

A survey of the published literature on the potential wider market effects of pre-payments on the development of the APC payments market

1. Background

Whilst looking at options for administrative efficiency in Open Access Article Processing Charge (APC) payments processes, we have been aware of discussions in the literature describing benefits and disadvantages of pre-payment deals offered by some publishers. This survey of the literature is an attempt to pull together the issues surrounding pre-payment models to inform further discussion.

Processing APC payments is a relatively new workflow for most HEIs. *The Review of the Implementation of the RCUK Policy on Open Access* found that “one of the most consistently reported issues from HEIs in implementing the policy was the amount of administrative effort and cost taken to set up internal policies, processes and procedures.” (Burgess, 2015 p. 21)

HEIs have identified that supporting Open Access and APC work has required new policies, processes and management workflows which need to integrate with management and finance systems, established processes and internal databases (Burgess, 2015). Whilst articles can become open using the ‘green’ route, where no payment is required, key to the RCUK policy is the immediate free availability of publicly funded research articles through the payment of an article processing charge (APC) or the ‘gold’ route. Payment of an APC is fundamental to this workflow and RCUK policy.

2. Issues identified with paying APCs

Initially APC payment volumes were low but have increased from 2012 (Pinfield, S. 2015); institutions processes and systems need to meet that rising demand yet “payments are down to the smallest possible unit, which presents a huge overhead ... a challenge for both libraries and publishers” (Harris, 2013 p. 8). Lorraine Estelle (formerly CEO Jisc Collections) agrees, noting “Micropayments ... are a nightmare for everyone” (Harris, 2013 p. 10).

For HEIs and publishers there is a clear need to streamline APC administration in order to reduce costs, decrease workloads and simplify processes as payment volumes increase. Johnson believes payment models which streamline OA payment arrangements are necessary for both publisher and academic institutions to reduce administration costs as volumes increase (Johnson, R., 2013).

2.1 Pre-payment or membership deals offer administrative efficiencies

The pre-payment deals offered by some publishers were seen as a solution to these issues for APC payments. The attractions of streamlined workflows, reduced administration, ease of use (in some cases) and publisher discounts offered by publisher pre-payment deals lead many institutions to sign up for such deals as evidenced in our own GW4 project blogpost (Smith, 2015). There is approval for pre-payment deals and with the advent of RCUK funding Harris suggests that “For many participants, the simplest and most cost-effective way to spend the grants given by RCUK to fund APCs is to put this money into publisher OA membership deals” (Harris, 2013 p.2).

3. Developing an APC market and the potential effect of ‘big deals’

However the literature shows a degree of caution, with the effects of large publisher deals in the journal subscription market seen as an instructive example of the long term implications. Librarians also recognise the potential for APC payment membership schemes to ‘reinvent the big deal’ characteristic of academic journals (Harris, 2013, p5).

3.1 Dysfunction in the journal subscription market: factors

Inefficiencies in the journal subscription market were demonstrated in Shieber’s work on the nature of the market (Shieber, 2013) and cited by Bjork and Solomon (2014). Shieber (2013) identified lack of competition, monopoly of access and bundling of journals as factors leading to market dysfunction. Pinfield (2013) recognises that a journal ‘operates as its own ‘mini-monopoly’ in the market leading to low price elasticity of demand because of non-substitutability’ (Pinfield 2013, p86). In addition, unfavourable skewing of the market due to bundling, as determined by size of journal bundle offering, is detrimental for smaller publishers (Shieber, 2013). As bundling increases individual journal subscription prices become irrelevant to the market and consumers, as “subscription prices to individual titles ... are more or less meaningless, due to the dominance of bundled electronic licences” (Bjork, B. and Solomon, D. 2014, p16).

And price becomes ineffective as a market regulator as “sensitivity to price is also low in the subscription journal market because of a disconnect between the consumers of the product (researchers) and the purchasers (librarians). Consumer behaviour is not sufficiently affected by price signals” (Pinfield, 2013, p2).

Shieber, Bjork, Solomon and Pinfield recognize the importance of not replicating these dysfunctional characteristics in the APC payment market.

3.2 Developing an efficient APC market

Bjork and Solomon (2014) discuss unpublished work by Jacobs which identifies price signals relevant to producers and consumers as a key attribute in the development of a well-functioning market. In the APC payment market Harris identified that “authors are not strongly motivated by the prices of APCs in choosing where to publish. Journal quality and impact factor were felt to be more pressing concerns” (Harris, 2013, p2).

APC payment agreements are ‘often with large publishers that have a heritage of subscription publishing’ (Harris, 2013, p2) and experience with bundled agreements. Collins (2013) found concerns around potential skewing of the APC market as “memberships or prepayment accounts could mean that large amounts of money are tied up with traditional publishers, leaving little to support new market entrants or innovators as well as obscuring individual APC costs” (Collins, 2013, p6).

