

Initial Publications Options Analysis Report

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OVERVIEW

This report presents the work done since March 2021 by the Publications Committee to identify and evaluate options for publishing the System Dynamics Review after 2023. SDR is currently published by Wiley. Our current contract with Wiley ends in December 2023. If we do not want to continue with Wiley after 2023, we have to inform them by 12 months before our contract expires (December 2022). If we do not say anything to Wiley by the end of 2022, the contract rolls over automatically for another 5-year term if Wiley wants to continue publishing SDR under the same terms. Wiley also has the option to decline to continue publishing SDR or change the terms or the contract. If they want changes, they must also notify us by December 2022 of the changes. We do not yet know what Wiley is thinking about the contract and will likely not know until early Fall.

We have three general options:

1. do nothing and let the current contract roll over for another 5-year term with Wiley, assuming Wiley agrees to continue publishing SDR,
2. renegotiate contract terms and/or operational issues with Wiley to amend or write a new contract with Wiley,
3. change to a different publishing platform.

The Publications Committee analyzed two general options for publishing the System Dynamics Review after the end of the current contract with Wiley: (1) continue publishing with Wiley and (2) consider switching to an Open Access platform such as Frontiers. We compared costs and benefits of the two general options.

Here we present context for this decision, including the history and financial picture of publishing SDR and present the costs and benefits we are able to determine at this time. There is some uncertainty about the potential terms of a continued contract with Wiley that will not be known for some time, probably not until late into the fall of this year. There are tangible and intangible costs and benefits to both options.

We are not making a recommendation at this time, but rather, are asking for discussion of two things:

1. What does the Society want to achieve with the journal?
2. What further information would you like to have to inform the discussion?

In this report we discuss:

- Reasons we may want to stay with Wiley
- Reasons we may want to leave Wiley
- Potential Issues and Options for renegotiation with Wiley
- Options for changing publishers

The purpose of this first stage report is to make the Policy Council aware of the need to make a decision in Fall 2022, present the initial data gathering and analysis the Publications Committee has done in support of the decision, and request input on any further information the PC would like to have in support of the eventual decision.

We hope that members of the Policy Council will come to the May 2022 Policy Council meeting prepared to discuss the options presented and request any further information or analysis they need to choose an option by Fall 2022. The Committee will present the Extended Report in September.

Summary of Next Steps and Actions for you:

- Consider these questions:
 - 1. What does the Society want to achieve with the journal?
 - 2. What further information would you like to have to inform the discussion?
- Come to the May 2022 PC meeting prepared to discuss the task, information provided, and information needed.
- Read the Extended report in September.
- Come to the September 2022 PC meeting prepared to discuss the extended analysis and contribute to the decision about how to proceed.

Although the bylaws do not require a vote of the Policy Council for this decision, our practice has been to discuss it with the PC and get approval for the overall decision.

CONTEXT

The development of the *System Dynamics Review* began in 1984, led by George Richardson. The first issue was published in Summer 1985. The first volumes, from 1985 to 1990, were self-published by the System Dynamics Society. Starting in 1990, we have contracted with Wiley publishing to produce the journal. In the early years, 1985 to about 1995, the journal was available only in print form. Electronic versions began to be available in the late 1990s for libraries. Online subscriptions became available in the early 2000s and now most of the individual and institutional consumers get only online versions.

Financial Picture

Summary:

The Society subsidized the journal for its first 10-11 years from 1985 through about 1996. The journal essentially broke even for the next 6 years (1997-2003) and then generated a significant net revenue for the next 15 years (about 2004-2019). Now it still "makes money" for the Society, but that amount is declining. We are looking at a future when the amount of revenue may not exceed expenses again.

