



# Comparative analysis of book citations in social science journals by Central and Eastern European authors

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## Abstract

This study aims to assess the role of authored and edited books in scholarly communication through citation analysis. It focuses on social science journal articles written by authors from Central and Eastern European (CEE) countries. The sample for book citation analysis were references ( $n=1,033,926$ ) from research articles ( $n=35,501$ ) published in 2726 journals indexed in Scopus, where at least one author was from a CEE country. The journals were classified in 10 social science fields (economics and business, education, library and information science, law, political science, psychology, sociology, and three multidisciplinary fields) and divided into two groups according to the journal publisher's country (CEE and non-CEE journals). Authored ( $n=221,768$ ) and edited books ( $n=74,506$ ) were extracted from cited references through an in-depth parsing and cleaning process. The average number of cited references per article in the full sample was 29, with the share of cited authored books of 21.4% and edited books of 7.2%. The share of authored books in cited references in CEE journals was 26.6%, while for edited books it was 7.8%. Sociology is a field where books are almost equally represented in cited references (47%) as articles, while book citations are much less represented in the fields of psychology (28%), economics and business (27%), and information and library science (24%). Additionally, the core book authors were identified across scientific fields, and differences in citing books covered by Scholarly Publishers Indicators versus books published by local/regional publishers were explored.

**Keywords** Authored books · Edited books · Journals · Social sciences · Citation analysis · Central and Eastern European countries

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## Introduction

Scholarly communication across scientific fields has undergone substantial changes over the last several decades due to the exponential growth of information, the rising importance of international university rankings, and changes in academic promotion systems (Cordón-García et al. 2017). These changes have mostly encouraged publishing research articles in peer-reviewed journals in preference to scholarly books. In the case of natural, technical, engineering and biomedical (STEM) sciences this paradigm has been expected. However, in the case of some fields of social sciences and particularly humanities, books have continued to play important role (Kousha and Thelwall 2018; Engels et al. 2018; Hammarfelt 2016; Giménez-Toledo et al. 2016; Chi 2016; Jokić et al. 2012, Sivertsen and Larsen 2012; Nederhof 2006; Hicks 2004; Kyvik 2003).

Quantitative methods are used more often than qualitative to assess the importance of scholarly books in scientific communication and the exchange of ideas in a specific scientific field. These quantitative approaches give insight into productivity across scientific fields (Smith 1977), authors, and publishers (Torres-Salinas and Moed 2009). The impact and visibility of published scholarly books have also been measured by their availability in libraries, number of library loans (Enger 2009) or downloads if they are available online (Chapman and Yates 2017). They can additionally be measured by publishers' reputation (Zuccala et al. 2015; Giménez-Toledo et al. 2017), by book reviews in prominent journals (Nicolaisen 2002; Zhou et al. 2016; Liu et al. 2017), by citation analysis (Lindholm-Romantschuk and Warner 1996; Thompson 2002; Tang 2008; Enger 2009; Kousha and Thelwall 2009; Hammarfelt 2011; Serenko et al. 2012; Wu et al. 2013; Torres-Salinas et al. 2013; Kousha and Thelwall 2015a; Tsay et al. 2016; Glänzel et al. 2016), by alternative metric approaches (Kousha et al. 2017; Kousha and Thelwall 2015b, 2017a, b; Torres-Salinas et al. 2018) or by multi-methodological approaches which usually combine number of citations, reviews, readers, downloads, tweets, etc. (Halevi et al. 2016). Contrary to the quantitative approach, perceptions of academic peers who determine the value of books typically guide qualitative processes in book evaluations (Zuccala and Robinson-Garcia 2019).

In the bibliometric literature, the use of citation analysis is infrequent for scholarly authored and edited books when compared to research articles in peer-reviewed journals. The main reason is the lack of relevant professional databases that would allow for a comprehensive bibliometric analysis (Giménez-Toledo et al. 2015). Namely, professional bibliographic and citation databases (Web of Science—WoS, and Scopus), or subject bibliographic databases, are primarily designed for bibliometric analysis of articles and journals. As of late, Scopus has begun progressive indexing of authored and edited books but its principal disadvantage, poor coverage of books that are not written in the English language, remains. The same observation applies to other specialized databases, such as Book Citation Index (BKCI) by Clarivate Analytics (Glänzel et al. 2016). This disadvantage is a significant obstacle for citation analysis of books from non-English speaking countries. Data sources such as Google Books and Google Scholar are, in comparison with the above-mentioned commercial databases, valuable sources for book bibliometric analysis especially in social sciences and humanities (Kousha and Thelwall 2009; Bar-Ilan 2010; Samuels 2011, 2013; Kousha and Thelwall 2015b). However, due to the lack of clear selection criteria and citation standards (Zuccala and Cornacchia 2016) they are not entirely reliable sources for bibliometric analysis of books.

One of the options for implementing citation analysis of books cited in journal articles indexed in WoS and Scopus databases could be through *non-source* and *secondary documents* options. Non-source and secondary documents are publications that are not indexed by citation indices WoS or Scopus (Chi 2014). However, these options are demanding for use, unadjusted for large-scale analysis, and bear deficient coverage of scholarly books. Nonetheless, some authors, including Butler and Visser (2006), Hammarfelt (2011) and Chi (2016) have used them.

This study was conducted using book citation analysis to examine references in articles published in social science journals indexed in Scopus database. The focus is on authors from 15 countries of Central and Eastern Europe (CEE), 11 of which are already EU member states, while four countries are in different phases of the EU accession process.<sup>1</sup> These countries share a common historical, cultural and social heritage that significantly affected their development of social sciences when compared to other EU countries. However, they also have distinct narratives that have produced varying degrees of research openness, ranging from the relative openness found in former Yugoslav states, Hungary, and Poland to states that were nearly cut off from the international academic community in the pre-transition period, such as Czech and Slovak Republics, Romania, and Bulgaria (Musken and Kinnear 1993).

Contemporary scientific communication pattern amongst CEE countries regarding social sciences is unknown, possibly as a result of “nationally specific topics in the social sciences, arts, and humanities that are more or less irrelevant to the international scientific community but of great importance to a national scientific community” (Gläser 2004, p. 278). Additionally, all CEE countries have their national languages and a long tradition in publishing national social science journals, which to some extent are a barrier in global scientific communication.

The purpose of this study is to gain a better understanding of the role of books in scientific communication in the social sciences. The research is restricted to books cited in peer-reviewed journal articles. Authored books are defined as monographs that have metadata on author(s), publisher(s), place of publication and publication year, while edited books are cited books whose metadata comprises of editor(s), publisher(s), and publication year, and are not serial publications, such as proceedings or other conference materials. In short, this study aims to:

1. Explore differing article citation patterns to authored and edited books between CEE and non-CEE journals (journals published in a CEE country versus journals published outside a CEE country);
2. Analyze differences in authored and edited book citation patterns by social science fields;
3. Identify the most cited book authors in social sciences in CEE countries; and
4. Determine the role of prestigious international versus local/regional publishers in cited authored and edited books.

