A Criteria-based Assessment of the Coverage of Scopus and Web of Science

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Abstract

Purpose: The purpose of this study is to assess the coverage of the scientific literature in Scopus and Web of Science from the perspective of research evaluation.

Design/methodology/approach: The academic communities of Norway have agreed on certain criteria for what should be included as original research publications in research evaluation and funding contexts. These criteria have been applied since 2004 in a comprehensive bibliographic database called the Norwegian Science Index (NSI). The relative coverages of Scopus and Web of Science are compared with regard to publication type, field of research and language.

Findings: Our results show that Scopus covers 72 percent of the total Norwegian scientific and scholarly publication output in 2015 and 2016, while the corresponding figure for Web of Science Core Collection is 69 percent. The coverages are most comprehensive in medicine and health (89 and 87 percent) and in the natural sciences and technology (85 and 84 percent). The social sciences (48 percent in Scopus and 40 percent in Web of Science Core Collection) and particularly the humanities (27 and 23 percent) are much less covered in the two international data sources.

Research limitation: Comparing with data from only one country is a limitation of the study, but the criteria used to define a country's scientific output as well as the identification of patterns of field-dependent partial representations in Scopus and Web of Science should be recognizable and useful also for other countries.

Originality/value: The novelty of this study is the criteria-based approach to studying coverage problems in the two data sources.

Keywords Scopus; Web of Science; Norwegian Science Index; Research evaluation; Evaluation criteria; Scientific publications

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1   Introduction

Although the providers of Scopus (Elsevier) and Web of Science (Clarivate Analytics) claim to be increasingly covering the world's scientific and scholarly literature comprehensively, both products are selective in practice as well as in principle. To have success on the market, these products not only depend on the coverage, but also the quality and relevance of their contents, as well as on their production costs. The provider of Web of Science, Clarivate Analytics, in addition inherits a tradition in which Eugene Garfield (1979) demonstrated that information retrieval theory (Bradford's law of scattering) and citation analysis support the idea of indexing mainly the "core journals". For many decades, an in-house editorial team has been evaluating possible new source items for Web of Science according to a set of publicly available criteria and with the help of citation analysis.

Elsevier instead publicly states on the webpages of the product that "content included in Scopus is carefully curated and ultimately selected by the independent Scopus Content Selection and Advisory Board (CSAB), an international group of scientists, researchers and librarians who represent the major scientific disciplines." Although the coverage of Scopus is somewhat broader than that of Web of Science, all comparisons, including our own in this study, demonstrate a large overlap and indicate the same pattern of deficiencies when it comes to the social sciences and humanities, and the coverage of literatures in other languages than English. The business model and the criteria seem to be the same. Scopus is also selective in principle and practice.

The two products serve several purposes. Among them are information retrieval, science studies and research evaluation and funding. Here, we limit the perspective to research evaluation and funding as we ask two questions that normally must be answered all the time in this context: How should research quality be assessed? And who should decide on the criteria? With the use of Scopus and Web of Science for research evaluation and funding, the answers are already given above: The commercial providers decide how to select the information provided for the evaluation and who will be using the selection criteria. Even the "independent" advisory board for Scopus is appointed by Elsevier. These procedures ensure the quality of the highly valued products that we use for information retrieval and science studies. Hence, it is easy to forget that the same procedures are less legitimate in research evaluation and funding.

In research evaluation, the procedures and criteria are normally developed and decided in the public domain and anchored in representative bodies of the research communities. In public funding of research, the procedures and criteria are normally decided by democratically responsible authorities and policies and made public to society.

We see a need for the international community of experts in bibliometrics and research evaluation to start discussing the use of Scopus and Web of Science from the perspective of properly organized research evaluation and funding. The two questions need to be renewed in this context: How should research quality be assessed? And who should decide on the criteria?

To initiate the discussion, we apply a criteria-based assessment of the coverage of Scopus and Web of Science in this study. The criteria have been developed by the Norwegian Association of Higher Education Institutions (Universities Norway) with the assistance of its underlying national disciplinary committees and in collaboration with the Norwegian Ministry of Higher Education and Science to support the latter's institutional funding model. The criteria are also in practice applied by the Research Council of Norway when collecting information for funding applications and national field evaluations. The criteria are very similar to those applied for institutional funding purposes in three other countries: Belgium (Flanders), Denmark and Finland.

The inclusion criteria used in the "Norwegian Model" will be further described in the Data and Methods section below, but essentially, peer-reviewed scientific and scholarly publications are defined and delimited in a way that is comparable to selecting only original research publications (articles) and reviews in Scopus and Web of Science. Source items are similarly selected one by one on the basis of a set of minimal criteria that are intended to promote proper peer review and research quality. In practice, these minimal criteria provide a wider selection of source items than in Scopus and Web of Science. We are thereby able to describe the differences between what the academic communities of a country regard should be included as original research publications for evaluation and funding and what the commercial providers of Scopus and Web of Science are able to provide within a similar limitation to publication type. The patterns of differences will be described both with regard to publication type (books, articles in books, articles in series and journals), field of research and language.

