Evaluating UK offset agreements (2015–17)

Stuart Lawson

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Executive Summary

The combined value of offset agreements to the higher education sector over the period 2015–17 is estimated to be £19.5m: £2.5m in 2015, £8m in 2016, and £9m in 2017. Some agreements reduce the total cost of publication (TCP) more than others, with the Springer Compact agreement providing by far the largest amount of cost avoidance (£5.8m in 2017) while also proportionally reducing the TCP by the highest amount (43% in 2017). The Springer Compact agreement is an example of a “read-and-publish” agreement – a particular kind of deal that provides a subscribing institution with full access to subscription content (“read”) and also covers all the APC costs of articles published by that institution (“publish”). Administration costs of offset agreements are harder to calculate but appear to make up a small proportion – less than 1% – of the TCP.

Offsetting has produced real benefits for higher education institutions by increasing the value of journal license agreements and raising the number of journal articles that are published open access. However, the approach also has significant drawbacks, notably the risk of entrenching the existing structure of the journals market and locking up even more money in big deals rather than reducing overall costs. To support research across all disciplines and fields, the value generated through cost avoidance with hybrid journals at large publishers should not be sought at the expense of excluding smaller society and pure open access publishers.

There is likely to be a limited, short-term future for offsetting. Plan S, the new funder open access policy with signatories including UKRI and the Wellcome Trust, explicitly states that offset agreements must be transitional and should end by 2024. Therefore, offset agreements will continue to play a role in the transition to open access, but probably only for the next few years.

Introduction

Offset agreements for academic journals are designed to reduce the overall cost to academic libraries of supporting scholarly publishing. In these agreements, journal subscription costs and open access publication costs are *offset* against each other. There are different approaches to achieving this. Some offset agreements reduce the cost of article processing charges (APCs) – the fees sometimes paid to publishers to make research open access – and some reduce the amount an institution pays for a subscription in proportion to the amount it pays for APCs.[1] Offsetting is intended as a transitional mechanism to support progress towards a fully open access scholarly publication system, and is currently part of the UK's national open access strategy.[2]

This report is the conclusion of a comparative study of the offset agreements that Jisc Collections has negotiated on behalf of UK academic libraries. It summarises and extends the work of three previous annual reports, which investigated the offset agreements in place during 2015, 2016, and 2017 respectively.[3] This section describes the purpose and methodology of the project in more detail. The rest of the report discusses the results and highlights key insights arising from the data, especially with regards to the total cost of publication (TCP).[4] The goals of the reports were to:

- evaluate whether offset systems are an effective tool for reducing the total cost of publication in hybrid journals
- if so, evaluate which offset systems are most effective in reducing the total cost of publication

In 2015, the five offset agreements in use were from the publishers Wiley, Taylor & Francis, SAGE, the Institute of Physics (IOP Publishing), and the Royal Society of Chemistry. In 2016, Springer was added to this list. In 2017, De Gruyter began an offsetting scheme and the Royal Society of Chemistry scheme (described here) ceased at the end of 2016.[5] Cambridge University Press and Oxford University Press both introduced offset agreements in 2018, which were too late to be included in this report.[6] All of these agreements are/were pilots and are therefore subject to revision in subsequent years.

In this series of reports, each of the offset agreements has been analysed and compared based on the available data. The reports rely on financial data provided by higher education institutions (HEIs) themselves about the amounts they have paid for subscriptions and APCs. All APC and subscription data used in this report is openly available.[7]

1 Some publishers offer discounts on APCs through prepayment or membership agreements, but these schemes are independent of journal subscriptions and are not related to the total cost of publication. The six mechanisms used by the publishers analysed in this report all include some element of recognition for total combined expenditure and can thus be said to be true offset agreements.

