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Article

# The Landscape of Scholarly Book Publishing in Croatia: Finding Pathways for Viable Open Access Models

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**Abstract:** (1) Background: Open access to scholarly works is globally recognized as a goal to be achieved as soon as possible; however, there is not yet a general understanding of how to achieve open access for books. In considering the most appropriate models of transition, an accurate and detailed insight into national and regional specifics can be of great importance. The aim of this research is to show the current state of scholarly book publishing in Croatia: recognising the key stakeholders, their characteristics, and the current level of open access to scholarly books. (2) Methods: The existing data from two different sources were used: the data about the public subsidies for book publishers by the Ministry of Science and Education and the data on published books from the Croatian Scientific Bibliography CROSBIB, both for the period from 2018 to 2021. (3) Results: In the four-year period, 224 Croatian publishers were awarded subsidies to publish 2359 book titles. The majority of the publishers received support for only a small number of titles and relatively low amounts of subsidies. More than half of the titles are published by small private commercial publishers. However, the uptake of digital publishing among commercial publishers is very modest. Open access to scholarly books is almost entirely in the domain of non-commercial publishers. Most open access titles are available on the websites of their publishers. (4) Conclusions: The analysis of the data from these two sources have resulted in an overview of the current state of book publishing in Croatia. Such an overview provides a good basis for designing future measures and creating a national open science plan and can also be a useful contribution to international discussions.



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**Keywords:** Croatia; open access books; scholarly book publishing

## 1. Introduction

Open access (OA) to scholarly works is globally recognized today as a goal to be achieved as soon as possible. Currently, pathways for achieving OA for journals (in spite of multiple obstacles still being present) are far clearer than for books. Even organizations firmly oriented towards OA to all results of publicly funded research, such as cOalition S, acknowledge the complexity of book publishing and recognize that OA to books will require more complex models of realization over a longer period [1]. The central role of books in scholarly communication in humanities and social sciences has resulted in intensified discussions on possible models for achieving OA in recent years, especially within organizations such as OPERAS [2], Science Europe [3], SPARC Europe or Open Access Book Network [4]. These documents and discussions portray European book publishing as a fragmented space, with many smaller nationally oriented markets in which there is no domination of several large publishers. It is clear that the models of transition to OA will not be unique for the whole European area. Diverse mechanisms and sustainable business models will be appropriate for different contexts.

There are many studies and extensive research into the evaluation of books that have shown the importance of long-form publications (monographs and edited volumes) for scholarly communication, especially in some fields of scholarship. In the introductory overview of national landscapes studies, Giménez-Toledo et al. show that in social sciences and humanities, a substantial share of research outputs is published in monographs or

edited books, at least in several European countries (Norway, Belgium, UK, Spain, Denmark) [5]. However, as they point out, there is an absence of comprehensive international databases covering long-form publications, probably due to “an intrinsic heterogeneity of scholarly books themselves (e.g., disciplines, languages, formats, peer review and other editorial standards, etc.)”, and such absence has prompted several European countries to develop their own custom-built information systems for the registration of scholarly books and publishers [5]. In a subsequently published paper resulting from the ENRESSH activities, the evaluative systems for 19 European countries were analysed, where 8 of them rely on categorization or a ranked list of book publishers: Denmark, Finland, Belgium, Norway, Poland, Slovakia, Slovenia, and Spain [6]. Such lists could possibly offer a good source of insights into the types of publishers of nationally relevant book publishers and possible models for achieving OA for books.

Although on the international level, there is a strong and, in some areas, well-coordinated effort to transition book publishing to OA, it is not equally applicable to all national landscapes, especially in the areas that are not dominated by major international publishers, and where books are published mostly in national languages.

