

Open Access: is the community governing or suffering the change?

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- Introduction
- Open Access
- Publishing Market
- Plan-S
- Problems
- Conclusions: what to do?

The Italian GRIN and Spanish SCIE are cooperating in defining a shared position on Open Access (OA)

- **GRIN and SCIE (and GII) already had fertile cooperation on the definition of the GGS conference rating system**
- **The starting point has been a GRIN initiative that finalized a document summarizing a precise position about OA that has been shared among the community**

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- **It will have a strong impact on the dissemination of knowledge and resources among researchers**

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Global and local actions are needed

- **Open Access permits to openly and instantly access without costs for the reader research results and data**

Authors retain the copyright in their articles

- **The basic principle is that the research outcome of public research programs and agencies must be openly accessible**

- Enhancing the dissemination on a global scale
- Providing access to people who have not access to paywall-based distribution systems
- Increasing the use of scientific contributions and knowledge transfer, eg in teaching programs, in SMEs
- Making research results perpetual
- Making the research process more transparent to the taxpayer and to assessment processes
- etc

- Open Access does not nullify the costs despite many might object that most of the editorial costs are done pro-bono
- Costs are covered by
 - Authors: Article Processing Charge
hybrid and gold route
 - Community: non-profit organizations, academic or governmental institutions
platinum/diamond route
 - Institutions: overlay platforms, repositories
platinum/diamond, green route

Model	Description	APC
Bronze	Products are openly accessible on the site of the publisher without any specification about the copyright license.	
Hybrid	Some subscription-based journals make papers openly accessible under the payment of an APC .	Yes
Green	Some subscription-based journals permits the authors to distribute the products on institutional platforms (e.g., ArXiv, PubMed), in some cases after 6-12 months from the publication.	No
Gold	All products are openly accessible . Publication costs are covered with APC usually paid by the researcher institution or the funding agency. The APC does not automatically imply the copyright non-transfer.	Yes
Platinum or Diamond	All products are openly accessible without any financial and temporal constraint. Products are distributed with flexible and liberal copyright licenses, typically CC-BY. Production costs are covered by non-profit organizations , academic or governmental institutions.	No
Black	All products are openly accessible on platforms that distribute the content illegally .	No

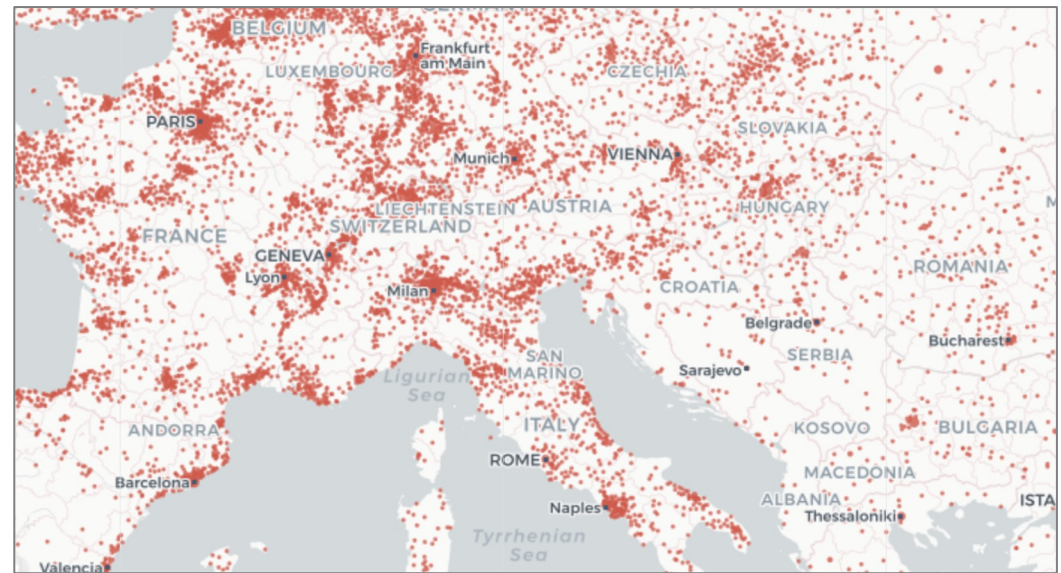
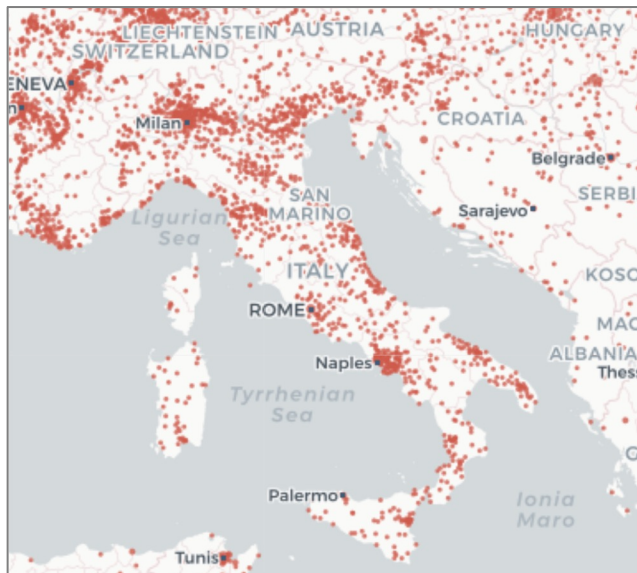
The market is defined by the goods that are exchanged, in scientific publishing the good exchanged is knowledge in terms of contents and indexing