2 Earney (2017)

3 Lawson (2016b, 2017b, 2018b)

4 See Pinfield, Salter, & Bath (2015) for a definition of TCP. For more research on subscription expenditure, APC expenditure, and the total cost of publication by UK HEIs see Björk & Solomon (2014); Johnson, Pinfield, & Fosci (2015); Jubb et al. (2015); Lawson, Gray, & Mauri (2016); Pinfield, Salter, & Bath (2015, 2016); Shamash (2016, 2017).

5 Royal Society of Chemistry (2016)

6 Jisc (2017), Alexander (2019)

7 Lawson (2016, 2017, 2018). See also Shamash (2018) for a complete dataset of public APC payments

APC expenditure data has been made openly available by numerous higher education institutions (HEIs) and research funders over the past few years.[8] The analysis in the three annual reports was based on samples – which varied each year – of HEIs in the UK that have made APC data for that year available.[9] The robustness of the available APC data varies, so there are undoubtedly payments made by institutions in this sample that have been missed from the analysis. Participation in the data collection was voluntary and the sample is not representative, being skewed towards more research-intensive institutions. For instance, in 2017 the 53 participating HEIs – around one third of the HEIs in the sector – contributed approximately two thirds of the sector's subscription expenditure,[10] and have received 79% of RCUK/UKRI's open access block grants (a rough proxy for APC expenditure).[11]

Subscription expenditure by HEIs with major publishers during the years 2010–16 is openly available for almost all higher education institutions in the UK. This data was obtained over several years through sending Freedom of Information (FOI) requests to HEIs.[12] All publishers with offset agreements in this report are included in the public data for the year 2016 (see Table 1). Although the subscription data is more comprehensive than the APC data in terms of the number of HEIs that are included in the dataset, at the time that the first and third reports were written subscription expenditure for the relevant years was not yet available, so figures were estimated based on previous years' expenditure (see individual reports for details).[13]

Table 1: Subscription expenditure of UK HEIs with seven publishers, 2014–17[14]

	2014	2015*	2016	2017**
Wiley	£16,875,190	£19,149,348	£19,875,300	£20,272,806
Taylor & Francis	£10,828,334	£14,231,266	£16,483,429	£17,142,766
Springer		£8,759,854	£9,897,706	£9,923,440
SAGE	£5,990,818	£8,082,882	£9,037,365	£9,353,673
Royal Society of Chemistry	£1,101,860	£1,294,897	£1,346,881	
Institute of Physics	£1,373,533	£1,543,231	£1,630,076	£1,681,097
De Gruyter		£326,437	£374,257	£385,484

* These are real figures derived from the FOI requests; the 2015 figures in the first annual report were estimates.

** Estimated.

When this three-year project began, offset agreements were a relatively new and untested mechanism for attempting to increase open access to research while constraining costs for institutions. Now that several years of experience (and data) is available, it is possible to

collated by Jisc.

8 See Lawson (2016a) for a figshare collection containing the majority of this data.

9 There were 34 HEIs in the report for 2015, 38 in the report for 2016, and 53 in the report for 2017. These institutions are listed in the appendices of each report.

10 For the six publishers in question, 65% (£37,509,107 out of £57,298,133) of what was paid in 2016.

11 £74,363,795 of the £93,683,544 made available by RCUK to 118 institutions from 2013/14 to 2017/18 (see Lawson 2018a).

12 See Lawson & Meghreblian (2014), Lawson (2017a).

13 Lawson (2016b, 2018b)

14 Figures in this table for 2014 sourced from Lawson, Meghreblian, & Brook (2015); figures for 2015 and 2016 sourced from Lawson (2017a).

critically evaluate the effectiveness and value of offsetting. The remainder of this report attempts just such an evaluation. Before doing so, it is important to note the development of "read-and-publish" agreements. Read-and-publish agreements provide a subscribing institution with full access to subscription content ("read"), and also include a fee to cover the APC costs of articles published by that institution ("publish"). The proportion of the fee allocated to reading should reduce and the proposal of the fee allocated to publishing should increase as the transition is made. In a sense, this could be regarded as another term for a *specific* form of offset agreement, but "read-and-publish" appears to now be replacing offsetting as the preferred term for such agreements. The Springer Compact was the first read-and-publish agreement offered by a major publisher. They are now being negotiated with a variety of publishers in multiple nations (see the "Research funder open access policy" section below).