Thus, three characteristics of the dysfunctional journal subscription market (low sensitivity to price, the irrelevance of individual APC costs and the bundling of payments) are evident in the developing APC market. Three characteristics can be ascribed to pre-payment or membership deals: low price sensitivity, the irrelevance of individual APC costs and the bundling of payments.

3.3 Publisher overheads, revenue and compensation

Pinfield believes that the wide range of APCs demonstrates that cost is not linked to production but to ‘what the market will bear’ (Pinfield, 2013). However, publishers argue production costs may not be the only issue. Ware (2015) includes publishers’ loss of revenue through loss of rights on commercial re-use, copyright fees, reprints and waivers for authors in low income countries as requiring to be compensated through APC payment. Harris

believes 'libraries probably underestimate the costs that go into publishing' (Harris, S. 2012 p13).

3.4 A possible future APC market?

Bjork and Solomon (2014) outline a potential future for an APC market similar to the journal subscription market with expensive individual APCs and lower costs per article in bundled deals from publishers with many OA journals. The deals would necessitate an annual APC charge but would be sufficiently attractive, when compared with individual APC prices, to induce institutions to use the majority of their funds for these deals; the streamlining of APC payment administration would only increase their attractiveness. Funds would become limited for payments to other publishers and favour large academic publishers creating an ineffective market. Hence, pre-payment agreements could lead to similar dysfunctions in the APC market to the journal subscription market.

4. Potential routes to an efficient APC market: key ingredients

With some of the attributes of a dysfunctional market evident, what does the literature suggest would create an effective APC payment market? Shieber (2013) suggests the open access APC market can be more competitive than the journal subscription market as journals compete for authors, whereas in the subscription market journals are complementary and support each other; readers desire access to journals with similar subject matter. A more competitive market should motivate publishers to improve services and lower prices. Pinfield believes Gold OA has "the potential to reintroduce genuine competition into the journal market with authors, sensitive to price, making choices about where they place their articles." (Pinfield, 2013 p86)

4.1 Authors as consumers

In providing choice to authors (as consumers) a change in author behaviour is required. Academic authors need to become shrewd, knowledgeable shoppers in the publishing market if the market is to become competitive. Harris (2013) found a lack of understanding amongst academics about publishing costs and she identified 'a need for training and advocacy' by publishers and universities. Pinfield suggests "if journals put APCs up, authors can go elsewhere and the adjustments can happen quickly." (Pinfield 2103, p86)

In the full OA journals market Bjork and Solomon (2014) believe "author sensitivity to the levels of APCs has been working effectively in creating pressure to moderate the price of APCs." (Bjork, B. and Solomon, D. 2014, p4)

However, in the hybrid market they identify that OA is significantly more expensive but a decision to pay an APC occurs later than a decision on which journal to publish in (Bjork B. and Solomon, D., 2014). Not only do authors need understanding but they need to change their decision processes and perform comparisons between potential publications on a wider range of factors at an earlier stage.

4.2 Pre-payment deals limit price sensitivity and market responsiveness

However, if APCs are prepaid authors are unlikely to use cost as a factor and prices cannot change whilst the agreement is current; the market becomes less elastic. Pinfield (2013) believes that new APC payment processes, whilst saving authors time also 'run the risk' of divorcing researchers from 'the realities of price' and 'could recreate some of the systemic failures of the subscription market' (Pinfield 2013 p86).

4.3 Clear pricing in pre-payment deals: informed choices for authors

To enable informed authors, as consumers, to make real, balanced choices the availability of information (Jacobs, 2014) and a clear pricing strategy for APCs and their business models (Johnson, 2013) have been identified as requirements for effective decisions and the development of a mature open market for APC payments. Pinfield (2013) agrees that greater transparency in the market will promote competition. The analysis of APC spend data in the 'Review of the Implementation of the RCUK Policy on Open Access' (Burgess, 2015) noted "that further transparency on what is being paid in APCs by institutions to publishers will be crucial in helping to change behaviours." (Burgess, 2015 p11)

However, publisher business models 'make it difficult to identify real costs' (Collins, 2013 p5) and concerns have been raised about some new models (Collins 2013). Pinfield notes that "the complex pricing models and confidentiality clauses that came to typify the subscription market meant that price rises were often disguised." (Pinfield 2103, p86)

This would suggest a lack of clarity and transparency in prepayment schemes could hide price increases from other parties in the market and lead the APC market to become dysfunctional, in ways similar to the journal subscription market. Therefore, pre-payment agreements, as they currently exist, do not support the development of an effective APC market.