To date, several studies have shed some light on the national landscapes of scholarly book publishers. A key study in this area was the one performed within the Knowledge Exchange organization on the topics of the inclusion of OA monographs in OA policies, funding streams to support OA monographs, and business models for publishing OA monographs [7]. The study presents a very clear and detailed overview of developments in the OA books arena, and includes country studies for countries that were, at the time, members of the Knowledge Exchange group (Denmark, Finland, Germany, Netherlands, the United Kingdom, and France) with the addition of Norway and Austria. Importantly, Ferwerda et al. recognize the significance of national contexts (“country size, language(s) of publication, presence of multinational corporations and socio-economic cultures of countries”) [7]. However, not all parts of Europe are portrayed in this study, as it completely lacks the countries from Eastern Europe. Within regions that are portrayed, some countries with important OA books development are not covered (for instance, Sweden, from the Nordic region). Within the countries covered, significant differences were observed with respect to the key stakeholders involved, incentives for OA, available public funding and available joint infrastructures, types of books published and the audience expected, as well as peer review practices. Publishers are never a homogenous group, not even on the country level. In some countries, especially if there is a funder’s mandate and available funds for book publishing charges (BPCs), the commercial publishers will take a lead in OA, whereas in others, the learned societies or institutions could have a larger role. The study ended in 2017, and some important developments took place after that (most notably, under the influence of Plan S).

Few additional studies have provided more detailed or more recent insights into the country-specific developments in Sweden [8,9] or Finland [10,11]. The Finnish studies are especially interesting, as they enable a comparison of national journal publishing and national book publishing.

Similarly, a study by Horvat and Velagić on the Croatian publishing landscape for the period 2012–2018 stresses the difference between journals and books [12]. According to the authors, both journals and books in Croatia are largely dependent on public subsidies, but all journals funded by the government are available in OA, whereas books are dominantly not. Moreover, public subsidies for journals are overwhelmingly granted to public institutions or associations, while most recipients of book subsidies are private publishers. In the studied period, only 1.25% of book titles were available in digital format, which clearly indicated that publishers had not seen e-books as a viable business. Furthermore, the authors notice a lack of expertise in peer review, database indexing and OA availability among private publishers. They conclude with the observation that the current subsidy system for books does not promote development and is not successful in enhancing the availability of scholarly e-monographs.

Both at the national and international levels, many important elements of the scholarly OA books landscape are still unknown, not just those related to business models, but also to the prevalence of OA books, their visibility, discoverability and preservation. These were the issues addressed by the recent study *Open access books through open data sources: Assessing prevalence, providers, and preservation* [13]. As Laakso notices, there is no single data source that could comprehensively collect and expose metadata on all OA books, and combining or deduplicating records from multiple sources is difficult for various reasons (most notably, the inconsistent use of persistent identifiers, and using multiple ISBNs for different manifestations of books). One of the results of the study is the insight into the distribution of web domains that offer full-text access to OA books, deduced from the available DOIs and the URLs that they resolve to. According to Laakso, there are several dominant domains, followed by a long tail of smaller websites, including some “clearly volatile services” such as institutional webpages or Dropbox and Google Drive [13]. Moreover, it needs to be pointed out that these are the results of investigating books that have DOIs assigned by their publishers, whereas the results for books without DOIs would likely show us an even more worrisome distribution of hosting domains, with clear implications on the discoverability, quality and preservation of OA book content. Although there are significant international developments, and important OA book infrastructures are already in place [14], they are not equally accepted and employed throughout Europe.

In considering the most appropriate models of transition to OA book publishing, an accurate and detailed insight into individual national and regional specifics can be of great importance. The aim of this research is to show the current state of scholarly book publishing in Croatia: recognise the key stakeholders, their characteristics, and the current level of OA to scholarly books. The existing data from two different sources will be used for this purpose.

This study addresses the following research questions: (1) What type of publishers publish scholarly books in Croatia and what are their shares in overall scholarly book production?; (2) How prevalent are OA books and who are the publishers of OA books?; and (3) What is the preferred model for OA books and where are they hosted?

## 2. Methods

The main source of funding to cover the costs of scholarly book publishing in Croatia are the direct subsidies from the Ministry of Science and Education (MSE). Given that data on grant recipients are publicly available, it is possible to gain insight into who publishes scholarly books and what are the main types of book publishers. The analysis was based on data from a recent period (2018–2021). The insights from the previously published analysis of the same funding scheme conducted by F. Horvat and Z. Velagić [12] in the earlier period were also considered.