Producing the journal has always generated some income, incurred expenses and relied on significant unpaid labor. In the 37 years SDR has been published, tangible expenses have exceeded or roughly equaled income for about half the time. Because of differences in the way income and expenses were accounted for over time, it is not straightforward to determine the exact numbers in every year. However, the overall relationship is clear. Figure 1 shows the trend in net income between 1985 and 2021. In the late 1980s, income was on the order of \$3,000-\$5,000 while tangible expenses were on the order of about \$8,000. In the 1990s, income ranged from about \$6,000 to \$12,000 and expenses were about \$12,000. From about 2000 to 2007, income began to exceed expenses consistently. For the last 15 years, income has exceeded expenses. Net revenue peaked at a high of \$65,000 in 2015. However, net revenue is now falling (approximately \$57,000 in 2020 and \$54,000 in 2021) and is most likely to fall considerably more in the near future. (Note that these figures do not include any costs of SDS staff time spent on journal-related activities or any accounting for the significant amount of unpaid volunteer time spent on the various production tasks.)

The trend in Figure 1 is a primarily a function of two things: the underlying revenue model and the terms of our contract with Wiley. The large increases in 2003-2004 and 2009-2010 represent a change in both the type and cost of subscriptions in the revenue model and the royalty percentage in our contract, shown in Figures 2 and 3.

Income derives from subscriptions, both individual (mostly members) and institutional (mostly academic libraries). In the early years of the journal, revenue came mostly from membership dues and a few institutional subscriptions. Until the early 2000s, individuals and institutions subscribed to individual journals. Since then, publishers have strongly marketed package subscriptions. These package subscriptions have increased in cost over time as features such as digital access have been added. Since we began publishing with Wiley, institutional subscriber income has gradually become much larger than individual subscriptions. In recent years, the largest category of subscription income for Wiley has come from institutional subscriptions to packages of journals.

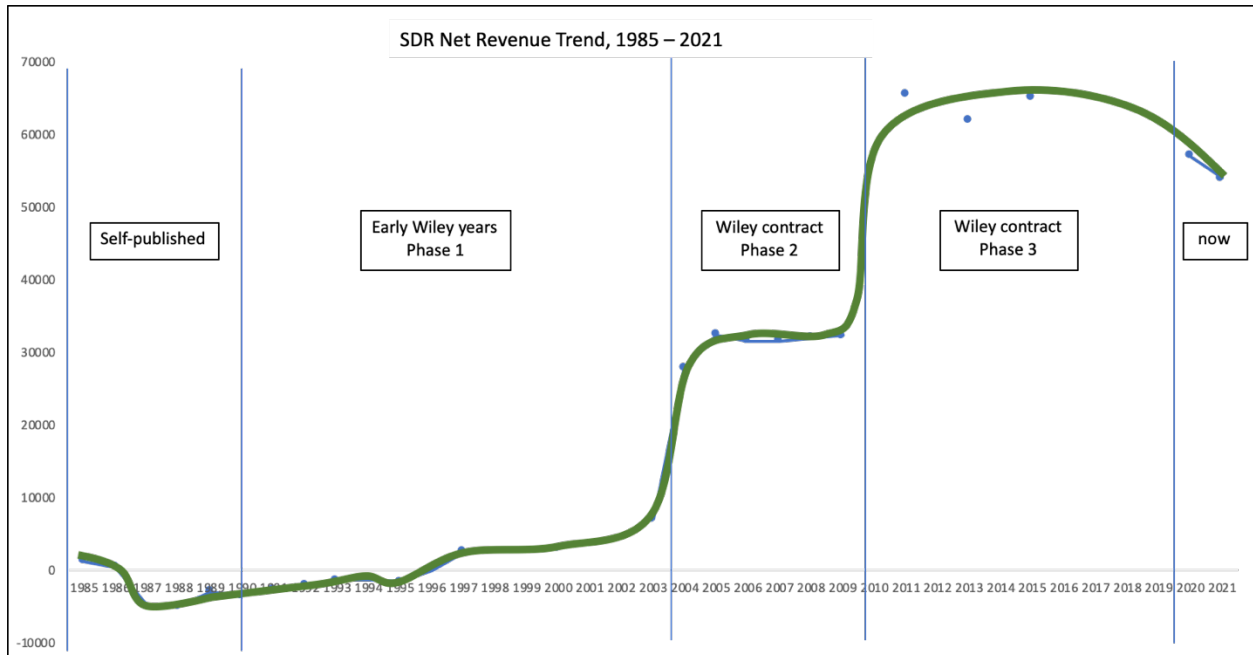


Figure 1. SDR Net Revenue trend, 1985-2021. Net revenue ranges from a deficit of approximately \$5,000 to a surplus of about \$65,000. Source: Archived budget reports and publisher's reports. There are a number of missing data points. Use this as a general trend, not for specific point values.