- scientific knowledge (contents), it is the research product
- bibliographic knowledge (indexing), knowing the existence of a research result, e.g., SCI-HUB is different from Google Scholar

The accesses in Italy and Europe explains researchers needs

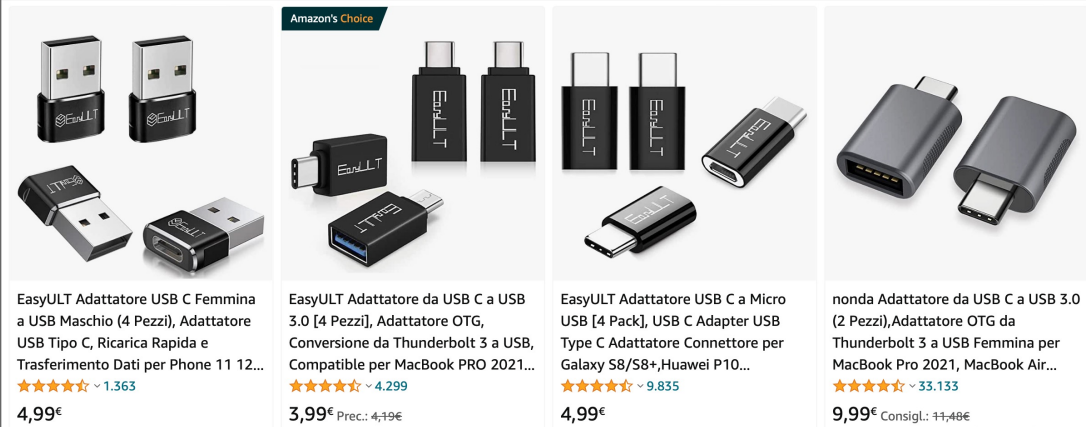
- it is not just about Open Access
- the paywall model jeopardizes usability and immediacy

Sci-Hub combines Open Access and indexing



In Scientific Publishing, prices are not self-regulated by buyers and sellers negotiating without coercion