Value of offsetting

Offsetting has reduced the total cost of publication (TCP) compared to projected expenditure levels if no deals were in place. Table 2 summarises the total estimated value for UK higher education institutions derived from offset agreements over the three years 2015–17. For instance, in 2017 the combined value of offset agreements across all six publishers can be estimated at £9m. This figure represents a hypothetical discount of 14.5% over what would have been paid if no such agreements were in place.[15] As explained below, these figures represents cost avoidance rather than cash savings.

Table 2: Estimated value of publishers' offset agreements compared (2015–17)*

	2015	2016	2017
Estimated offset:	£2.5m*	£8m	£9m
Discount on TCP:		13.8%	14.5%

** This figure includes £0.7m of value generated through the Springer Compact, which began in late 2015 and so is not included in Table 3 below. The "discount on TCP" figure has therefore been omitted as it cannot be directly compared with 2016 and 2017.*

The following three tables are reproduced from the previous annual reports. The "Total" figures differ from those given in Table 2 – this is because Tables 3-5 refer to the sampled institutions, whereas the figures in Table 2 have been extrapolated to estimate sector-wide figures. For full details of how the figures were calculated, please consult the individual reports.

Table 3: The value of publishers' offset agreements (2015)

	WILEY	T&F	SAGE	IOP	RSC	TOTAL
Subscription spend:	£8,538,468	£5,023,742	£2,540,592	£917,465	£366,297	£17,386,564
APC spend:	£1,590,629	£282,790	£60,672	£186,340	£193,806	£2,314,237
Total spend:	£10,129,097	£5,306,532	£2,601,264	£1,103,805	£560,103	£19,700,801
Number of APCs published under offset deal:	272	157	75	n/a	165	669
Amount offset:	£489,600	£210,066	£97,800	£148,171	£264,000	£1,209,637
Discount on TCP:	4.6%	3.8%	3.6%	11.8%	32%	5.8%

[15] See the "Discount on TCP" rows in Tables 3-5 for the hypothetical discount provided by each publisher's agreement. The figures were generated by multiplying the number of offset APCs by the amount of discount on each one, assuming that the same number of APCs would have been paid if no agreement was in place. See previous reports for details.

Table 4: The value of publishers' offset agreements (2016)

	WILEY	T&F	SPRINGER	SAGE	IOP	RSC	TOTAL
Subscription spend:	£11,305,427	£7,303,372	£6,373,541	£3,878,514	£1,111,704	£797,750	£30,770,308
APC spend:	£2,181,424	£425,273	£339,372	£104,478	£305,986	£287,509	£3,644,042
Total spend:	£13,486,851	£7,728,645	£6,712,913	£3,982,992	£1,417,690	£1,085,259	£34,414,350
Number of APCs published under offset deal:	328	323	1136	99	n/a	290	2176
Amount offset:	£590,400	£432,174	£3,753,076	£143,676	£140,759	£464,000	£5,524,085
Discount on TCP:	4.2%	5.3%	36%	3.5%	9%	30%	13.8%

Table 5: The value of publishers' offset agreements (2017)

	WILEY	T&F	SPRINGER	SAGE	IOP	DE GRUYTER	TOTAL
Subscription spend:	£13,693,957	£10,382,565	£7,400,229	£5,382,499	£1,283,321	£282,766	£38,425,337
APC spend:	£2,358,768	£376,729	£181,928	£117,106	£429,614	£10,406	£3,474,551
Total spend:	£16,052,725	£10,759,294	£7,582,157	£5,499,605	£1,712,935	£293,172	£41,899,888
Number of APCs published under offset deal:	168	371	3,045	138	n/a	n/a	3,722
Amount offset:	£302,400	£496,398	£5,821,320	£201,113	£270,053	£8,383	£7,099,667
Discount on TCP:	1.9%	4.4%	43%	3.5%	13.6%	2.8%	14.5%

