

STUDY ON THE ECONOMIC AND TECHNICAL EVOLUTION OF
THE SCIENTIFIC PUBLICATIONS MARKETS IN EUROPE

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Dissemination and access to research results is a pillar in the development of the European Research Area. Aware of current public debates that reveal worries about the conditions of access and dissemination of scientific publications, the European Commission's Directorate-General for Research has commissioned a study that seeks: (i) to assess the evolution of the market for scientific publishing; and (ii) to discuss the potential desirability of European level measures to help improve the conditions governing access to and the exchange, dissemination and archiving of scientific publications

RECOMMENDATIONS

- **GUARANTEE PUBLIC ACCESS TO PUBLICLY-FUNDED RESEARCH RESULTS SHORTLY AFTER PUBLICATION**

Research funding agencies have a central role in determining researchers' publishing practices. Following the lead of the NIH and other institutions, they should promote and support the archiving of publications in open repositories, after a (possibly domain-specific) time period to be discussed with publishers. This archiving could become a condition for funding. The following actions could be taken at the European level: (i) Establish a European policy mandating published articles arising from EC-funded research to be available after a given time period in open access archives, and(ii) Explore with Member States and with European research and academic associations whether and how such policies and open repositories could be implemented.

- **AIM AT A 'LEVEL-PLAYING FIELD' IN TERMS OF BUSINESS MODELS IN PUBLISHING**

There is a central role for education and research funding authorities in the shaping of new models for publishing and communicating research results. They should be aware that the rules governing education and research budgets have strong implications for the viability of various business models. At this point, it seems desirable to allow for experimentation and competition between various possible business models, which means allocating money to libraries to subscribe to reader or library-pay journals but also to authors to pay for publication costs in author-pay journals, and to researchers in the reader-pay model. Establishing relative priorities in this respect should become a key policy debate.

- **'EXTENDED QUALITY' RANKINGS OF SCIENTIFIC JOURNALS**

This recommendation aims at raising researcher awareness of journal quality beyond scientific quality, *stricto sensu*. While scientific quality, approximated for example by citation counts, should remain the dominant criterion, dimensions related to the quality of dissemination (self-archiving authorisation, publisher archiving provisions, copyright provisions, abstracting and indexing services, reference linking, etc.) could be tracked explicitly and possibly valued by research funding bodies. There could be an impetus from public authorities at the

European level for such an initiative, which would naturally induce publishers to stress good practices in these dimensions.

- **GUARANTEE PERENNIAL ACCESS TO SCHOLARLY JOURNAL DIGITAL ARCHIVES**

Given the heterogeneity of the publishers' current provisions, promote the creation of not-for-profit long-term preservation archives, which balance interests among publishers, libraries, and scholars. More particularly (i) Promote business models for legal-deposit libraries to allow remote online access to their journals digital archives, therefore providing them with return on investments and making the preservation efforts cost-effective; (ii) Investigate the feasibility/desirability of the creation of a European non-profit journals preservation organisation ("JSTOR-like") and of other subject-based archives in relevant domains; (iii) Determine the standards under which archives must be accessible and set up a portal as a central access point to digital journals and articles.

- **FOSTER INTEROPERABLE TOOLS TO IMPROVE KNOWLEDGE VISIBILITY, ACCESSIBILITY AND DISSEMINATION**

This could be achieved by (i) supporting research and development on interoperability issues, notably on metadata to improve scientific information search and retrieval efficiency and on the XML format to improve and accelerate the overall publishing process, and by (ii) promoting the wide implementation of linking technologies, especially the open standard OpenURL, and of interoperable standard protocols, especially the OAI-PMH that enables metadata harvesting and searching across different platforms. Both developments could be taken into account by the European Commission in its e-infrastructure building strategy for the European Research Area (involving DG-Information Society R&D funding programmes and the forthcoming "i2010: Digital Libraries" Communication on scientific information). The next three recommendations concern the need to prevent strategic barriers to entry and to experimentation and also excessive concentration.

- **PROMOTE PRO-COMPETITIVE PRICING STRATEGIES**

The key issue identified in terms of market access concerns pricing policies, and more particularly the lock-in effect associated to 'Big deals'. Specifically, the limited savings libraries obtain for net subscription cancellations does make it hard for newcomers to have access to library budgets. The following simple rules (that could be promoted by the European authorities) would avoid some of the long term negative effects of big deal contracts on entry and competition: (a) The price of the electronic access should not depend on the historical number of print subscriptions; (b) Prices should be related to transparent indicators, like usage or the number of faculty, students, etc., as is the case with JSTOR for instance; (c) Libraries should have the possibility to choose among variable dimension bundles, and compose their preferred bundle. Therefore, journals in a bundle should also be priced individually, and prices of bundles should ideally be made public; (d) Finally, note that overall usage has been on the rise thanks to the Internet, and can be expected to keep growing at least for some time. One should avoid having prices increase with such usage as long as publishing costs do not increase as a result of this rise in usage.

- **SCRUTINIZE FUTURE SIGNIFICANT MERGERS**

The market has become more concentrated due in part to acquisitions by large for-profit publishers, and some of the price increases can be traced back to these mergers, though the largest firm controls less than 30% of the overall market (market shares are however higher in some scientific fields). It has been shown that publishers with large journal

portfolios have an incentive to set higher prices. This indicates that further acquisitions by large publishers should be scrutinized by the relevant European authorities.

- **PROMOTE THE DEVELOPMENT OF ELECTRONIC PUBLICATIONS**

Eliminate the unfavourable tax treatment of electronic publications, by (i) either applying a reduced VAT rate to all types of scientific information, whether print or electronic; (ii) or, given the political difficulty of implementing this solution which requires unanimity of Member States, by introducing a tax refund mechanism for research institutions, as is already the case in Sweden and Denmark. Though the European Commission could play a role in supporting and promoting either solution, this decision is ultimately left to the Member States. Encourage public funding and public-private partnerships where there is little commercial investment in the creation of journals digital archives, especially for quality European journals in Social Science and Humanities. Such initiatives require further investigation of the structure and organisation of publishing markets for SSH journals which are quite different between countries, especially the distribution among private and public actors. Finally, the last two recommendations stress the need for further discussions and study concerning this important market.

- **SETTING-UP AN ADVISORY COMMITTEE**

Discussions with all the stakeholders during the study made it clear that regular contacts are necessary, since the industry's practices are moving very fast, and will keep doing so in the future. We advise to set up a committee composed of the various interested parties: publishers, librarians, funding bodies, authors and researchers, who should be responsible for observing practices, meeting (say once or twice a year) to discuss and recommend changes if need be, and reporting the results of the discussions to the Research (and possibly the Competition) DG's of the European Commission.

- **FURTHER INVESTIGATION**

This study is obviously not exhaustive. Here are some topics where further investigation could be commissioned:

- A first important topic concerns the evolution of copyright provisions, which we address only briefly in this report. While publishers have become more permissive over time, in particular in terms of the posting of published material on individual web pages, it would be good to investigate precise legal solutions that would provide legal certainty to authors, but also potentially to other parties, in terms of dissemination of published material.
- A second topic concerns the economic analysis of alternative forms of dissemination: for example, the feasibility/desirability of alternative publishing business models (pay-per-download, author-pay systems, hybrid systems) and of the unbundling of certification and dissemination; and the long-term sustainability of open repositories.
- Finally, a third topic concerns technological developments: Research could be supported for example on interoperability issues and on the specifics of long-term preservation issues.