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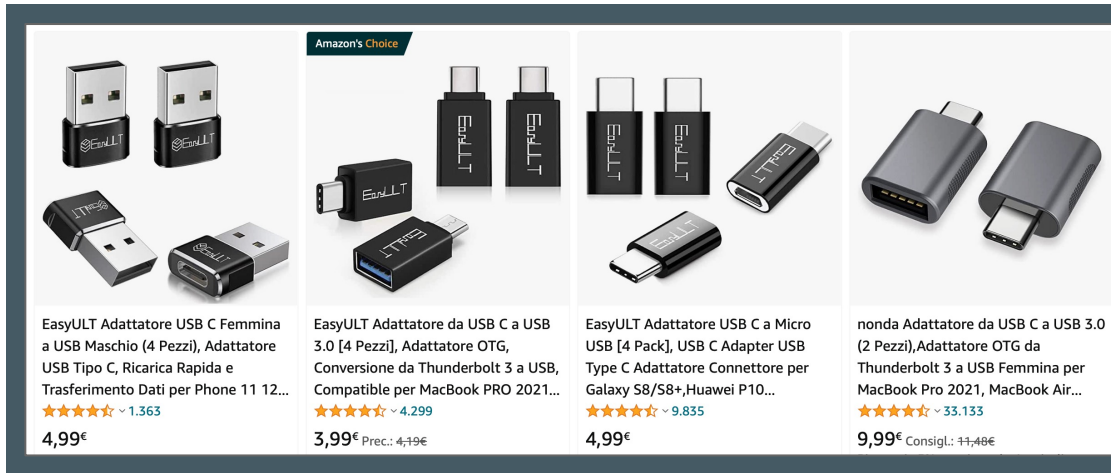


The screenshot displays four Amazon product listings for EasyULT USB adapters. Each listing includes an image of the product, a title, a brief description, a star rating with the number of reviews, and the price. The products are: 1) USB C Female to USB Male adapters (4 pieces), priced at 4,99€; 2) USB C to USB 3.0 adapters (4 pieces), priced at 3,99€ (reduced from 4,19€); 3) USB C to Micro USB adapters (4 pack) and USB C adapters, priced at 4,99€; 4) USB C to USB 3.0 adapters (2 pieces), priced at 9,99€ (suggested price 11,48€).

Product Description	Price	Original Price	Rating
EasyULT Adattatore USB C Femmina a USB Maschio (4 Pezzi), Adattatore USB Tipo C, Ricarica Rapida e Trasferimento Dati per Phone 11 12...	4,99€		★ ★ ★ ★ ☆ 1.363
EasyULT Adattatore da USB C a USB 3.0 [4 Pezzi], Adattatore OTG, Conversione da Thunderbolt 3 a USB, Compatible per MacBook PRO 2021...	3,99€	4,19€	★ ★ ★ ★ ☆ 4.299
EasyULT Adattatore USB C a Micro USB [4 Pack], USB C Adapter USB Type C Adattatore Connettore per Galaxy S8/S8+, Huawei P10...	4,99€		★ ★ ★ ★ ☆ 9.835
EasyULT Adattatore da USB C a USB 3.0 (2 Pezzi), Adattatore OTG da Thunderbolt 3 a USB Femmina per MacBook Pro 2021, MacBook Air...	9,99€	11,48€	★ ★ ★ ★ ☆ 33.133

What we usually have for common goods does not hold for scientific papers


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J.Sanchez Cuadrado, L.Burgueno, M.Wimmer, and A.Vallecillo. 2020. Efficient execution of ATL model transformations using static analysis and parallelism. IEEE Transactions on Software Engineering (2020).



Efficient execution of ATL model transformations using static analysis and parallelism

Juan Sanchez Cuadrado, Lili Burgueno, Manuel Wimmer, and Antonio Vallecillo

1 Introduction

The paradigm of ATL (Aspect-oriented Transformation Language) is a declarative language for modeling transformations. It is designed to be used by domain experts to specify transformations. The main challenge is to efficiently execute these transformations. This paper addresses the problem of efficiently executing ATL transformations using static analysis and parallelism. The paper presents a new approach to execute ATL transformations, which is based on static analysis and parallelism. The approach is designed to be efficient and scalable. The paper is organized as follows: Section 2 describes the ATL language and its semantics. Section 3 describes the static analysis and parallelism approach. Section 4 describes the implementation of the approach. Section 5 describes the experimental evaluation of the approach. Section 6 concludes the paper.

If a publisher does not provide access to this paper, can it offer a "similar" paper?

