

Academic journal markets, their limitations, and the consequences for a transition to Open Access: a thought piece

Introduction

This thought piece is released jointly by Jisc, Research Libraries UK (RLUK), SCONUL and the Association of Research Managers and Administrators (ARMA). It does not necessarily reflect the considered views of those organisations but, instead, it is intended to stimulate discussion about the features of academic journal markets that might promote or inhibit cost-effective progress toward the UK Government's aim of Open Access (OA)¹.

This document is prompted by a shared concern among professionals in universities, that the current transition to OA is both too slow and too expensive, and furthermore that the transition on its current path risks replicating unsatisfactory aspects of the subscription journal market. Indeed, it is these unsatisfactory aspects of the market that are holding back the transition and increasing its costs. The paper concludes with some steps that might be taken to reduce the risks identified.

Universities benefit the economy across the UK

Universities across the UK contribute to the country's economy and society by undertaking world-leading research and enabling advanced learning by students from all backgrounds. Impact case studies² from the 2014 Research Excellence Framework exercise demonstrate the huge contributions made by UK university research, across all disciplines, and to all walks of life. A wealth of empirical evidence demonstrates clearly the link between a strong national public research base and levels of innovation.

Academic journals currently play an important role in the work of universities

Academic journals currently play an important role in universities' missions, by allowing researchers the freedom to choose appropriate channels to publish their work,

whose qualities are well-known and increasingly susceptible to measurement. There is an established correlation between the availability of journals and a university's research performance³. Because 80% of the 2014 REF impact case studies included underpinning research from multiple disciplines, universities able to provide access for their researchers to a broad range of journals are well placed to contribute to the UK economy and society. Furthermore, access to academic material – including journals – features highly in student satisfaction surveys, and use of that material correlates with student retention and achievement.

Learned societies are key actors in academic research, building and representing the research community, supporting early career researchers, and playing an important role in many of the most important journals. They complement the role of universities and, indeed, many smaller societies are effectively hosted by university faculties and departments.

The markets are changing

Changes in technology are now seeing journals change in important ways. For example, the internet enables and fosters Open Access to research outputs, a trend supported by UK Government and international policies. Research⁴ suggests that this has split the academic journals market into two:

- i. a new market based on the payment of APCs for articles in wholly Open Access journals⁵
- ii. a legacy market based on subscription journals, now with an Open Access option for individual articles

Academic journal markets compared

The following table compares the new market in Open Access journals with the legacy market in subscription journals, usually offering an Open Access option – so-called “hybrid” journals. The criteria used for the comparison are taken from the UK Competition Commission guidelines⁶ on market investigations, which imply those criteria as features of a well-functioning market.

Criterion	New Open Access market	Legacy subscription / “hybrid” market
Market concentration	<p>Market concentration is low</p> <ul style="list-style-type: none"> » In 2015, just 16%⁷ of all OA journal titles were published by the ten publishers with the most titles 	<p>Market concentration is relatively high</p> <ul style="list-style-type: none"> » In 2009, 35% of all journal titles were published by the largest ten publishers, but in just five years that figure had jumped to 45%⁸, mainly because large commercial publishers continue to take over publishing operations from learned societies that operate close to the academic community
Barriers to entry	<p>There are low barriers to entry</p> <ul style="list-style-type: none"> » Seven of the ten OA journal publishers with the largest range of titles were founded since 1994 » The success of diverse new publishers in OA market, such as PLOS⁹ and Hindawi¹⁰, is evidence that this market features high levels of innovation, new technologies and business models, that enable new entrants to operate at scale and to compete with incumbents 	<p>There are high barriers to entry</p> <ul style="list-style-type: none"> » Eight of the ten journal publishers with the largest range of titles were founded before 1900 » A variety of structural features limit the opportunities for new entrants and create significant barriers that very few new publishers have been able to overcome in recent years
Strength of customer response¹¹	<p>Customer response in terms of price sensitivity is relatively strong</p> <ul style="list-style-type: none"> » “...we believe that for full OA journals, author sensitivity to the levels of APCs¹² has been working effectively in creating pressure to moderate the price of APCs.” 	<p>Customer response in terms of price sensitivity is weak</p> <ul style="list-style-type: none"> » “...hybrid OA articles are significantly more expensive than their full OA counterparts and the price level is an important factor in inhibiting uptake of the hybrid option.”¹³

Performance of the legacy / hybrid journals market

Given the sub-optimal features of the legacy journals market noted above, how is it, in fact, performing in enabling a transition to Open Access, in line with Government policy? The evidence is, not well. The hybrid journal market is “highly dysfunctional, with very low uptake for most hybrid journals and a relatively uniform price in most cases without regard to factors such as discipline or impact”¹³, as would be expected given the market features above. Furthermore, the services offered into the market by publishers leave a lot to be desired; the Wellcome Trust has concluded that “we expect every publisher who levies an open access fee to provide a first class service to our researchers and their institutions [which] still seems to be some way off. These problems are particularly prevalent amongst publishers offering a hybrid OA option, which is also the more expensive way to comply with our OA policy.”¹⁴