The total estimated cumulative savings of £19.5m is a significant amount of money for the sector. However, there are important caveats to consider. Firstly, the sample is skewed towards the most research-intensive institutions, and the level of savings generated through offsetting differs depending on institutions' level of expenditure. For instance, the Wiley agreement tends to benefit high-spending institutions,[16] whereas the Springer agreement would have greater benefits for low-spending institutions (*if* they publish a lot of open access articles). Secondly, the "savings" calculated in these reports are against projected expenditure levels, i.e. the amounts that institutions might have paid in the absence of offset agreements, and this is difficult to estimate accurately. The reason for this is that there is no firm evidence of authors changing where they publish based on the presence of offset agreements[17]. Some APCs that were offset may simply not have been paid if there were no agreements in place. If so, the baseline TCP used in the calculations would have been lower, and the estimated savings would have been be lower as well. It is not possible to control for this accurately. It is therefore more accurate to regard the value of the deals as *cost avoidance* rather than savings.

[16] Note that for high-spending institutions, the Wiley agreement can lead to great variation in the amount of credit each year, with the total amount paid swinging higher and lower in alternate years. This creates problems for the institution and analytical difficulties in making year-on-year comparisons.

[17] Authors are generally price-insensitive with regards to APCs: 'authors do not appear to "shop around" based on OA price' (Pollock & Michael 2019).

Clearly, certain agreements are better value and reduce the total cost of publication more than others. The Springer Compact agreement proportionally reduces the TCP significantly more than the rest. The agreement also provides by far the largest cost avoidance to the sector because it covers the highest number of APCs – 3,818 articles were published under the agreement in 2017.[18] The agreement appears to be effective in terms of both reducing costs and in being easy to administer for institutions. Indeed, Springer's share of APCs among top publishers rose dramatically in 2016, which was the first full year of the offset agreement.[19] This demonstrates the value to publishers of having a relatively frictionless deal in place. The value to institutions is also clear – in 2017, institutions published 732 more open access articles under the Springer agreement than in 2016, with a below-inflation increase in expenditure.[20]

The fact that offsetting deals "save" money while making more work open access, but actually lead to increased overall expenditure, has parallels with the logic behind subscription big deals, i.e. big deals give access to more content for a relatively small upfront increase in price, and so "save" money in a relative way, yet they lead to higher absolute levels of expenditure. Since the total combined expenditure by UK HEIs on journal subscriptions and APCs is over £200m a year and shows no signs of decreasing (unless centralised funding of APCs is affected by HE policy changes – see below), a saving of £9m a year is fairly significant but still relatively small when considering the total cost of publication at a sector-wide level.[21] The goal of true offsetting with the aim of transitioning to a fully open access publication system has not been achieved by current agreements, and will not be achieved by agreements in place or announced at the time of writing.

Administration costs

The full costs of the transition to open access include more than just APCs, therefore the impact of additional administration costs must also be considered. Evidence suggests that although the administrative burden of implementing open access is significant for institutions,[22] it appears to be greatly outweighed by cost avoidance (however, the total cost of publication still rises, and the value of cost avoidance can only ever be hypothetical). Various arrangements have been put into place to attempt to streamline the administration process. Pre-payment deals, where a bulk sum is paid up front, is one such arrangement and has been found to save time over invoicing individual payments.[23] Vouchers or discount codes for APC payments have also been used – sometimes as part of a pre-payment deal – although these are not recommended by most institutions who use them because of the extra administrative work.[24]

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18 Earney (2018). See also OpenAPC (2018) for open APC data about the Springer Compact agreement.

19 Jubb et al. (2017: 43)

20 Earney (2018). Indeed, "By 2017, 29 institutions (32%) had published open access articles to the value or in excess of their Springer Compact fee" (Jisc 2018a).

