

The market for scientific, technical and medical journals

A statement by the OFT

September 2002

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CONTENTS

<i>Part</i>	<i>Page</i>
1 Introduction and summary	1
2 Why did the OFT consult on this market?	2
3 What are the concerns?	4
4 Key features of the market for STM journals	5
5 Evidence that the market may not be working well	9
6 What factors might prevent competition working?	15
7 Might competition work better from now on?	18
8 Should competition authorities intervene?	21
9 References	22
 <i>Annexe</i>	
A Index of submissions	23

1 INTRODUCTION AND SUMMARY

1.1 This paper reports, under section 125(4) of the Fair Trading Act 1973, on the OFT's informal consultation regarding the market for scientific, technical and medical (STM) journals. Its main conclusions are:

- there is evidence to suggest that the market for STM journals may not be working well
- many commercial journal prices appear high, at the expense of education and research institutions
- it remains to be seen whether market forces, perhaps enhanced by the use of new technology, will remedy the problems that may exist
- for now it would not be appropriate for the OFT to intervene in the market, but the position will be kept under review.

2 WHY DID THE OFT CONSULT ON THIS MARKET?

2.1 In 2001 Reed Elsevier and Harcourt, two of the main commercial publishers of STM journals, merged. In the UK the OFT recommended that the proposed merger be referred to the Competition Commission (CC) for detailed investigation¹.

2.2 The CC concluded in its report (the 'Report'²) by a majority of two to one that the merger was not likely to operate against the public interest and the merger was cleared. However, the Report noted that:

'[...] the inquiry has brought to light a number of features of the market for STM journals that are unusual and may benefit from further examination. Although they lie beyond the CC's terms of reference on the present occasion, if the Director General of Fair Trading believes that there are matters giving rise to wider concerns and are not being resolved, then he may wish to consider whether a wider review is necessary.' (Report: paragraph 1.11)

Accordingly, on the day that the Report was published, the OFT announced an informal consultation to assess whether there were grounds to:

- open an investigation under the Competition Act 1998 (CA98)
- make a reference to the CC under the monopoly provisions of the Fair Trading Act 1973 (FTA73), or
- carry out a more general review under the FTA73.

¹ A report under section 125(4) Fair Trading Act 1973 on the advice of the Director General of Fair Trading, given on 14 February 2001, to the Secretary of State for Trade and Industry under section 76 of the Act. Published at <http://www.offt.gov.uk/business/mergers/advice/clearances+and+referrals/harcourt.htm>

² Cm 5184 *Reed Elsevier plc and Harcourt General, Inc; A report on the proposed merger*, published 5 July 2001, available at <http://www.competition-commission.org.uk>

Twenty-five submissions were received in response to the invitation to comment (see Annexe A). As well as examining these submissions and the Report itself, the OFT has reviewed the academic literature on journal pricing.

3 WHAT ARE THE CONCERNS?

3.1 The Report noted the following as a prime concern:

'The continual rise in the price of STM journals has been represented to us as a problem by many of those - both publishers and libraries - who have given us evidence. It appears to be endemic in the sector and, while not related to the ownership structure of the industry and so to the proposed merger, there are many who feel that it does need to be examined.' (paragraph 2.114).

3.2 In the submissions received by the OFT concern was expressed about:

- price increases above inflation
- the disparity in prices between commercial and non-commercial STM journals
- the profitability of commercial STM publishing, and
- the development of terms for electronic access and concerns about 'bundling'.

These concerns are discussed in chapter 5 below. Moreover, there are a number of features in this market that might be expected to prevent competition from working effectively. These are examined in chapter 6.

4 KEY FEATURES OF THE MARKET FOR STM JOURNALS

4.1 Journals are the principal means by which new scientific knowledge is disseminated. Their purchase and content is supported to a large extent by public funding to higher education and research institutions. Such funding is appropriate given the 'public good' aspect of libraries and the important wider public benefit relating to the publishing of research findings. The STM journals market, however, has particular characteristics that are relevant to an assessment of whether it is working effectively to provide good value for money:

Global supply and demand

4.2 STM journals from all parts of the world are in the same geographic market. The Report noted that STM journals are sold at a world-wide price, give or take some transitional arrangements on the part of some publishers designed to spread currency fluctuations over time, and there is little or no translation or other variation for local conditions. In what follows prices are sometimes specified in US dollars rather than sterling. This reflects the source of the relevant data, but does not affect the analysis.

