The Future of Scholarly Journals Publishing Among Social Science and Humanities Associations

Report on a study funded by a Planning Grant
from the Andrew W. Mellon Foundation

By
Mary Waltham
Publishing Consultant
www.MaryWaltham.com
Princeton
New Jersey
mary@marywaltham.com

Submitted to:	Bill Davis, Project Director
Date:	February 18th 2009
Version:	FINAL

Contents Page

Executive summary

1. Within US based humanities and social science (HSS) societies and associations there is concern at the lack of current, comparable information on the similarities (and dis-similarities) between scientific, technical and medical (STM) and HSS journals at a time when STM journals are increasingly heading towards an Open Access business model. There is a lack of availability of benchmarks on publishing performance in HSS and a shortage of best practice guidelines for journal publishing within scholarly humanities and social science organizations large and small.
2. This initial "Future of Scholarly Journals Publishing Among Social Science and Humanities Associations" study involved collaboration by 8 leading US-based associations, and set out to build and test some tools and methods to help address the lack of business information on scholarly journal publishing at a pivotal time when financial models are changing.
3. The journals selected for this initial study cover a broad range of subject disciplines with "humanities" represented by modern languages, history and religion and "social sciences" by economics, sociology, anthropology, politics and statistics. Clearly this is not a homogenous group of scholarly journals. Information about the 8 journals is included within **Section 1** and **Section 2** of the report.
4. The journals included in this study were also different from most STM journals in a number of fundamental ways. Where appropriate, comparisons are made between this group of 8 HSS journals and the 13 STM journals included in the JISC[1] (2005) report which used a similar method of analysis[2].
5. **Section 2** describes in some detail the methodology for developing the journal data inputs to the templates (see: **Appendix 1** and **Appendix 2**) that are tools used for the business analysis. Information was collected for 3 complete years 2005-2007.
6. Circulation patterns over the 3 years are reviewed in **Section 2.** Member circulation is relatively flat overall. Total institutional subscription numbers reported increased by 1.8% with a fall in print subscription numbers more than compensated for by an increase in online, and print with online.
7. **Journal costs** analyzed on a per journal, and per page basis are summarized and indicate wide differences in the cost base for the group of journals in this study. Cost per page published in 2007 ranged from $184 to $825 (aver: $526). When the variable costs of print are removed these costs fall to a range from $90 to $652 (aver: $360).
8. Total costs increased by 6% ($370,000) over the 3 years under review. Print manufacturing and production costs fell slightly despite a small increase in the number of journal pages published (+5.4%) and a 1% increase in print circulation.
9. Despite these small cost increases the revenue increased as did the net margin per page because the average publishing cost/page remained remarkably stable.
10. The total number of articles published also seems stable for this group of journals.
11. **Journal revenues** are reviewed in **Section 2** of the report and increased by $800,000 (+10%) the bulk of this increase coming from institutions.
12. Institutional subscription revenues including site licenses and consortia revenues provided 58% of total revenues and 72% of subscription revenue in 2007.

---

[1] JISC: Learned society Open Access business models (2005) (see: http://www.jisc.ac.uk/media/documents/themes/infoenvironment/learnedsocietyoabusinessmodels.pdf)

[2] Currency exchange rate of $1.85 = £1 throughout the report this is the average exchange rate Jan 2004-Jan 2009

13. Total revenue from institutional subscribers increased by 12% in this period with the greatest increase from the bundled print and online subscription category. The drop in revenue from print only institutional subscriptions is noticeable. During the period, three publishers started to offer online only as an option to institutions and one additional association noted that they had started this option in 2008; pricing models and product offerings to institutions are clearly shifting.
14. Revenue from Member dues was allocated to 5 of the journals and accounted for 28% of the total subscription revenue received for these 5 journals. Three journals did not allocate Member dues to the journal. Member copies were over 85% of the total number of subscription copies fulfilled in 2007.
15. Revenue per institutional subscriber across all versions of 7 of the journals in 2007 was $225 and per Member $11.
16. Overall business performance of the journals within the section of the report on **Surplus or deficit** shows the surplus steadily increasing during the period as costs held steady and revenues grew.
17. The 8 journals are managed and used by the associations in quite different ways, at one end to generate income for association activities and at another as a community building tool for Members. Differences in business philosophy drive financial performance at the individual journal level.
18. Any exploration of an alternative business model for HSS journals which may permit broader access to the scholarly content must presume that model is, or will become, financially sustainable so that the association and the journal continue to thrive.
19. The **Discussions and conclusions** section of this report articulates the finding that a shift to an entirely new funding model in the pure form of Open Access (author/producer pays) in which the costs of publishing research articles in journals are paid for by authors or a funding agency, and readers have access free online, is not currently a sustainable option for any of this group of journals based on the costs provided. The sources of external funding required for such a model are also not clear and may not be available even as broadly as in STM disciplines.
20. There is only a small amount of primary data and information available about the publishing economics of journals within the humanities and social sciences, and with the exception of this report, much of it seems out of date.
21. Publishing costs are affected by a range of factors particular to a journal within a discipline such as submission and acceptance ratios, and amount of editorial work.
22. An assessment of non-cash costs was not within the scope of this study but at the workshop in December 2008 there was discussion among participants of the numerous in-kind contributions made by universities and by faculty to support the scholarly journals infrastructure and operations.
23. Institutional sales subsidize association Member copies. The publishers in this study felt quite strongly that a printed copy was an essential regular physical reminder to Members of the value and community of association membership.
24. Revenues from the print version deliver a considerable proportion of the surplus generated by the journals included in this study and a speculative assessment is made of the impact of removing print revenues and costs from the group of journals. The result would be a fall in net surplus.
25. For many of these publishers, online pricing does not yet reflect the broader usage and utility of the online version rather it is based on the original print version and so is undervalued.

26. Even this study which was focused on a small and committed group of associations ran into issues of the political and administrative will to provide all the data requested. In any future work it will be essential to require at the outset not only an explicit commitment to provide specific types of data by individual societies and associations but also their publishing partners.
27. All of the information requested is proprietary and was treated in utter confidence even within the context of meetings and exchanges between active members of the participating publishers. Such an approach is essential and of course leads to data quoted in the report that is built on 'average' and 'mean' numbers which often do not reflect the true differences and trends hidden within the primary data.
28. The section of the report that covers "**Questions requiring fuller answers**" includes a brief discussion of core issues that the results of this study have been unable to address adequately. Topics here include the differences between STM and HSS journals and which Open Access model(s) are sustainable for HSS publishers. At the heart of this section is the basic question– "Are the costs, revenues, and surplus from this broad group of 8 association journals typical?"
29. The needs for a Full Research Project are evident from the results of this study which deliberately focused in some depth on just 8 journals from associations in 8 distinctly different disciplines. The topics identified for further investigation through a multi-title and multi-publisher study of small, medium and large associations and societies include:
    - How are Humanities and Social Science journals different from each other and from STM journals?
    - Is the 'gold' Open Access model sustainable for a sub-set of existing HSS publishers?
    - Where would the money come from to support 'gold' OA in HSS journals?
    - Are other 'non-gold' Open Access models sustainable for HSS publishers and if so which and how?
    - If HSS articles are posted to OA repositories ('green' OA) how long should the embargo period be?
    - Are results from Open Access experiments helpful in the understanding of society and association publishers of HSS journals?
    - The use of case studies to articulate the particular aspects of the journal(s) within the context of the society or association and encourage study participation.
    - Are the costs, revenues and surplus from this broad group of 8 HSS association journals typical?

    Such a study should enable some meaningful segmentation and modeling by discipline and by features of the association or society publisher and the journal.
30. Gaining the trust of the society and association publishers involved and ensuring participation of a sufficiently wide sample to provide a broadly representative picture across types of publisher and journal as defined by the sampling framework will be a key success factors.
31. There is no universal answer to the issues faced in funding publication of the research literature but alternatives need to be explored collaboratively and based on sound information. Solutions are likely to emerge on a case by case, discipline by discipline and market by market basis.

1. Overview of the publishers included in this study

Background

Recent research on the business and financial aspects of peer-reviewed journals focuses predominantly on scientific, technical and medical (STM) journals with little or no information available about society and association journals published in the humanities and social sciences; humanities and social sciences (HSS) journal publishing differs substantially from STM. Within US based HSS societies and associations there is concern expressed about this lack of current, comparable information on the similarities (and dis-similarities) between journals, the lack of availability of benchmarks on publishing performance and the absence of best practice guidelines for journal publishing within scholarly humanities and social science organizations large and small. The over-arching purpose of this project is to address these concerns by defining the current situation and recent trends in scholarly journal costs and revenues, taking into account the business models deployed and the particular academic traditions and publishing practices extant within a broad selection of social science and humanities disciplines.

The information and data which provides the basis for the study of HSS journal economics described in this report were provided by the following eight associations with support throughout from the respective Executive Directors and their senior publishing and finance staff:

American Anthropological Association

American Academy of Religion

American Economic Association

American Historical Association

American Political Science Association

American Sociological Association

American Statistical Association

Modern Language Association

Information provided at the beginning of this study about the 8 journals selected by the associations active within Humanities and Social sciences (HSS) is summarized in **Table 2.1.**

Features of the journal sample

All the journals are available online as well as in print; six of the journals are published quarterly, the remaining three are published bi-monthly or five times per year. The journals cover a broad range of subject disciplines with "humanities" represented by modern languages, history and religion and "social sciences' by economics, sociology, anthropology, politics and statistics. There are a number of important differences between these journals that are articulated in this report in addition to the more obvious differences between the scholarly communities served. In sum this is not a homogenous group of journals but it is also not an atypical group.

The business information provided by the participating publishers is proprietary, and so throughout the report averages are referred to across the group of titles. Inevitably averages obscure a broad range of different approaches to pricing models, pricing and publishing that are only visible from the individual data.

Importantly for this study, the business philosophy underlying the role of the publication has an important impact on the financial performance observed from examining one journal from one

association. For some participants each journal is published as a distinct entity and is managed to achieve break-even or a modest surplus, for others the journal is a flagship for the association and may be published at a net loss as part of a portfolio of publications which roll up into a publishing venture that returns at least a small surplus. The journals fairly obviously differed in print circulation with 15,500 the average circulation across the group but a range from 5,300 to over 34,000.

Journals published for the STM scholarly communities have been much more widely studied, quoted and discussed than HSS journals and at the outset some points of comparison that this group of journals exhibit should be noted. The group of journals included in this study was different from most STM journals in a number of fundamental ways.

i) Most striking is the reduced amount of peer-reviewed content per issue compared with most STM journals. These HSS journals publish more pages of varied scholarly content such as book reviews, meeting reports, and other editorial materials.

- Peer-reviewed content accounted for an average of 62% of the pages published across all 8 journals (range 23% to 97%).

ii) Although the number of articles published is lower than in a typical STM journal the length of each article within many of these journals is usually longer.

- Average peer-reviewed article length for the eight journals is 19 pages (range 12 to 28 pages/article). It was noticeable that in the disciplines that are closer to scientific and technical fields the journal article length is somewhat shorter (12pp, for example).

iii) The ratio of article submission to publication is also distinctly different and since these journals publish fewer peer-reviewed articles they are often highly selective. Selectivity through peer-review takes in-house staff time (included in the study) and external reviewers' time (not included in the study), and drives costs up.

- Taking three consecutive years of submission and publication data together, five of the eight journals published less than 10% of the articles submitted to them.

The percentage of articles submitted that are published across all 8 journals is just 11%, reflecting the quite high level of selectivity of these journals, several of which are the flagship titles within the respective discipline for their publishers.

iv) Advertising income is discussed within the financial overview of **Journal revenues**.

- Advertising pages in print accounted for some 8% of the total pages published over the three year period and across all the journals (range 0% to 18% of pages published).

While some of these advertising pages are for house and publisher partners' advertising, most are fully paid for; print advertising accounted for some 9% of total revenue across the journals in 2007. This level of advertising was unexpectedly high given the frequency of the journals. Most are published quarterly or bimonthly, which is a frequency often not favored by advertisers looking for more regular and insistent opportunities to present products to readers. It speaks to the value advertisers place on the individual journal's readership of the print version.

v) STM publishers regularly record and report on the country of the corresponding author of articles published. Such data is further reviewed and discussed by agencies such as the National Science Foundation in the "Science and Engineering Indicators" series of reports published alternate years (See: http://www.nsf.gov/statistics/seind08/).

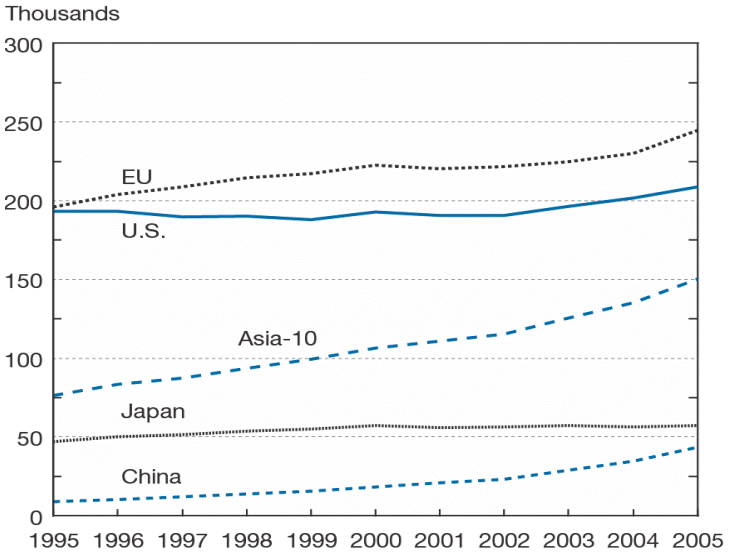
- This group of association publishers had collected relatively little data on the topic. Several commented that they believed that most of the authors of articles were from the US and this was borne out by a random review of the country of corresponding author for 25 articles published in 2007 by each journal and shown in **Table 1.1**.