21 A sector-wide overview is the most useful way to view this report, and individual institutions should exercise caution if basing purchasing decisions on it. For instance, the samples include some institutions that have not signed up to offset agreements, so although the figures given in Tables 2-5 are fairly accurate for a sector-wide view, an individual institution could potentially see far greater savings that average if it makes full use of the offset opportunities - or, indeed, smaller savings, depending on local context.

22 Burgess (2015: 21–25), De Castro (2015), Johnson, Pinfield, & Fosci (2015)

23 Holliday & Jones (2015, 2015a)

24 Jisc OA Good Practice Pathfinder project (2016)

It is possible to estimate what the administrative cost of APCs would be if they were paid outside of an offset agreement and processed as usual. Table 6 shows an estimate for 2017 only. The most widely-used estimate for the per-article administration cost of gold open access has been calculated at £88 so this figure has also been used in these reports.[25]

Table 6: Hypothetical administration costs of processing APCs, 2017

PUBLISHER	NUMBER OF APCS	POTENTIAL ADMIN COST OF APCS
Wiley	168	£14,784
T&F	371	£32,648
Springer	3,045	£267,960
SAGE	138	£12,144
IOP	-	-
De Gruyter	-	-
Total	**3,722**	**£327,536**

The total hypothetical administration cost of £327,536, or 0.8% of TCP, is very similar to earlier estimates of the administration costs of the TCP at 0.6%[26] (the estimate for previous years was slightly smaller: 0.5% in 2016, and 0.3% in 2015). However, this figure only takes the administration costs associated with individual APC transactions into account, and not further overheads such as the management costs associated with setting up offset agreements, decisions on how to implement offsetting within the institution, or advocacy and communication of deals to researchers. It is possible that if these additional labour costs were included in the calculations then the proportion of TCP attributed to administration may be higher, but the labour costs of administering *subscriptions* is also significant. If TCP calculations factored in librarians' labour costs in supporting scholarly publications, it is unclear what the overall effect would be. Notably, around 335 FTE staff are now working on supporting and implementing open access in the UK.[27]

The administrative burden of different offset agreements has been investigated from a qualitative perspective[28] which provides valuable insight – telling us that, for example, the SAGE and IOP agreements appear to have been easier to implement than the discontinued RSC agreement, and the administrative efficiency of the Springer Compact is highly valued[29] – but this brings us no closer to accurately quantifying the costs. Since some offset agreements remove the need for invoicing individual APCs it may be the case that they tend to have slightly lower overheads than the average, thus balancing out any extra administration costs accompanying the deals, but this is purely speculative and not measurable at present.

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25 Johnson, Pinfield, & Fosci (2015)

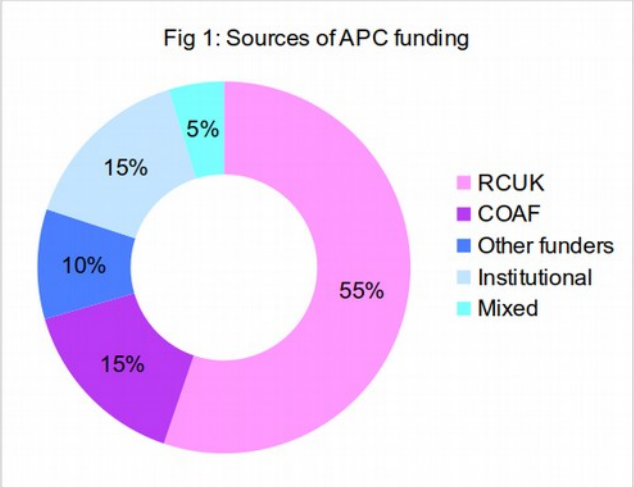
26 £327,536 / £41,899,888 = 0.8%. For the 0.6% figure see Johnson, Pinfield, & Fosci (2015) and Pinfield, Salter, & Bath (2016).