The supply side

4.3 Three broad groups publish scientific journals – learned societies that operate on a 'not-for-profit' basis, university presses and commercial publishers.

4.4 The Report noted that some learned societies are content to cover costs but that commercial publishers will aim to take full advantage of any opportunities to increase their profits. Commercial publishers are often termed 'for-profit'. University presses appear to occupy a middle ground between these two positions, aiming to make a satisfactory level of profit for their parent institution. Where not specifically separated out, university (or educational) presses are treated in what follows as 'non-profit' publishers.

4.5 The articles that appear in STM journals are typically provided free by academic researchers and are subject to peer review by academic referees and editors, who also receive little if any remuneration.

4.6 Globally, the largest publishers of STM journals, whether in terms of number of journals, articles, turnover or citations are commercial publishers. Table 1 shows volume shares of STM journals and articles that are rated by the Institute for

Scientific Information, Inc (ISI)³. The table shows that the nine publishers with the largest shares of ISI rated STM journals are all commercial, but that overall the market is fragmented with the top six publishers accounting for just 37 per cent of rated journals and 44 per cent of articles. The top publisher (Elsevier) accounted for just 13 per cent of the journals, rising to 18 per cent following its merger with Harcourt.

- 4.7 **The Report noted the difficulties of measuring market shares by value but estimated that in the STM journals market a merged Elsevier Harcourt would account for around a third of UK sales by value. The concentration of market share is higher in certain segments. For example, the Report indicated (see Table 4.8 of the Report) that Reed Elsevier and Harcourt together had a forty-one per cent share of the supply of science and technology journals (i.e. excluding medical). By contrast, the remainder of the UK market is fragmented, with only one other supplier having more than a five per cent share and over 40 per cent of the market being supplied by publishers with very small market shares.**

³ The Institute for Scientific Information, Inc, is a subsidiary of the Thompson Corporation that, among other things, provides measures of citation rates.

TABLE 1: PUBLISHERS OF ISI-RATED STM JOURNALS, 1998

Publisher	Type of publisher	Number of ISI-rated journals 1998	Share of journals 1998 %	Share of articles 1994 to 1998 %
Elsevier Science	Commercial	994	13	20
Wolters Kluwer	Commercial	552	7	7
Harcourt General	Commercial	353	5	5
Blackwell Publishers	Commercial	341	4	4
Bertelsmann	Commercial	326	4	4
Wiley	Commercial	279	4	4
Taylor & Francis	Commercial	191	2	1
Sage	Commercial	123	2	0
Karger	Commercial	101	1	1
Institute of Electrical and Electronics Engineers	Society	93	1	1
Cambridge University Press	University Press	84	1	1
Gordon & Breach	Commercial	84	1	1
Oxford University press	University Press	83	1	1
Marcel Dekker	Commercial	76	1	1
Holtzbrinck	Commercial	67	1	1
America Institute of Physics	Society	41	1	2
Scandinavian University Press	University Press	39	1	0
University of Chicago Press	University Press	39	1	1
Mary Ann Liebert Inc	Commercial	34	0	0
IOP Publishing Ltd (Institute of Physics)	Society	32	0	1
American Chemical Society	Society	31	0	2
Havas	Commercial	31	0	0
Others (2,028 publishers)		3,716	48	40
Grand total		7,710	100	100

Source: The CC Report, based on ISI data

The demand side

- 4.8 The ultimate user of a journal is the reader, but the library of the institution to which the reader belongs usually makes the purchase. Purchasing practices vary, but in most cases the library budget is allocated across faculties and each faculty must choose between relevant journals. Librarians, budgetary committees and faculties each have a considerable influence on this choice. These decisions must be made in the context of other journal purchases by the institution. Most institutional buyers subscribe to several hundred scientific journals supplied by a large number of publishers. Most also purchase journals through subscription agents, which take their orders and arrange subscriptions with the relevant publishers.
- 4.9 The three largest subscription agents are estimated to account for between 70 and 90 per cent of the value of UK sales of STM journals. The Report notes Harcourt's description of these as trade intermediaries who collate, place and administer subscriptions for STM journals on behalf of libraries, and monitor despatch and delivery⁴. Despite the concentrated shares of this activity, we have no evidence that these intermediaries exercise buyer power.