Table 1.1: Country of corresponding author 25 articles published in 2007: 8 HSS journals

Publisher	Title	US	UK	Can	Mex	Aus	Belg	Ger	Nor	Swe	Israel	Italy	China	Taiwan	Sing	Peru	S. Africa	TOTAL
American Anthropological Association	*American Anthropologist*	19	3	2		1												25
American Academy of Religion	*Journal of the American Academy of Religion*	23		1		1												25
American Economic Association	*American Economic Review*	20	2	1				1	1									25
American Historical Association	*American Historical Review*	20	1		1	1												23
American Political Science Association	*American Political Science Review*	23	1			1												25
American Sociological Association	*American Sociological Review*	21		1						1	2							25
American Statistical Association	*Journal of the American Statistical Association (JASA)*	18		2			1					1	1	1	**1**			25
Modern Language Association	*PMLA*	19		2		2										1	1	25
Total by country	*All journals*	163	7	9	1	6	1	1	1	1	2	1	1	1	**1**	1	1	198

Compare this with Fig 1.2 below which shows a fall in the number of scientific and technical articles from US authors, a rise in authorship from the EU (also corresponding with an increase in the number of countries within the EU) and a significant increase from the 'Asia 10' defined in the figure caption.

Fig 1.2: Trends in productivity of scientific and technical articles in peer-reviewed journals 1995-2005:
(Source NSF Science and Engineering indicators 2008)



NOTES: Asia-10 includes China, India, Indonesia, Japan, Malaysia, Philippines, Singapore, South Korea, Taiwan, and Thailand. China includes Hong Kong.

The impression from comparing Table 1.1 and Fig 1.2 is that peer-reviewed articles within HSS are less international in authorship than STM.

vi) Fierce competition for research funding and authors intent on priority of reporting on research findings drives the speed of publication in many of the very active research areas in STM. One example is the OSA's *Optics Express* an Open Access journal in the physical sciences that has galvanized the community of authors and reviewers to enable an average time of 56 days (7 to 8 weeks) from article submission to publication (online only and by the article).

- Speed of publication appears to be much less of an issue for this group of HSS association journals with publishers reporting "around 18 months"…and ".. a safe average (which is not mathematically based, but intuition based) might be to say 5 months before submission to vendor and then 3 months in production." Data was collected by one of the publishers and in 2007 receipt to publication averaged 130 weeks.

The pace of advancing knowledge and its integration within the community seems to be slower in HSS compared with certain fields of STM.

Trends in the online scholarly journals business 2005-2007

Looking broadly at the scholarly journals market over the past 3 to 5 years some noticeable trends were reported in September 2008 from a sample of 400 publishers, 124 of whom publish exclusively in the arts and humanities and social sciences[3].

Open Access: There has been a dramatic increase in the percentage of publishers offering optional open access to authors, from only 9% in 2005 to 30% in 2008. This applies to a total of 1,871 titles. 53% of these publishers have enabled an open access option for all of their titles. However, the take-up of the open access option is low; of those publishers which have offered this option for two or more years under an author-pays model, 52.9% had a take-up rate of 1% or less, 73.5% had a take-up rate of 5% or less, and 91.2% had a take-up rate of 10% or less. The author fees set by these publishers range from under $500 to over $3000, but the majority (69%) charge between $1,000 and $3,000. Bjork *et al*. calculated that of the estimated 1,350,000 journals articles published in 2006, 19.4% are freely accessible (4.6% OA immediately on publication, 3.5% freely accessible after an embargo, usually at least one year; and 11.3% through self-archiving). For a quite thorough overview of the fees charged by mostly STM publishers for Open Access (see http://www.biomedcentral.com/info/authors/apccomparison/).

Back volumes: 95.7% of publishers make their journal back volumes available online.

Copyright: In 2003, 83% of publishers required copyright transfer, in 2005, the figure stood at 61%. In 2008 this has dropped to 53%, and those which only require a license to publish have increased from 17% to 20.8%.

Numbers of journals published: From 1700 to the present day growth in active journal titles has been consistently about 3.5% despite hugely varying socioeconomic and technical regimes in scholarship over the last three hundred years.

In July 2008[4], 21,787 peer-reviewed scholarly and scientific journals were in publication, compared with 19,681 in 2005 and 17,981 in March 2003. As the output of articles from the research community increases, new journals are spawned; an increase of around 100 new peer-reviewed papers a year worldwide results in the launch of a new journal. Ulrich's Periodicals directory (see: http://www.ulrichsweb.com/ulrichsweb/) indicates that there are presently around 23,500 scholarly, peer reviewed journals from some 9,900 publishers, and despite all the threats that abound, the number is continuing to increase steadily; 1,506 of these journals are OA.

Publishers: About 55% of scholarly journals would appear to be linked with nonprofit organizations (some of these published under contract by commercial publishers), although this may be an underestimate. The average number of journals per publisher, perhaps surprisingly, does not vary greatly between those associated or not associated with nonprofit organizations, although the four largest publishers alone – all of them commercial – publish about 25% of all journals, of which less than 27.5% are associated with nonprofits.

It is in the context of these changing times in the scholarly journal business environment that the study participants set out to determine the answers to key business questions affecting the journals published by these HSS associations.

---

[3] *Academic journal publishers' policies and practices in online publishing, ALPSP 3rd Edition by John and Laura Cox September 2008.* Over half of the publishers surveyed publish five or fewer journals (54%), 11% were quite small (6-10 titles), 16% small to medium (11-25), 8% medium (26-50), 4% medium to large (51-100) and 7% large (100+ titles). The sample is weighted to the UK and North America, with the highest proportion of respondents from the USA. 32.5% are UK-based, 10.8% in mainland Europe, 46.8% in North America, 4.4% in Asia Pacific and 5.5% in the rest of the world. 76.4% of the sample are not-for-profit, 31% of respondents publish exclusively in the arts and humanities and social sciences, while 53.7% publish exclusively in STM.

[4] (Mapping the journal publishing landscape: how much do we know? Sally Morris *Learned Publishing* Volume 20, Number 4, October 2007, pp. 299-310(12))

2. The Study

Each of the eight participating HSS publishers was asked to select one journal for detailed review within this study. Information about the journals is summarized on **Table 2.1.**

Table 2.1: The associations and journals participating in this study

Publisher	Title	Frequency	Bus/funding model	Versions	Page/Trim size	Content	Online hosting by:-	Self/co-published?
American Anthropological Association	*American Anthropologist*	Quarterly	Subscriptions and display advertising	P; P&O and O only	8.5" X 11"	Peer-reviewed and other editorial material; book reviews, meeting reports	Wiley Interscience	Co-published with Wiley Blackwell
American Academy of Religion	*Journal of the American Academy of Religion*	Quarterly	Subscription revenue (institutional subscriptions, consortia subscriptions), non-subscription revenue (sale of individual copies and back issues, digital archive revenue, secondary rights, advertising revenue)	P&O	6" x9"	Peer reviewed articles, book reviews, advertising	OUP	Co-published with OUP
American Economic Association	*American Economic Review*	Quarterly	Memberships, subscriptions and site licenses; subsidized by EconLit, CCC,PPV & job ads, art submission fees	P&O	7" x 10"	Peer reviewed articles & meeting report & soc. financial info.	Atypon	Self
American Historical Association	*American Historical Review*	5 x's/year	Subscriptions, Membership advertising and rights and permissions revenues.	P&O	7 1/4" x 10 1/4"	Peer reviewed articles, book reviews, letters to the editor, advertising.	Atypon through Univ of Chic Press	Co-published with Uni Chic Press

Publisher	Title	Frequency	Bus/funding model	Versions	Page/Trim size	Content	Online hosting by:-	Self/co-published?
American Political Science Association	*American Political Science Review*	Quarterly	Advertising & Subscriptions - individual members, institutional subscribers and consortia	P&O and O only	8.25" x 11"	Peer reviewed articles, editors notes, letters to the Editor, perspectives	CUP platform	Co-published with CUP
American Sociological Association	*American Sociological Review*	Bi-monthly	Subscriptions, site licenses, subsidy from endowment, grant etc. Subscriptions (members and libraries), advertising, online database royalties (e.g., EBSCO, JSTOR), document delivery, mailing lists, reprints	P&O and O only	7" x 10"	Mostly peer-reviewed articles, with occasional editors' notes and comments/reply	Ingenta	Self
American Statistical Association	*Journal of the American Statistical Association (JASA)*	Quarterly	individual and institutional subscriptions revenue; site-wide and individual licenses	P&O and O only	8" x 11"	Peer-reviewed articles and book reviews	Ingenta -> Atypon Jan 09 on	Self
Modern Language Association	*PMLA*	6 times a yr	Members' dues and other assn. income, including revenue from library subscriptions to the journal and advertising	P & O	7.5" x 10.5"	Peer-reviewed articles, invited pieces, letters to the editor, professional information	Atypon; the journal's archive also appears on JSTOR	Self

Methodology

In order to gather data and information for this study in a consistent and comparable manner, participants were asked to provide detailed information about their selected journal for the past three complete years (2005-2007 inclusive) in two templates provided to each association after an initial telephone conference at the start of the work. One template (**Appendix 1**) pulls together information about readers and authors and so includes figures on subscriptions, pricing and consortia as well as data on levels of research article submissions over the three years. The other template (**Appendix 2**) includes revenue and cost information; it is essentially a profit and loss statement for the journal. To complete the template shown in **Appendix 2**, participants were explicitly requested to include all the costs of publishing their journal that is the direct and indirect costs. This means that for staff working on the journal as all or part of their job 'salary, benefit and office costs' are included. 'Office costs' include all the 'on' costs of employing an in-house staff member such as office space, computer, supplies, telephone etc. It does not include a portion of other staffed departments such as finance or HR which are shown separately within the 'Publishing Support' category on the template. Participants developed their own 'office cost' numbers and these are integrated into the results of the study. The association publishers were asked to develop and include within the template submitted a complete set of costs for publishing the journal selected, or stated another way, if there was a change in the journal business model what costs would need to be met in order for that new model to be sustainable? The range of methods used by the publishers for developing the overhead figures is summarized in **Text box 1**.

Text Box 1

Three steps were required to complete the allocations needed for the P&L template.

Step 1: Office costs

The costs of employing full time in-house staff include salary, benefits and additional 'office costs' which are associated with each staff member and include office space, computer, supplies, telephone and internet access, all of which are somewhat independent of salary.

To assess office costs study participants took the overall cost of running their society offices and divided this by the number of FTE's to arrive at a per FTE office cost.

Step 2: Allocation of staff costs to the selected journal

For a publisher with a portfolio of publications worked on by a team of people we needed to know the proportion of in-house staff time and thus cost (salary + benefits + office costs) for the journal included in the study.

There were several methods used here:

1. Some publishers periodically ask their staff to keep **time sheets** for this purpose and several participants used this direct method of assigning cost/time/effort to the journal.
2. One publisher's auditors required a detailed allocation of functional expenses (salaries, professional expenses, benefits, every normal budget item) by business unit (Publications, Annual Meeting, Fundraising, etc.) and this provided the information needed for the study.
3. Salary cost allocations for the journal were based on the **percentage of the total publications revenue.**
4. Allocation of costs and revenues to a journal can be based on **the number of pages** published per year. In this case the total pages published and the total staff costs for the publishing department were developed. Notes on the listserv to help participants were as follows:-

    a) Take annual salary + benefits + office costs for each Member of staff working in production (for example) on the journals.
    b) You know the total number of pages published across this and other journals or publications any particular staff group works on.
    c) Costs can be assessed based on the percentage of the total number of pages this journal contributes to the total pages worked on by the production group (in this example).
    d) You can then use this percentage figure to estimate the staff costs in production for this journal.

For example, if 20% of the total pages published were in this journal then you would take 20% of the total staff costs within each category, production, editorial etc.

Step 3: Allocation of costs between the print and online version

Staff costs were again the main area requiring allocation since many publishing staff work on both print and online formats. The percentage of pages published in each version- print and online- was used to drive the allocations by publishers. If the numbers of pages published were the same in print and online then this meant simply splitting the total staff costs (salary+ benefits+ office costs) 50:50 between print and online.
Numbers of pages published gives a measure of the inputs required to a publication because this measure is fairly consistent and absolute especially since all of these journals are published in print and online. As a measure of publishing cost it avoids any bias through variations in numbers of issues published or differences in the size of issues published, or length or number of articles in a particular journal, all of which are quite varied across the sample of journals here.

There are some obvious problems with the per page method of cost allocation. For example:-

- It does not take account of the additional time and expertise needed to serve online customers versus print customers and so may not fairly account for actual time and staff involved here.
- It may not be appropriate for online-only publications.
- It does not take account of the differences in time taken over different types of published information- both by editorial and production such as the 'free-to- Members' society newsletter which will require different inputs and time compared to peer-reviewed journal pages. We did not resolve this issue but should consider it in planning the research strategy for any future study that incorporates 'bundles' of published content from a society publisher.

The methodologies described here are considered a reasonable method of assessment of the cost categories.

As an aid to communication within the group during this study, each of the nominated primary staff publishing contacts and Executive Directors within the participating associations was signed onto a Listserv hosted by the National Humanities Alliance. This central communication conduit proved most helpful and ensured that everyone was kept up to date on the questions and comments arising across the group of 20 or so individuals as they worked on the templates. In addition, there was e-mail and telephone interaction between the consultant and each participating association dealing with the particular journal business issues and the specific data provided. Most participants completed the compilation of their data on the journal in the four weeks scheduled.