All of the results of public calls for subsidies are publicly available on the website of the Ministry of Science and Education [15]. The documents are published in a pdf format, containing the information on publisher, book title, authors or editors, amount requested and amount approved. For the purpose of this research, the files were downloaded and converted to spreadsheets. The names of publishers were sometimes used inconsistently; therefore, they were cleaned and unified in order to get a list of unique values.

There are some limitations to this dataset (*MSE dataset*):

- There is information on co-publishers for only nine records. However, from the other dataset used (CROSBI, the Croatian Scientific Bibliography), it is visible that co-publishing (often between for-profit and institutional or society publishers) is a very common practice. In the analysis of the MSE data, the co-published books were regarded as published by the first indicated publisher.
- From the available data, for some books, it is not clear if the responsible persons are authors, editors, translators or series editors.
- Furthermore, sometimes it is not possible to discern the type of books (monographs, edited volumes, university textbooks, critical editions, reference works, works for the

popularization of science or translations). Therefore, all of the books on the lists were included in the analysis.

The publishers in the MSE dataset are grouped according to the typology of publishers based on previous studies and adapted to the Croatian publishing landscape. In *A Landscape Study on Open Access and Monographs*, a distinction was made between for-profit and non-profit publishers, and between traditional university presses, new university presses, and academic-led presses [7]. In a study by Late et al., the publishers were divided into the following types: learned societies, universities and university presses, other research organizations, commercial publishers, and other publishers [10]. Horvat and Velagić used the distinction between for-profit private publishers (“privately owned legal entities registered as companies, crafts, or cooperatives”) and public publishers (institutions, associations, art organizations, local government and religious organizations) [12].

In the course of this study, the following types or groups of publishers were recognized in the sample and used for further analysis:

1. small or medium-sized private companies, for-profit commercial publishers (SME);
2. higher education institutions: universities, faculties, academies (HEI);
3. research institutes (RES INST);
4. public academic organizations: academies, centres, non-governmental organisations with academic character (PUB ACAD);
5. professional and scholarly associations or learned societies (SOC);
6. others: public bodies, religious organisations, archives, museums, libraries, non-academic public institutions, or associations (OTH).

Another useful source of data on the books published by Croatian authors can be found in CROSBIB, the Croatian Scientific Bibliography [16] (*CROSBIB dataset*). The data on scientific books (monographs and edited books) published in the same period (2018–2021) were reviewed and from the results, it was possible to obtain additional information about book publishers who are currently active in Croatia, but also about the existence of e-editions, and especially e-editions in OA. The information on different models of OA was particularly useful: OA books on publishers’ platforms (“gold” model) and in open repositories (“green” model). Based on this analysis, we could gain insight into the preferred mode of OA for different types of publishers. For open books available on publishers’ platforms, we could find out to what extent they meet some of the standards of digital publishing (use of persistent identifiers, standardized metadata and discoverability).

All metadata from CROSBIB are publicly available, under the terms of the Creative Commons BY-NC-SA licence, in multiple formats. For the purpose of this study, two csv files were downloaded in September 2022, containing the records on authored books and edited volumes published in the period 2018–2021. The records in CROSBIB are deposited by authors–researchers, and (lightly) controlled and edited by the administrators. Extensive cleaning of the downloaded records was performed to eliminate, as much as possible: books published outside Croatia (based on the place of the publisher), books of abstracts, translations, books labelled as ‘non-scholarly’, exhibition catalogues without peer review and brochures (with less than 30 pages).

It is important to note that the two datasets, MSE and CROSBIB, were not combined, but were used to answer different research questions. Furthermore, although both sets refer to the period 2018–2021, the MSE dataset contains titles that were planned in those years (some of the listed titles from recent years have not yet been published), while CROSBIB contains records on books already published.

Both sets of the collected data are available as open datasets.