Expenses for producing the journal include the cost of formatting, typesetting and other tasks for producing a coherent “look” for the journal, printing and distributing the print versions, plus an amount the SDS pays toward support of editorial functions. In self-published years, the amount allocated for this in the budget increased from none (all volunteer labor) to \$8,000. By 1990, it was \$12,000 and by 2009 it had increased to \$20,000. For a number of years, the practice of the Society has been to give the Executive Editor discretion about how best to use this editorial support budget in order to make the journal happen. It can be used for things like computer hardware and software, administrative support, or editing or authoring incentives. In recent years it has been primarily used for honoraria for the Managing Editors, with the remainder providing a stipend for the EE.

Under our publishing relationship with Wiley, SDS expenses for SDR consist of two things: the cost of member subscriptions we pay TO Wiley (which are currently \$30 per print subscription; online only subscriptions are free) and an amount we allocate to our EE for editorial support. Our income FROM Wiley includes a royalty payment from non-member subscription and other revenue Wiley gets from SDR plus a stipend Wiley gives SDS for editorial support. In recent years the amount we receive for editorial support equals the amount we give to the EE for editorial support.

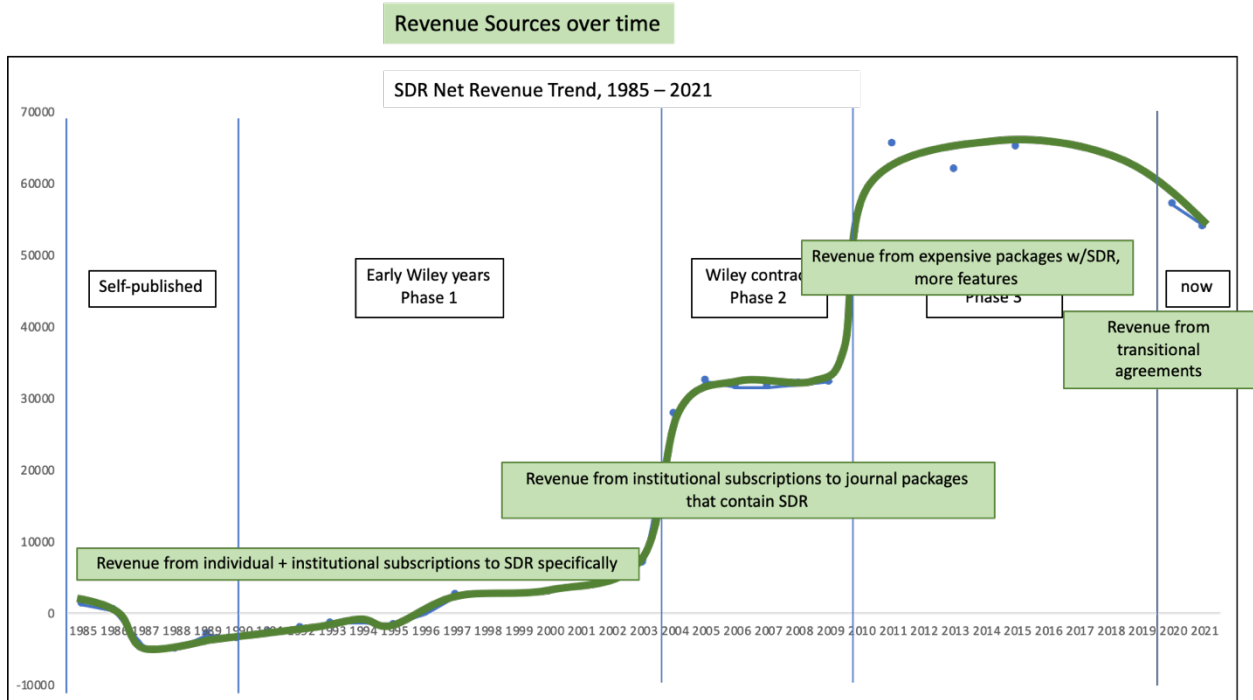


Figure 2. Main sources of revenue from the journal over time

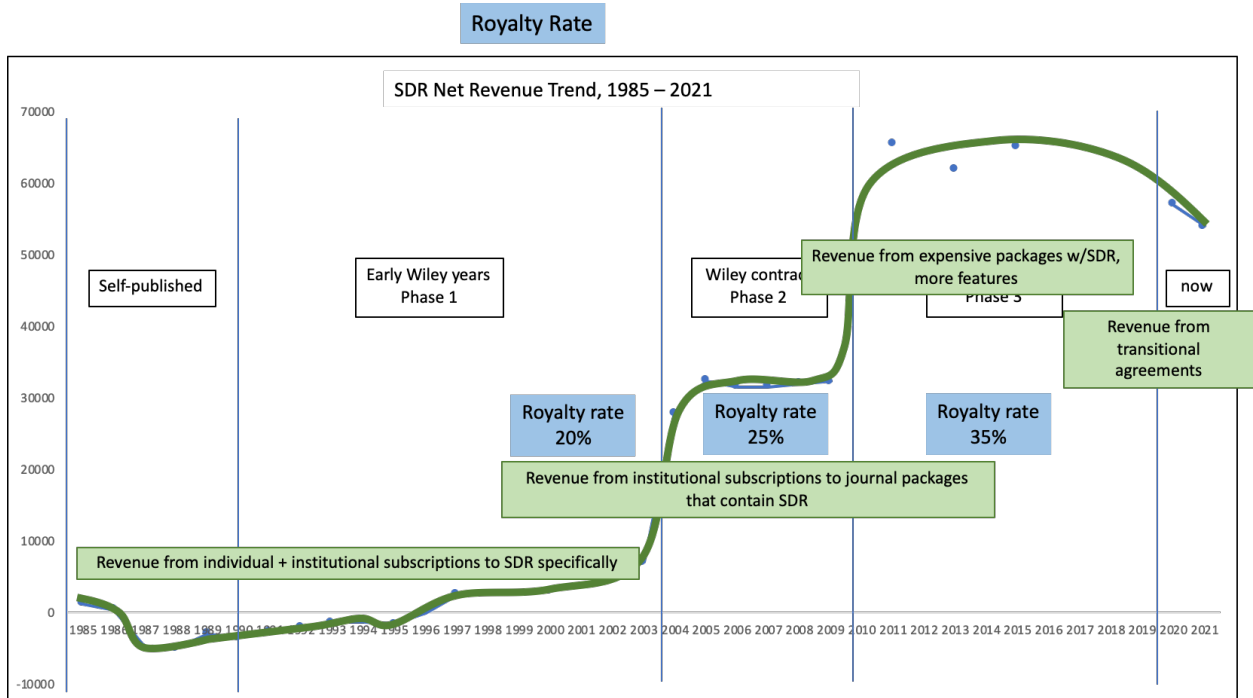


Figure 3. Changes in royalty rate governing amount allocated to SD Society from Wiley revenue

How WILEY makes money publishing SDR

Wiley sells subscriptions to their journals to academic libraries and other institutions. Until the early 1990s, libraries subscribed to individual print journals, then publishers began to sell subscriptions to bundles of journals. By the early 2000s, subscription packages included electronic access, shifting to primarily electronic forms in the 2010s. These subscriptions are expensive, with costs rising at 6-7% per year. The Chronicle of Higher Education (2019) reported that 40 public universities and private nonprofit colleges spent more than \$10 million on subscriptions to scholarly journals in 2016, which was nearly a third of all expenditures at academic libraries.” This makes scientific publishing what Steven Buranyi, in a 2017 Guardian article called a “staggeringly profitable” business:

“With total global revenues of more than £19bn, it weighs in somewhere between the recording and the film industries in size, but it is far more profitable. In 2010, Elsevier’s scientific publishing arm reported profits of £724m on just over £2bn in revenue. It was a 36% margin – higher than Apple, Google, or Amazon posted that year.”