27 Fraser et al. (2018: 59–63)

28 Jones (2015); Manista (2016)

29 For administrative/library staff in higher education institutions, read-and-publish agreements appear to be the offset mechanisms that are most effective to administer. Note that ease of implementation does not always correspond with the level of offset achieved, e.g. the Sage agreement rates highly for ease of implementation but not for level of cost avoidance.

Research funder open access policy



The success of offsetting in reducing costs and enabling a transition towards open access is intricately linked to research funder open access policies. Research funders provide most of the money so far spent on APCs by UK institutions.[30] In 2014–15, 12% of the total cost of publication was spent on APCs.[31] Also, in each of the three annual reports (covering 2015–17), a large majority of money used to pay APCs came from two research funders; RCUK (now UKRI), and the Wellcome Trust/COAF.[32] For example, in 2017, these two funders provided 70% of APC funding (see Fig 1). Institutions are therefore relying largely on funders to cover the costs of the transition to open access. Offsetting has not yet changed this.

UKRI will continue to provide a similar level of funding for APCs until at least 2020.[33] However, it is not clear what the long-term future of APC funding will look like – only a minority of institutions have developed additional funding streams to pay for some APCs themselves, and some have restricted these funds to pure gold open access journals only in order to constrain costs.[34] Furthermore, the situation may drastically change after 2021 because of the combination of UKRI's open access policy review and the introduction of Plan S. Plan S is a new international strategy for accelerating the transition to full open access that has been endorsed by a number of European research funders, including UKRI and Wellcome.[35] If UKRI drastically reduce or alter the terms of their APC funding, this would almost certainly lead to a significant reduction in APC expenditure from UK institutions. Whether or not such as change would also lead to a corresponding reduction in the number of articles made open access will depend on the exact terms of the UKRI policy[36] on institutions' own policies and approaches to open access, and on whether effective "transformative" offsetting agreements (see below) are in place.

Indeed, offset agreements may play a key role in maintaining the ability of UK researchers to

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30 Fraser et al. (2018: 6, 47)

31 Shamash (2016: 18). The same figure is given by Pinfield, Salter, & Bath (2016). It is worth noting that this only refers to *known* APC payments made from centrally-managed funds. Pinfield & Middleton (2016) estimate that non-centrally funded APCs add 17% to the total known APC spend at the University of Nottingham, while Andrew (2016) estimates 20% at the University of Edinburgh.

32 COAF is the Charity Open Access Fund, a joint fund from several medical research funders that is administered by the Wellcome Trust.

33 RCUK (2017, [2018]), UKRI ([n.d.])

34 Sharp (2015) noted at least 18 institutions with an institutional fund. It it not clear whether this number has increased; a recent report from Research England (Fraser et al 2018: 47) noted that 15 institutions responding to a sector-wide survey mentioned an institutional open access fund. In this series of three reports, the proportion of APC funding that originated from institutional funds was 10% in 2015, 17% in 2016, and 15% in 2017. It thus forms a fairly consistent but small proportion of APC funding.

35 European Commission (2018), Science Europe (2018b)

36 At the time of writing, the UKRI open access review has not yet concluded and the terms of Plan S are still under review.

publish in APC-funded open access journals post-2021. If UKRI withdraws or reduces funds but keeps an open access mandate, then HEIs would only be able to fulfil the mandate if authors publish predominantly with publishers with which their institution has an offset agreement. In this instance, HEIs would have to advise researchers to publish with certain publishers, a position which is likely to provoke strong resistance from researchers. In addition, relying on offset agreements for policy compliance would cause issues with smaller and specialist institutions that cannot afford to subscribe to the big deals that are required to access offsetting.[37]

Most of the UK's APC expenditure to date has been on hybrid, and funders that implement Plan S will only continue to fund hybrid open access if an appropriate and effective offset agreement is in place. The plan explicitly acknowledges that offset agreements – as a kind of "transformative" agreement – may continue to play a role in the open access transition, if only in the short term:

