

## Subsidy to academic publishing from the UK university system

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In the discussions about open access publishing, two elements seem to be missing: one is the subsidy that the universities effectively provide by financing their staff to supply their works to publishers and to peer review the work of others for free; and the other is economic evidence on the determinants of the price that publishers now levy for releasing rights from the copyright that the authors have assigned them. These two aspects are not entirely linked but they suggest an empirical basis for the discussion of OAP. Connected to the second point is that that price essentially calculates the present value of an article or book as a copyright asset: this has a much wider interest in the context of the question of the valuation of copyright as an incentive, not just in relation to OAP.

There are wider policy questions too: for instance, should universities charge for the time their staff spend supply free content to academic publishers? Should universities retain the copyright of their employees' works?

It seems to me that it would not be very difficult to make a rough calculation of these economic values and that there is probably information from time use studies and so on that could be harnessed for this purpose. I sketch the kind of information that is needed below.

### One cost estimate

I have calculated the cost of my time in writing a short introductory book of 50,000 words. As it happened, I wrote it in circumstances in which I was able to calculate the time it took to write and revise it: 250 hours. I calculate that my time (and human capital) cost £7,750 at the rate of my salary and, if calculated at the rate of the cost of my salary to the university, it would be around £10,000. (I should say that I have a part-time appointment so some of my time is my own!). The topic of the book was familiar to me and I had written on it previously so needed to do little new research; most new work would take much longer to produce and would likely involve more than one author, thus this figure is much below the norm. This calculation suggests that the overall subsidy of academic time (not to say value) is a large figure, and one that our paymasters may not have a handle on (or even think about!).

### Information needed to calculate the subsidy:

#### 1. Valuing the subsidy

- Time taken to write and process articles
- Time taken to referee
- Number of articles published per year
- Number of referee reports produced per year (say at 2 per article?)
- Value of academics' time eg imputed hourly wage rate. Would have to take into account who is publishing - is it expensive top professors or cheap PhD students.
- How many articles published in all academic journals use UK academics' contribution to content and refereeing? Information may be with publishers (it is for books)

#### 2. Calculating the price of releasing rights

- The marginal cost of processing an article. This must be very small these days as it is all done electronically with authors and referees submitting direct to editors and to managing editors.
- Payments to editors
- Marketing, advertising costs etc

### 3. The value of the copyright asset

- The estimated price of releasing the rights should represent the discounted present value of the income from the published article, ie the asset value of the copyright.
- What is the durability of an article 'on average'? Could possibly be measured by hits/number of downloads over a period of time.
- Use a social discount rate to account for addition to knowledge.

Taking the example of the book above: assume the retail price is £30, the royalty rate is 10% and the book sells 1000 copies in Year 1, 500 in Year 2, and 200 per year after that, and that the author is paid at the end of each year. To calculate the present value, assume an interest rate of 5%.

The first year's payment is deferred a year from the time of the writing effort and so in present value the apparent £3,000 is really only worth £2,857. Following that through, it would take 10 years and total sales of 3,100 for the author to recoup the investment of writing this book ( $£2,857 + £1,360 + £571 + £544 + £518 + £493 + £469 + £447 + £426 + £406 = £8091$ ). How many of us achieve that??