He notes that this is possible largely because of the structure of scientific publishing:

“Scientists create work under their own direction – funded largely by governments – and give it to publishers for free; the publisher pays scientific editors who judge whether the work is worth publishing and check its grammar, but the bulk of the editorial burden – checking the scientific validity and evaluating the experiments, a process known as peer review – is done by working scientists on a volunteer basis. The publishers then sell the product back to government-funded institutional and university libraries, to be read by scientists – who, in a collective sense, created the product in the first place.” (Buranyi 2017)

How the SD Society “makes money” publishing SDR

Traditionally, individuals and institutions pay subscription fees to the publisher to read SDR. When we were the publisher, we got all the fees, mostly from member dues. With Wiley, we get part of the subscription fees according to the royalty rate in our contract. Under our current contract, the SD Society gets a 35% royalty for subscriptions Wiley sells either to the SDR itself or to the bundles of journals that include SDR. We thus benefit from the structural changes in Wiley’s revenue model and its aggressive subscription marketing and pricing, which generates the overall rise in the trendline in Figure 1 from about 2000 to 2015. More money for Wiley in the current structure means more money for us. The rise in our revenue during that time also accelerated due to changes in our royalty rate, from 20% in the early 2000s, to 25% in 2004 and 35% in 2010.

So why not just stay with Wiley?

The context and revenue model of academic journal publishing are changing rapidly away from the subscription model (pay-to-read) toward open access (pay-to-publish), which is changing the revenue picture for Wiley and, therefore, for us. At the same time, the maturation of open access publishing is providing new opportunities for sharing our work.

Three pressures are coming together to bring open access increasingly into the mainstream of academic publishing: government and private funding agencies are requiring the research they pay for to be communicated freely to the public, academic libraries are less willing to pay hefty subscription fees for

articles their consumers can read for free, and an increasing number of highly regarded fully open access journals is decreasing the early stigma and increasing the perceived legitimacy of publishing in open access journals.

The change in revenue model for traditional publishers shifts the costs of publishing an article from the consumers (primarily through institutional subscriptions) to the authors, through Article Processing Charges (APCs). APCs can range from several hundred dollars to \$3,000 or more and can often be waived in cases of hardship. (See Ye Li 2020 for a great primer on open access).

Who pays Article Processing Charges (APCs)?

APCs are paid by authors. However, this money does not usually come out of the author's pocket. Funders who require their grantees to publish open access articles expect that grant budgets will include money for APCs. Universities and governments are beginning to provide funds authors can use for APCs. Academic libraries are beginning to shift the money they paid for subscriptions to funds available for researchers at that university to use for paying APCs.

In response, traditional publishers, including Wiley, are developing agreements, called transformative or transitional agreements, with the institutions that were paying subscription fees in which the libraries pay for publishing rather than reading. Authors from those institutions can then publish open access for free. These agreements are meant to be transitional during some period of time when the publisher's revenue model shifts fully from the institutional subscription model to the author Article Processing Charge model. Many of the current transitional agreements in place expire in 2023 or 2025.

How does this affect the revenue the SDS gets from our Journal?

At some point down the line, the publisher's revenue will come fully from APCs paid per article published rather than from subscriptions. SDS will likely get some royalty from that revenue. That revenue is likely to be much smaller than the revenue under a subscription model (see Figure 4). The question isn't whether this change will happen but when.

How this might affect the pressure on the number of articles we publish in SDR

Until now, our revenue from the journal has not depended directly on the number of articles we publish. Under an Open Access model, it will be directly tied to that number.

We may not have the choice to stay with Wiley or may face less generous contract terms

Under the revenue model of the past 15 years, Wiley has made upwards of \$100,000 per year on SDR. That has enabled them to be generous with our contract terms such as the royalty rate and editorial support subsidy. Under an APC-based revenue model, Wiley will make much less on SDR. We publish about 20 articles per year. If the APC remains at about \$3,000 per article, Wiley's revenue will be more like \$60,000 per year from SDR. This is likely to affect what they are willing to give back to us.