This is one of the initial empirical analyses of the role of books in academic knowledge dissemination in social sciences in countries with a common social, historical, and cultural

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<sup>1</sup> This research was carried out as a part of the project “Research activity, collaboration and orientation in social sciences in Croatia and other post-socialist European countries (RACOSS)”, [http://racoss.idi.hr/index\\_en.html](http://racoss.idi.hr/index_en.html).

background. Initially, it included the process of in-depth cleaning of references from journal articles for book citation analysis. Glänzel and Schoepflin (1999), Zuccala and Guns (2013), Zuccala et al. (2015) and Wu et al. (2013) have undertaken methodologically similar studies but on different samples and with different objectives.

The rest of the paper is structured as follows. After the introduction and literature review in the second section, we explain sample and methodological approach in the third section. The results and their discussion follow in the fourth and fifth section, respectively. The last section summarizes conclusions and gives some directions for future work.

## Literature background

Despite insufficient sources for book citation analysis via journal article references in social sciences, some authors have undertaken studies that provide insights across individual scientific fields.

Bott and Hargens (1991) showed that citation frequency for the average book in sociology and the average article in a highly-cited journal were similar. These results are not unexpected as Small and Crane (1979) found earlier that the proportion of book-cited items in sociology was approximately 39%. A more recent study by Córdón-García et al. (2017) also maintains the saliency of books in sociology. After analyzing the citation counts of books and journal articles across different fields of social sciences, Lindholm-Romantschuk and Warner (1996) concluded that the citation ratio favored books in sociology and economics. Conversely, Robinson and Poston (2004) investigated cited references in economics and found journal articles to be predominant. Glänzel and Schoepflin (1999) argued that some 80% of social science journals make less than 70% of citations to serials. In some disciplines such as political science, the share of citations to serials was fewer than 20%. Samuels (2013) argued that articles in the field of political science and educational science have similar shares of cited books, approximately 33%. Huang et al. (2018) showed that journal articles in educational science primarily cited books compared to articles, although book citations are beginning to decline. Citation analyses for the field of law are particularly rare. However, by analyzing productivity in this field Córdón-García et al. (2017) suggested the importance of books. In the comparative analysis of several academic disciplines (religion, history, economics, mathematics and physics) Tang (2008) showed that psychology books received the highest number of citations, had a low uncitedness ratio, a short cited half-life, and a relatively high citation recency percentage. Chapman and Yates (2017) argued that references to journal articles outpace the use of books in journal literature communication fields. Tsay (2011) analyzed cited references of articles from three leading information science journals during 1998 and 2008. Results indicated that books followed journal articles as the second most-cited document type. Chi (2016) argued that in social sciences, books have a citation concentration distribution similar to journal articles.

The overview of the existing literature points to the relative inconsistency of results and conclusions, not only in the case of social sciences as a whole but also in the case of specific scientific fields. This is to a great extent due to constraints and complexities related to extracting reliable data samples that are suitable for macro-bibliometric studies (Wu et al. 2013; Zuccala and Guns 2013; Zuccala and Cornacchia 2016).

To the best of our knowledge, there are few published citation analyses focused explicitly on *authored* and *edited books*. This problem was emphasized by Glänzel et al. (2016)

who highlighted the importance of citation impact differences between authored and edited books. Before the appearance of BKCI in 2011 (Gorraiz et al. 2013), inadequacies in relevant data sources were the main reason for the lack of large-scale citation analysis of authored and edited books. As previously discussed, although WoS and Scopus have options for *non-source* and *secondary documents*, it is not easy to use them for book citation analysis. Additionally, unclear book types definitions further constrain citation analyses. According to Bott and Hargens (1991, p. 149), “edited volumes are a heterogeneous lot, ranging from prestigious and rigorous peer-reviewed books to collections of papers presented at a conference with little or no subsequent editorial quality control.” Zuccala and Robinson-Garcia (2019) offered technical solutions for the classification of edited books but the conceptual problem, stressed by Gorraiz et al. (2013), that many of the chapters in edited books have already been published as journal articles and therefore do not present original contributions, remains to be solved.

Bott and Hargens (1991) undertook one of the first citation analyses of edited books in articles published in sociological journals. They found that citations for a chapter in an edited book and an infrequently cited journal are roughly equal. Leydesdorff and Felt (2012) compared citations of edited book chapters with articles and reviews and claimed that a book chapter could also be highly cited and contain on average a large number of references, just like articles.

Torres-Salinas et al. (2013) computed the probability of occurrence of book chapters with many citations at different intervals depending on the academic publisher. Their results show that the citation patterns of book chapters follow a Lotkaian distribution. Torres-Salinas et al. (2014) expanded research on the role of edited and non-edited books as a channel of scholarly communication using BKCI as a source. The results for social sciences revealed that the differences in citation patterns between edited (average 12.2 citations) and non-edited books (9.4 citations) were insignificant. Chi (2014) investigated the citation pattern of non-source items, including edited and authored books, in German political science publications indexed in WoS, which were found to be more cited than journal articles. Glänzel et al. (2016) expanded research and emphasized the complexity of citation analysis of books in comparison to journals. Regarding citation impact, their results show that the differences between edited and authored books in terms of the citation impact are not so large as between books and journals.

As opposed to the journals, for the evaluation of the role of books in the knowledge transfer, there are no standardized bibliometric indicators that would measure impact and prestige, except for the number of received citations. The visibility of books is often determined by publisher status (Sivertsen 2010; Engels et al. 2012; Giménez-Toledo et al. 2013; Giménez-Toledo 2016; Giménez-Toledo et al. 2017; Mañana Rodríguez and Giménez-Toledo 2018; Mañana Rodríguez and Pölönen 2018; Giménez-Toledo et al. 2019). The research conducted on book citations classified by publisher type shows the vital role of university presses. Samuels (2013) showed that the average book published by a university press received some three times as many citations as the average article indexed in SSCI. Torres-Salinas et al. (2014) results on the citations of social science edited books covered by BKCI indicates that university presses have a citation average of 20.4 in contrast with commercial publishers, which amounts to 7.3.

## Sample and methodological approach

### Initial sample

The sample used in this study has been extracted from the relational database created for the RACOSS project. The source for the project database was Scopus<sup>2</sup> research articles and review papers published in social science journals in period 1996–2013 with at least one author from the 15 CEE countries. The countries include 11 EU member states: Bulgaria, Croatia, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovakia and Slovenia, and 4 EU (potential) candidate countries: Bosnia and Herzegovina, Macedonia, Montenegro, and Serbia.

Before detailing the data collection for this study, we briefly describe the construction of the project relational database. The search strategy in Scopus database included limiters for the country's affiliation (all 15 CEE countries), document type (article and review), publication year (1996–2013) and subject category “social sciences and humanities” according to Scopus All Science Journal Classification (ASJC) Codes. The results of retrieval included 83,059 bibliographic records published in 4895 journals. For each bibliographic record, all metadata available in Scopus were downloaded.