The market is not (technically) competitive because

- the demand is inelastic: if one is looking for an article, she cannot be happy with a "similar" one: publisher acts in a monopoly regime
- production costs are mainly fixed costs

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The clearing price is equal to the marginal cost in a competitive market when the companies operating in it make no economic profits

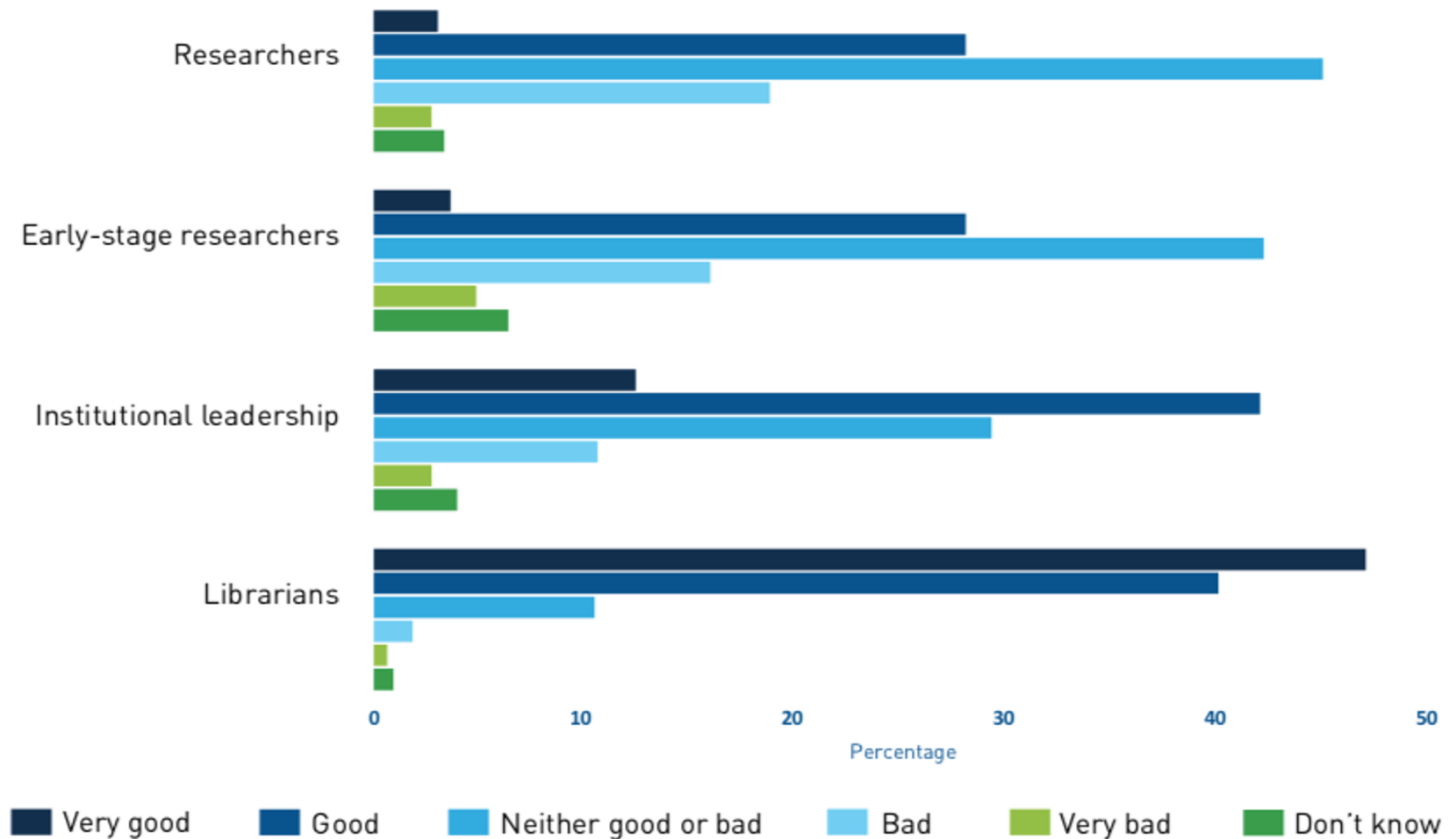
- Publishers have huge profits and few players share the entire market