⁴ The Report, paragraph 4.60.

5 EVIDENCE THAT THE MARKET MAY NOT BE WORKING WELL

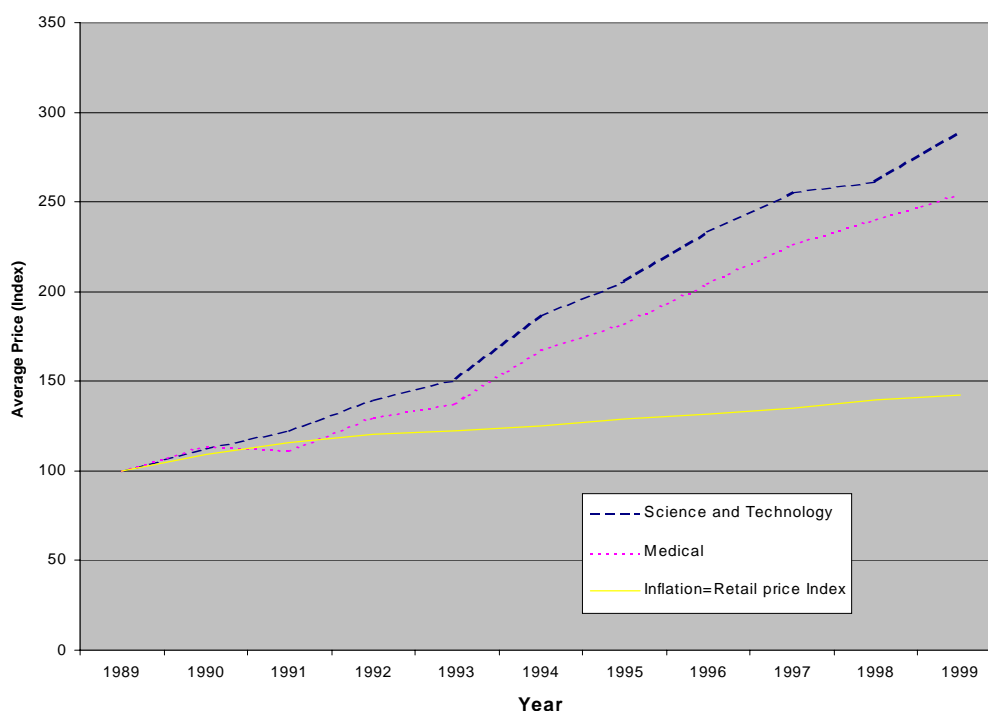
Prices have risen above inflation

5.1 The primary concern raised in submissions to the OFT is that the average UK price of STM journals has risen well above the rate of inflation. This is shown in Figure 1.

Disparity in prices between commercial and non-profit journals

5.2 Clearly one possibility is that these price increases could reflect cost increases. The OFT notes Reed Elsevier's arguments that there has been investment in the development of electronic methods for delivering journals by email and over the internet, and that the number of articles published in each journal has increased significantly. On the other hand, one might have expected these, and other⁵, changes to have reduced the marginal costs associated with producing and delivering journals.

Fig.1 Journal Price Changes and Inflation



Source: The CC Report, based on Blackwell's Periodicals Division

⁵ For example, there have been reduced typesetting costs associated with the increasing practice of authors submitting articles in electronic format.

5.3 As such, the OFT is not persuaded by this cost justification argument. Any such argument is also brought into question by the fact that the average prices of commercial journals appear to be substantially higher than those of non-profit journals, as is clear from the prices set out in Table 2.

TABLE 2: AVERAGE PRICE AND FACTOR OF INCREASE BY TYPE OF PUBLISHER 1975 AND 1995 (in Current and Constant dollars)

TYPE OF PUBLISHER	AVERAGE PRICE		FACTOR OF INCREASE:	
	1975	1995	Current Dollars	Constant Dollars
Commercial	\$55	\$487	8.9	3.1
Society	\$28	\$229	8.2	2.9
Educational	\$15	\$81	5.4	1.9
Other	\$40	\$119	3.0	1.1
All Types	\$39	\$284	7.3	2.6

(Source: Tenopir and King [2000])

5.4 These price differences might reflect differences in circulation size and discipline. However, surveys, covering a wide variety of academic disciplines, report that the prices of many commercial journals appear much higher than non-profit alternatives even when allowing for some key sources of difference. For example:

- Bergstrom and Bergstrom (2001) look at differences across 'for-profit' and 'non-profit' journals according to two 'value for money' measures: price per page and price per citation. As shown in Table 3, on average across the disciplines examined, 'for-profit' journals were almost five and a half times more expensive than 'non-profit' in terms of price per page, and over ten times more expensive in terms of price per citation.