The focus of this research is limited to social sciences, which necessitated reclassifying the initial dataset to exclude items related to “humanities.” Accordingly, the modified OECD Frascati Field of Science (FOS)<sup>3</sup> classification was used which includes the following social sciences fields: economics and business, educational science, information and library science, law, political science, psychology, sociology, and three multidisciplinary fields (social sciences, social sciences and humanities, and social sciences and other fields). The dataset of 4895 journals was reclassified by subject experts in various social science fields. The final dataset was comprised of 2726 journals with 35,501 bibliographic records and 1,033,926 cited references.

The journals were split into two groups depending on the publisher's country: 173 CEE or journals published in one of the CEE countries, and 2553 non-CEE or international journals published outside CEE countries. The principal cause for this approach was the assumed difference in the international visibility between the two groups measured by bibliometric indicators as well as their research orientations and readership (Gläser 2004). As pointed out by Giménez-Toledo (2016), some CEE journals are of very good quality though specializing in only locally or regionally relevant topics.

### Data filtering

The first step in building a database for this study was the extraction of cited references ( $n=1,033,926$ ) for each article ( $n=35,501$ ) and the creation of a new relational database. A random sample of the extracted documents was taken and manually checked to gather insight into the various types of cited documents and returned a result indicating poor standardization of citing patterns. Consequently, we had to manually define algorithms to perform an in-depth cleaning of the data.

<sup>2</sup> Authors' access to Scopus database was endorsed by Croatian Ministry of Science and Education.

<sup>3</sup> Revised Field of Science and Technology (FOS), Classification in the Frascati Manual <http://www.oecd.org/sti/inno/38235147.pdf> (accessed 24-11-2017).

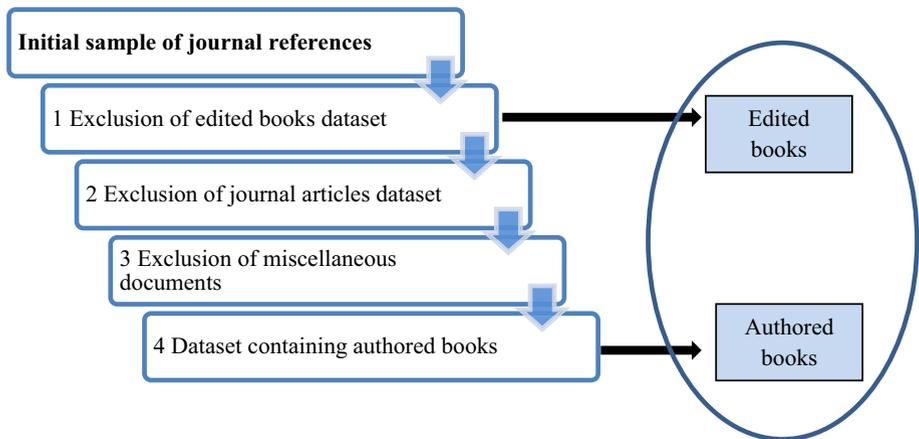
The initial problem was related to different styles in which cited references can appear in journal articles. In some scientific fields, articles do not have individual sections containing references but use footnotes and endnotes for that purpose. Consequently, Scopus incorporates footnotes and endnotes into the cited references. Cleaning the dataset presented a challenge as footnotes/endnotes do not follow any defined standard and have various contents, ranging from bibliographic references to extended definitions of terms. Excluding explanatory notes that did not contain any bibliographic data (such as author, editor, document title, year, publisher, URL, and doi) solved this problem.

The extraction of edited books was the least demanding task, as nearly all referencing styles are similar in the description of edited books, or chapters in edited books, and quote data related to editor(s). All variants of term “editor” (ed., eds., editor, editors, etc.) were used as filters as well as all variants for book chapters (in...) in English and CEE national languages. Conference proceedings have editors as well; however, they are often unmentioned in the cited references. The latter point and the fact that conference proceedings are fundamentally not edited books and function as serials warranted their exclusion from the dataset.

Journal articles are cited most and were extracted following edited books. Filtering of journal articles, due to problems with journal titles in national languages, was undertaken using the available metadata (year, volume, number, pages) in various combinations. At the level of these metadata, we found a great variety of combinations, which made it difficult to use semi-automatic algorithmic filtering. The results of filtering required manual browsing of the extracted data to get a more reliable dataset.

The remaining dataset consisted of authored books and a range of miscellaneous documents (conference proceedings, thesis, reports, newspapers, newsletters, URLs, unpublished papers, etc.). Filtering of proceedings included all possible terms used for this document type, such as proceedings, conference, and symposium, in English and CEE national languages. Sometimes the term “proceedings” can also be found in journal titles. If such documents remained in the dataset after clearing the article/journals dataset, inspection of the metadata that distinguishes conference proceedings from journals, such as a conference number, venue, and date determined their exclusion. Ph.D. and master’s thesis were relatively easy for filtering, as references commonly refer to their document type. In the filtering process, we searched for the phrase “thesis” with accompanying attainment levels and its variations in CEE national languages. The rest of the documents in the category miscellaneous (newspapers, newsletters, book reviews, reports, working papers, unpublished sources, URLs) were filtered through “natural language phrases.” The extraction of URL addresses was a simple filter process. To retain part of the cited authored and edited e-books, URLs were filtered further to ensure that URLs without the essential elements of standard bibliographic description, e.g., the title of publication, author, editor, or accession data were excluded (Fig. 1).

The final dataset is expected to contain authored books primarily after clearing the sample of the aforementioned sources and documents. It was reevaluated through several iterations with the inclusion of metadata concerning the author(s), year, publisher, city, and ISBN. It is highly reliable that the dataset used includes authored books that are not published as a serial publication, that are not a thesis, a working paper, a technical report, or a non-published electronic document. However, whether the remaining books are scientific or not could not be determined. An explicit statement in the cited reference is the only way to distinguish scientific monographs from novels, textbooks, favorite books, guides, manuals, or handbooks and—due to the sample size—it was unfeasible to check it.



**Fig. 1** Data filtering process

The final sample used in this study has undergone a large number of cleaning iterations, either manually or algorithmically: it includes 221,768 authored books and 74,906 edited books. In the sample of cited references from all articles in social sciences that were authored by at least one researcher from the 15 CEE countries in the 1996–2013 period, authored books have a share of 21.4%, while edited books have the share of 7.2%. Other types of cited references were not classified in detail, but there is high confidence that the share of journal articles amounts to approximately 60%.

### Methodological notes

The frequency of citation counts has been calculated in both authored and edited books datasets. The analysis was performed across 173 CEE and 2553 non-CEE journals and scientific fields: economics and business, education science, information and library science, law, political science, psychology, sociology, and multidisciplinary social science fields. The sample grouping was based on the assumption that there are differences in respect to the frequency of book citations between CEE and non-CEE social science journals (languages, journal orientations, research issues) as well as among social science fields.