The evidence also suggests that significant additional UK public funds are being paid to some publishers, in the form of APCs¹⁵, with only very limited services being provided as a result. Evidence from UK universities and research funders suggests this has accelerated in the period to the end of 2014¹⁶, though it might have stabilised somewhat since then as the limits of Research Council funds are reached. Questions can be raised therefore about the cost-effectiveness of this use of public funds. As importantly, though, the limitations of the legacy market negatively affect UK universities.

Shortcomings in the legacy journal market negatively affect universities

Efficiency

Universities, as major customers of academic journals, have for some time supported “big deals”, whereby large collections of a publishers’ content were licensed for a fee lower than would have been charged on a per-title basis. As long ago as 2006 an EC report¹⁷ noted the anti-competitive potential of big deals that, while constraining short-term costs for universities and increasing the content available, locked them into a market structure largely dominated by a decreasing number of increasingly large international publishing companies. This might explain why, while production costs in most information industries have dramatically fallen with the introduction of digital, networked technology, the prices paid by universities for access to research continues to rise inexorably, contributing to very high margins for many publishers regardless of wider economic conditions.

The same drive for short-term cost constraint at the expense of an effective market has also marked the move to Open Access, following the Finch Report¹⁸ in 2012. In principle, the business model for Open Access journals scales better with a growing global research base. However, most publishers have not responded by converting journals to the OA model. Instead, they have converted existing journals into “hybrid journals”, allowing authors (or, rather, institutions and funders) to pay for Open Access in otherwise subscription journals. Very few journals have transitioned through this route to become fully OA, so the evidence is that hybrid journals maintain the legacy journal market, and are simply adding a new cost to UK higher education and a new UK revenue stream to publishers. The response of the university sector, with UK Government support, has been to push for “offset deals” as a way of transitioning spend from subscriptions to OA. In an offset deal, the additional costs of OA are partially offset against subscription costs in more elaborate “big deals” with publishers. The benefits of these deals to universities are calculated with respect to what universities would have

paid for both subscriptions and Open Access charges, but against that must be placed questions raised¹⁹ by both publishers and universities about the scalability and sustainability of such an approach, its effect on market structure, and its administrative burden. While funder policies support this kind of Open Access, universities and Jisc will continue to negotiate these deals with those publishers willing to engage²⁰. However, universities are perhaps increasingly refusing to use any but dedicated block grants (e.g. from the Research Councils) to pay Open Access charges, and international support for hybrid journals as a route to Open Access is perhaps now starting to drain away.

Productivity and impact

The big deals have undoubtedly expanded the range of journals available to many researchers and students, compared to the situation as it was previously. This is likely to have made a significant contribution to the ability of universities to have the impact so well demonstrated in the 2014 REF. However, as smaller journal publishers (including learned societies) and, especially, research monographs have been squeezed out of the library budget by what are effectively fixed big deal costs, there are obvious longer term dangers not only for the range of impact but also for academic freedom. Similarly, there is less library support for undergraduates, researchers and academics more generally, with likely knock-on effects with respect to student satisfaction and achievement.

Furthermore, progress toward Open Access is much slower than might have been expected. Despite dedicated funding from the Research Councils and others, over 60% of UK research remains behind subscription barriers²¹. Evidence²² from research co-sponsored by higher education and the publishing industry shows that these barriers can lead to significant non-productive activity and lost opportunities on the part of researchers and knowledge workers, limiting the potential impact of UK universities and damaging the productivity of the UK economy.

International considerations

Both the legacy journals market and the new OA journals market are intrinsically international, and so the UK position needs to be put into that context. The Finch Report made certain assumptions about the markets in the rest of the world, that have not so far been borne out in practice, with only the Netherlands adopting an APC-based approach. As a result, the additional transitional costs to the UK that were forecast in the Finch Report may last longer than was anticipated. However, most recently there have been positive international developments, such as a statement by the League of European Research Universities (LERU)²³ and a proposal from the Max Planck Institute²⁴ calling for international collaboration to flip from the legacy market to a form of purely OA market.