TABLE 3: COST EFFECTIVENESS COMPARISONS

Field	Price/Page		Price/Citation	
	For-profit	Non-profit	For-profit	Non-profit
Ecology	\$1.19	\$0.19	\$0.73	\$0.05
Economics	\$0.81	\$0.16	\$2.33	\$0.15
Atmos. Sci.	\$0.95	\$0.15	\$0.88	\$0.07
Mathematics	\$0.70	\$0.27	\$1.32	\$0.28
Neuroscience	\$0.89	\$0.10	\$0.23	\$0.04
Physics	\$0.63	\$0.19	\$0.38	\$0.05

(Source: Bergstrom and Bergstrom [2001])

- Binman, Kirby and Apt (1997) carried out a similar analysis for mathematics journals by comparing the cost per 10 000 characters, and found a variation of over 10 to 1 between commercial publishers and universities/societies.
- Bergstrom (2001) conducted a comprehensive analysis of scholarly economics journals and reported 'a remarkable difference' in prices between commercial publishers and universities/societies, which appears not to reflect a difference in quality. Overall, he finds that commercial economics journals account for 81 per cent of library spend but only 56 per cent of journal pages and just 33 per cent of citations. He also notes that similar results hold for other disciplines.

5.5 These price differences are striking, and support the view that prices are high for commercial journals. The OFT recognises that there are a variety of possible counter-arguments to this finding. However, we have not seen sufficient evidence to be persuaded by any of these.

The effect of short-print runs

5.6 If commercial publishers produce a high proportion of journals with small print runs then, in an industry with high fixed costs and low variable costs per journal, this could result in higher average costs for commercial publishers. Cost-efficiency comparisons based on cost per page and/or citation would not reflect these factors. However, the OFT has not received persuasive evidence on this point.

Cross-subsidisation

5.7 If commercial publishers use their more profitable journals to support less profitable ones, this may explain the high prices for the former. It is not clear why commercial publishers would want to do that. Anyhow, any such effect should already been taken into account in the above analyses, which cover a wide range of journals. Thus it would not seem to help explain the overall observed price disparity. An alternative hypothesis might be that the publishers offer subsidised subscriptions to individuals that contribute to price increases for institutions. However, the OFT has no evidence that suggests that this cross-subsidisation argument is plausible.

Risk

5.8 It could be argued that there are substantial risks involved in building a portfolio of titles, with many new journals being unprofitable, and some never becoming profitable and ceasing publication. In this case, the profits on the more successful ones would need to be sufficiently high to cover the costs of failures. However, we have not received evidence on the failure rate of new titles. Moreover, we are not persuaded that this argument would provide a satisfactory explanation, given the apparent high rates of overall profitability in this segment of commercial publishing (discussed below).

The relative profitability of commercial STM publishing

5.9 In addition to the evidence on prices, the OFT notes that the overall profitability of commercial STM publishing is high, not only by comparison to 'non-profit' journals (which is not surprising), but also by comparison to other commercial journal publishing. Evidence on this was provided in the Report, and is summarised in Table 4.

TABLE 4: STM PROFITABILITY: REED ELSEVIER PLC ADJUSTED OPERATING PROFIT MARGIN BY BUSINESS SEGMENT

	Science and Medical %	Total journals %
1998	35.9	25.7
1999	35.4	23.4
2000	36.4	21.0

Source CC Report, Table 3.2

5.10 In order to assess the impact of above average profitability on the customer, Wyly (1998) used an approach that attempts to allow for the need for commercial publishers to make a normal commercial return from scientific journals. He used 1997 US data for commercial publishers that have significant scholarly publishing operations. Wyly constructed a hypothetical summary of the customer savings that would have derived from these companies operating their scholarly publishing segments at the median measure of profitability for the periodical publishing industry as a whole. He did this by recalculating scholarly publishing sales assuming a return equal to the periodical publishing industry's medians of 50% net margin and 18.8% return on equity.