Based on the frequency of citations for authored books one can get a better insight into the “core book authors” for the full sample and individual scientific fields as well as into the visibility of the most-cited CEE book authors. The frequency of the book author’s names determined the ranking of most-cited authors. Thereby all possible variations of author’s names transcription have been taken into account. “Core book authors” was chosen rather than “core books” as the variety in book titles is great. Namely, it would be impossible to retrieve reliable data regarding books that are both classics in social sciences and are translated into the national languages of 15 CEE countries. Author names more or less are the same as original ones or are at least recognizable (for example, Marx, Marks, Marx C., Marx K., Marks C., Marks K.).

In the sample of 221,768 authored books, there are 82,313 leading authors. In this study, the definition “core book author” is applied to the most-cited first authors who have been cited more than 100 times in the period 1996–2013. Additionally, we have extracted the

first ten most-cited authors for each scientific field and received better insight into citations of CEE book authors.

Although social science studies, especially in non-English speaking countries, concentrate on the local and regional specificities, the usage of books by prestigious world publishers is an indicator of openness to the broader scientific community. In this study, we investigated the share of cited books of prestigious world publishers according to Scholarly Publishers Indicators (SPI)<sup>4</sup> in comparison to books published by publishers from CEE and other countries, in both datasets. Publishers are divided into two groups, SPI and non-SPI (all other publishers). The source for SPI publishers was the 2014 general ranking list of non-Spanish publishers. Although SPI is based on the perceptions of Spanish scholars on academic publishers in the field of social sciences and humanities, it is perceived as a valuable tool for evaluation of research output in other countries, as it contains indicators for both non-Spanish and Spanish publishers (Giménez-Toledo et al. 2016).

## Results

### Book citations in CEE and non-CEE journals

The distribution of the sample of 35,501 articles with at least one author from a CEE country between papers published in CEE journals and those published in non-CEE journals, is 52.4% and 47.7%, respectively. The differences are vast across individual scientific fields and range from political science where only 17.3% of articles were published in CEE journals to sociology with as much as 87.7% of articles in CEE journals (Table 1).

The shares of cited references in the subset of CEE and non-CEE journals are also almost equal, at 48.5% and 51.5%, respectively. However, there is a significant difference in the number of journals publishing these articles. CEE journals are concentrated within 173 journals, while articles in non-CEE journals are found in over 2553 journals (Tables 1, 2).

For the full sample, the average number of cited references per paper amounted to 29. Out of that, about one-third were books; 21.4% authored and 7.2% edited books.

Articles published in CEE journals had 26 references on average. The share of cited authored books was slightly higher than the full sample at an amount of 26.6%, while the share for cited edited books was slightly below the average for the whole sample at an amount of 7.8%.

The average number of cited references including cited authored and edited books for CEE journals across scientific fields is shown in Fig. 2. It confirms a substantial variance of the number of references across scientific fields. Among them, sociology and law stand out with the highest average number of cited references in CEE journals, rising to more than 30.

The articles published in non-CEE journals averaged more references (32). That also applies to each scientific field, except law (Fig. 3). At the same time, the share of cited authored books amounted to 20.0%, lower than in the case of CEE journals. Except in multidisciplinary field social sciences and humanities (34.1%), the shares of cited authored books do not exceed 30% (Table 2). The fields that have the highest shares of cited authored

<sup>4</sup> For more information on Scholarly Publishers Indicators (SPI) see <http://ilia.cchs.csic.es/SPI/> (assessed 05-01-2019).

**Table 1** CEE journals: distribution of articles and book citations by scientific fields

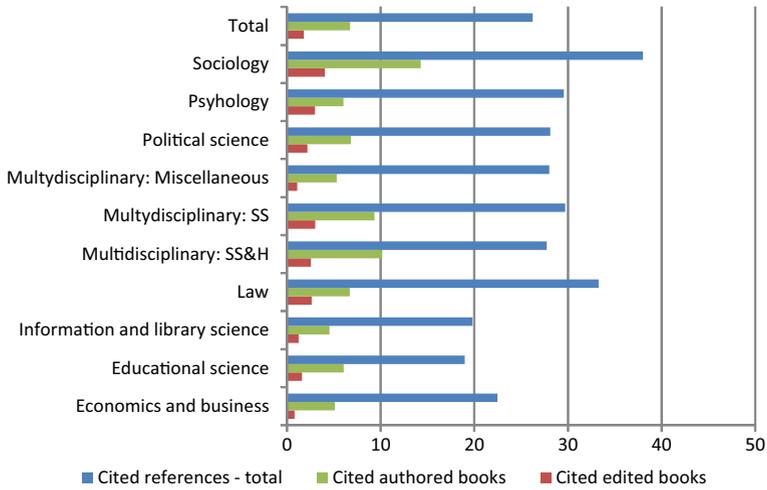
Scientific field	Number of CEE journals	Number of articles in CEE journals	Share of CEE journal articles in the full sample (%)	Share of cited references in CEE journal articles in the full sample (%)	Cited references in CEE journal articles	
					Share of cited authored books (%)	Share of cited edited books (%)
Economics and business	42	7375	64.1	56.5	22.7	3.6
Educational science	13	1186	48.0	39.2	31.8	8.3
Information and library science	7	736	35.0	29.1	22.8	6.2
Law	12	927	69.4	73.7	20.2	7.9
Multidisciplinary: SS&H	15	1282	61.4	59.1	36.7	9.2
Multidisciplinary: SS	27	2001	36.9	33.6	31.4	10.1
Multidisciplinary: miscellaneous	24	2247	52.7	49.0	17.8	3.9
Political science	9	193	17.3	16.3	24.3	7.7
Psychology	13	1918	51.0	42.2	20.4	10.1
Sociology	11	1251	87.7	86.5	37.5	10.6
Total	173	19,116	52.4	48.5	26.6	7.8

SS social sciences, SS&H social sciences and humanities

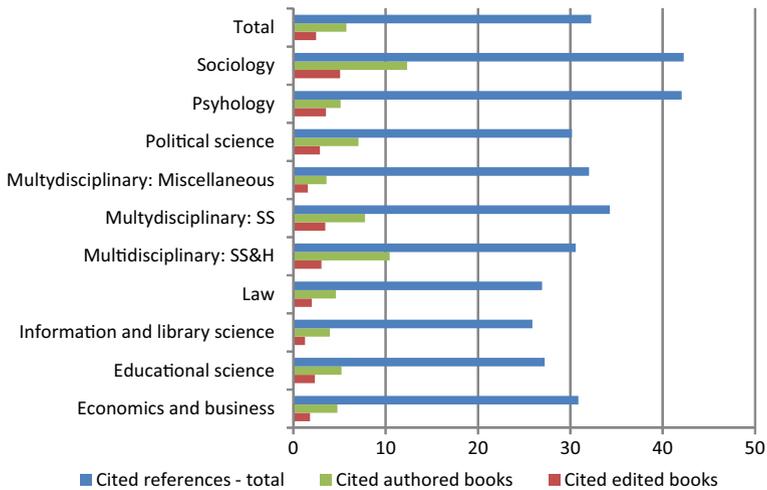
**Table 2** Non-CEE journals: distribution of articles and book citations by scientific fields