On December 3rd 2008 the American Anthropological Association hosted a workshop for all study participants at its offices in Virginia and representatives from all the participating associations attended. The purpose of the workshop was for the consultant to receive feedback on the process required to complete the templates, to briefly review the data submitted in the templates, to clarify any inconsistencies, and to assess what further information was required. The group also discussed issues that arose from the initial information submitted and started to consider the questions answered or posed by the results of the study so far. The workshop participants also considered how the information provided and the templates could be refined or simplified.

Some further completion of data from participants continued through December and by December 24th complete sets of data for both templates had been provided.

a. Circulation patterns

Print and online trends

Publishers varied in their subscription offerings over the three year period reviewed (see **Table 2.2** below) some offering online only, some print *or* online and some print *and* online (bundled subscription). All of the publishers were producing online versions of the journals surveyed throughout the three-year period 2005-2007. Members are provided with a print copy of the journal *and* online access by 7 out of the 8 societies participating in this study. Dual access was described by the associations as an important aspect of retaining the Member base. Pricing models to institutions changed during the three years as did purchasing behaviors and this is made clear by changes in circulation by version and by customer segment described in this section. Circulation data by subscriber category was available from each of the 8 journals.

Table 2.2: Overview of circulation and pricing patterns

Feature:	**The number of publishers with:-(N= 8)**
Online available to Members	7; one publisher provides only print to all Members
Changing numbers of Member subscriptions	Fairly flat numbers across the 3 years; most have shifted from print only to print & online as a Member benefit.
Falling institutional print subscriptions	3 out of 4 offering print subs; drop of 15% over 3 years
Increasing institutional online subscriptions	2 out of 2 offering online only subscription
Increasing institutional "print & online" subscriptions	2 out of 6 offering "print & online" subscription; 4 are losing subscribers but 2 of these are now selling to consortia and reductions in single subscriptions are most likely being subsumed into consortia deals
Unbundled pricing for institutions 2005-2007 i.e. separate print and online price	2
Only bundled pricing 2005-2007	3 offered only "print & online" for one or more years in this period
Site licenses	One publisher offers a site license
Consortia sales	Two publishers; for each their publishing partner sells to consortia on their behalf
Individual non-Member subscribers	One publisher offers this; for the others *'we do not sell the journal to non-member individuals'*

- The number of Member print copies provided as a Member benefit ("Member subscriptions") essentially remained flat through the 3 year period under review.
- Print only institutional subscription numbers to the 8 journals for which the complete three years of circulation data was available fell by 15% (-1,351).
- Print with online institutional subscription numbers rose 15% (+1,523) over the same period.
- The combined total for institutional subscriptions in print and online are up some 1.8% over the 3 year period

- Site license numbers certainly grew through the period but only one publisher was offering institutions this option 2005-2007. Consortia numbers also grew for the two publishers whose journals are sold to consortia.
- It was noticeable that the associations that are self-publishing are often not engaging with the institutional market by offering site-license or consortia sales. Society and association publishers often have limited sales and marketing resources of their own and so site license and consortia sales, both of which are time-consuming and require specialist staff, need to be handled by a third party, either a publishing partner or through other out of house agreements with independent sales agents. There was also some confusion over the number of institutions versus consortia served by the publishing partner, and as these arrangements develop they appear to become more complex to unravel and state crisply at the individual journal level.

Subscribers

Members

Member subscriptions (or copies of the journal going to paid up Members) accounted for over 87% of all subscriptions combining subscription numbers for all the participating publishers. None of the associations was offering online only access as the Member benefit, all are providing a printed copy of the journal to every Member to make a total of some 134,000 printed copies distributed for the eight journals.

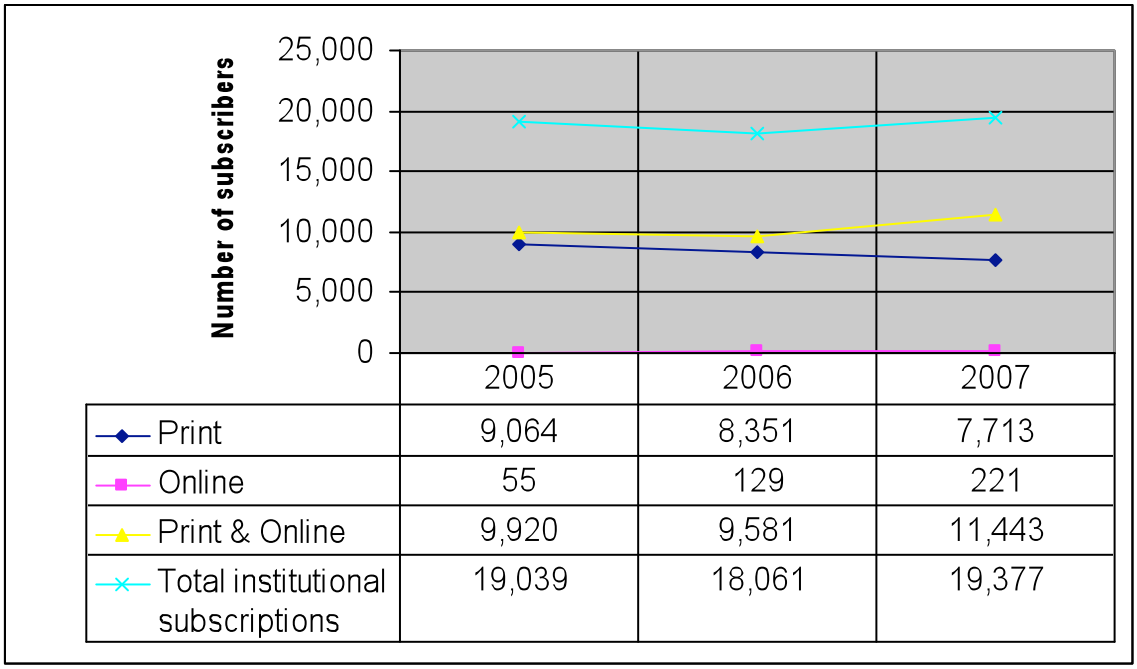
Three of the societies did not allocate income from Member dues to the journal revenue line. For the remaining 5 association journals, Member dues allocated to the journals combined accounted for 28% of the total subscription revenue received for these 5 journals but were over 85% of the total number of subscriptions fulfilled in 2007. The result is a clear imbalance between revenue received and costs incurred for this subscriber segment. Such a policy is widespread within society and association publishing, especially within the USA.

Institutions

Institutional subscription counts represent 13% of all the subscriptions for the 8 journals combined. As the model for selling to institutions evolves steadily from individual subscriptions to more site-wide licensing, and consortia purchasing becomes more prevalent the notion of '**an** institutional subscription' becomes less well understood as a measure of market penetration or access. Only three of the 8 societies involved in this collaboration were either selling site licenses or selling to consortia during any part of the period 2005-2007. Institutional subscription revenues including site licenses and consortia revenues provided 58% of total revenues and 72% of subscription revenue in 2007.

The pattern of change for all the institutional subscriptions to the 8 journals is shown in **Chart 2.3**.

Chart 2.3: Total number of institutional subscriptions 2005-2007 by version: (8 journals)



	2005	2006	2007
Print	9,064	8,351	7,713
Online	55	129	221
Print & Online	9,920	9,581	11,443
Total institutional subscriptions	19,039	18,061	19,377

Total institutional subscription numbers reported increased by 1.8% with a fall in print subscription numbers more than compensated for by an increase in online, and print with online.

Two of the publishers were offering online only subscriptions and these increased as shown in **Chart 2.3** in the three years. Although several of these publishers are experiencing a downward trend in their overall institutional subscription numbers, for two this could be attributed to increasing access via consortia sales that in one case were defined broadly by the publishing partners as *number of consortia* rather than number of institutions receiving the journal.

Non-Member individuals

Only one association offered non-Member individuals a price point for subscribing to their journal and for the other seven societies the position was quite cleanly articulated as "Individuals *must be society/association Members to receive the journal*". This approach is quite typical and speaks to a strategy of focusing on recruiting Members and offering them access to the journal as one benefit of Membership. For publishers in areas where there are a number of individual practitioners who are not academics, individual subscriptions can prove a sound additional revenue line (academics have journal access through their institution).

b. Financial overview

Journal costs

Publishing costs can be divided into two component categories: *fixed* costs that are incurred regardless of the number of subscribers and *variable* costs that are associated with each subscription.

Fixed costs involve both content creation and publishing support activities:

- Content creation or "first copy" costs are all the costs associated with preparing the editorial content for publication. Thus content creation (First copy) activities include the editorial office costs of salaries and space for work on both peer-reviewed articles and non-article content such as letters to the editor, and book reviews all in preparation for print and online distribution. For peer-reviewed content it includes manuscript receipt processing, initial acceptance decision- making, and, for those manuscripts selected as acceptable, identifying reviewers or referees, review processing, manuscript processing; for those manuscripts accepted for publication, there follow substantive editing, formatting, copyediting, processing author approval, page preparation, illustration or special graphic preparation, indexing, coding for SGML/HTML/XML , proofreading, preparation of images, and final composition.
- Publishing support activities are journal costs such as marketing, advertising sales, human resources, finance, and administration, including management costs and the office costs of these activities.

Variable costs include

- Manufacturing and paper, printing, and binding.
- Production of the online version including re-packaging of content.
- Distribution costs of the physical publication or as an online product. Order fulfillment - subscriber file maintenance and customer service for all subscriber types.

For reference *Incremental costs* (or run-on costs) are those just attributable to each additional subscription – such as the printing, distribution, and subscriber file maintenance of one subscription. Societies often price or cost out their Member copies based on incremental or run-on costs, presuming that institutional subscribers will pay the full publishing costs for the journals they receive plus the non-incremental costs of Member copies.

The costs for all the journals included in the study have been sorted as accurately as possible from the data supplied by the publishers according to these fixed and variable categories. In every case the costs include the full costs, direct and indirect, of publishing the journal as explained within **Methodology**. Where appropriate, comparisons are made between this group of journals and the STM journals included in the JISC[5] (2005) which used a similar method of analysis. **Appendix 2** the P&L template provides an itemized list of the costs included within each cost category such as content creation, manufacturing and production, distribution and fulfillment and publishing support.

[5] JISC: Learned society Open Access business models (2005) (see: http://www.jisc.ac.uk/media/documents/themes/infoenvironment/learnedsocietyoabusinessmodels.pdf)

Note: Publishers participating in this study were able to provide the complete three years of data for each of the 8 journals reviewed in the study. For the purpose of the comparison shown in **Table 2.4** the most recent year of data (2007) was used.

Table 2.4: Total fixed and variable costs in 2007: Eight HSS journals

2007: Costs in $										
Publisher	1	2	3	4	5	6	7	8	Total	Ave
Frequency	4 x	4 x	4 x (5 issues published)	5 x	4 x	6 x	4 x	6 x		
Content creation	224,594	24,810	1,191,525	481,782	205,262	149,703	162,867	648,558	3,089,101	386,138
Manf & Prod PRINT	86,426	63,269	285,428	190,296	94,220	79,912	75,418	441,235	1,316,204	164,526
Manf & Prod ONLINE	9,707	13,101	47,153	10,500	31,232	4,206	3,969	36,304	156,172	19,522
Distribution & Fulfillment PRINT	110,018	45,259	188,619	133,110	110,600	34,630	54,673	181,227	858,137	107,267
Distribution & Fulfillment ONLINE	31,259	9,269	86,496	28,583	10,723	57,761	6,124	35,091	265,306	33,163
Publishing Support	21,346	56,223	460,488	18,604	78,040	63,217	71,476	146,729	916,123	114,515
Total Costs	483,350	211,931	2,259,709	862,875	530,076	389,428	374,478	1,489,144	6,600,992	825,124
Peer-reviewed articles published 2007	47	27	101	24	50	45	121	26	441	55
Text pages published including advertising 2007	875	1,149	2,738	2,028	984	1,096	1,530	2,152	12,552	1,569
Print circulation 2007	12,688	10,860	18,681	17,166	16,897	9,570	5,322	34,376	125,560	15,695
Cost/page published	552	184	825	425	539	355	245	692		526
Ave pages/article	12	25	26	28	16	22	12	16		
Cost/article	6,624	4,600	21,450	11,900	8,624	7,810	2,940	11,072		

Table 2.4 shows total fixed and variable costs by publisher with publisher names replaced by numbers here for anonymity. Notice the cost/journal/year in 2007 which ranges from $212K for a quarterly journal from publisher 2 with a total print circulation of 10,860, to $2.2 million for a journal from publisher 3 printing 18,600 print copies and publishing 2,700 pages per year in 5 issues. Analysis of these actual cost figures based on pages published shows a range of from $184 per page to $825 per page with the average for this group of journals at $526/page. This is higher than for the STM journal's reviewed in the 2005 JISC study where the average cost/page was £144 (=$266).

In previous analyses, of predominantly STM journals, some comparison of costs and revenue per peer-reviewed article has been used by this author and others. For the HSS journals included in this study such a comparison seemed less relevant because peer-reviewed article pages amounted to just 62% of the total with the remaining 37% of pages of other scholarly content. Contrast this with typical monthly, bimonthly or quarterly STM journals where peer-reviewed articles make up 90% or more of the journal content. Comparison of article cost and revenue are also often misleading as the article length varies across journals. For example, in this sample of journals the length of articles in

2005-2007 ranged from 12 to 28 pages with an average article length for the 8 journals of 19 pages. Cost and revenue *per page* is therefore preferred to compare the journals included in this study. The cost per article shown here is *only for peer-reviewed journal pages* – it does not include (or cover) the cost of publishing non-research content or advertising pages.