> We acknowledge that "transformative" type of agreements, where subscription fees are offset against publication fees, may contribute to accelerate the transition to full Open Access. Therefore, it is acceptable that, during a transition period that should be as short as possible, individual funders may continue to tolerate publications in "hybrid" journals that are covered by such a "transformative" type of agreement. There should be complete transparency in such agreements and their terms and conditions should be fully and publicly disclosed.[38]

The Wellcome Trust has already implemented a new open access policy in the wake of the launch of Plan S, with similar terms:

> Until 2022, Wellcome will also support hybrid journals if their publishers have made "transformative OA agreements" en route to becoming open access. These might include, for instance, "read and publish" deals in which an institution's subscription fees also cover the costs of their authors publishing openly in a hybrid journal.[39]

APCs are not the only means of funding open access publication,[40] and alternative arrangements such as consortial funding for open access journals may appear much more attractive to institutions wishing to support open access publications if their ability to pay APCs is diminished. The recent trend towards the launching of research funder publishing platforms may also play an increasingly significant role here.[41] Funders will need to specify whether their funds can be used to support such initiatives.

International context

The size of the open access market continues to increase.[42] A number of other European

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37 It could also cause issues with smaller and specialist publishers. The value generated through cost avoidance with hybrid journals at large publishers should not be sought at the expense of excluding smaller society and pure open access publishers. It is therefore encouraging that work is underway to investigate how learned societies can adapt to Plan S (Wellcome Trust 2018).

38 Science Europe (2018b)

39 Van Noorden (2018)

40 See Eve (2014); Morrison et al. (2017).

41 See Jacobs (2018); Ross-Hellauer, Schmidt, & Kramer (2018).

42 Pollock and Michael (2018)

nations have open access policies prioritising gold open access[43] and there is a strong trend of rhetoric aspiring to full open access in the near term.[44] It is too early to predict with any confidence whether these aspirations will be ultimately successful, though Plan S has certainly provided a firm indicator of intent. Offset agreements such as the Springer Compact are also spreading among those nations with gold-centric policies – it has been enacted in the Netherlands, Austria, Sweden, and the Max Planck Institutes in Germany, among others.[45] Recent read-and-publish agreements look to decrease the read element and increase the publish element over time, in line with Plan S guidelines. Therefore, perhaps big deals will retain their dominant market share by pursuing innovative offsetting arrangements.

However, it is important for funders in wealthy nations to consider the effect their policies have on the global situation. Indeed, "Institutions and research funders with OA mandates may be well-meaning, but can also cause inelastic demand for gold APC and hybrid publishing, which for-profit publishers can exploit with higher APCs. This diminishes the resources of institutions and scholars who can afford such fees, while excluding authors without the financial wherewithal to pay high APCs."[46] The fact that Plan S calls for an end to hybrid and a potential cap on APC costs only partially addresses these issues.

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43 For example, in Norway (Norwegian Ministry of Education and Research 2017), the Netherlands (NWO 2016), and Sweden (Lundén, Smith, & Wideberg 2018).

44 See Bauer et al. (2015); EU2016 (2016); Science Europe (2018b)

45 Springer (2019), see also https://treemaps.intact-project.org/apcdata/offsetting-coverage/. Offset agreements are not confined to Europe – for example, see Buck (2018) for the situation in Saudi Arabia.

46 Siler et al. (2018)

Conclusion: the future of offsetting

The combined value of offset agreements to the higher education sector over the period 2015–17 is estimated to be £19.5m – £2.5m in 2015, £8m in 2016, and £9m in 2017. Some agreements reduce the total cost of publication (TCP) more than others, with the Springer agreement providing by far the largest amount of cost avoidance (£5.8m in 2017) while also proportionally reducing the TCP the most (43% in 2017). Administration costs are harder to calculate but appear to make up a small proportion – less than 1% – of the TCP.

