to look but needs to be taken with a grain of salt when used to determine whether a transformative agreement is worthwhile.

Additionally, as this study is just for one institution, it can be used to compare and contrast but should not be used to confer general trends on publishing output or transformative agreements at a public, Carnegie R1 University. The University of Maryland is a large, public institution, and its data, pricing, publishing output, and overall requirements for a transformative agreement may look radically different from those of a smaller institution with lower research outputs.

Finally, APCs can differ by thousands of dollars within the same publisher and may undergo annual fluctuations year over year. The APC charges used in this paper are helpful in giving a snapshot of what University authors *might* pay, but it is necessary to have APCs for every journal corresponding authors have published in if one wishes to have an accurate cost avoidance number once analyzing the actual use of transformative agreements themselves.

Conclusion

In discussions surrounding open access publishing and transformative agreements, the scholarly community is raising numerous questions. Are transformative agreements the future of open access? Will they be able to provide a pathway to open access that is equitable? What does equitable even mean in the scholarly publishing landscape?³⁵ Does the transition to open access for commercial publishers look the same as it does for a nonprofit? Outside of these loftier questions, however, there is little research found that shows evidentiary support in one way or another. As one of the key principles for transformative agreements is transparency, research needs to be published that not only discusses the theory behind these questions, but also provides data and evidence from publishers and institutions to demonstrate whether these agreements are doing what they set out to do.

This paper is the first step of this process, providing a baseline of publishing output, the initial costs of entering into a transformative agreement, and the overall data points and questions we consider when entering into one of these agreements. The University of Maryland places greater emphasis on quantitative data—such as subscription prices, APC cost savings, and publication metrics—than qualitative factors. In contrast, institutions with more stringent publishing and collection policies—which may include specific mandates on faculty publishing—may prioritize qualitative considerations, such as the type of publisher. The weight given to these qualitative aspects may vary among different institutions. Ultimately, each institution must assess the economic and political implications of the agreement they are entering into in relation to their specific requirements and priorities.

Universities may differ in their specific data sources and findings, yet the principles and strategies for embracing open scholarship practices can be customized to align with each institution's characteristics and missions. A crucial starting point involves identifying the overarching goals and mission of the university. Although the precise data sources and research outcomes may vary, most universities share

a commitment to excellence in teaching, research, and public service. It is essential to underscore the alignment with these broader missions when introducing open scholarship initiatives. Furthermore, it is imperative to continually monitor and evaluate the impact of open scholarship endeavors. This entails collecting data on financial costs, institutional utilization, and publishing output to gauge their effectiveness in advancing open access and realizing the university's objectives. Engaging a diverse array of stakeholders—including researchers, faculty, librarians, and administrators—in the decision-making process is pivotal. Their input should be carefully considered during the implementation of open scholarship strategies. Lastly, staying informed about the evolving landscape of open scholarship and academic publishing is crucial. Universities should remain receptive to adapting their strategies as new models and technologies emerge, ensuring their continued relevance and effectiveness in promoting open scholarship practices.

The agreements covered in this paper are all in their infancy, and as such this paper focuses on some of the questions and data to consider when entering an agreement. Once these agreements have had time to mature, more research can be conducted. Some of the questions we are curious to answer are whether these agreements resulted in more institutional open access publishing, whether they affected where University authors are publishing, and whether these agreements prove sustainable in price to the institution. Sustainability will be of particular importance for those transformative agreements in which the publisher does not allow for cost-neutral pricing.

Based on our current knowledge, it is conceivable that within the next five to ten years, transformative agreements may no longer be a viable option.³⁶ But while universities navigate this change, asking questions is vitally important. These agreements, and the discussion of the issues around them, need to be led by the universities and their researchers who are producing this research, rather than by the publishers who capitalize on it.

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