Figures derived for cost/page published do confirm that an immediate switch to the Open Access (author/producer pays for publication of their peer-reviewed article) publishing model being deployed more broadly within STM publishing would not be sustainable for this group of journals, if author fees are expected to cover the publishing cost/article. Even if authors paid a per page charge related directly to the costs of their own article, the length of article and cost per page make this prohibitive. For example, based on the figures shown in **Table 2.4,** publication of an 'average' peer-reviewed article of 19pp at the publisher's 'average' cost per page of $526 would result in a requirement for author fees of some $10,000. Even the journal with the lowest publishing cost per page ($184) could not move to an OA (author pays) model with an average article length of 25 pages since author fees would need to be close to $5,000/article to cover the costs of each article. But these costs include all the costs of the print version of the journal.

In assessing OA fees most OA policies refer to online only content and permit free and open access to this. For this reason the variable costs of print as defined at the beginning of this section are shown for the 8 journals in **Table 2.5**. In an OA (author/producer pays) publishing model these costs would be removed.

Table 2.5: Variable costs of print manufacturing and production; distribution and fulfilment per page in 2007 for 8 journals ($)

Publisher	D	E	F	G	H	A	B	C	Total	Ave
Print Manf/prod/page	99	55	104	94	96	73	49	205	775	97
Print Dist /fulfillment/page	126	39	69	66	112	32	23	84	551	69
Total Print Manf & Dist/page	225	94	173	159	208	105	73	289	1,326	166
Publishing cost/page minus print	328	90	652	266	331	251	172	403	-1,326	**360**

If print costs are removed the publishing costs per page for these journals now average $360 or at an average article length of 19pp, author fees of $7,000. For the journal with the lowest publishing cost per page ($90) and an average article length of 25 pages, author fees could be set at $2,500 to provide full cost recovery on the *peer-reviewed articles published*. Since just 59% of this particular journal's pages are peer-reviewed Open Access payments would still not sustain the journal.

It was not possible to assess whether part of the distinctly different cost bases for the group of journals was due to disciplinary differences. This could productively be one outcome of a study of a more extensive sample of journals. Previous studies (JISC 2005) showed some evidence that the total number of articles published in 7 life science journals exceeded those in physical sciences. The cost per article was lower for the life sciences journals than the physical science and technology journals. The reason for this is that while the cost per page was higher for the life sciences journals (aver: £182=$337), the article length was shorter (aver: 7.8pp); for the physical science journals the cost per page (aver: £100= $185) was lower but the articles were longer (aver: 16.4pp).

To develop a sense of how typical or representative the costs developed in this section are, **Table 2.6** gives some comparisons based on my own experience and a model developed by Tenopir and King (2000) and including a breakdown by broad discipline or country of publication for the journals in

this study. Despite the global nature of scholarly journal publishing the country of publication does have an impact on the overall journal business philosophy most especially within the non-profit sector. These average figures **(Table 2.6)** provide an independent sense of proportion to the major expenditures.

Table 2.6: Typical cost ratios

Cost category	Average scholarly journal (after Tenopir and King 2000)	Biology journals – US society publishers (2003) N=	Biomedical journals –US society publisher (2004) N=11	JISC study life science journal – US&UK (2005) N=7	JISC study physical science and technology journals UK (2005) N=4	Mellon Planning Grant HSS journals- US (2007) N=8
Fixed~ Content creation	37%	24%	57%	35%	33%	47%
Fixed ~ Publishing support	30%	38%	7%	20%	35%	14%
Variable ~Manufacturing, paper and printing: Print + online	19%	30%	23%	31%	22%	22%
Variable~ Distribution and Fulfillment: Print + online	14%	7%	13%	14%	10%	17%

Ref: Tenopir and King, *Towards online journals*: *Realities for scientists, librarians and publishers* ISBN 0-87111-507-7 (2000) and see also: http://www.bodley.ox.ac.uk/icsu/kingppr.htm "Economic Cost Models of Scientific Scholarly Journals" by the same authors.

Print and online versions

Print and online publications have distinctly different cost bases with some cost lines irrelevant to print, such as online hosting and site maintenance - some only related to print, such as print and mail costs - and some costs applying to both media, such as content creation and customer service. The cost base is also changing as the online version becomes the publication of record and additional or supplementary information may be incorporated which increases content creation and archiving costs. The costs of online archiving are not included within this analysis but clearly maintenance of an online journal archive is an additional, growing and recurring cost of publishing any journal. Seven of the journals included in this study participate in JSTOR and this initiative provides a revenue line from back issue content licensing to libraries which accounts for some 2% of total journal revenues in 2007.

Content creation costs sometimes called "first copy costs" are incurred irrespective of whether the product is published in print or online or both. All publishing activity incurs content creation costs. The cost base here will clearly change if the print and online versions become distinct – as they are in a number of scholarly disciplines.

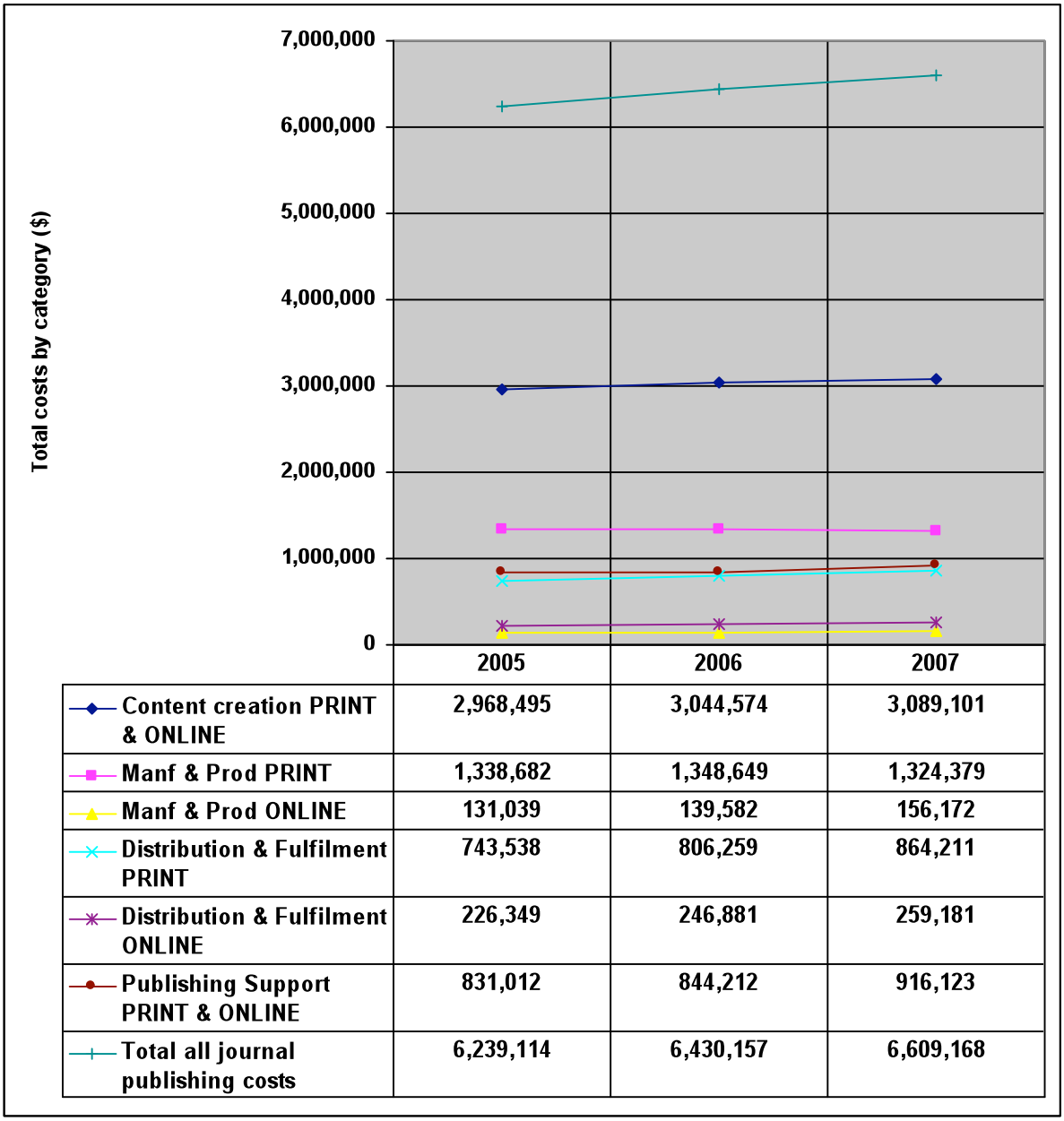
Publishing support activities will be incurred for both versions. As online increasingly becomes the version of choice accessed by researchers and the method used for active promotion and selling of the publications, it is reasonable to presume that like revenue, fixed costs must naturally make a transition from a predominantly print cost base to a more balanced allocation.

One of the publishers in the study does not allocate costs by version (print and online) and so could only provide overall cost numbers, which relate to print and online versions combined. Plainly this limits the ability to assess clearly the performance of the journals according to version. Where appropriate, I have made allocations for this journal based on my own experience, the overall profile of the journal and the relative amounts reported by other journals in the study.

Trends in cost categories 2005 to 2007

Analysis of publishers' expenditures based on the categories described here provides insight into the overall cost base for the differing journals programs. **Chart 2.7** provides an overview of total costs by category for the three-year period under review for the 8 journals.

Chart 2.7: Changes in costs ($): 2005-2007 for 8 journals



	2005	2006	2007
Content creation PRINT & ONLINE	2,968,495	3,044,574	3,089,101
Manf & Prod PRINT	1,338,682	1,348,649	1,324,379
Manf & Prod ONLINE	131,039	139,582	156,172
Distribution & Fulfilment PRINT	743,538	806,259	864,211
Distribution & Fulfilment ONLINE	226,349	246,881	259,181
Publishing Support PRINT & ONLINE	831,012	844,212	916,123
Total all journal publishing costs	6,239,114	6,430,157	6,609,168

The overall increase in costs was $370,000 or 6% with the steepest dollar increases in the fixed cost area of content creation (up $120,606 or 4%) and the variable cost of print distribution and fulfillment (up $120,674 or 16%). Print manufacturing costs fell a modest $14,000 but online manufacturing and production costs increased by $25,000 to more than offset this. Online distribution increased by $33,000 and publishing support by a further $85,110.

Print manufacturing costs were relatively easy for the publishers to capture from print bills supplied by their printer and print distribution (postage) is also a discreet and accessible number. Order fulfillment and customer service for the publishing operations within an association publisher is often part of a larger Member services center. All but one of the participating publishers supplied an allocation of the proportion of customer service costs to the print and to the online versions separately. The changes in print costs over time are shown in **Table 2.8**.

Table 2.8: The costs of print ($): 2005 to 2007 for 8 journals

Year	Print manf. costs	Print manf. as % total costs	Print distribution and fulfillment costs	Print dist & fulfillment as % of total costs
2005	1,338,682	21	743,538	12
2006	1,348,649	21	806,259	13
2007	1,324,379	20	864,211	13

Print manufacturing and production costs have fallen slightly through the period despite a small increase in the number of journal pages published and a 1%/year increase in print circulation across the journals (see **Table 2.9** below). Print costs are directly influenced by total pages and copies published.

Table 2.9: Change in print pages published and print circulation 2005-2007 for 8 journals

Year	Total print pages published	Change year/year	Total print circulation	Change year/year
2005	11,898		150,510	
2006	12,284	+ 3.20%	151,811	+ 1%
2007	12,552	+ 2.20%	153,223	+ 1%

While the total pages published in these 8 print and online journals have increased by over 5% in the three years under review, the number of pages of peer-reviewed content increased by 8%. This seems to be due to longer articles because the total number of articles published fell by 1% over the period as shown in **Table 2.10.** The total number of articles published seems remarkably stable for this group of journals and contrasts with STM where page and article counts are growing as research productivity swells.

Table 2.10: Change in number of peer-reviewed articles published 2005-2007 for 8 journals

Year	Total articles published	Change year 07/05
2005	444	
2006	443	0%
2007	441	-1%

Publishing support costs include much of the fixed publishing operation costs as described at the beginning of this section. During this study discussions with the participants about applying management, marketing and other central publishing costs to the individual journal were especially interesting and certainly some of the associations had not completed this exercise in full recently at the journal level.

Notice in **Table 2.11** that as pages published increased by over 5% in the three-year period, the revenue, and thus margin per page increased because the average publishing cost/page was again remarkably stable.