Scientific field	Number of non-CEE journals	Number of articles in non-CEE journals	Share of non-CEE journal articles in the full sample (%)	Share of cited references in non-CEE journal articles in the full sample (%)	Cited references in non-CEE journal articles	
					Share of cited authored books (%)	Share of cited edited books (%)
Economics and business	647	4133	35.9	43.5	15.5	5.8
Educational science	255	1283	52.0	60.8	19.1	8.5
Information and library science	156	1369	65.0	70.9	15.3	4.9
Law	104	409	30.6	26.3	17.1	7.3
Multidisciplinary: SS&H	139	805	38.6	40.9	34.1	10.0
Multidisciplinary: SS	533	3428	63.1	66.4	22.6	10.1
Multidisciplinary: miscellaneous	255	2017	47.3	51.0	11.2	4.9
Political science	147	924	82.7	83.7	23.4	9.6
Psychology	274	1842	49.0	57.8	12.1	8.4
Sociology	43	175	12.3	13.5	29.2	11.9
Total	2553	16,385	47.7	51.5	20.0	8.1

SS social sciences, SS&H social sciences and humanities



**Fig. 2** Average number of cited references in CEE journals. *Note:* SS social sciences, SS&H social sciences and humanities

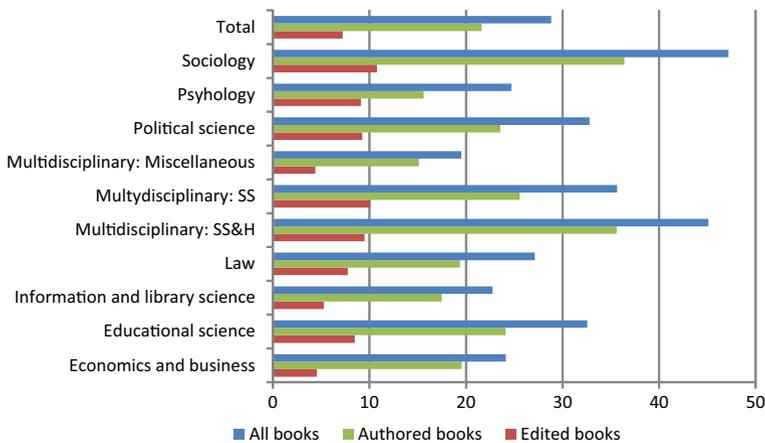


**Fig. 3** Average number of cited references in non-CEE journals. *Note:* SS social sciences, SS&H social sciences and humanities

books are sociology (29.2%), political science (23.4%) and multidisciplinary field: social sciences (22.6%).

The share of cited edited books in articles published in non-CEE journals is 8.1%, which is slightly higher than the average of the full sample. Below-average shares are present in four scientific fields: multidisciplinary field: miscellaneous, information and library science, economics and business, and law.

The average number of references, including authored and edited books in articles published in non-CEE journals is illustrated in Fig. 3.



**Fig. 4** Shares of authored and edited book citations in references by subject fields (%). *Note:* *SS* social sciences, *SS&H* social sciences and humanities

### Book citations by subject fields

As the above citation analysis of authored and edited books has confirmed for the full sample, there are significant differences in the importance of books in scientific communication across different scientific fields (Fig. 4).

If cited authored and edited books are taken together, the highest share of cited books is present in the field of sociology with the share of 47% (36% share of authored and 11% of edited books). Sociology is followed by two multidisciplinary fields, one relating to social sciences and humanities with 45%-share of cited books, and the other relating to multidisciplinary social sciences (meaning communication among various social science disciplines) with the share of 35% of cited books compared to other types of cited publications.

### Core book authors

The frequency of citations for authored books provides insight into the “core book authors” for the whole sample, as well as for the individual scientific fields.

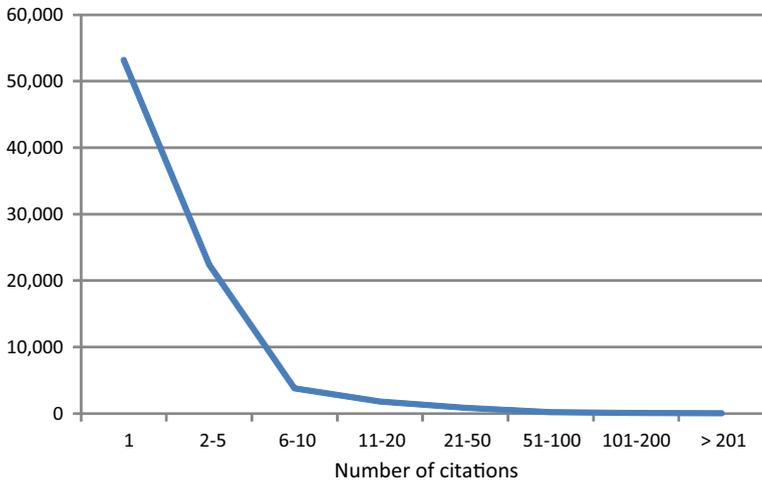
Book authors with a citation frequency exceeding 100 in the period 1996–2013 stand at 96 authors, which is 0.1% of the sample. For them, the citation frequency ranged from 100 to 600. As expected, in this category one may predominantly find globally well-established authors from English-speaking countries and the share of CEE authors is small (Table 3). The most-cited book authors in the full sample cited across *several* fields include Foucault, M.; Giddens, A.; Bourdieu, P.; Castells, M.; Hofstede, G.; Bauman, Z.; Beck, A.; Beck, U.; Habermas, J.; Inglehart, R. Shapiro (2000) noted that such authors had substantially affected the development of social sciences as a whole.

Table 3 illustrates the share of CEE book authors covered in the category “core book authors” by subject fields, while Fig. 5 indicates that the distribution of citations of book authors follows the power law.