Conclusions and options

UK research, and its wider economy, are not being as well served as they might be by the legacy journals market. This is no one's fault; it is a structural issue concerning a market that has evolved organically over many years and has now been asked to support a radical transition to Open Access. However, new, more market-based options might be available, which could include incentives for various stakeholders throughout the market to move toward wholly OA journals, rather than hybrids. The use of repositories, in parallel with journal publishing, also increases the availability of UK research to innovators in the wider economy. In more detail, options could include:

- i. Adjustments to the rules governing the use of research funds, to provide market incentives for the development of fully Open Access journals with transparent pricing. Such adjustments might include restricting, or placing conditions on, the extent to which research funds could be used to pay Open Access charges for hybrid journals²⁵
- ii. Encouraging all those directing funds into the market, including universities and research funders, to collaborate closely in negotiations with publishers on the total UK expenditure on journals, and on the services required by the research community in exchange for that expenditure
- iii. A preference in negotiations with publishers for models that completely shift their journals from the legacy to the OA model, at least for UK authors and readers
- iv. Further alignment of UK Open Access policies to make it clear that the use of repositories is a valuable component in the transition to Open Access, and adoption by universities of approaches to intellectual property that support this route
- v. Supporting the development and adoption of indicators that describe a much fuller range of quality dimensions for journals, to enable better signals in a market wherein price is unlikely to be an important signal
- vi. Ensuring that innovative small and society publishers have effective mechanisms to compete in the UK Open Access market



Appendix

- 1 UK Government announcement (2012): http://bit.ly/jisc_govfundedresearch
- 2 REF impact case studies: <http://impact.ref.ac.uk/CaseStudies>
- 3 Jubb, M., Rowlands, I. and Nicholas, D. (2013) Value of Libraries: Relationships Between Provision, Usage, and Research Outcomes. Available at: http://bit.ly/jisc_evidencebased
- 4 Bjork, B.C. and Solomon, D (2014) Developing an Effective Market for Open Access Article Processing Charges. Wellcome Trust. Available at: http://bit.ly/jisc_wellcometrust
- 5 There are a number of OA journals that rely solely on non-APC revenue. However these tend to be relatively small, and the majority of papers in OA journals published by UK authors are associated with an APC.
- 6 Competition Commission (2013) Guidelines for market investigations: Their role, procedures, assessment and remedies. Available from: http://bit.ly/jisc_compcommission
- 7 Data taken from the Directory of Open Access Journals on 4th January 2016. <https://doaj.org>
- 8 Ware, M. and Mabe, M. (2015) The STM Report: An overview of scientific and scholarly journal publishing. Available from: http://bit.ly/Jisc_stmreport Note that the figures reported here are for the whole industry, including OA journals, but only one publisher in the list (Hindawi) is a wholly OA journal publisher, because the scale of the subscription market still far exceeds that of the OA market. So, while the figures are not a perfect comparison, they are strongly indicative.
- 9 PLOS (Public Library of Science): plos.org
- 10 Hindawi Publishing Corporation: hindawi.com
- 11 Both quotes taken from Bjork, B.C. and Solomon, D op cit
- 12 APC: Article Publication Charge – a charge often levied by a publisher to publish an article OA.
- 13 Bjork, B.C. and Solomon, D (2014) Developing an Effective Market for Open Access Article Processing Charges. Wellcome Trust. Available at: http://bit.ly/jisc_wellcometrust
- 14 Kiley, R. (2015) The Reckoning: An Analysis of Wellcome Trust Open Access Spend 2013-14. Available from: http://bit.ly/Jisc_thereckoning
- 15 Burgess, R. (2015) Review of the implementation of the RCUK Policy on Open Access. RCUK. Available from rcuk.ac.uk/media/news/openaccess
- 16 Jisc Collections. APC data deposited on Figshare by UK universities. Available from: http://bit.ly/Jisc_figshare
- 17 European Commission, DG Research (2006) Study on the economic and technical evolution of the scientific publication markets in Europe. Available from: http://bit.ly/Jisc_cordis
- 18 Working Group on Expanding Access to Published Research Findings ('Finch Group') (2013) Accessibility, sustainability, excellence: how to expand access to research publications: researchinfonet.org/publish/finch
- 19 Ware, M (2015) Evolution or revolution? Publishers' perceptions of future directions in research communications and the publisher role. Available from: http://bit.ly/Jisc_evolutionorrevolution
- 20 Some publishers do not yet even acknowledge the need to address the issue that offset deals are intended to tackle.
- 21 Research Information Network et al (2015) Monitoring the transition to open access. UUK. Available from: http://bit.ly/Jisc_monitortransition
- 22 Research Information Network, Publishing Research Consortium, JISC (2011) Access to scholarly content: gaps and barriers. Available from: http://bit.ly/Jisc_gaps_finalreport
- 23 League of European Research Universities (2015) Christmas is over. Research funding should go to research, not to publishers! LERU Statement for the 2016 Dutch EU Presidency. Available from: http://bit.ly/Jisc_leru
- 24 Max Planck Gessellschaft (2015) New momentum for Open Access. Available from: http://bit.ly/Jisc_max_planck
- 25 There are models whereby a set of journals is converted for a group of authors, for example UK authors, into what are effectively for them wholly Open Access journals. These models show some promise.