Table 2.11: Change in costs, revenues and margin per page 2005-2007 for 8 journals

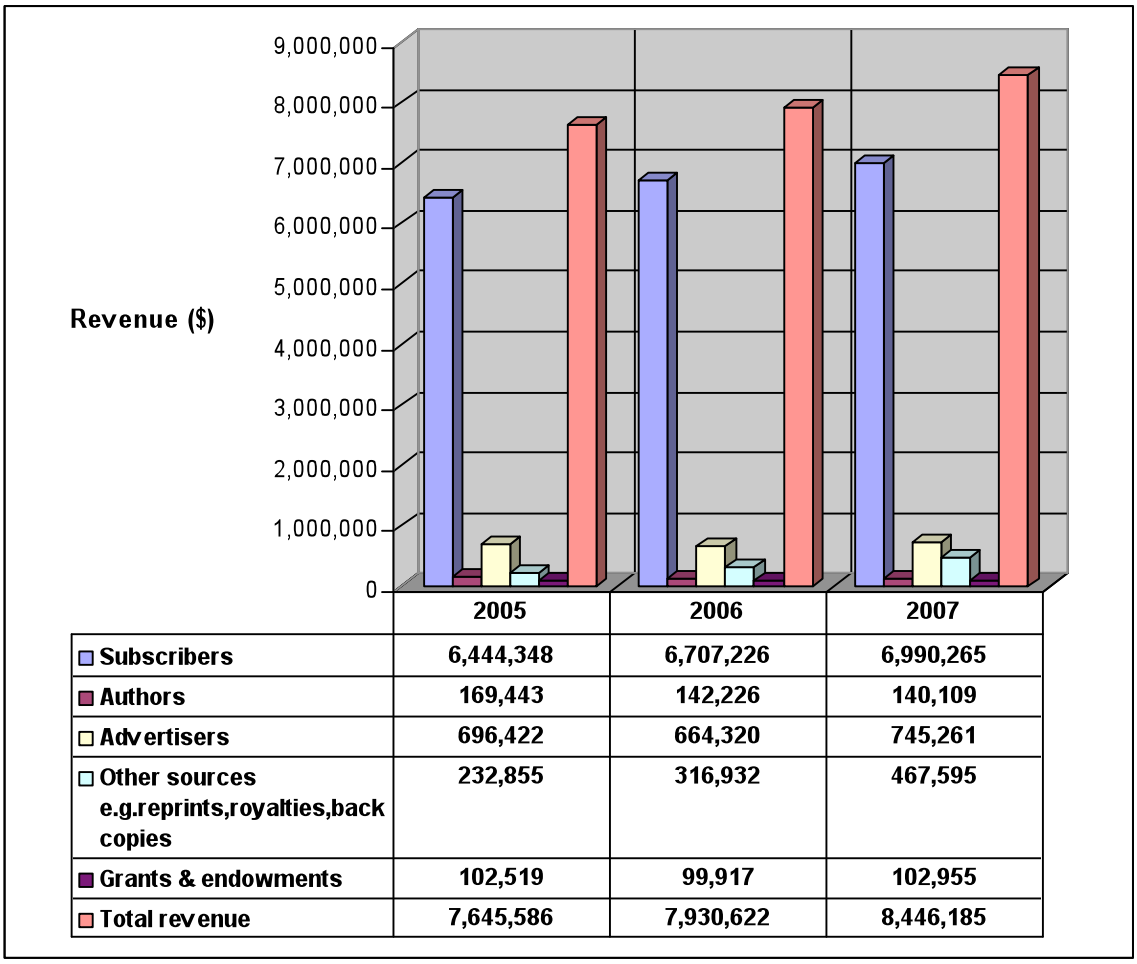
Year	Pages published	Average revenue per page ($)	Average cost per page ($)	Average net margin per page ($)
2005	11,898	643	524	118
2006	12,284	646	523	122
2007	12,552	673	527	146

For many of these association publishers, the journals included in this study are published as part of a portfolio of titles which will include some excellent performers and some much weaker that may be losing money but may make an important contribution to the scholarly literature.

Journal revenues

Total revenues for the 8 journals are shown in **Chart 2.12.**

Chart 2.12: Changes in revenue sources ($): 2005-2007 for 8 journals



	2005	2006	2007
Subscribers	6,444,348	6,707,226	6,990,265
Authors	169,443	142,226	140,109
Advertisers	696,422	664,320	745,261
Other sources e.g.reprints,royalties,back copies	232,855	316,932	467,595
Grants & endowments	102,519	99,917	102,955
Total revenue	7,645,586	7,930,622	8,446,185

Throughout the period subscription revenues accounted for 83-85% of the journal's total income and as the major source of revenue for the journals increased by $546,000 (+8.5%) through the period. The total increase in revenue of $800,600 (+10%) over the three years is also due to increasing income from advertising up $50,000 (+ 7%) and a combination of 'other sources' which are smaller revenue lines including reprints and royalty income that together increased by $235,000 (+ 100%). Revenue from authors includes article submission fees charged by 3 publishers through the period and page charges from two of the journals but author revenues decreased; one publisher stopped charging submission fees and for several societies page charges are optional payments. None of the publishers is offering the Open Access (producer/author pays) option for peer-reviewed articles. The revenue from grants and endowments was a small proportion of the whole (1.2%) and was only reported for one journal in the study.

A complete listing of journal revenue types is shown in **Appendix 2** within the profit and loss template.

Non-subscription online revenue

It is noticeable (see **Table 2.13**) that sources of non-subscription online revenue increased quite steeply through the period, when publishers were offering these products.

Table 2.13: Non-subs online revenues over time ($)

	2005	2006	2007
Online reprints	1,460	3,097	3,729
Online Pay-per-view	9,221	5,049	60,081
Royalties e.g. from online aggregators EBSCO etc.	42,124	146,178	179,904
Other online: permissions	14,001	6,232	12,092
Total	**66,806**	**160,556**	**255,806**

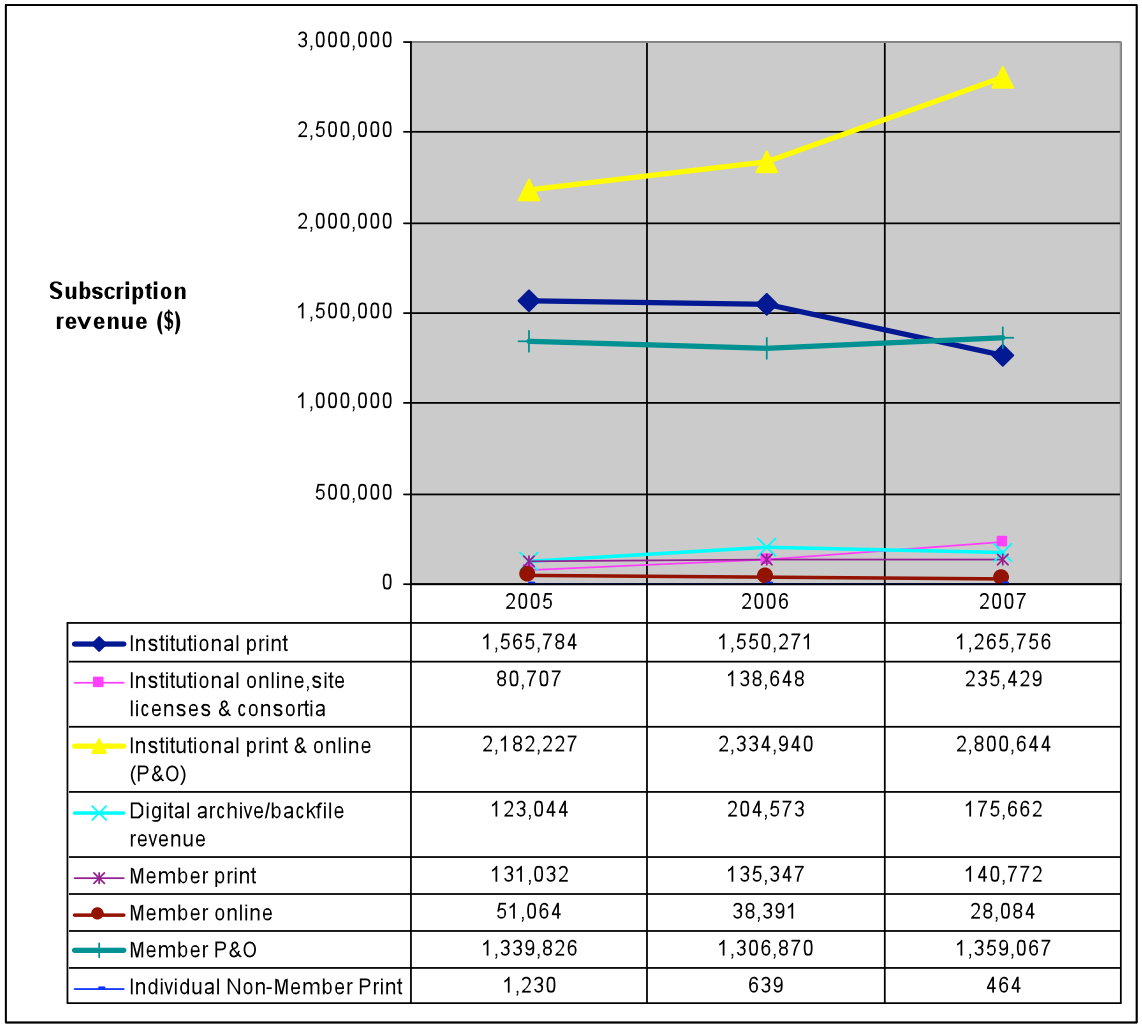
Advertising

Print advertising was a revenue line of $27,000 or more in 2007 for 7 of the 8 publishers and represented from 4% of revenue for one journal and 45% of revenue for another with the largest circulation. All of the self-publishing associations employ staff in-house to sell and manage print advertising on a full or part-time basis, while publishing partners take on this role for the remaining 3 societies. Advertising income has grown steadily over the 3 year period for 5 of the publishers, and has fallen for the remaining two. This level of advertising revenue for quarterly print journals emphasizes their visibility in this version to the community served.

Subscription revenue by subscriber category

Subscription revenue contributed 83-85% of the total income to the journals 2005-2007. Seven of these journals separated their subscriber income for the study into the categories shown in **Chart 2.14** which shows the changes in the sources of that revenue over 3 years.

Chart 2.14: Subscription revenue ($) by subscriber category 2005-2007 for 7 journals

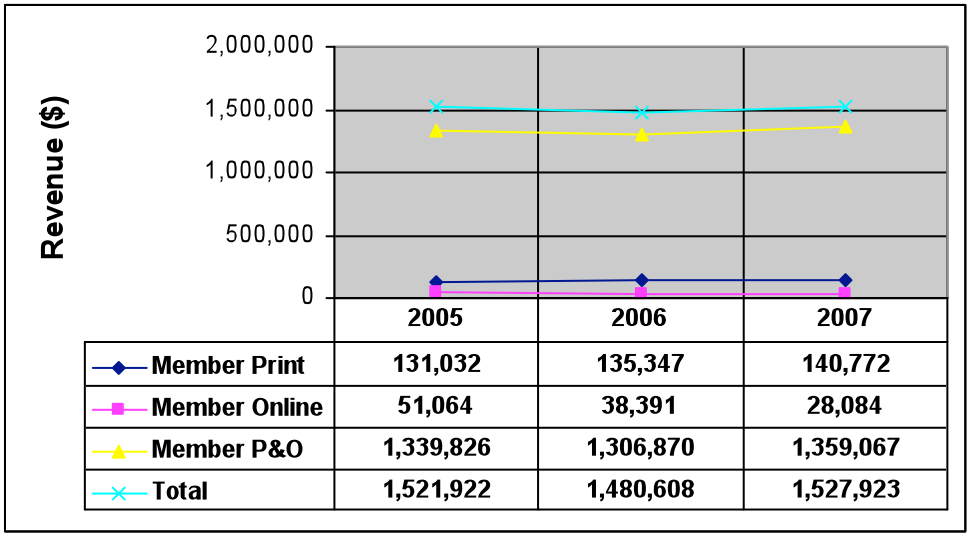


	2005	2006	2007
Institutional print	1,565,784	1,550,271	1,265,756
Institutional online,site licenses & consortia	80,707	138,648	235,429
Institutional print & online (P&O)	2,182,227	2,334,940	2,800,644
Digital archive/backfile revenue	123,044	204,573	175,662
Member print	131,032	135,347	140,772
Member online	51,064	38,391	28,084
Member P&O	1,339,826	1,306,870	1,359,067
Individual Non-Member Print	1,230	639	464

Total revenue from institutional subscribers increased by 12% in this period with the greatest increase from the bundled print and online subscription category. The drop in revenue from print only institutional subscriptions is noticeable. During the period, three of these seven publishers started to offer online only as an option to institutions and one additional association noted that they had started this option in 2008; pricing models and product offerings to institutions are clearly shifting.

In contrast, the total revenues from Member subscriptions increased by less than half a percent ($6,000) and **Chart 2.14** illustrates the overall *flat and steady* journal income from Members and little shift in the versions provided during the three year period.

Chart 2.14: Member revenue 2005-2007: 7 journals



	2005	2006	2007
Member Print	131,032	135,347	140,772
Member Online	51,064	38,391	28,084
Member P&O	1,339,826	1,306,870	1,359,067
Total	1,521,922	1,480,608	1,527,923

Notice the relatively small amount of revenue attributed to Member online subscriptions these numbers are from one association publisher. Print and online is offered by 6 of the societies to their Members as a benefit of membership. One association publisher reporting no revenue from Member dues allocated to their journal, also provides all Members with a print copy and no online access.

Revenue per institutional subscriber across all versions in 2007 was $225 and per Member subscriber $11.

Surplus or deficit

In measuring overall journal publishing performance, generation of a net surplus/profit year on year is viewed as one sign of success in addition to other indicators such as the number of high quality submissions and the Impact Factor. Oxford University Press explains the particular position for a University Press, which this group of associations agreed is typical of a not-for-profit publisher:

"For (name of journal) to remain viable we need to receive sufficient revenue to cover both direct costs and indirect costs. In addition, we need to make a surplus, which, as a university press, we reinvest into further publishing developments, and directly into the academic community via contributions to our parent university."

Overall business performance of the 8 journals in this study is shown in **Table 2.15.**

Table 2.15: Revenue, cost and surplus all journals and per page published 2005-2007 ($)

	2005	2006	2007
Total revenue	7,645,586	7,930,622	8,446,185
Total costs	6,229,834	6,420,867	6,600,992
Surplus	1,415,752	1,509,755	1,845,193
Total pages published	11,898	12,284	12,552
Revenue/page	643	646	673
Cost/page	524	523	526
Surplus/page	119	123	147

Surplus steadily increased during the period as costs held steady and revenues grew.