5.11 The resulting table (Table 5) suggests that customers would make large savings if for-profit scholarly journals were to be published at median profits under either profit measure. Overall the estimated potential savings would be 10-15 per cent of total US spend and of the order of \$200 million per annum.

The development of electronic access and concerns about bundling

5.12 A final concern raised in submissions to the OFT relates to bundling of journals. Most commercial publishers are now offering, and many libraries seem willing to accept, package deals providing electronic access to all, or a large selection of, their journals. This replaces subscriptions to individual journals, as was the norm in the era of print-only. Hence, although journals are differentiated from each other they are increasingly being packaged as a single product that is supplied electronically.

TABLE 5: ESTIMATED POTENTIAL CUSTOMER SAVINGS FROM SCHOLARLY PUBLISHING (BASED ON INDUSTRY-STANDARD PROFIT MARGINS/RETURNS)

Publisher	Relative to 5.0% Net Margin		Relative to 18.8% ROE	
	Savings (Costs)	% difference from Actual Net Margin	Savings (Costs)	% difference from Actual ROE
Wolters Kluwer	\$19,145,000	5.3%	\$19,098,000	5.3%
Reed Elsevier	\$212,045,000	22.3%	\$146,286,000	15.4%
J.Wiley & Sons	(\$592,000)	(0.3%)	(\$865,00)	(0.4%)
Plenum Publishing	\$6,421,000	19.4%	\$570,000	1.7%
Total	\$237,019,000	15.3%	\$165,089,000	10.7%

Source: Wyly [1998]

5.13 While there are clear efficiency arguments for such bundling, it may make it difficult for rivals to offer alternatives to particular journals in these bundles, thereby foreclosing competition and leading to the market tipping towards publishers with substantial portfolios. McCabe (1999) also indicates that where libraries buy portfolios of journals this can contribute to insensitivity of demand to price.

6 WHAT FACTORS MIGHT PREVENT COMPETITION WORKING?

6.1 The previous chapter provides evidence that the market for STM journals may not be working well. In addition, we note that there a number of features of this market that might militate against the operation of normal competitive market forces. This could block the potential for better value journals to either drive out worse value journals or force them to improve their cost effectiveness for the customer.

Inelastic demand

6.2 The Report found that price competition is not a dominant feature of the market. Many journals have a particular reputation or specific focus in the subject matter that they cover, and there is often an unwillingness of researchers or institutions to substitute a cheaper journal. The price sensitivity of demand for many journals is thus very low and journals are generally perceived as competing on quality rather than price. Certain journals can even be regarded as markets in their own right, due to the lack of demand substitutability.

6.3 As noted in the Report:

'[...] this can sometimes lead to perverse results. For example, if a very well-regarded but expensive journal increases its price further, it is the cheaper, but less-well regarded journals in the same field that are cancelled, so that the subscription to the leading journal can be maintained. This means that a publisher sometimes has the potential to increase his market share by raising his prices.' (Report: para 2.61)

Barriers to entry - 'positional advantage'

6.4 Although new titles appear frequently and in this sense barriers to entry are low, it is very difficult for a new journal to become established and secure a strong reputation.

6.5 On the demand side, the limited budget of libraries is an immediate barrier to establishing a new journal successfully. Most academic libraries are unable to take out a new subscription without cancelling an existing one, and there can

be strong resistance to cancelling a journal where the library has already collected a run of editions.

- 6.6 On the supply side, the most highly regarded journals attract the most eminent experts in a field. Journals that attract the most able authors, editors and referees have the most prestige and hence are more frequently read and cited than less prestigious journals. This confirms and enhances their status and so it is rare for a new journal to be able to challenge established journals. The journals that have already secured prestige and esteem in a field enjoy a positional advantage (i.e. a virtuous circle following first mover advantage) that then makes it difficult for others to compete. The Report noted that there have been a few isolated successes, but that overall the position of the leading journals remains very strong in almost all fields of STM research