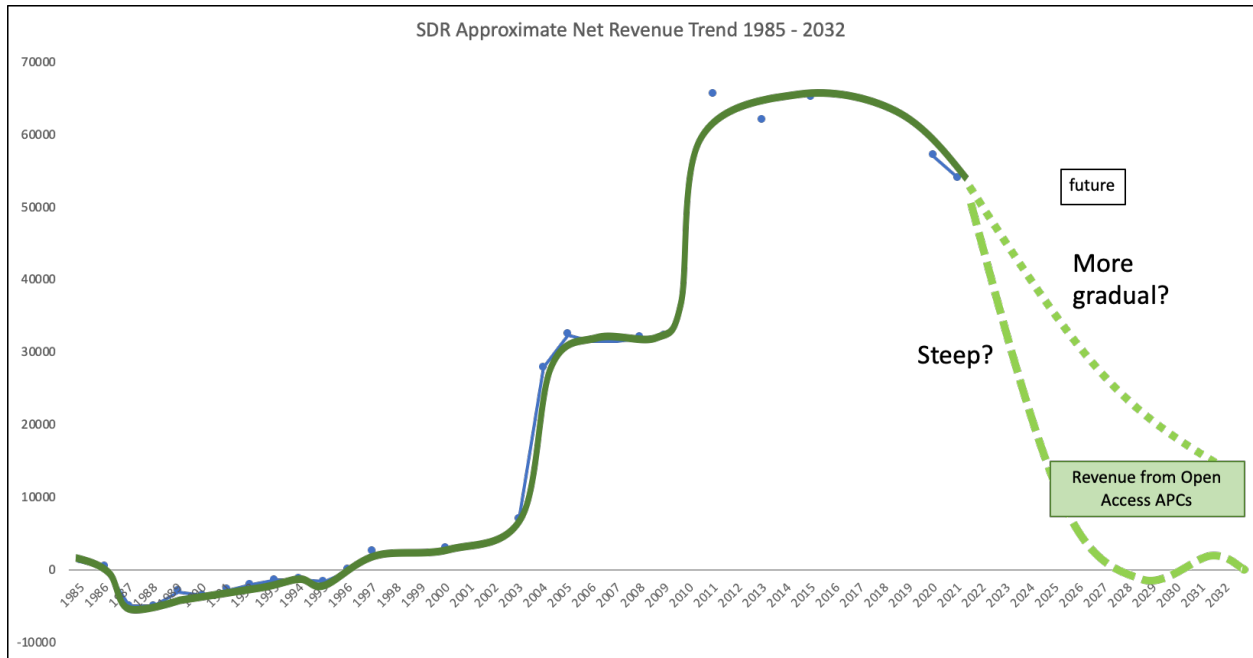


Figure 4. Potential revenue ten years into the future under a fully Open Access revenue model

The bottom line is that this is the new landscape. We have to adapt, whether that is now or in the next five or so years.

Publisher choice is not all about money

Other considerations include the reputation of the publisher, potential for reaching a broad audience, credibility of the publication with tenure and promotion committees, utility for non-academic readers, services the publisher provides, and equity and access for readers and authors.

To fully analyze publishing options, the SD Society needs to consider what we need to achieve with the journal.

Approach the Publications Committee followed from March 2021 to March 2022:

1. Identified criteria for choosing a publishing option
2. Developed a list of real options, including:
 - a. renew with Wiley (possibly with contract modifications)
 - b. find other publishers, established and perhaps new (fully open access?)
 - c. self-publication
 - d. others?
3. Decided to compare the two end-of-spectrum options: Wiley and Frontiers

Evaluation Criteria

Absolutes

- Impact Factor: the outlet must allow us to have one, need to keep our current one in the switch. (Clarivate)
- Should not look like a new start – Keep volume numbers in sequence
- Should be indexed in all the places we are currently
- Keep in current category: Management (156/226), Social Sciences: Mathematical methods (19/51)
- Strong preference to keep the name, but if we have to change the name, we must keep history of the publication.