For the journals included in this study average, high and low net surplus/deficit for 2005-2007 is shown in **Table 2.16**.

Table 2.16: Net surplus patterns – 8 journals

Year	Highest net surplus	Average net surplus	Lowest level of deficit
2005	61%	18%	A loss of $627,000
2006	64% (2 journals)	19%	A loss of $627,000
2007	64% (2 journals)	20%	A loss of $714,000

Average figures plainly mask a wide divergence in business performance. In addition the journals are managed and used by the societies in quite different ways, at one end to generate income for the association and at another as a community building tool for Members. Differences in business philosophy drive financial performance at the individual journal level.

The way in which each of the publishers included in this sample viewed the journal they selected was quite variable. For some, notably the smaller associations, the journal was a free-standing entity that generated a surplus used to support other society or association specific and Member benefit activities that may not be related to publishing. For other larger associations, a single journal was viewed as part of a broader publishing portfolio including other for example, journals, newsletters, and discipline specific literature databases and books programs. This portfolio was managed to create an overall surplus for the association to use for other non-publishing activities to benefit the association Membership. In this context it is no surprise that an individual journal may lose money. Yet overall these associations provide a wide range of services to scholars and scholarship, including annual conferences, professional development opportunities, recognition of scholarly excellence, and statistical information on such matters as enrollment and employment in their fields, in additions to their publishing programs.

Plainly, if publishing activities do not generate a surplus, additional society and association activities need to be at least curtailed and in some cases the association would cease to be able to exist without the injection of financial support from its publishing surpluses. Therefore funding for essential professional and scholarly activities would be jeopardized by a mandated shift to free-to-user open access.

Any exploration of an alternative business model for HSS journals which may permit broader access to the scholarly content must presume that model is, or will become, financially sustainable so that the society or association and the journal continue to thrive.

3. Discussion and conclusions

Open Access

Analysis of the journal costs provided for this study confirm that a shift to an entirely new funding model in the pure form of Open Access (author/producer pays) in which the costs of publishing research articles in journals are paid for by authors or by a funding agency, and readers have access to these publications for free, is not feasible for this group of journals. Longer articles are characteristic of these journals as is the relatively high proportion of non-peer reviewed content and both of these features mean that the so-called 'gold' approach to OA that is being quite fully experimented with in the STM journal market, would not be sustainable for these journals either on a case by case basis or when all their costs are averaged. A summary of the current charging levels by some leading STM journals can be seen on the BioMed Central site (See: http://www.biomedcentral.com/info/authors/apccomparison/), they range from $600 per article (Hindawi) to $5,000 per article with variants by charging per page fees versus per article, and additional fees for color and figures included in the article. Some of the large STM funding agencies nationally and internationally have now agreed to pay OA publication fees at these levels. In the humanities and social sciences such a broad level of support for publishing research may not be available and so a key question is 'Where will the money come from to support OA (author/producer pays) as a business model?" The answer to this question requires further investigation.

In the UK, two leading funding agencies -the Economic and Social Research Council and the Arts and Humanities Research Council - have adopted the line taken by all the other UK research councils, that they regard payment of fees for publications that are *produced during the period of a grant* as a legitimate expense to be included in the direct costs that can be applied for at grant application stage; and that universities can include provision for the payment of publication fees in general in the calculation of the indirect cost rates that they add on to the direct costs.

Other options do exist as a path to Open Access of research articles. For example, two of the humanities journals in this study publish less than 35% of peer-reviewed content in their journals. If these articles were made Open Access on the journal web site would institutional subscriptions fall? Of course this is an experiment that publishers want to know the answer to before embarking on but without some experimentation the result is an unknown, which as the AAUP clarifies

"Bypassing this laboratory stage of experimentation and development and plunging straight into pure open access, as attractive as it may sound in theory, runs the serious risk of destabilizing scholarly communications in ways that would disrupt the progress of scholarship and the advancement of knowledge."[6]

One journal in the study has offered 'gold' OA to peer reviewed articles in the journal since 2005, and has seen a steady decline in institutional subscriptions ever since. Although the shift to an OA policy is unlikely to be the sole cause of the decrease, the publisher noted that this was the continuation of a longer term trend; it speaks to the need for a clearer understanding of the potential risks to journals within these disciplines.

Archiving of peer-reviewed research by authors in an online repository is another route to Open Access and is not explored in this study. This so-called 'green' approach rests on the principle that publishers permit authors to self-archive in an institutional or subject-based repository, and that as a result the scholarly content is available free even if the journal requires a subscription. This approach is also under active experimentation and of course requires a parallel infrastructure of digital repositories to accept, store and maintain the scholarly article content. There is speculation that the availability of articles in digital repositories results (or may result) in readers going to this version instead of the subscription version, even when the reader has

[6] AAUP statement on Open Access February 2007 see: http://www.aaupnet.org/aboutup/issues/oa/statement.pdf

access to the subscribed version (the cost of which is invisible to the end-user). This has been characterized as "a Google effect," because a user does a search on Google and clicks on the link to the repository rather than going to the library's subscription. One study to investigate this point further is by David and Fromerth[7] and focuses on the particular situation of article deposits from 4 mathematics journals in the subject–based arXiv repository.

Starting in October 2008, PEER (Publishing and the Ecology of European Research), supported by the European Union, is investigating the effects of the large-scale, systematic depositing of authors' final peer-reviewed manuscripts (so called Green Open Access or stage-two research output) on reader access, author visibility, and journal viability, as well as on the broader ecology of European research. The project is a collaboration between publishers, repositories and researchers and will last from 2008 to 2011 (report due in 2012). The aim of PEER is to build a substantial body of evidence, by developing an "observatory" to monitor the effects of systematic archiving over time. Participating publishers will collectively contribute 300 journals to the project. The International Association of Scientific, Technical and Medical Publishers (STM), the European Science Foundation, Göttingen State and University Library, the Max Planck Society and INRIA will collaborate on PEER, supported by the SURF Foundation and University of Bielefeld, which will contribute the expertise of the EU-funded DRIVER project. However, the focus of this research is STM journals in European research settings.

In the meantime, funding agencies globally are mandating OA for the research they support, and by February 2009 there were 31 funding agency mandates in 14 countries, and 27 university mandates in 16 countries (see: http://www.eprints.org/openaccess/policysignup/) . All funding agency OA mandates allow delays between the publication of a work and its OA release to the public. The main reason is to give publishers a chance to recoup their expenses. The appropriate length of an embargo before permitted posting to an OA repository is a matter requiring rigorous review because it is a central discipline specific question due to differences in research article uptake and use by the research community. At present all medical funding agencies with OA mandates use six month embargoes, except the NIH, which uses a 12 month embargo. An EU pilot project uses different embargo periods for different fields, ranging from 6-12 months. The European Research Council currently uses a six month embargo but says it is "keenly aware of the desirability to shorten" it.

"From the beginning, OA moved more slowly in the humanities than the sciences" is the description by Peter Suber, one Open Access enthusiast. Developments in OA in 2008 within the humanities and described by Suber are available at http://www.earlham.edu/~peters/fos/newsletter/01-02-09.htm#2008); in 2008 many of these developments originated from European institutions. Suber also most recently has advised funding agencies as follows:-

"If publishers insist that a six month embargo will harm them, ask for evidence that the existing OA mandates with six month embargoes have harmed them. At least in your own mind, ask as well why an extra increment of revenue for publishers should justify an extra incursion on the public interest. If publishers insist that funders should not allow any embargoes shorter than those the publishers themselves allow, ask why you should put publisher interests ahead of your own interests. If publishers insist that a study is necessary before adopting the policy you have in mind, point out that many studies are already under way, including the natural experiment of monitoring the consequences of existing OA mandates. At most, offer to modify your embargo period in light of future evidence."

[7] "Does the arXiv lead to higher citations and reduced publisher downloads for mathematics articles?" by Davis and Fromerth See: Scientometrics Vol. 71, No. 2. (May, 2007)

Given the longer active life of much research in HSS compared with STM (and especially biomedicine) the length of the embargo period before deposit of research articles in an OA repository is a key concern that requires further investigation. Accepting the embargo periods that are becoming established for biomedical journals, across HSS journals, could seriously damage and threaten the sustainability of these journals.

Data available on journal publishing economics

Estimates of journal publishing costs across all the scholarly literature vary widely with sketchy or incomplete data to support figures proposed and poor definition of each step of the publishing process. The results of a review of the data available on scholarly journal economics shows a strong trend in recent years for authors to publish 'Reports on reports' that lack primary publishing data provided by publishers. With each successive year as online technology used across the journal publishing process, and online publication rapidly become the norm across scholarly journals, this 'old' data becomes less useful and in general flimsy as a basis for framing the issues. One simple indication of the amount of 'copying' that goes on in this literature is the lack of accurate bibliographic references. Another measure is the date of articles cited as the basis for cost and revenue information included in recent reports; many of these are pre-2000. Further, on reading any such reports it is important to clarify the original data referred to.

Most of the published studies focus squarely on STM or a specific field within it. There is only a small amount of primary data and information available about the publishing economics of journals within the humanities and social sciences, and with the exception of this report, much of it seems out of date. The rather jaded view presented informally by some agencies and individuals is that discussions of a new study gathering together real data from publishers are always derailed by the feeling that publishers would be unwilling to share it. This is plainly not true for this study. Others remark that publishers rarely divide things up or describe things in the same way, so any comparison is not valid. The approach and templates used have largely prevented such a result for this study

Factors affecting publishing costs

The average cost to publish an article/page within a scholarly journal will depend on a number of factors, which have not been addressed in much of the literature on the topic. These include the overall submission and thus rejection rate; the higher the rate of submission the higher the cost per published article because increased numbers of submissions and rejections take time and money to handle. Length of article; long articles cost more to publish than short articles since content creation costs are driven by volume of content processed. The number and complexity of mathematical typesetting and special characters, figures and illustrations and the amount of color within articles has an impact on costs because the more of any of these, in general, the more expensive the article. The additional step-up of the costs of publishing online as well as in print pre-date this study, but include the technological infrastructure to host and distribute an online version and the need for more technically qualified staff to work with the online version. Add to this the publishing support costs of marketing and selling an online version globally to, for example, library consortia and many small society publishers become overwhelmed and decide to partner with a commercial or not-for-profit publisher who can manage and implement much of the complexity associated with the production and sales of the online version.

Differences in business philosophy drive financial performance at the individual journal level, because flagship journals that cost the most to publish may be subsidized by other product offerings within the association or a society publishing portfolio and this cross-subsidy is not visible from analysis of a single journal from an association.

Non-cash contributions from academia

An assessment of non-cash costs was not within the scope of this study but at the workshop in December 2008 there was discussion among participants of the in-kind contribution made by universities and by faculty to support the scholarly journals infrastructure. One association noted that it pays its Editors some $40,000 per year, and its reviewers $100 for getting their reviews completed on time and yet even these amounts do not cover the equivalent of academic year salary costs per hour for the individuals. There is a reliance on contributions made by faculty in the name of professional responsibility. One participant remarked on the some 1,000 additional reviewers to read and assess monographs in the discipline. Their only compensation is a copy of the book they reviewed. Other societies may ask universities for space to accommodate journal activities and for *course relief* for Editors. In most institutions, the primary support they give to their journals is by reducing the Editor's teaching load by a third to one-half the norm at their institution.

In any of these and other examples, non-cash costs are incurred in the production of the journal and while it would be possible to estimate an average amount of time spent on each process for each journal it would be very hard to reduce all this to a dollar figure. Associations publishing scholarly information often focus on keeping the cost to the library down and this is especially evident within HSS. In 2007 six out of the eight journals in this study charged less than $270 for each bundled print and online institutional subscription to their journal. Presented another way, for a total price to an institution of $1,301 these six journals delivered 9,610 pages in print and online versions, which is an average of 14 cents per published page[8].

Academic library subscriptions and Member copies

As for many scholarly publishers there is strong reliance on institutional subscription revenue to support these journals. The number of institutional subscriptions is stable even as these publishers are shifting their offering from print only to print and online and most recently online only. The price 'charged' to Members (or allocated from Member dues) for their association journal copies is in general not covering the costs of providing the journal, note also that 3 of the journals in this study do not allocate any Member dues to the journal provided to Members. As a result institutional sales subsidize Member copies. Online only Member subscriptions would reduce the cost to a society or association but the publishers in this study felt quite strongly that a printed copy was an essential regular physical reminder to Members of the value and community of association membership. Since none of the publishers reported any costs for market research[9] to investigate this perception it is not clear if the 'value' ascribed to a print copy of the journal is legitimate especially as the association Membership starts to include more "digital natives"[10]. However, other reports on publishing trends and the shift to online for library subscriptions confirm that print is supplied primarily to meet the requirements of certain subject areas, notably in the arts and humanities.

[8] The average price/page STM journals in JISC study was 43 cents per published page at 2004 prices.

[9] Row 97 of P&L template

[10] "Digital native" one description of a person who has grown up with digital technology such as computers, the internet, mobile phones and MP3 rather than a person who has learned about them in adulthood - a "Digital immigrant".

Retaining print

Revenues from the print version deliver a considerable proportion of the surplus generated by the journals included in this study. All of these journals publish both print and online versions and if print only variable costs and print only revenues are removed for the three years under review the results are as shown in **Table 3.1**. This data is presented purely for illustrative purposes- plainly "P&O revenue" includes a proportion of income that *should* be allocated to the print version.