### 3. Results

#### 3.1. Publishers of Publicly Subsidised Books

Academic book publishing in Croatia has traditionally been largely dependent on public subsidies and continues to be so. There are diverse sources of public funding available to publishers and authors (county or city offices for culture, public and private

endowments, Ministry of Culture, and others), but the most significant one is the Ministry of Science and Education (MSE). The Ministry regularly announces annual calls for grants to interested publishers (all types of publishers are eligible). The subsidies are awarded to publishers for individual book titles (scholarly books and higher education textbooks), based on the pre-published quality criteria, and according to the assessment performed by the Ministry's Committee on Scholarly Publishing. All publishers who apply should provide at least two independent peer review reports with each manuscript. Subsidies are awarded to publishers of print and digital (or hybrid) editions, without distinction. The Ministry's quality criteria do not include OA requirements or recommendations. The annual call for financial support by the MSE is an important point in the publishing cycle of all academic publishers in Croatia, and the MSE's application criteria have a strong influence on the publishers' practices.

### 3.1.1. Awarded Public Subsidies

The data published by the MSE provide insight into the amounts and the pattern of public investment. In the 2018–2021 period, the total amount of MSE subsidies for books varied from approximately EUR 1 to 1,5 million (a significant decline occurred in 2020), which is a continuation of the period from the 2015 onwards [12].

Between 550 and 610 titles per year were subsidized (Table 1).

**Table 1.** Total amount of all awarded subsidies and a number of subsidized titles in the period 2018–2021, according to MSE dataset. (at the time of the analysis, EUR 1 equals HRK 7.5345.)

Year	Awarded Subsidies	No of Subsidized Titles
2018	HRK 11,949,706.00	602
2019	HRK 11,338,645.00	550
2020	HRK 7,172,131.00	597
2021	HRK 11,808,206.00	610

The average amount awarded per title is HRK 17,918.05; however, it varies considerably, from HRK 1323.00 to HRK 117,117.00.

### 3.1.2. Size of Publishers (According to Number of Titles and Received Funding)

From the MSE set, we can see that in the four-year period (2018–2021), 224 Croatian publishers were awarded subsidies to publish 2359 book titles. Most of the publishers received support for only a small number of titles (Table 2), while only three received subsidies for 100 or more titles, indicating that most Croatian publishers are either small (in terms of number of published titles), or scholarly books make up only a fraction of their publishing portfolios.

**Table 2.** Number of publishers according to the number of subsidized titles (from the MSE dataset) in the period 2018–2021.

No of Subsidized Book Titles	No of Publishers
>100	3
50–99	8
10–49	52
2–9	86
1	75

Eleven publishers who received funding for more than 50 titles are: Filozofski fakultet Zagreb, Medicinska naklada, Hrvatska sveučilišna naklada, Školska knjiga, Srednja Europa, Matica hrvatska, Jesenski i Turk, Naklada Ljevak, Hrvatska akademija znanosti i umjetnosti, TIM press, and Sveučilište u Zadru.

Similarly, most publishers received relatively low amounts of subsidies, while a small minority received more than HRK 1 million (Table 3)

**Table 3.** Number of publishers according to the total amount of awarded subsidies (from the MSE dataset) in a period 2018–2021. (at the time of the analysis, EUR 1 equals HRK 7.5345.)

Total Awarded Subsidies	No of Publishers
HRK > 2,000,000.00	3
HRK 1,000,000.00–2,000,000.00	7
HRK 100,000.00–1,000,000.00	72
HRK 10,000.00–100,000.00	119
HRK < 10,000.00	23

Ten publishers who received more than HRK 1,000,000.00 in subsidies are: Filozofski fakultet Zagreb, Medicinska naklada, Hrvatska sveučilišna naklada, Školska knjiga, Matica hrvatska, Hrvatska akademija znanosti i umjetnosti, Srednja Europa, Književni krug Split, Hrvatski institut za povijest, and Fakultet hrvatskih studija.

The same three publishers who received the largest amounts in subsidies were the ones with the largest number of planned titles.