Operations

- No worse than the current ongoing operational headaches regarding journal production
- Prefer something smoother
- Speed of response
- How responsive they are
- Any additional production services beyond what we currently get
- Need good manuscript mgmt system (Scholar One) for both production (review) side and authors
- Support available for production

Financial

- Cost of production, cost to SDS
- Cost to authors
- Revenue
- Support for publication/production

Market

- How does format of pub (trad vs open access) affect how people can access
- Customer relations – how do we get journal in front of people who might be interested
- Visibility

Reputation of the journal

- How does the format/publisher affect the journal's reputation

Reputation of the Publisher

- How affects submissions

List of Options Considered

- renew with Wiley (possibly with contract modifications)

- find other established “traditional” publishers: SAGE, Springer,
- perhaps new (fully open access?) publishers: Frontiers, MDPI (Sustainability, Systems)
- Completely non-traditional publishers: open reviews?
- “self-publication”
- INFORMS or some other joint organization
- others?

Considered several Open Access publishers

- Met with MDPI
- Met with Frontiers
- Investigated Copernicus – too science-focused

Decided to compare two end-of-spectrum options: Wiley vs. Frontiers

Reasons we may want to stay with Wiley

- Inertia
- Good academic reputation of Wiley
- Wiley is starting to address author costs by creating partnership agreements to pay or subsidize APCs for OA

Reasons we may want to leave Wiley

- Operational issues
- In the past 10 years, the support system at Wiley (and other established publishers, e.g. Springer) has changed such that editorial and production assistants are not “in-house” but are spread around the globe. There has been a high turnover, which has made interacting with them frustrating at times.
- Uncertainty about how Wiley’s business model is changing with respect to the broader landscape of journal publication to Open Access
- Uncertainty about Wiley’s plans for the future
- Wiley OA fees are high: SDR now \$2950 (members get 20% discount)
- Under OA, there might be financial pressure on SDS to publish more articles
 - Can we? We have a perpetual problem of low number of appropriate submissions and slow review time. This might be a function of our volunteer structure.
- Better options for outreach of SDR through alternative platform

Potential Issues and Options for renegotiation with Wiley

Operational issues
 APCs: current rate, member discount (now 20%),
 Royalty rate
 Editorial support

Open Access Pros and Cons

- Higher citation rate: most studies support this, particularly for hybrid and green OA articles, some dispute it

- More access
- Most OA articles are published in high-income countries
- More impact
- More equitable: yes, for gender
- Question about how to ensure publishing from low-income countries

Frontiers, an example of a fully Open Access publishing platform

Frontiers is a publisher of Peer-reviewed OA journals. It was founded in 2007 with a neuroscience journal and has grown to many journals in diverse fields. The Nature publishing group acquired the controlling interest in the Frontiers publishing group in 2013.

Publishing terms with Frontiers

Their revenue model: they charge a flat \$1500 per article fee that covers their cost. There are no setup fees, no minimum number of articles and no extra fees. It would be a five-year contract, with the paper fee fixed for the first couple of years and potentially adjusting for inflation after that.

They handle communication w/editorial staff, light copy editing, typesetting, iThenticate, scope check, some author services, AIRA Artificial Intelligence Reviewer Access system to identify potential reviewers based on article content, and have many institutional agreements where institution pays or gets discount for APCs (e.g., UCL author publishes for free, MIT author gets 15% off APC).

We would generate any revenue by setting an APC higher than the \$1500 cost. We keep anything above the \$1500 per paper fee charged by Frontiers.

Print on demand is available for ~ 20 GBP per issue.

Comparison Matrix

Publisher \ Publication mode	Current mode (hybrid) (Not sustainable in the long-term, world is eventually moving → only OA)	Open access
Wiley	Renew Comfortable, safe	Wiley open access Expensive relative to other options?
Change publisher	If we are kicked out by Wiley? (or if we don't like the deal they offer in relation to other options)	Open access publishers Unknown, uncertain

Financial Comparison

Note: These numbers include MANY ASSUMPTIONS. Use them carefully.

Option	What we pay them	Our revenue	Potential net revenue
Wiley	\$30 per print subscription, min 250 = <u>\$7,500</u>	35% of non-member revenue plus contracted editorial support When fully OA, assuming \$3,000 APC per article and 20 articles/yr, revenue = $.35 * \$60,000 = \underline{\$24,000}$ plus any editorial support	$\$24,000 - \$7,500 = \underline{\$16,500}$ Note: assumes no additional editorial support paid by SDS
Frontiers	\$1,500 per article Assuming 20 articles/yr = \$30,000	Assuming same \$3,000 APC, revenue = \$60,000	$\$60,000 - \$30,000 = \underline{\$30,000}$

Questions for Discussion

1. What does the Society need to achieve with the journal?
2. What further information would you like to have to inform the discussion?