Table 3.1: Rough estimate of impact of removing print only revenues and costs: 7 journals

	2005	2006	2007
Online *and* Print & Online revenue	4,115,635	4,426,122	5,097,756
Online expenses	3,816,336	3,917,819	4,099,512
Surplus	299,298	508,302	998,244
Revenue/page published	396	422	463
Cost/page	321	319	327
Surplus/loss/page	75	103	136

Comparing the revenue, cost and surplus per page here with the same data shown in **Table 2.15: Revenue, cost and surplus all journals and per page published 2005-2007 ($)** clarifies the substantial revenues to these journals from print. If print is 'removed' as in the rough estimate in **Table 3.1** the combined journal surplus falls steeply. Notice, however, that the surplus per page in the 'online only' illustration above increases steeply over the 3 year period.

Although there would doubtless be savings and efficiencies within the publishing system from removing print it would need to be removed entirely for those to be realized. In the meantime humanities and social science readers use online but, unlike their counterparts in a growing number of science disciplines, they are reported by association leadership to continue to use the printed version heavily. A RIN UK (2006-2007)[11] survey showed that three fifths of researchers in the arts and humanities (compared with one fifth in the life sciences and physical sciences) still rate print versions of current issues as very useful for their research. One participant surveyed their Members in 2008 and specifically asked which version (of a journal *not included in this study*) was read. The vast majority—64 percent—of the respondents (10% of the Membership) read only the print version of while 33 percent stated that they read both the print version and the online version. Print advertising sales accounts for some significant revenues for 7 of the 8 journals in this study and at one extreme the journal with the largest print circulation (35,000) derived some 45% of the journal revenue from advertising sales in print.

Journal pricing

For many of these publishers, online pricing does not yet reflect the broader usage and utility of the online version rather it is based on the original print version and so is undervalued. One publisher was using an online tiered pricing model which does attach value to the scale of the institution and thus user base, one publisher charges institutions double the price charged for print only for access to print and online versions, and one publisher reduced their institutional print and online price by 10% between 2006 and 2007.

[11] Research Information Network (2007) Researchers use of academic libraries and their services See: http://www.rin.ac.uk/files/libraries-report-2007.pdf

Data collection and confidentiality

Providing the detailed financial and circulation information to allow the cross publisher comparison central to this study, requires considerable staff time and effort to do thoroughly. Even this study which was focused on a small and committed group of associations ran into issues of the political and administrative will to provide all the data requested. In any future work it will be essential to require at the outset not only an explicit commitment to provide specific types of data by individual societies and associations but also their publishing partners. Derivation of the in-house staff expenses proved by far the most challenging for participants to provide and some more explicit guidance (such as that in **Text Box 1**) should be provided in future studies. The templates could be strengthened by having formulae embedded in them as this could be an aid to the person completing the figures, and some more notes for guidance within the templates would be helpful.[12] All of the information requested is proprietary and was treated in utter confidence even within the context of meetings and exchanges between active members of the participating publishers. Such an approach is essential and of course leads to data quoted in the report that is built on 'average' and 'mean' numbers which often do not reflect the true differences and trends hidden within the primary data.

The analysis can not be perfect and so in approaching this study we have considered what provides the best achievable measure that is useful and replicable.

[12] For example –by Editorial salaries a note such as "Please calculate and include the portion of editorial salaries subsidized through course reduction".

4. Questions requiring fuller answers

How are HSS journals different from STM journals?

A number of points of difference observed between the journals have been pointed out in this report and these are summarized for the two samples of journals for which primary data is available in **Table 4.1**. What is not clear is to what extent the particular HSS journals included in this study are typical.

Table 4.1: Some observed differences between samples of STM and HSS journals

Feature	(JISC 2005) sample 13 STM society journals: 11 UK (one OA): 2 US	(2007) sample 8 HSS association journals	Comment
% articles submitted that are published	42%	11%	
Growth in articles/pages published	Articles + 25%; all pages + 35% (2002-2004)	Articles -1% ; article pages +8%, all pages +5% (2005-2007)	Number of articles published in STM journals growing steeply based on numerous database reviews by this author; research funding drives article growth especially in certain applied sectors
Frequency	12 or more issues/yr	4,5 or 6 issues/yr	
Speed of publication i.e. days from submit: publish	Often a critical success factor; (56 days achieved)	Not critical to success	Important 'cultural' disciplinary differences exist for author expectations on the speed of the editorial process; technological change has in general speeded up the process for all journals.
Peer-reviewed: non peer-reviewed pages	95:5	62:38	
Article length	Ave: 10 pages (2004)	Ave: 19 pages (2007)	Life sciences more and shorter articles than physical sciences; Humanities articles may be longer than Soc Science
Illustrations, photos, figures	Often many illustrations	Often few, pages text only	
Tables, data and links to databases	Typically many	Often few	
Page trim size of journal and text layout	8.5 x 11 (A4) & double column text layout	Smallest: 6" x9"; largest 8.5" X 11"	STM uniform; HSS a range
Country of origin of first/corresponding author of peer-reviewed articles	EU has overtaken US and Asia is catching up fast	82% US	
Institutional price/page (print & online)	Ave $0.43 (2004)	Ave $0.28 (2007)	
Author revenue (page charges, color fig charges & OA fees) as % of total revenue	6% (2004)	1.65% (2007)	
Institutional subscription numbers	Falling overall ; -22% (2002-2004)	+1.8% (2005-2007)	

Of course this data covers a small sample across a wide range of disciplines in STM and HSS.

In general the differences between STM and HSS journals have been summarized as:

- Journal prices are much higher in STM than in the humanities.
- Much more STM research is funded and government funded than HSS research.
- In many science disciplines, the cost of research is greater than the cost of publication; the reverse may be true in the HSS.
- Urgency of publication to establish priority is greater in the STM fields than in the HSS where the pace of the advance of knowledge is generally slower and the half life of articles generally longer.
- Use/demand for journal articles in the humanities and social sciences drops off more slowly after publication than demand for articles in the STM fields. This affects whether a journal would lose subscribers and revenue by offering open access after an embargo period of a certain length.
- Journal articles are the primary literature in the STM fields. In the humanities, journal articles tend to report on the history and interpretation of the primary literature, which is often in books.
- "E-publication and open access initiatives, and general awareness of the key issues and debates, are much less advanced in the arts and humanities than in the sciences."[13]

In some fields, more cutting-edge research is presented first in conferences and then in journals and in other fields the reverse is true. In some fields, the need for copy editors is greater than in other fields (i.e. to compensate for language deficiencies in submissions by non-native speakers, to minimize academic obscurities for a less specialized audience, or simply to present a clearer and more professional text). It is not clear to what extent these last two points are essential differences between STM and HSS journals, or is publisher and field specific.

Which Open Access model(s) are sustainable for HSS publishers?

Detailed information collected from the 8 HSS publishers participating in this study clarify that the 'gold' OA would not be a sustainable business model for any of the journals represented, even if funding support was available from grant agencies. From previous experience in STM publishing, the 'gold' OA model may be sustainable for small society journals often with considerable contributions in kind from institutions and individuals and presuming there are funds available for modest author fees; it is less suitable for larger flagship titles. One recent vivid example of this is the results from the first five years of The Public Library of Science (PLoS). In 2002 the Gordon and Betty Moore Foundation granted The Public Library of Science $9 million to fund the first 5 years of operations. The two flagship fully OA monthly journals *PLoS Biology* and *PLoS Medicine* launched in 2003 with in addition to an academic editor and the usual journal infrastructure, high quality in-house staff working on a well developed 'front' section' for each journal to mirror the interpretive content of *Nature*, *Science* and the *New England Journal of Medicine.* Not surprisingly both titles have failed to be sustainable on a title by title basis with the 'gold' OA business model. Author fees for OA in PLoS Biology and Medicine are now at $2,850, having increased steeply to this level. The Public Library of Science has in the meantime launched 5 more OA journals that do return a surplus the greatest being from the least selective PLoS One (OA fee $1,300). This publisher seems to be pursuing a portfolio approach where journals cross-subsidize each other. Would the same model function for multi-journal (and book) title HSS publishers? Only a rigorous review of a complete publishing program over time could provide an answer to this question. Note also that there is no equivalent of PLoS or BioMedCentral, another fully OA publisher (and recently acquired by Springer), within HSS.

[13] E-Publication and Open Access in the Arts and Humanities in the UK by Heath, Jubb and Robey Ariadne January 2008 see: http://www.ariadne.ac.uk/issue54/heath-et-al/

There are many different forms of Open Access as summarized in **Table 4.2** below

Table 4.2: Some of the flavors and colors of Open Access (modified after Willinsky Oct 2003[14])

Type	What is it?
E-print archive	Pre-prints archived by author(s)
"Green" (publisher)	Author can self-archive article post-print
"Pale Green" (publisher)	Author can self-archive article pre-print
"Gold" (publisher)	Immediate and full OA publication of journal
Dual Mode	Print – subscription; online - OA
"Author pays"	Author pays fee to support OA publication
Partial OA	Some articles published are OA
Per capita	Journals made OA based on income per capita
"Membership"	Institution pays fee which entitles their authors to discounts on "Author pays"
Delayed OA	Articles available OA after embargo period

Where would the money come from to support 'gold' OA in HSS journals?
This study did not include a review of the potential funding sources for OA within HSS journals. Some funding agencies within the arts, humanities and social sciences have already developed policies on access to research they fund and this has mostly centered around deposit in OA repositories. Several of the study participants noted that a single article may be the result of multiple sources of funding and run over quite long periods, in contrast to STM. One association publisher of a flagship title in their discipline estimated that about 1-2 articles per issue (of some 8 articles per issue) are supported by external funding. This publisher suggested that this observed average for a single title could well hold up in other general research journals in this discipline. They expected that subfield journal's articles would receive funding at the same level or less. There has been no formal review of HSS funding agency policies or responses to requests for funding of OA publication and we believe such a review is required.

If HSS articles are posted to an OA repository how long should the embargo period be?

As noted earlier, use of and demand for journal articles in the humanities and social sciences typically drops off more slowly after publication than demand for articles in the STM fields. This fact has a significant impact on the effect of embargo periods. The length of the embargo period before deposit of research articles in an OA repository is a key concern that requires further research through analysis of a combination of, for

[14] Willinsky J. The Nine Flavors of Open Access Scholarly Publishing. J Postgrad. Med 2003;49:263-267

example, citation half life (ISI JCR)[15], article download data by year and by discipline from JSTOR and article download data by year and by discipline from the main online journal hosting vendors such as Ingenta or High Wire Press. Support from these third parties should be forthcoming given appropriate public acknowledgment of their input to the research.

The Sherpa/Romeo website funded by JISC in the UK (see :http://www.sherpa.ac.uk/romeo.php) is one source of information on the self-archiving policies or 'color' of some of the publishers included in this study as shown in **Table 4.3**.

Table 4.3: HSS publishers' author/self-archiving policies as per Sherpa/Romeo January 2009

Publisher	Color	Policy	Date of latest Sherpa/ Romeo record
AAA	Green	Author can archive pre-print and post-print	7 Jan 2009
AEA	Green	Author can archive pre-print and post-print	18 Jan 2008
Am. Soc. Ass.	White	Author archiving is not formally supported	23 Dec 2008
Am Stat. Ass	Blue	Authors can archive post-print (i.e. the final draft post-refereeing)	18 May 2007
AHA, APSA,AAR, MLA		No records in database	Sharpe/Romeo continue to add new publishers to the database

Are results from Open Access experiments within STM journals helpful in the understanding of society and association publishers of HSS journals?

Several STM publishers are engaged in 'gold' Open Access experiments and these are providing some insight into the specific communities covered by particular journals. Oxford University Press has contributed significantly to this effort and the results of the OUP experiments are discussed in an article by Claire Bird[16].

Generalized lessons have yet to emerge but some themes run across the results I have observed within STM journals, they are included here for information.

a) Within certain well funded disciplines notably biomedicine:

If the journal is central and near the top of its field with a high rank within the Impact Factor ratings, funds are forthcoming from authors.

Examples include *Proceedings of the National Academy of Science* and *Nucleic Acid Research* where there is quite fierce competition to be published. Compare this with the fully Open Access BioMed Central journals, which published an average of 10 articles per year in 2003.

"It is difficult to envisage authors preferring to publish in a less well known journal which is freely accessible to readers, but for which payment has to be made, rather than in a better known journal for which payment is not required." [17]

[15] The journals in this study that are included within the Social Science Citation report all have a citation half life in excess of 10 years

[16] *Learned Publishing*, Vol 21, No 3, July 2008 , pp. 200-208(9); Oxford Journals' adventures in open access Bird, Claire

[17] *Learned Publishing*,Vol. 16, No 2 April 2003, pp. 83; Open Sesame, Morris, Sally

If there is already good access to the content as a result of delayed Open Access policies then the uptake of the author payment model may also be low.

b) Within less well funded research disciplines such as ecology and the environmental sciences:

If the fees charged are relatively low, author uptake will show growth over time. For example the Entomological Society of America journals where uptake of the Open Access pdf Reprint has reached 62% and authors also pay page charges.

"*..the publication charge should be set at or near the total required for online publication of the paper.*"[18]

The current fees charged to authors by the Entomological Society of America do not meet this requirement.

c) Within the physical sciences and in disciplines where there is a tradition of posting online pre-prints centrally:

Open Access may be virtually redundant in well-defined fields where readers can find and view new research outcomes before formal publication, and this early pre-print version may be 'good enough'. Examples include the recent low response to hybrid OA offerings by physical science societies.

d) Within certain disciplines there may be some resistance to shifting to a producer pays model because of enduring scholarly traditions and/or questions of quality.

For example, the number of new OA journals in Chemistry in the ISI (Thomson Reuters) database is low compared with the numbers in physics, life sciences and medicine.

Of course, open access has grown dramatically since 2006. In September 2006, there were 2,400 journals listed in Directory of Open Access Journals; today, there are more than 3,700. Many publishers have introduced open choice options since 2006, and OUP's Oxford Open has begun decreasing subscription prices to reflect revenue from this source. The number of open access mandate policies has increased to more than 50 today and so the extent of the OA movement moves forward steadily.