### 3.1.3. Types of Publishers

When we look at the publishers who were receiving subsidies from the Ministry and group them according to the types (as they are listed and defined in the methodology section), we can see that small or medium-sized private companies are the largest group (SME), followed by the higher education institutions (HEI) and professional and scholarly associations or learned societies (SOC). A smaller number of publishers are from other types of organizations, including public bodies, religious organisations, archives, museums, libraries, non-academic public institutions or associations (OTH), research institutes (RES INST) and public academic organizations: academies, centres, non-governmental organisations with academic character (PUB ACAD) (Table 4).

**Table 4.** Number of publishers (from the MSE dataset) according to their types.

Publisher Type	No of Publishers	% of All Publishers
SME	77	34%
HEI	61	27%
SOC	38	17%
OTH	20	9%
RES INST	14	6%
PUB ACAD	14	6%

Although this principle of grouping was considered adequate for the analysis in this study, it could be pointed out that there is further diversification within many of the listed groups. Some of the private publishers are dominantly specialized in textbooks or translations. Others are closer to what is today called ‘scholar-led’, and very much mission-oriented (as well as less profitable). For some of the learned societies, publishing is their core business, while for many, it is only a supplemental activity.

When we look at the distribution of approved titles and awarded subsidies, we observe even greater shares of private commercial publishers (SMEs) compared to other types. More than half of all titles and financial grants received are in the domain of private publishing (Tables 5 and 6).

**Table 5.** Number of titles (and shares in total number, from the MSE dataset) according to the publisher types.

Publisher Type	No of Subsidized Titles	% of All Subsidized Titles
SME	1250	53%
HEI	568	24%
RES INST	192	8%
PUB ACAD	153	6%
SOC	138	6%
OTH	58	2%

**Table 6.** Amounts of awarded subsidies (and shares in the total amount awarded, from the MSE dataset) according to the publisher types.

Publisher Type	Awarded Subsidies	% of Total Amount
SME	HRK 21,866,528.00	51.73%
HEI	HRK 9,379,605.00	22.19%
RES INST	HRK 3,963,749.00	9.38%
PUB ACAD	HRK 3,157,243.00	7.47%
SOC	HRK 2,924,828.00	6.92%
OTH	HRK 976,735.00	2.31%

### 3.2. Open Access for Scholarly Books in Croatia

The MSE data enabled us to gain a certain overview of the main stakeholders in publicly supported book publishing in Croatia and the patterns of public spending. However, this dataset does not contain any information on the format of the published books, whether they are available in print, online or both. In addition, if they are available online, there is no information on whether they are available as paywalled books (via subscription or purchase) or as books in OA.

More information on the format is available in the CROSBİ dataset. Among 2674 records for books published in the period 2018–2021, there were 188 records with information in the field ‘URLS’ (intended to provide URLs for editions other than OA). However, on further inspection, it was established that the majority (186) of these URLs were either not valid anymore, were resolved to descriptive-only landing pages (without full text), or were in fact OA editions.

For 427 records, the URLs for OA editions were provided.

#### 3.2.1. Commercial Publishers and Open or Paywalled e-Books

The analysis of the MSE dataset uncovered the importance of commercial private sector in the scholarly book publishing in Croatia. However, given the overall context of book publishing in a small national circle with limited readership, it could not have been expected that digital innovation would be taking place among private publishers on a significant scale or that it could be fostered by their commercial interests.

The CROSBİ dataset confirms that the uptake of digital publishing among commercial publishers is very modest. Only two such publishers offer paywalled scholarly e-books. One is the publisher of books specialized in business and economics that offers institutional subscriptions to e-books in e-pub format, but without the usual access control mechanisms (based on IP ranges, shibboleth protocol or proxy access). The other one offers only the option of individual purchases (predominantly titles in popular science).

The evidence of OA models for books among Croatian private publishers is even scarcer. In the CROSBİ sample, only two titles in OA were recorded. One is from a small niche publisher: there is a pdf document on the publisher’s website, but without associated metadata. The other is from a larger publisher specialized for textbooks: there is a copy in an institutional repository self-archived by the editor. In both cases, the initiative for making books open clearly came from the author or the editor, and not the publisher.