Coordination games and sub-optimal market equilibrium

- 6.7 Bergstrom (2001) argues that the establishment and persistence of positional advantage in journal publishing can be understood as a 'coordination game'. In such a game players choose an action and their own payoff increases with the number of other players that choose the same action as themselves. The biggest payoff for each player therefore occurs when all players choose the same action. This then creates a barrier to entry in that no player will wish to switch to another action unless all the others do so as well.
- 6.8 Bergstrom uses 'The Parable of the Anarchists' Annual Meeting' to illustrate that coordination game outcomes may result in monopoly pricing despite the presence of potential competitors. In this parable the anarchists find it valuable to attend meetings of like-minded people and these meetings are more valuable to each the greater the number of other anarchists that attend. At some time in the past a certain hotel had provided the venue and thus, since each anarchist expects the others to attend at the usual hotel, they return each year to the same hotel.
- 6.9 A few years into the anarchists' routine, the hotel that serves as their meeting place increases its prices. A few anarchists stay away but most find attending so useful that they continue to pay and attend. Thus the hotel owner learns that he can profitably charge a price much higher than other hotels. He duly claims to be offering a uniquely valuable service to the anarchists despite the fact that the services are no better than those offered more cheaply by other hotels. This annoys the anarchists. However, since they prefer large attendance to smaller

but lack the temperament for central direction, the anarchists are unable to coordinate a move to another hotel.

- 6.10 Bergstrom argues that like the anarchists' annual meeting, academic publishing can be understood as a coordination game in which 'It remains to be seen whether, like the anarchists, the academic community is stuck in an equilibrium where it will continue to pay huge rents to owners of commercial journals.'⁶
- 6.11 Multiple possibilities for equilibrium (i.e. where an outcome once reached is repeated through time) are a common feature of coordination games. In particular, an outcome can be an equilibrium even though there is another equilibrium that would be better for everyone. To switch to another equilibrium, however, requires a large critical mass of players to change simultaneously to a common alternative action. In the case of STM journals, not only may the leading experts and their readers be looking at the quality rather than the price of such journals, but the required *en masse* transfer of leading experts and their readership to an alternative journal may be difficult to achieve.

⁶ Bergstrom (2001)

7 MIGHT COMPETITION WORK BETTER FROM NOW ON?

- 7.1 The analysis and evidence above gives cause for concern. There are a number of possible ways, however, that the situation might improve without the need for regulatory intervention:

Price restraint by commercial publishers?

- 7.2 Reed Elsevier argues that several factors are now acting to constrain pricing levels. High levels of cancellation can adversely affect a journal's circulation, sales profitability and ultimately reputation and the consequent ability to attract manuscripts. Reflecting increased levels of cancellation, and more general concerns about pricing increases expressed by the academic community, Reed Elsevier has, since 1999, committed to maintaining single digit price increases (7.5 per cent for 2000, 6.7 per cent for 2001 and 6.5 per cent for 2002) in its invoicing currencies. These price increases still compound to more than 22 per cent, compared with an expected increase in the US Consumer Price Index of only eight per cent. Nevertheless, the Report accepts that a point may have been reached where it is in the interests of publishers, as well as customers, for the level of price increases to be reduced.

Buyer power?

- 7.3 Historically, buyer power does not appear to have constrained price increases by journal publishers. Various attempts have been made by libraries in the past to form consortia for buying STM journals, but Reed Elsevier has claimed that buyer power has now become significant with the emergence of electronic delivery (see below). Reed Elsevier has entered into agreements with UK customers, negotiated with and endorsed by NESLI (the National Electronic Site Licence Initiative) and CURL (the Consortium of University Research Libraries) which provide for a cap of six per cent on price increases during the two to three years of the contract. Combined with the option to access more content, these negotiated agreements have meant that the unit costs of articles and journals accessed by UK library users have decreased.

The power of academics?