The results of the PEER project (described earlier) and numerous other initiatives within the STM journals will doubtless shed further light on the issues confronting scholarly journals publishers and some of these will be of value to some HSS society and association publishers.

Can case studies be used to articulate the particular aspects of the journal(s) within the context of the society or association?

Results of this initial study of 8 HSS journals across different disciplines support the view that each publisher and each discipline is somewhat different and distinct. Taking an average of any particular parameter across this broad range of a small sample of journals is likely to obscure some of the key similarities and differences between the publications, the associations and the disciplines. I have tried to point these out and at the same time present an overview of the HSS journal economics. Case studies of individual journals and publishers, such as those completed for the JISC study **(in: Appendix 2: Case studies of 9 Learned society publishers),** provide further nuance and depth to the particular situation each publisher faces in trying to move to OA. Importantly providing customized and independent case study reports to participating publishers provides a positive incentive to participate in a study such as this; it clearly encouraged the JISC (2005) study publishers to take part and gave them a tangible benefit.

[18] Learned Publishing Vol. 16 No 3 July 2003 pp165: From here to there: A proposed mechanism for transforming journals from closed to open access, Prosser, David.

Are the costs, revenues and surplus from this broad group of 8 HSS association journals typical?

Within each of the disciplines that are represented are these journals typical or do they represent single anecdotes? Although the term STM is used in a blanket manner it describes a wide range of different types of journals; not all of them are highly international. Due to drug regimes and prescription requirements determined at the national level, primary care medical journals can be highly country specific. Science and engineering tends to be more international. While this kind of distinction may separate humanities journals from social science, it is not clear what impact, if any, this has on journal economics within each group.

Does journal frequency drive costs?

A tentative conclusion made in the JISC (2005) report was "*From this data the cost per article and cost per page appear also to be driven by journal frequency because the quarterly and bimonthly titles have among the lowest total per article and per page costs."* Comparing the journals in the JISC report which were all STM with the journals in this Mellon funded study is a truly apples to pears comparison and more data is needed to verify or refute this tentative conclusion. Certainly, based on 2007 data the quarterly HSS journals in this study cost more to publish than similar data on the quarterly STM journals even taking into account inflationary increases in costs.

What is the value of the publication(s) to society and association Members and how and can that be quantified?

There are a whole range of policies enacted here; some societies charge nothing for 'Member subscriptions' others plainly print a Member subscription price on their journal and some include their policy on the journal e.g. *"$X from Member dues go to support the journal"*. For the purpose of this study it was important to know what (if any) revenue from Member dues is included within the journal financial statements and if this applied to print or online or both versions? In sum, how much of revenue (and expense) for the journal is attributable to Members. Institutions currently pay the bulk of publishing costs and continue to subsidize association Member's copies of the journal(s) and this approach may be unsustainable. Societies should be encouraged to develop a policy which quantifies the value of each publication to attracting membership and assigns the costs appropriately.

Does self-publishing or co-publishing with a publisher partner yield a higher surplus for a society or association? What and are there other benefits to either arrangement?

The sample of publishers in this study includes 4 journals that are self-published by the association and 4 journals that are co-published with either a not-for-profit or for-profit publishing partner. The self-publishing group included journals with the highest surplus and the highest deficit, none of the co-published journals were operating at a loss. With the increasing complexity and cost of both online platform development and global sales and marketing activities many society and association publishers are opting for a publishing partnership which brings with it a single online customer platform from the partner, a professional global sales network addressing consortia and site licenses for institutions, and often some guarantee of financial return on the journal.

Do society or association publishers with larger publishing portfolios benefit from economies of scale for their journal publishing?

The study sample included single journals from each publisher and for 3 of the participating publishers this is their only journal, the other 5 associations all publish 3 or more journals and several also publish books series, CD's and bibliographic databases. From the data collected it is not clear whether a group of journals (self-or co-published) or a single journal (self- or co-published) are more cost and time effective for a society or association.

5. What are the needs for a Full Research Project?

This study focused on eight journals published by eight association publishers in the humanities and social science. Because of the limited sample size, care should be taken not to generalize very broadly. The results, however, may be representative of other journals in HSS, and further studies are needed to confirm these results. The topics identified for further investigation include:

- How are Humanities and Social Science journals different from each other and from STM journals?
- Is the 'gold' Open Access model sustainable for a sub-set of existing HSS publishers?
- Where would the money come from to support 'gold' OA in HSS journals?
- Are other 'non-gold' Open Access models sustainable for HSS publishers and if so which and how?
- If HSS articles are posted to OA repositories ('green' OA) how long should the embargo period be?
- Are results from Open Access experiments helpful in the understanding of society and association publishers of HSS journals?
- The use of case studies to articulate the particular aspects of the journal(s) within the context of the society or association and encourage study participation.
- Are the costs, revenues and surplus from this broad group of 8 HSS association journals typical?

Further studies could focus on a broader range of disciplines within HSS and thus more journals. A larger dataset composed of more journals from small, medium and large societies and associations within disciplines represented here (and others) would provide a more accurate basis for the investigations listed above. Data giving ranges of journal costs and revenues by discipline, frequency, extent and circulation will most accurately reflect the true complexity of supply-side costs and revenues.

Some comparison between single journal and multi-journal publishers and, within those groups, between those that self-publish and those that partner with a publisher would help considerably to clarify the true economic picture here. Only through a larger scale analysis can we develop a range of options to enable the broadest access to scholarly information in the humanities and social sciences going forward.

A multi-title, multi-publisher study would enable some segmentation by discipline and by features of the publisher and the journal.

The participants in this study have had some initial discussions on the scope and scale of the journal sample for a Full Research Project and these considered the need to determine an appropriate sampling framework that will develop a sample of journals in humanities and social sciences. The sample needs to be large enough to define the desired market segments and so is representative, but is not so large that the costs are prohibitive and results simply repetitive. Questions raised include the following:-

US or US and international publishers

Should we broaden out to non-US publishers? There are geographical differences in the way journals are published especially in the not-for profit publishing sectors (as noted in the Planning Grant report) and in addition the national funding agencies tend to go in quite distinct directions. Should we add geography of publisher as another layer of sampling breadth or focus on US society and association publishers?

Size of publisher

We could define this by (a) overall revenue from journals OR all publications and/or (b) number of journals published – and sample e.g. small (one or two journals and revenue no more than $X), medium (5-10 journals and revenue no more than $Y) and large (11 or more journals and revenue more than $Z) publishers.

How many and which disciplines should be included in the sample?

The disciplines represented by one journal each within the planning grant are:

- Modern languages
- History
- Religion
- Anthropology
- Economics
- Politics
- Sociology
- Statistics

One approach is to go deeper within these disciplines and sample more journals within each of these. Following this strategy will clearly make further use of the results of the Planning Grant and will define the extent of the research but it also restricts the disciplines covered and there may be important segments missing in this list.

How many journals in the sample?

There are some 23,500 peer-reviewed scholarly journals published (source Uhlrich's Periodicals database) across all disciplines globally. The Thomson Reuters Journal Citation Report database in Social Sciences (2007) includes some 1,866 journals but this coverage is not considered to be comprehensive within the core social science disciplines. The precise size of the sample will be driven by the total number of peer-reviewed journals and the degree of similarity of journals within each discipline selected.

Should we include a sample segment of some existing OA journals in HSS?

What can we learn about the costs, support and business models of existing Open Access journals in the humanities and social sciences and should we include these as a separate segment in our sample for a Full Research Project?

The development of an appropriate sampling framework for a Full Research Project would be pursued further in close collaboration with the Mellon Foundation and also the participants in this study.

Gaining the trust of the society and association publishers involved in the next stage of work and building vigorous participation of a sufficiently wide sample to provide a broad and representative picture across types of publisher and journal, as defined by the sampling framework, will be a key success factors.

Appendix 1: Reader & author template

(Source: Mary Waltham)

	2005	2006	2007	Comment
Publisher:				Please complete all information relevant to this journal for each year
Title of journal:				
SUBMISSIONS				
Number of submissions received				
Number of peer-reviewed articles published				
Total pages published				
Number of text pages published				
Number of peer-reviewed article pages published				
Number of non-peer-reviewed editorial pages published				Include here all other pages e.g. book reviews, meeting reports, letters to the Ed,Member information, obits, book reviews, media reviews, perspectives etc. but not advertising
Number of advertising pages published				
SUBSCRIPTION/CUSTOMER numbers				
Number of institutional subscribers				
Print				
Online				
Print & Online				
Number of site licenses (not included within online subs above)				
Number of consortia deals				Do you provide print or online or both formats to consortia?
Number of Member subscribers				Does Membership *include* one or more journal subscriptions? Are these in print or online or both?
Print				
Online				
Print & Online				
Number individual non-Member subscribers				
Print				
Online				
Print & Online				
PRICING				
US institutional price ($)				
Print				
Online				
Print & Online				
Site license				Do you use a tiered pricing model? If so please provide a separate summary of tiered prices 2005-2007
Member price ($)				
Print				
Online				

Print & Online				
Non Member subscriber price ($)				
Print				
Online				
Print & Online				
Please contact me if you have any questions				
Mary@marywaltham.com				

Appendix 2: P&L template

(Source: Mary Waltham)

Publisher:				
Journal:				
Please contact me if you have any questions mary@marywaltham.com	**2005**	**2006**	**2007**	**Comment**
Revenue Summary	**$**	$	$	Please complete all yellow boxes that are relevant to your journal
SUBSCRIBERS				
Institutional print subscriptions				
Institutional online subscriptions & site licenses				
Institutional Print &Online (P&O)subscriptions				
Digital archive/backfile revenue				If separate from other institutional revenue e.g.JSTOR
Member Print				"Member subs revenue" typically includes an allocation from Member dues
Member Online				
Member P&O				
Individual Non-Member Print				
Individual Non-Member Online				
Individual Non-Member P&O				
TOTAL SUBS REVENUE				
AUTHORS				
Article submission fees				
Page charges				
Color fees				
Non-subs print revenue e.g.				
Advertising print display				Do you employ journal ad sales staff or out-of house?
Advertising print classified/job				
Print reprints				
Back Copy Sales				
Royalties e.g. CCC for photocopying				
Other print: please identify				e.g. mailing list revenue
Non-subs online revenue e.g.				
Advertising online display				
Advertising online classified/job				
Online reprints				
Online Pay-per-view				
Royalties e.g. from online aggregators EBSCO etc.				
Other online: please identify				
TOTAL NON-SUBS REVENUE				
Revenue to this journal from grants or endowments				
Total all revenues				
Total text pages published (inc. advertising)				

Cost Summary				**Comment**
				Cost summary rows: please show individual cost lines OR subtotals for each category - whichever is most convenient to tabulate.
Content Creation ~ Print & Online for example:-				
Journal Editors				Fees/honoraria and expense for academic Editors
Editorial Board meetings/expenses				
In-house Editorial staff salaries and benefits and office costs				How do you develop Office costs? E.g % of salary or review of all current actual costs / employees or other method?
Peer review - online and/or print				E.g. Cost of online peer-review system
Copy-editing, proof reading etc.				Additional costs for freelance support
Subtotal Content creation ~ Print & Online				
Content Creation - Print only for example:-				If you *can* separate out print and online page creation costs please do so; they are often combined by suppliers
Print page composition				
Subtotal Content Creation Print				
Content Creation -Online only for example:-				
SGML/XML/PDF page composition				Is there content hosted on the journal website that is not published in print? If so, please identify what it is.
Subtotal Content Creation Online				
Total content creation costs				
Mfg & Production - Print only for example:-				All print manufacturing and production costs
In-house production staff including salary, benefits and office costs				
Paper				
Printing and binding				
Press work				
Storage of back issues				
Paper reprints				
Subtotal Mfg & Production -Print				
Mfg & Production - Online only for example:-				
In-house production staff including salary, benefits and office costs				Make an allocation between print and online if staff work on both formats
Online production such as upload and processing of journal, and subscription data				If you *can* separate out uploading of data from distribution costs e.g. journal hosting please do so; they are often combined by suppliers
Subtotal Mfg & Production - Online				
Total Mfg &Production costs				

Cost Summary (continued)				Comment
Distribution & Fulfillment -Print only for example:-				
Postage and Distribution (includes set-up & preparation)				
In-house subs fulfillment/ customer service including salaries, benefits and office costs				
Print subscription fulfillment/customer service				
Back/single issue postage				
Bank/credit card fees for print subs				Make an allocation between print and online if subs are P&O
Subtotal Dist & Fulfillment Print				
Distribution & Fulfillment -Online only for example:-				
Online hosting + content distribution				E.g. cost of online hosting service
In-house subs fulfillment/ customer service including salaries, benefits and office costs				Make an allocation between print and online if staff work on both formats
Online subscription fulfillment/customer service				
Bank/credit card fees for online access				
Subtotal Dist & Fulfillment Online				
Publishing support - General & Admin for example:-				N.B.May mean allocation to the journal from central society overhead, as appropriate
Executive Office: salaries including benefits and office costs				
Finance Office: salaries including benefits and office costs				
Marketing: salaries including benefits and office costs				
HR Office: salaries including benefits and office costs				
Promotion costs **(non-staff marketing)**				Includes journal renewal and new business
Information Technology Services including salaries, benefits and office costs OR flat fee per staff on journal				
Advertising: salaries including benefits and office costs OR Service/Commissions if out-of-house				
Research and development costs for editorial or business aspects of journal				E.g. market research with authors or customers
Site license sales agents commissions				
Other contract services: please identify				

Subtotal Pub Support -G&A				
Total all expenses				
Surplus				