References and Additional Resources

1. Open Access Explained (8:23 min video), PHD productions

<https://youtu.be/L5rVH1KGBCY>

2. What are your Open Access Options? (article)
Ye Li, 2020, American Chemical Society (ACS)

<https://pubs.acs.org/doi/full/10.1021/acsguide.10503>

3. Working with transitional agreements (article)
Guidelines for evaluating and communicating transitional open access (OA) agreements.
6 October 2020
Jisc (UK body for digital technology and digital resources in higher education)

<https://www.jisc.ac.uk/full-guide/working-with-transitional-agreements>

4. Open Access Directory
The Open Access Directory (OAD) is a compendium of simple factual lists about open access (OA) to science and scholarship, maintained by the OA community at large.

http://oad.simmons.edu/oadwiki/Main_Page

5. Educational materials about OA
This list is part of the Open Access Directory. It is a list of materials for teaching, explaining or marketing open access.

http://oad.simmons.edu/oadwiki/Educational_materials_about_OA

6. Academic Libraries That Spent the Most on Subscriptions
Chronicle of Higher Education
MARCH 17, 2019
Twenty-two public universities and 18 four-year private nonprofit colleges spent more than \$10 million on subscriptions to scholarly journals and other serial titles in 2016-17. Such subscriptions represented nearly a third of all expenditures at academic libraries.

7. Buranyi, Steven. 2017. Is the staggeringly profitable business of scientific publishing bad for science? The Guardian, June 27, 2017.

<https://www.theguardian.com/science/2017/jun/27/profitable-business-scientific-publishing-bad-for-science>

APPENDIX

What tasks are needed to produce a Society journal, who does them, and who pays for them?

Table 1 lists the tasks required to produce and manage the SDR, who does each task, and who covers the tangible and intangible cost of doing the task now. Some of the tasks are done by volunteer editors and reviewers on their own time and therefore, “paid” by themselves or by their employers if they do it as part of their job (e.g. academics). Some of the tasks are done by paid SDS staff and are thus paid for by the Society. Some of the tasks are done by the publisher and are paid for by the subscribers that generate revenue for the publisher.

Table 1. General overview of tasks required to produce and manage SDR

Task	Who does it	Who pays for it now
CONTENT CREATION		
Mostly AUTHORS		
Recruit articles	Volunteers, Society staff, organic through word-of-mouth or norms of the field, sometimes publisher through marketing	Individual volunteer or their employers, Society, subscriber revenue to publisher
Write articles	Authors	Individual authors, author’s institution or employer if done during work time
EDITORIAL REVIEW		
Mostly SOCIETY		
Manage editorial review process: desk review initial submissions, assign reviewers, communicate with authors and reviewers, communicate with production process Manage submission and review software platform	Volunteer Executive Editor, Managing Editors Publisher	Individual, individual’s employer, sometimes small stipend from Society for Executive and Managing Editors, sometimes from editorial support provided by the publisher Subscriber revenue to publisher
Review article content	Volunteer reviewers	Individual volunteer, volunteer’s employer
PRODUCTION		
Mostly SUBSCRIBERS		
Manage production process: oversee production staff, assign tasks	Publisher	Subscriber revenue to publisher
Production tasks such as formatting, typesetting, sometimes plagiarism-checking, making digital versions available, producing print versions.	Publisher staff	subscribers
Author services including copy editing, etc.	Publisher, volunteer mentors and reviewers	Subscribers, volunteers
DISTRIBUTION		
Mostly SUBSCRIBERS		
Manage mailing list	Publisher, Society staff	Subscribers, Society
Distribute digital versions through publisher platform, Maintain digital platform	Publisher	subscribers
Distribute print version	Publisher	subscribers
Maintain archive	Publisher	subscribers

MARKETING		Mostly SUBSCRIBERS
Notifications of published content (e.g., email, social media)	Publisher, Society staff, Authors	Subscribers, Society, individual authors