- Publishers are selling
 - Contents, the research products
 - Organization of the activities, content collection, and platform
 - Certification based on the reputation of journals and editorial series consolidated over time
- Publishers produce the organization; the contents are researchers responsibility, the certification is the responsibility of both
 - the work done by researchers is pro-bono

From proportional to fixed costs

- historically, costs were variable costs and depending on #copies to be produced and #copies to be distributed
- today, costs are (al most) fixed and related to processing, production, distribution platform
 - reproduction costs are nonexistent

Figure 12. Awareness of scientific publishers' open access policies among different university populations



- **Plan-S is an initiative for open-access science publishing promoted by cOAlition S**
- **The plan requires scientists and researchers who benefit from state-funded research organisations and institutions to publish their work in open repositories or in journals that are available to all**

Organisations in the coalition behind Plan S include:

- Austria: Austrian Science Fund
- Finland: Academy of Finland
- France: Agence nationale de la recherche
- Ireland: Science Foundation Ireland
- Italy: Istituto Nazionale di Fisica Nucleare
- Canada: Québec Research Funds
- Luxembourg: L National Research Fund
- Netherlands: NL Organisation for Scientific Research
- Norway: Research Council of Norway
- Poland: National Science Centre
- Portugal: Fundação para a Ciência e Tecnologia
- Slovenia: Slovenian Research Agency
- South Africa: South African Medical Research Council
- Sweden:
 - Swedish Research Council for Sustainable Development
 - Swedish Research Council for Health, Working Life and Welfare
 - Vinnova
- Jordan: Higher Council for Science and Technology
- United Kingdom:
 - UK Research and Innovation;
 - Wellcome Trust
- United States
 - Gates Foundation
 - Howard Hughes Medical Institute
 - Templeton World Charity Foundation
- Zambia: National Science and Technology Council
- Aligning Science Against Parkinson
- European Commission
- World Health Organization

- 01** Authors or their institutions retain copyright to their publications. All publications must be published under an open licence, preferably the Creative Commons Attribution licence (CC BY), in order to fulfil the requirements defined by the [Berlin Declaration](#);
- 02** The Funders will develop robust criteria and requirements for the services that high-quality Open Access journals, Open Access platforms, and Open Access repositories must provide;
- 03** In cases where high-quality Open Access journals or platforms do not yet exist, the Funders will, in a coordinated way, provide incentives to establish and support them when appropriate; support will also be provided for Open Access infrastructures where necessary;
- 04** Where applicable, Open Access publication fees are covered by the Funders or research institutions, not by individual researchers; it is acknowledged that all researchers should be able to publish their work Open Access;
- 05** The Funders support the diversity of business models for Open Access journals and platforms. When Open Access publication fees are applied, they must be commensurate with the publication services delivered and the structure of such [fees must be transparent](#) to inform the market and funders potential standardisation and capping of payments of fees;
- 06** The Funders encourage governments, universities, research organisations, libraries, academies, and learned societies to align their strategies, policies, and practices, notably to ensure transparency.
- 07** The above principles shall apply to all types of scholarly publications, but it is understood that the timeline to achieve Open Access for [monographs](#) and book chapters will be longer and requires a separate and due process;
- 08** The Funders do not support the 'hybrid' model of publishing. However, as a transitional pathway towards full Open Access within a clearly defined timeframe, and only as part of [transformative arrangements](#), Funders may contribute to financially supporting such arrangements;
- 09** The Funders will monitor compliance and sanction non-compliant beneficiaries/grantees;
- 10** The Funders commit that when assessing research outputs during funding decisions they will value the intrinsic merit of the work and not consider the publication channel, its impact factor (or other journal metrics), or the publisher.