The offsetting landscape continues to evolve, with new offset agreements introduced by Cambridge University Press and Oxford University Press in 2018, which were too late to be included in these reports.[47] In addition, American Chemical Society have an "author choice" scheme, and Royal Society of Chemistry have replaced their previous offsetting voucher scheme with a flat fee – calculated based on the prior number of articles an institution's authors have published with RSC – in order to make all of their articles open access. The Electrochemical Society's "Free the Science" scheme covers all open access costs for authors whose institution subscribes to the journals.[48] Thus the variation in financial models to support publishing is expanding.

Offsetting has produced real benefits for higher education institutions by increasing the value of journal license agreements and raising the number of journal articles that are published open access. However, it also has significant drawbacks. With the exception of the Wiley deal, the existing offset agreements only offset the cost of articles in hybrid journals rather than full open access journals as well. Offsetting risks entrenching the existing structure of the journals market and locking up even more money in big deals. Indeed, one of the big unresolved issues for offsetting is that it continues to consolidate "lock in" with particular publishers.

All existing agreements require an institution to maintain a subscription to a big deal – over multiple years – in order to receive any benefit from offsetting.[49] This is in contravention of Jisc's principles for offset agreements,[50] because moving away from historic print spend[51] to paying for publishing models remains complex, and combined with the need to maintain subscription access for non-open access content, the big deal subscription costs remain. The largest subscription publishers tend to be the largest recipients of APC funds[52] because 74-80% of APCs tracked in the UK are paid to hybrid journals[53] (though Plan S aims to change this). Therefore, tying offset agreements to big deals will continue to consolidate market

47 Jisc (2017)

48 Electrochemical Society ([n.d.])

49 A recent update to the Jisc Model License was intended to address this: "We have undertaken a comprehensive review of the model licences we use for our online journal agreements, bringing in a new schedule of provisions designed to ensure publishers follow our best practice guidelines for OA offsetting or 'read and publish' deals. This includes information feeds on acceptance and publication of articles to support Jisc Router, funder compliance, provision of metadata, and service levels" (Jisc 2018b).

50 Jisc (2015). The only one of the five principles which is used by all participating publishers is that offset should occur at the local as well as global level. This is a given, since applying local offset is a condition of being included in the list of participating publishers. The principles were updated in 2018 (Jisc 2018c). See also ESAC (2016).

51 The prices paid by institutions for some big deals is still tied to the amount they were paying for print journals in the 1990s before the transition to electronic publication.

52 Shamash (2016, 2017)

53 Shamash (2016); Wellcome Trust (2016)

concentration – potentially amplifying the dysfunctional nature of the subscription market. Indeed, Wiley's two most recent annual reports explicitly state that offset agreements help them to secure revenues.[54]

Therefore, despite the cost avoidance that they offer, the existing offset agreements are not reducing the overall cost of publication and are not yet encouraging a full flip to open access at the journal or publisher level. They are not a good long-term solution.

In 2018, prior to the announcement of Plan S, Jisc published its new requirements for transformative open access agreements.[55] The review of the existing offsetting agreements informed these requirements which require the reduction of subscription spend, and a commitment to transparency to ensure continued scrutiny from interested parties.[56] Accurate, timely and transparent sharing of data will be critical for monitoring the effectiveness of transformative agreements.

Offset agreements entrench a mixed/hybrid environment at a time when the focus should instead be on transitioning to full open access in the short term. To achieve this, a pivot away from the reliance on APCs is necessary. The intense discussion and debate surrounding Plan S shows that a different approach is now needed. In the short term, offset agreements could continue to play a role in the transition to open access. In the long term, however, alternative approaches will be required.

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54 "A number of European administrations are showing interest in a business model which combines the purchasing of subscription content with the purchase of open access publishing for authors in their country. This development removes an element of risk by fixing revenues from that market, provided that the terms, price, and rate of transition negotiated are acceptable" (Wiley 2017: 7; 2018: 11).

55 Jisc (2018c)

56 Science Europe (2018a: 10)

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