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## Open access: beyond the numbers

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# Open Access: Beyond the Numbers

## Research Communications Strategy Project

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### Public subsidies

Much of the discussion about the merits of Open Access (OA) publishing has centred on the numbers; on whether, when all costs have been taken into account, it is cheaper to publish on an OA basis than in commercially run, subscription journals. But there are wider considerations than these.<sup>1</sup> In this briefing, I outline the case for OA and the creation and dissemination of new knowledge. The properties of knowledge are key to both scholarly activity and to the efficient and effective workings of the knowledge economy. Seen from this point of view, there is a strong case for OA publishing, irrespective of the balance of publishing costs.

In their work for JISC, Houghton and Oppenheim<sup>2,3</sup> have estimated that there is a 10% differential between OA and subscription publishing, and that this differential cost the UK's research and development system £80m in 2007. This has been contested by subscription publishers,<sup>4</sup> and the relative costs of the two approaches to publishing continue to be debated. But if the differential is zero, as some have claimed it is, would this be the end of the issue?

The answer must be no. This is because, at parity between subscription and OA publishing, the scholarly communication lifecycle is kept afloat by a substantial amount of public investment. This investment takes the form of spending via block research grants and Research Council grants made to universities and research teams working in universities, and by the donation of considerable amounts of paid time by the academic community through writing papers, reviewing, refereeing, editing and associated activities.

A true comparison would require that the investment in public funding was either factored out, or corrected by means of a return on the investment through profits from sales. A fully commercial model for scholarly publication would need to show how the investment of public funds as subsidy for private companies can give a better return than if these same public funds were to be used to enable OA publishing and institutional repositories.

### Beyond the numbers: the properties of knowledge

But however the numbers work out, the core problem with subscription publishing is not that it is more expensive than OA publishing. It is rather that publishers extract rent at points in the lifecycle of scholarly knowledge production. In doing this the system of subscription publishing works against some of the key qualities that make knowledge potent in changing the world.

As Foray<sup>5</sup> and others have shown, knowledge is best understood as intangible capital. As such, knowledge is "partially nonexcludable and nonrival"; it is difficult to restrict and control and may be used by many people at little or no additional cost. Knowledge is not consumed as it is used, which means that, under the right circumstances, it may be infinitely reproduced. Drahos and Braithwaite<sup>6</sup> expressed this in a now-classic metaphor: "if you came to own a patent in a genetically engineered cow that produces twice as much milk as existing cows, you had an asset that was equal in value to all the herds of all the world's dairy farmers. And a more liquid asset than all that milk and all those cows".

These essential properties of knowledge mean that the marginal gain from OA to knowledge will inevitably exceed private benefits. For example, the public benefit from the ready availability of generic medicines on prescription from the NHS is many times greater than the private benefits to the shareholders in a pharmaceutical company that succeeds in prolonging the accepted limits of patent protection, which is why the public interest is protected by means of competition law. Similarly, where institutions deposit preprints or postprints in OA institutional repositories, the gain from private users (paying subscribers) may be far less than the "open" gain from those who are walk-in library users, or log into an institutional repository.

A further factor is the readiness with which new knowledge is available. OA publishing provides almost immediate access to newly codified and verified knowledge. In contrast, access to subscription published knowledge is time constrained and restricted, because the onus of gaining access rests with the user. In the metaphor of the knowledge highway, a rider starting a journey with free, immediate and unrestricted access to knowledge knows that there is an open road ahead. A rider who sets off without these permissions secured knows that, at various points, there will be delays while licences to continue are obtained and fees are paid. This adds friction, delay and unnecessary costs to the functions of the knowledge economy.

In some respects, OA publishing is a return to the pre-commercial principles of scholarly exchange. In this system, the emphasis is on giving away codified knowledge, validated by means of peer review, in return for reputational benefits. The academic knowledge system is a highly structured resource distribution network that provides its participants with benefits as long as they work hard to make their contributions to new knowledge known to as many as possible. The scholarly communication lifecycle model has inherent market-like properties independent of the market features of subscription publishing. While there will be continuing debate about the role of for-profit companies in the “knowledge work” of universities, there is no inherent dependency on commercial publishing for the work of knowledge production to thrive.

### Adding value

This does not mean that there is no place for private, for-profit investment in the scholarly communication lifecycle.

The alternative approach has been before us since IBM made the decision in 1998 to rebuild its business model around the Linux operating system and to make its profits from adding services to an open source platform, and in open innovation and customer innovation approaches to building new forms of business models.

Rather than exacting tolls through roadblocks along the highway, public investment in the production of scholarly knowledge may best be situated in optional, value-add user services that are easily accessible during the journey.

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