4.4 APC funding and researchers' price sensitivity

The advent of APC funding by research funders and institutions, whilst supporting researchers may have other implications. Bjork and Solomon (2014) believe "if earmarked APC funding starts to become available ... there is likely to be far less pressure on authors to be price conscious in choosing where to publish research." (Bjork, B. and Solomon, D. 2014, p16)

Thus supporting Pinfield's (2013) cautiousness on the risks of divorcing researchers (consumers) from price realities; earmarked funding could lead to disengagement on price, replicating problems with the journal subscription market. When investigating the relationship between price and quality in the OA journal market, Bjork and Solomon (2015) found authors can be more sensitive to the relationship between price and quality than publishers when less external funding is available. This implies that if more funding becomes available, and publishers have suggested that 'the transition to full gold OA publishing' is not yet fully funded (Burgess, 2015 p16), it may not lead to an effective market.

5. Effecting change

If researchers need to change behaviours to ensure a competitive APC market develops who is in a position to effect that change? Shieber (2009) identifies universities and funding agencies as the 'crucial underwriters' in the APC market. Pinfield believes "rather than just leaving the market to individual authors, there is a strong case for institutions or groups of them leveraging their bargaining power to ensure that APC inflation does not get out of control." (Pinfield, 2013 p86).

He suggests 'universities as institutions need to retain an acute sensitivity to price' (Pinfield, 2013 p86). He reflects that institutional influence should be not only external, in consortial negotiations around total spend, but internal allowing researchers' equality of access to APC payment funding.

5.1 Changing behaviours: potential mechanisms

Collins (2013) found that funders were already discussing costs with publishers and considering capping APC payments as they “have a limited number of mechanisms to support effective operation of the APC system and this is one that should be considered.” (Collins, 2013 p5).

Shieber (2009) lists issues such as journal eligibility, reasonable processing fees, limitations on and allocation of funds as details to be addressed in achieving ‘a sustainable mechanism for supporting open access journals’ (Shieber, 2009 p2). He recommends only ‘pure’ open access journals should be eligible for funding due to ‘inherent flaws’ in the transitional business model for hybrid journals and caps on fee reimbursement as the means to control hyperinflation of fees (Shieber 2009). Bjork and Solomon (2014) suggest three scenarios to achieve a reasonably priced, transparent and competitive market for APC-funded OA publishing (Bjork, B. and Solomon, D. 2014, p5).

The scenarios include:

1. Paying list prices for APCs of full OA journals and for hybrid journals provided mechanisms exist, on a local level, to prevent the occurrence of institutional ‘double dipping’ and ensure savings in subscription costs.
2. Funding based on multi-tier, value based caps for APC prices of individual journal titles.
3. Funders part funding APC fees with researchers or institutions bearing the remaining cost.

If steps are taken to limit APC prices these should be reflected in the discounted prices in pre-pay agreements or such steps would become irrelevant. Further, pre-payment agreements need to be included in these mechanisms too or such scenarios will be ineffectual.

5.2 Current discourse

The *Review of the Implementation of the RCUK Policy on Open Access* recommended ‘more robust guidance’ on the use of the block grant to ‘ensure that it is used to support the aims of the policy’ (Burgess, 2015). Whether it is appropriate for such guidance to include the mechanisms outlined above is unclear. Collins (2013) found funders “were not ready to take a strong view on specific business models, preferring to allow institutions or authors to make decisions about the best way to achieve OA.” (Collins, 2013 p6)

Although this might change as ‘new business models evolve, they might implement stricter policies’ (Collins, 2013 p6). RCUK has indicated it would monitor APC costs to determine the efficiency of the market and, if findings suggest not, explore how effectiveness could be improved (Burgess, 2015). OpenAIRE have introduced a cap of €2000 on open access publication fees (<https://www.openaire.eu/postgrantoapilot>); it would be interesting to understand any influence this has had on researcher behaviour and the long term impact of the cap.

6. Conclusions

Several attributes of pre-payment agreements have been shown as potentially detrimental to the development of an effective, competitive APC market:

1. The lack of visibility of actual costs within pre-pay, reducing price sensitivity of the author.
2. The disconnection between the price paid and the author/consumer, as the budget is not 'owned' by the author leading to a lack of consideration of APC cost in the journal selection process.
3. The lack of clarity and transparency inherent in these agreements.
4. The allocation of significant amounts of money by HEIs to pre-pay accounts limiting the amounts available to support smaller and new publishers in the market.

These issues need addressing in future agreements if an effective market is to emerge.

How the research councils and HEIs will use their influence to promote efficiency in the market is uncertain currently and whether any action will have the desired effect even more unclear. It is clear though that pre-payment agreements should be included in any mechanism used to support effective market development. How RCUK influence the terms and conditions of pre-payment agreements with this aim is problematic as these are publisher offerings that may be bespoke to an institution. It would seem though that action will be necessary if an ineffective market is to be avoided.

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