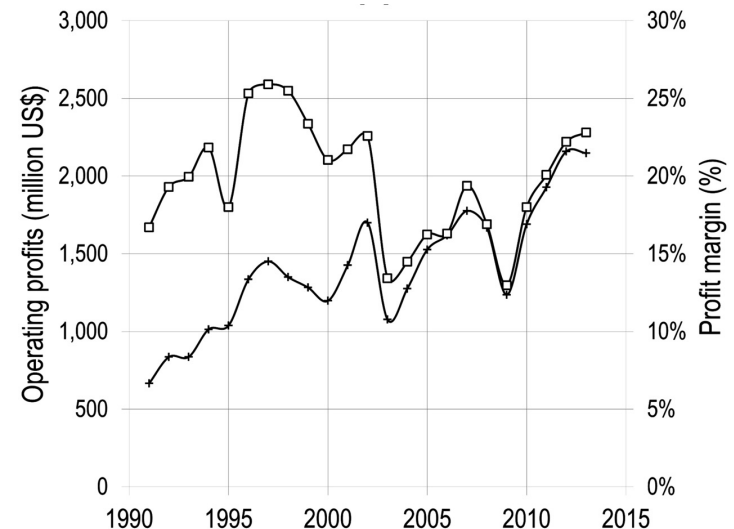
- **OA shifts the costs from the reader to the writer**
 - subscription costs are managed in a centralized way, while research funds are managed in a more heterogeneous way
 - funds for subscription costs need to be rearranged because who reads is different from who writes, diverging interest among
- **Transformative agreements**

08 The Funders do not support the 'hybrid' model of publishing. However, as a transitional pathway towards full Open Access within a clearly defined timeframe, and only as part of transformative arrangements, Funders may contribute to financially supporting such arrangements;

Transformative agreements are part of the arrangements:

- driving the transition from read-only to read&write contracts
- aiming at fair retributions for publishers

They are not mitigating costs!



Requiring authors to pay for communicating their results introduces a financial bias

- **publishers are incentivized to accept paper because they earn per accepted paper**
- **authors are invited on a financial base (they can afford the APC or their institution has an agreement)**

How can we prevent authors are invited only or predominantly on a financial basis, eg they can afford the APC, or their institution has a transformative agreement?

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How can we prevent authors are invited only or predominantly on a financial basis, eg they can afford the APC, or their institution has a transformative agreement?

Publishers may be incentivized to accept papers because the more they publish, the more they earn

- **IEEE Access has published 17,927 papers in 2021**

Individual journals might be induced adopting practices and processes where effectiveness prevails on quality

- **review processes are getting shorter and shorter**
- **greater pressure is exerted on reviewers**

Letting the authors pay introduces more problems than the problems Open Access solves

The devil is in the details

- **LIPICs Processing Charge is 60 E, they claim**

Background info concerning APC:

As a publicly funded institution, we have to recover the costs of our publishing activities so that there is no competitive advantage over commercial providers.

- | | | | |
|-------------------------------------|----------|----------|-------------------------|
| Journal of Object Technology | PLATINUM | AITO | <i>free</i> |
| IEEE Trans Software Engineering | HYBRID | IEEE | \$2,045 |
| IEEE Software | HYBRID | IEEE | \$2,995 |
| Software and System Modeling | HYBRID | SPRINGER | \$2,750 |
| Journal of Systems and Software | HYBRID | ELSEVIER | \$2,500 excluding taxes |
| Science of Computer Programming | HYBRID | ELSEVIER | \$2,000 excluding taxes |
| Information and Software Technology | HYBRID | ELSEVIER | \$2,750 excluding taxes |

- The market is in the hands of few players, they incorporating smaller initiatives, becoming larger and providing a broader offer to libraries
- The publishers do not share the market, but because of the inelastic nature of the product they partition the market
 - Whatever applies to free market does not apply here
- While they are highly speculative, are part of our value-chain

- The trends are towards less market: we need more market, this conflicts with certification
- Mutualization of costs: prices are bumping up as if transformative agreements do not have any impact
- Support for new initiatives: high-quality community initiatives are not unfrequent, they have to be sustained and supported in terms of
 - visibility and recognizability, we need an umbrella that makes them easily identifiable, whether it be trademark, a certification or a new publisher should be assessed
 - technical platform and support, who wants to initiate a journal must count on a ready-to-go platforms conforming the standards
 - a quality model, the intrinsic quality of a journal depends also on the practices and processes

Thank you!