- 7.4 Academic communities potentially have strong countervailing power through their role as the supplier of content and refereeing and editorial services. While authors have an incentive to publish in the most prestigious journals, they also have a motivation to ensure their articles are available to a wide readership through low priced journals with liberal distribution rights.
- 7.5 The editors of the *American Journal of Physical Anthropology* did convince their commercial publisher to reduce the 2001 price of the journal from \$2085 to \$1390. In addition, Reed Elsevier provided two examples of an editorial board resigning *en masse* to form its own journal as a direct competitor. These were Reed Elsevier's *Journal of Logic Programming* (the new journal being *Theory and Practice of Logic Programming* published by Cambridge University Press) and Wolters Kluwer's *Evolutionary Ecology* (the new journal being *Evolutionary Ecology Research*). The threat by academics to create such a competing journal arguably gives them real bargaining power with the commercial publishers. Bergstrom (2001) reports a similar example whereby the *Economics Bulletin* has been targeted to compete directly with the much more expensive *Economics Letters*.
- 7.6 Also of interest in this regard is the fact that the Public Library of Science project (www.publiclibraryofscience.org) has circulated a letter signed (as of March 2001) by 11,244 scientists from 119 countries. They pledge 'we will publish in, edit or review for, and personally subscribe to, only those scholarly and scientific journals that have agreed to grant unrestricted free distribution rights to any and all original research reports they have published.' Greater awareness of the cost effectiveness of various STM journals is also being promoted by surveys such as Bergstrom (2001), and by the Scholarly Publishing and Academic Resources Coalition (SPARC)⁷. Such surveys make it easier for academics to identify value for money choices.

The impact of information and communication technology (ICT)?

- 7.7 Finally, ICT (and specifically the development of the internet) has enabled academic communities to bypass traditional commercial publishers altogether in some cases. For example:

⁷ see *Declaring Independence, a guide to creating community-controlled science journals*, (Jan. 2001); www.arl.org/sparc/DI

- *Journal of Logic Programming and Evolutionary Ecology* referred to above, are published by SPARC (<http://www.arl.org/sparc/>) 'A world-wide alliance of research institutions, libraries and organisations that encourages competition in the scholarly communications market'.
- There have been other successful launches of electronic journals (see www.arXiv.org/archive/cs/intro.html) where Apt (2001) observes that the costs are 'trivial' compared to the library cost of many commercial journals.
- The Electronic Society for Social Scientists (www.elsss.org.uk) aims at 'the provision of electronic publications of high quality, wide diffusion, and low cost'. Apt reports that this initiative 'is supported among others by all economics departments in the UK and some 90 scientists from Belgium, Canada, Germany, Israel, Switzerland, the UK and the US.'
- The Berkeley Electronic Press (BEP) has started three new series of journals in economics initially free of charge and with a commitment that its library subscription price will be no more than two-thirds of the average subscription price for economics journals (<http://www.bepress.com>).

7.8 The Report itself noted

'...there can be little doubt that acceptance of electronic means of delivery is growing fast in STM research. And many of those to whom we have spoken have told us that we are within a year or so of the e-journal supplanting print as the norm - if we are not there already in some areas.' (Report: paragraph 2.94)

It is too early to assess what will be the impact of this combination of ICT and academic power, but there is a possibility that it will be a powerful restraint on exploiting positional advantage in the STM journals market.

8 SHOULD COMPETITION AUTHORITIES INTERVENE?

- 8.1 We believe that there is evidence that the market for STM journals may not be working well. In the light of the developments noted in chapter 7 above, this does not, however, appear to the OFT to be a matter warranting further investigation on our part at this stage. However, if competition fails to improve, or should additional significant information come to light, we may consider further action. In doing so, we would be aware that although the UK is an important base for, and user of, scientific journals, it accounts for a fraction of the world market and so would wish to consider whether any action might be best conducted internationally.

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ANNEXES

A INDEX OF SUBMISSIONS

Tab	Submitted by
1.	The British Academy
2.	Royal Economic Society/Electronic Society for Social Scientists
3.	The Royal Society
4.	The Publishers Society
5.	Reed Elsevier plc
6.	The Association of Learned and Professional Society Publishers
7.	Consortium of University Research Libraries
8.	The Society of College, National and University Libraries
9.	Sheila Meredith (Librarian, Geological Society)
10.	Andrea Peace (Library Manager, Chartered Society of Physiotherapy)
11.	The British Library
12.	Centre for Ecology & Hydrology
13.	Association of Learned and Professional Society Publishers
14.	British Medical Journal
15.	University of Bristol
16.	Lancaster University Management School
17.	The Academy of Medical Sciences
18.	University of Oxford
19.	Royal Free and University College Medical School
20.	Dr Diane Lester (Swedish University of Agricultural Sciences)

21.	Cedric Mims
22.	Prof James Underwood (University of Sheffield)
23.	Mike Birse (University of Manchester)
24.	NHS Executive (Trent)(
25.	Royal Statistical Society
26.	Web debates (Nature)
27.	Okerson Papers