### 3.2.2. Publishers of Open Access Books in Croatia

According to the CROSBİ data, OA to scholarly books is almost entirely in the domain of non-commercial publishers: higher education institutions, scholarly societies, research institutes and other public organizations (government offices and NGOs).

Four publishers with higher number of recorded titles in OA (if the editions co-published by several organizations were excluded) are:

1. Filozofski fakultet Sveučilišta u Zagrebu (35 titles on two platforms, 'FF Open Press' and 'Stilistika');
2. Sveučilište u Zadru (21 titles on the platform: 'Morepress');
3. Filozofski fakultet Sveučilišta u Rijeci (14 titles on the website of 'Izdavaštvo FFRI');
4. Sveučilište Jurja Dobrile u Puli (13 titles deposited in the institutional repository).

All four are higher education institutions (faculties or universities).

In addition to looking at who is providing OA books, it is also interesting to look at the models of delivery (Table 7).

**Table 7.** Models of providing OA to books recognized in the CROSBİ dataset.

OA Host	Number of Records	% of Total No
Web site	280	66%
Publishing platform	46	11%
Scholarly networking site	42	10%
Repository	38	9%
General hosting service	15	4%
Digital library	6	1%

In some of these models, OA is accomplished through the effort of the publisher; in others, the author or the editor will take that responsibility.

Only 11% of titles in the sample are published in OA on the specialised publishing platforms maintained by their publishers. Both such platforms (Morepress and FF Open Press) are developed by using the open-source software PKP Open Monograph Press, and they enable efficient dissemination of full text content and standardized metadata through established discovery channels.

An additional 10% of titles are available in digital libraries (1%) and institutional repositories (9%) that provide interoperability of standardized metadata. However, it is not clear from the data if the books are self-archived to the repositories by their authors/editors, or they are deposited by the publishing institution (examples of both cases are known to the author of this paper).

A non-negligible share of books (10% in the sample) is available in OA due to their authors sharing them via scholarly networking sites, such as Academia.org or ResearchGate. Although it is disputable whether this is an actual OA model, it is indicative of the need of the authors to provide wider access and secure readership and visibility.

Fifteen titles (4%) are made available on several general hosting services, free or paid (Google Drive, Issuu, Scribd, Dropbox).

However, most titles are available on the institutional websites of their publishers. Generally, that means that there are no standardized landing pages, metadata dissemination or compliance with interoperability standards.

Further evidence of slow acceptance of professional standards of digital publishing is the low number of Digital object identifiers (DOIs) registered by Croatian publishers: in our sample we found only 32 records with DOIs from 3 institutional publishers (one publisher had 2 titles with DOIs, one had 5 and one had 25).

However, it should be recalled that this analysis of OA titles and their hosts is based on a limited sample of 427 records for which the OA URLs were provided in the CROSBİ dataset.

#### 4. Discussion

The fact that most of the Croatian scholarly book publishing is happening in the private sector has a considerable impact on the way the future OA books' infrastructure should be designed and implemented. The existing and available national scholarly infrastructure is currently primarily intended for academic institutions, and some mechanisms (for instance, the authentication based on the eduroam identities) prevent the inclusion of non-academic stakeholders. However, the Croatian repositories infrastructure could be, with some effort, adapted for the needs of book publishing. Functionalities that would need to be added are, for instance, the existence of tables of contents and relations from book title to book chapters, or the possibility to distinguish between books published by the institution from the institution's research output in the institutional repositories.

Unlike large international publishers who are incentivised to innovate and operate in a digital environment, Croatian private commercial publishers are still very traditional and slow in embracing newer technologies. Several reasons for that could be identified: a fragmented market with many small players (and each of them without individual capacities and expertise), low collaboration, and a small market (limited readership of academic content in the national language). Currently, several initiatives are found among higher education institutions that are actively and thoughtfully approaching OA book publishing. However, such OA publishing, entrenched in the public sector and dependent on in-kind contributions and public subsidies, has its own challenges and limitations, as described in the collection of case studies detailing the business models of a range of OA academic book presses [17].