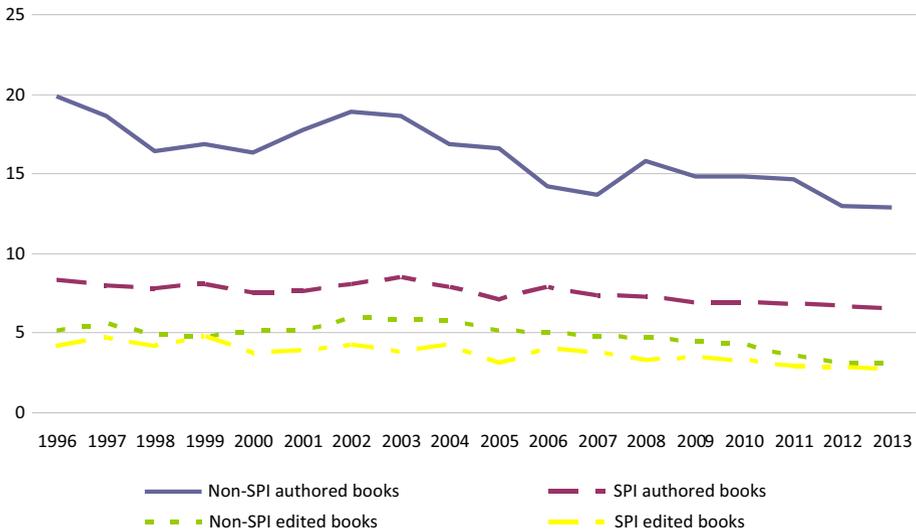
**Table 3** Distribution of citations of the 10 most-cited book authors

Scientific field	Number of book citations of the 10 most-cited book authors	Range of citations	Share of book citations from CEE countries (%)	Core book authors from CEE countries
Economics and business	1760	349–1119	7.1	Lithuania (Zavadskas, E.—125)
Educational science	440	64–29	33.2	Lithuania (Bitinas, B.—64; Jovaiša, L.—53), Hungary (Dörnyei, Z.—30)
Information and library science	275	45–20	20.0	Poland (Pawlak, Z.—31), Slovenia (Splichal, S.—24)
Law	246	65–17	37.4	Croatia (Ajduković, M.—22; Bežovan, G.—17; Puljiž, V.—17), Slovenia (Meško, G.—19; Brezovnik, B.—17)
Political science	290	48–21	7.9	Estonia (Taagepera, R.—23)
Psychology	1132	139–93	–	–
Sociology	1189	196–73	12.7	Poland (Bauman, Z.—151)
Multidisciplinary: SS	1243	204–90	16.7	Croatia (Cifrić, I.—110), Poland (Bauman, Z.—98)
Multidisciplinary: SS&H	637	99–48	49.9	Croatia (Petrić, H.—60; Feletar, D.—58; Adamček, J.—54), Poland (Bauman, Z.—55), Romania (Eliade, M.—91)
Multidisciplinary: miscellaneous	432	75–29	44.9	Poland (Pachalska, M.—75; Kępiński, A.—59; Paweł II, J.—31; Aleksandrowicz, J.—29)

SS social sciences, SS&amp;H social sciences and humanities

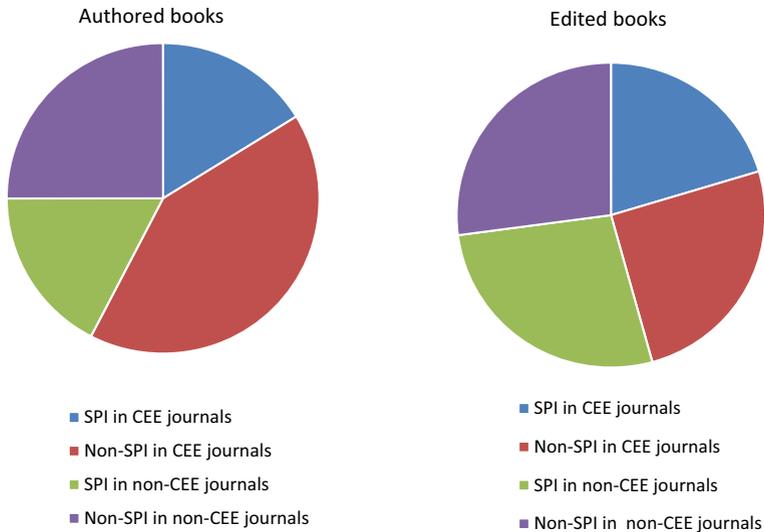


**Fig. 5** Distribution of citations of authored books



**Fig. 6** Distribution of cited authored and edited books by publisher type (%-share of total number of cited references)

Table 3 indicates that only seven out of fifteen countries have authors from the list of most-cited book authors, led by Poland, Croatia, Lithuania, and Slovenia. Psychology is the only field that does not have a CEE author among the most cited book authors.



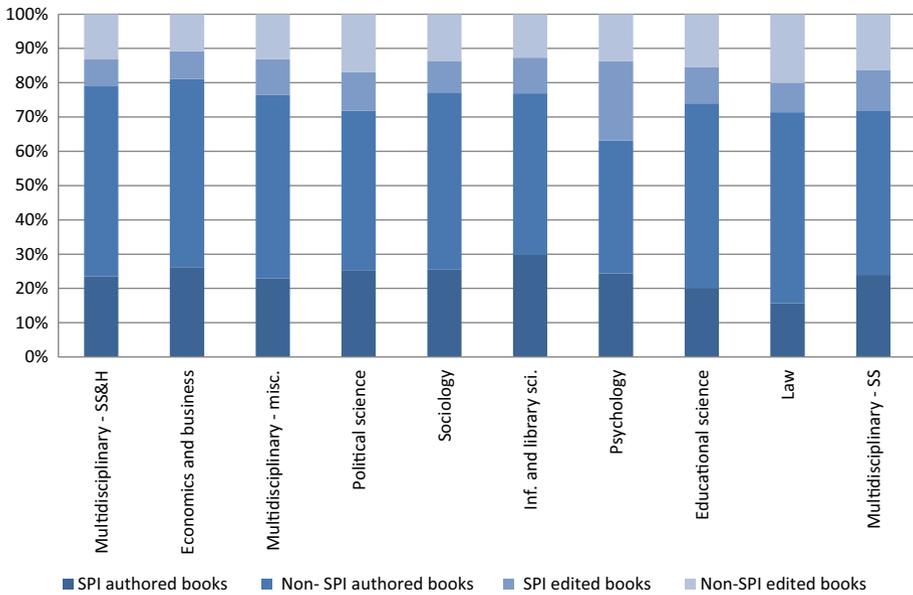
**Fig. 7** The shares of SPI and non-SPI publishers in cited authored and edited books: CEE and non-CEE journals

## Publishers

Figure 6 illustrates the differences in citing dynamics for SPI and non-SPI book publishers in the period 1996–2013. By classifying the cited authored books ( $n = 221,768$ ) on SPI and non-SPI publishers we found that 66% belonged to the non-SPI publishers, while 34% to SPI publishers. The results show that over time the share of cited authored books is decreasing with the sharper decline present in the non-SPI authored books group. Out of 608 SPI (non-Spanish) publishers, 362 were cited in our authored books subset. Among the most frequently cited SPI publishers, with more than 1000 citations are the following 19 publishers: Sage, Routledge, Wiley, Macmillan, Princeton University Press, MIT Press, Harvard University Press, Springer, Blackwell, Free Press, Prentice Hall, Polity, Erlbaum, Palgrave, Academic Press, Basic Books, and University of California Press. Their share in citations amounts to 22.4%, and almost all (90%) are ranked in the top 10% SPI non-Spanish publishers.