The pattern of governmental subsidies has shown both stability and dedication (the amount awarded has stayed in the same range over years) as well as the volatile nature of the system (a single drop of more than 1/3 of the total amount in one year shows that the scheme can easily collapse due to a change in government or a financial crisis).

It is important to note that financial difficulties are not the only challenge for the sustainability of academic book publishing. Expertise, knowledge, and experience in all areas of digital scholarly publishing are lacking among most Croatian book publishers. That becomes even more obvious from the information on hosting domains, or from the prevalence of permanent identifiers. The inability to comply with the established interoperability standards is seriously compromising the visibility and discoverability of book content, despite its open availability. Collaboration and developing joint national infrastructure and support systems seem to be the only ways forward for overcoming the existing shortcomings.

Many international debates on OA to scholarly books focus on new business models, book publishing charges (BPCs) or innovative (often collective) funding mechanisms, such as crowdfunding, "opening the future" or library memberships. There is no evidence of any Croatian academic publishers trying out any of the mentioned business models. Although some of the experiences from those models could surely be instructional even for Croatian publishers, the overall landscape of scholarly communication (including the way the research activities and libraries are funded, as well as the dominant language and readership of books) makes it highly unlikely that they could be fully adopted and relied upon. The current system of public subsidies still appears to be the most rational and efficient way of supporting academic books, and the MSE's requirements for awarding subsidies are the main area where improvements could be sought.

One very important distinction of the Croatian landscape, as opposed to the countries that have already achieved a more successful transition to OA books (such as the cases of Austria, Sweden, or the UK), is a lack of a clear policy from the funder (either from the research funder, the Croatian Science Foundation, or the grantor of public subsidies to publishers, the Croatian Ministry of Science and Education). Currently, there is no national open science or OA policy, and no requirement from the main national research foundation that would be binding for book authors. Hopefully, that will change in the near future, as the result of the work of the Croatian Open Science Cloud Initiative (*HR-OOZ*) [18].

The HR-OOZ working group is currently defining a future Croatian national OS plan that would also address books.

The results of this research provided us with some important insights into the landscape of book production in Croatia, especially regarding the publishing of OA books. However, there are also certain limitations of the chosen approach, which primarily relate to the features of the data available for analysis. The research used already existing publicly available data that could provide an overview and typology of the main stakeholders and ways of achieving OA; however, these were insufficient to reveal the motives and challenges faced by individual publishers or groups of publishers. Since knowing the motivations and barriers to achieving OA among publishers can help us identify the most effective ways of transition, it would be extremely important to conduct research in the future that would examine the views of publishers using a survey, qualitative interviews or focus groups.

## 5. Conclusions

By analysing data from two sources, the MSE and CROSBI, we formed an overview of the current state of book publishing in Croatia. It has become clear that most of the books subsidized by the government are published by small and medium-sized for-profit publishers. At the same time, private publishers hardly ever engage in publishing OA books; therefore, OA to scholarly books is almost entirely in the domain of non-commercial publishers: higher education institutions, scholarly societies, research institutes and other public organizations. Most of the OA books (66%) are hosted on the institutional websites without standardized metadata. A smaller number is available on specialised publishing platforms (11%) or hosted in institutional repositories (9%). Such an overview gives us a good basis for defining future measures and designing a national open science plan that is feasible and realistic with regard to scholarly books. It could also be a useful contribution to international discussions.

The information gathered has shown us the importance of public policies and conditional funding that will require or at least reward OA. To be sustainable, the public funding model needs to promote development, to encourage change, foster collaboration and incentivise adoption of the international standards.

Furthermore, this landscaping exercise made apparent the weaknesses of book publishing infrastructure and showed us another area where major improvements could be envisaged and planned. The importance of public, available and reliable publishing infrastructure needs to be considered. The development of common national infrastructure for OA book publishing could use and adapt the models developed elsewhere in Europe, or even use some of the lessons from the development of the Croatian journal publishing platform, Hrčak. The need to be included in the wider international networks and infrastructures, such as OAPEN or DOAB, will be the key in securing visibility and discoverability.

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