In the case of edited books ( $n = 74,506$ ), 55% of edited books were published by non-SPI publishers, while 45% by SPI publishers. However, the share of edited books, despite the publisher's type, also shows a declining trend over time. The most cited SPI publishers in the subset of edited books were Sage, Routledge, Oxford University Press, Cambridge University Press, Erlbaum, Springer, Academic Press, Wiley, Guilford, Blackwell, and Macmillan with citations share of 27.8%. All these publishers are ranked among the 10% most prestigious SPI non-Spanish publishers.

If we consider only authored books cited in CEE journals, non-SPI publishers are represented with the share of 41%, while the same publisher's group in non-CEE journals calculates to 25%. SPI authored books have an almost equal share in CEE and non-CEE journals, some 16–17% (Fig. 7). However, the results for edited books are slightly different. SPI edited books are cited with the same ratio, 27%, in CEE and non-CEE



**Fig. 8** Shares of cited authored and edited books by SPI and non-SPI publishers across scientific fields

journals. Non-SPI edited books were cited in non-CEE journals marginally higher (25%) than non-SPI edited books in CEE journals (20%) (Fig. 7).

If we look at the shares of SPI and non-SPI books cited in references across scientific fields we notice that non-SPI authored and non-SPI edited books are the least present in psychology (Fig. 8). SPI authored books are most cited in information and library science and economics and business fields. A possible explanation is the development dynamics of these scientific fields, but also the more frequent use of English as *lingua franca*. SPI edited books in most fields are cited with similar shares, except for a slightly smaller share in the fields of law and multidisciplinary field of social sciences and humanities.

## Discussion

It is crucial to additionally interpret the data presented in Tables 1 and 2 to better evaluate the results of the book citation analysis, as the number of journals, articles and cited references affect the outcome of the analysis. Initially, the sizeable difference between CEE ( $n=173$ ) and non-CEE journals ( $n=2553$ ) seems to imply the internationalization of the social sciences in CEE countries. However, at the same time, a slightly higher share of published articles in CEE journals (54%) suggests orientation towards national, regional, and local topics that might be less relevant for the international audience. Verifying this assumption requires data on the original written language of the articles as well as performing content analysis and additional bibliometric and qualitative analysis. Although the data on languages have been extracted from Scopus, it was not reliable enough to be included in further analysis (Lazić et al. 2017).

The analysis on the number of journals across scientific fields in the case of CEE journals shows that in some cases such as political science and sociology, while the number of

journals is similar (Table 1), the frequency of published articles and consequently, number of cited references, is highly variant. The explanation lies in the fact that the majority of CEE political science journals entered Scopus after 2008. Although the Ulrichsweb<sup>5</sup> database registers 49 CEE political science scholarly journals, less than 20% have met the Scopus criteria for indexing (Jokić et al. 2018).

The relatively large dispersion of CEE authors' papers in non-CEE journals—an average of 6 papers per journal in the period 1996–2013—might indicate potentially weak recognition and contribution of CEE authors to the cumulative knowledge of social sciences. More detailed analysis of the distribution of papers by journals as well as their citations pattern might justify this claim.

The results of the bibliometric analysis suggest that articles in non-CEE journals have a notably more references (on average some 20%) and this result holds across all scientific fields, except law. Interestingly, law CEE journals, are among scientific fields with the highest average number of references owing to the local focus and therefore local sources, used in the discipline.

Although the papers published in non-CEE journals have on average significantly more quoted references, our results show a smaller share of cited authored books and a slightly higher share of cited edited books than in CEE journals. The difference in shares of cited authored books between CEE (26.6%) and non-CEE journals (20.0%) answers our first research task. At the level of the whole sample, a common characteristic of papers in CEE and non-CEE journals is a gradually decreasing trend of citations to authored and edited books (Fig. 6).

A glance across scientific fields indicates that the average shares of cited authored and edited books are notably below the average for the full sample in the four fields—multi-disciplinary: miscellaneous, economics and business, information and library science and psychology (Fig. 4). These results are comparable to those of Small and Crane (1979), Robinson and Poston (2004) and Chapman and Yates (2017). The aforementioned scientific fields are developing more dynamically and may explain the similarity. These fields also have common methodological approaches and thus a similar paradigm of scientific communication as in natural sciences, which are more prone to publishing journal articles than books.

Scientific fields in which the shares of cited authored and edited books are above 30% include sociology (37.5%), multidisciplinary field: social sciences and humanities (36.7%), educational science (31.8%) and multidisciplinary field: social sciences (31.4%). The results for these fields are not a surprise as they are in line with results of previous studies, especially for sociology (Small and Crane 1979; Bott and Hargens 1991; Lindholm-Romantschuk and Warner 1996; Cerdón-García et al. 2017). Although literature in the field of law is very scarce, the results are unexpected as the share of cited books amounts to only 27%.

Previous research undertaken by Lindholm-Romantschuk and Warner (1996), Shapiro (2000) and Furner (2003) inspired the third research task posed in the introduction. Through citation analysis, they have aimed to determine whether there existed so-called “core books” or “classic books” in the social sciences. One of the main reasons to determine “core book authors” in articles by CEE authors was to get insight into the visibility of book authors who come from CEE countries as well as well-known international

<sup>5</sup> Ulrichsweb™, <https://www.proquest.com/products-services/Ulrichsweb.html> (accessed 21-01-2019).

authors. Namely, when regarding the specifics of social sciences in these countries affected by socialistic heritage, including the assertion of orientation toward nationally relevant topics in society, this aspect could be a valuable indicator. Curiously, only 0.1% of book authors have been cited more than 100 times (Fig. 5). In this group of authors who affected global development of social sciences (and are cited across several scientific fields), there are no book authors from CEE countries. These results confirm Alatas's hypothesis (2003, p. 603) that "according to academic dependency theory, the social sciences in intellectually dependent societies are dependent on institutions and ideas of western social science such that research agendas, the definition of problems areas, methods of research and standards of excellence are determined by or borrowed from the West".

In the category of core book authors (0.1%;  $n=96$ ) only three authors are from three CEE countries: Zygmunt Bauman in the field of sociology from Poland; Zavadskas, E. in the field of economics from Lithuania; and Cifrić I. in the multidisciplinary field of social sciences from Croatia. It is important to note that Bauman was of Polish origin but emigrated to the West in 1968. The citation ratios for Cifrić and Zavadskas are based mainly on the quotations of authors from their parent countries.

At the level of individual scientific fields in the group of ten most-cited authors, the picture is somewhat different (Table 3). It is not surprising that the number of CEE book authors in the fields of psychology, economics and business, and political science are scarcely present or not represented at all. These are internationally well-established fields where, in general, recognition for the theoretical contributions by CEE authors is rare. At the same time, a relatively large share of CEE book authors (Table 3) among ten most-cited authors in law, educational science, and multidisciplinary fields have been affected by the number of articles published in CEE journals (Table 1). That applies in particular to Croatia, Poland, Slovenia, and Lithuania.

Significant differences in the range of the citations of most cited authored books by scientific fields (Table 3) is an indicator of specificities in scientific communication in different fields in social sciences. This information could be useful in decisions related to the evaluation of scientific work and academic promotions.

The commonality for all "core book authors" in this research is that almost all quotes were from authors from their native countries. One possible reason is the relatively weak communication between authors from 15 CEE countries. Poor communication is an effect of language barriers, a clear orientation towards western European countries, and that many of internationally recognized theoreticians in social sciences are not from the CEE countries. A fully exhaustive citation and network analysis would be necessary to yield a more objective and precise picture of influential book authors, especially from CEE countries.

Analyzing indicators related to publishers of cited authored and edited books provides insight into scholarly communication patterns in the social sciences. By separating publishers into those of international prestigious covered by SPI (non-Spanish publishers), and non-SPI publishers of cited authored and edited books, we gained insight into the literature that CEE social science authors consult.

The results of cited authored and edited book publishers are in favor of non-SPI publishers as was anticipated, confirming the thesis that an orientation towards national, regional, and local topics is prevalent in social science research, especially in non-English speaking countries like the CEE countries.<sup>6</sup> However, there are differences in the dynamics of

<sup>6</sup> The recent Helsinki Initiative on Multilingualism in Scholarly Communication: <https://www.helsinki-initiative.org/> (accessed 24-06-2019) is in favor of protecting national publishers.

citation of authored and edited books in the period 1996–2013. While in the case of both authored and edited books, the difference between non-SPI and SPI publishers is decreasing by years (Fig. 6), it remains more considerable in the case of authored books than in the case of edited books (Fig. 6).

To fully appreciate the role of non-SPI publishers in CEE countries, it is important to emphasize that the exact number of publishers is difficult to collect, especially those engaged in the publication of scientific books in these 15 countries. We assumed a large number of small publishers, which is confirmed in Croatia with 9000 registered publishers and Slovenia with 3600 publishers. The identification of each publisher from our sample would require complete lists of publishers from all countries, and then tidying of cited authored and edited books, which is beyond the scope of this study.<sup>7</sup>

Results by journals, CEE versus non-CEE, for cited authored books show a significant difference in favor of non-SPI publishers in CEE journals. Additionally, results show that journal paper authors from our sample primarily cited SPI authored books in library and information sciences, likely because of the development of information science and the lack of relevant authored books in CEE countries (Fig. 8). The lowest number of cited SPI authored books was in the field of law, owing to specificities in scholarly communication in this field.

In the case of SPI edited books, the results for the fields of psychology and law are mostly expected (Fig. 8). In psychology, edited books as a form of scientific communication have a particular role, although little research has been done on that topic thus far. The advantage of SPI edited books is that they bring information and insights to a specific topic written by a group of authors faster than when publishing authored books. On the contrary, the lowest citation of SPI edited books is by CEE authors in the field of law, which, again, was expected as a result of local issue focus.

In order to better understand the citation ratio of SPI and non-SPI authored books, it is essential to acknowledge that books by prestigious authors published by SPI publishers are intermittently translated into the native languages of the 15 CEE countries and are published by non-SPI publishers as well.

## Conclusions

This study aimed to gain better insight into the role of authored and edited books in scientific communication of 15 CEE countries. The common characteristic of these 15 countries is that their historical background has had, and likely still has, a marked effect on the development of social sciences. Although the common knowledge suggests great importance of books in social sciences, our results indicate that the share of cited books in scholarly journal articles by CEE authors is below 30%. Additionally, it has been shown that the share of cited authored and the edited books is declining over time (Fig. 5).

A detailed analysis enacted through four research tasks has shown the following.

In the first research task, we aimed to determine whether there is a difference in citation pattern between papers in CEE (local) and non-CEE (international) journals. All bibliometric indicators in relevant databases indicated that differences exist. In social

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<sup>7</sup> This problem could be solved through the initiative on International Register of Book Publishers that is being developed in the framework of ENRESSH Cost Action and aims at reflecting the diversity in scholarly publishing at the national level (<https://enressh.eu>) (accessed 24-06-2019).

sciences, national journals have an important role, and even more so in CEE countries that have the common historical/socialist background. It relates to topics that are nationally specific and less relevant to the international scientific community, but of great importance for national academic communities (Gläser 2004).

The share of authored books in cited references in CEE journals is higher than in non-CEE journals, while the share for edited books is almost equal (Tables 1, 2).

Although social sciences are most often being discussed and analyzed as a whole, through our second task, we attempted to analyze the difference in scholarly communication across scientific fields. As expected sociology is the field with the highest share (47%) of cited books, followed by a multidisciplinary field related to social sciences and humanities. To some extent, the result for the field of law is surprising as the share of cited books amounts to 27%. The results for the rest of the social science fields are expected, particularly in multidisciplinary journals, which relates to interdisciplinary articles from all fields of science, where journal articles are frequently used as channels for scientific communication.

In the third task, we attempted to get insight into the “core book authors” for social sciences. Among the most-cited book authors, there are only several CEE authors. CEE book authors are not present in the group of most cited authors across several scientific fields. Results by scientific fields suggest that the ten most-cited book authors from CEE countries are not recognized or have a small share in the fields of psychology, economics and business, and political science. However, in law, education science and multidisciplinary fields, authors from some CEE countries are recognized, but the frequency of CEE articles and journals indexed in Scopus may have affected this result (Table 3). Additionally, almost all citations are obtained from colleagues from their own countries.

The results of the fourth task give us insight into the citation of authored and edited books by category of the publisher, i.e., international prestigious covered by Scholarly Publishers Indicators (non-Spanish publishers) and local/regional publishers, non-SPI publishers. A higher share of cited authored books is in favor of non-SPI publishers, confirming the thesis that there is a distinct orientation towards national, regional and local topics in social science studies especially in non-English speaking countries. Results across the analyzed scientific fields indicate that psychology has the distinction of possessing the lowest share of cited books by local/regional publishers as anticipated.

The data presented opens the possibility for more in-depth analysis, which is beyond the aim of this study. Nevertheless, the results suggest specifics of social science fields, which is vital in understanding changes of scientific communication paradigm in social sciences, but also as a practical value when evaluating the authors’ production for academic promotion.

This research is preliminary, and therefore it is necessary to undertake further analysis. A detailed analysis of publishers of authored and edited books would give better insight into the book citation patterns. In this study that was not possible due to the size of the sample and its linguistic diversity. Additionally, the analysis of age distribution of citations, the changes in citing patterns through time and the analysis of journals per publisher’s country would also help explain differences in scientific communication between CEE and non-CEE journals.

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