During recent years, several valuable studies have addressed how Web of Science, and more recently Scopus, cover the research literature of various fields and countries. Nevertheless, a criteria-based approach representing research evaluation standards has been absent. With a few examples given in each category, these are the main types of approaches in earlier studies:

- The products have been compared to each other with no external reference data, usually confirming that both are suitable tools for evaluation e.g. (Archambault et al., 2009; Barnett & Lascar, 2012; Gavel & Iselid, 2008; Lopez-Illescas, de Moya-Anegon, & Moed, 2008).

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- What is not covered has been determined by using citations to non-indexed items in the same products as data e.g. (Moed, 2005; Nederhof, 2006; Van Leeuwen, 2012).
- The coverage of the products has been compared to Google Scholar in several studies with different conclusions regarding the usability of the latter (Franceschet, 2010; Harzing & Alakangas, 2016; Kousha & Thelwall, 2008; Lopez-Cozar, Robinson-Garcia, & Torres-Salinas, 2014; Meho & Yang, 2007). None of the studies assert that Google Scholar represents inclusion criteria according to research evaluation standards.
- Ulrich's Periodicals Directory has also been used as an external reference, again with no assertion that it represents academic standards for evaluation (Mongeon & Paul-Hus, 2016).
- Closer to our approach are studies that base the comparison a wider dataset defined as the published research output of a discipline in a non-English speaking country (Osca-Lluch et al., 2013), or area of research (Ossenblok, Engels, & Sivertsen, 2012) or a geographical region (Santa & Herrero-Solana, 2010). Particularly interesting among these is (Chavarro, 2017) with a critical discussion of the principles and practices of selectivity in the products, demonstrating how their alleged 'universalism' does not represent global research in practice.

Our study differs from such earlier studies by applying an explicit set of general criteria developed by academic communities with which we can observe what is included and excluded in the two products.

2 Data and methods

The so-called "Norwegian Model" (Sivertsen, 2016), which so far has been adopted at the national level by Belgium (Flanders), Denmark, Finland, Norway, and Poland, as well as at the local level by several Swedish universities and by University College Dublin, has three components:

A. A complete representation in a national database of structured, verifiable and validated bibliographical records of the peer-reviewed scholarly literature in all areas of research;
B. A publication indicator with a system of weights that makes field-specific publishing traditions comparable across fields in the measurement of 'Publication points' at the level of institutions;
C. A performance-based funding model which reallocates a small proportion of the annual direct institutional funding according the institutions' shares in the total of Publication points.

The experience is that even with only marginal influence on the total funding, component C will support the need for completeness and validation of the bibliographic data in component A. The data in component A are delimited by a definition, according to which a scholarly publication must:

1. present new insight
2. in a scholarly format that allows the research findings to be verified and/or used in new research activity
3. in a publication channel (journal, series, book publisher) which represents authors from several institutions and organizes independent peer review of manuscripts before publication.

While the first two requirements of the definition demand originality and scholarly format in the publication itself (this is checked locally by each institution), the third and fourth requirements are supported centrally by a dynamic register of approved scholarly publication channels.

Component A in our study is the Norwegian Science Index, a bibliographic database in Cristin (Current Research Information System in Norway), which covers the scientific publication output at almost all Norwegian higher education institutions, research institutes and hospitals. Only publications which have officially qualified as scientific or scholarly according to specific criteria given above are included in the study. We use simple counts of unique publications, leaving aside the publication indicator in component B. A total of 45,092 scientific or scholarly publications are included from the years 2015 and 2016.

While Scopus is organized as one database, Web of Science consists of several individual databases. The core databases are included in the Web of Science Core Collection which are:

- Science Citation Index Expanded (SCIE)
- Social Sciences Citation Index (SSCI)
- Arts & Humanities Citation Index (AHCI)
- Conference Proceedings Citation Index (CPCI)
- Book Citation Index (BKCI)
- Emerging Sources Citation Index (ESCI)

Although these are the core databases of Web of Science, many bibliometric analyses and indicators are limited to the classical ("flagship") citation indexes, the SCIE, SSCI, and AHCI, which cover journal publishing, only. For example, this holds for the Leiden ranking (http://www.leidenranking.com/information/data). The CPCI and BKCI databases cover conference series and book publications, respectively. The ESCI database was launched in 2015 and contains journals with

regional importance and journals under evaluation for being a part of SCIE/SSCI/ AHCI (http://wokinfo.com/products_tools/multidisciplinary/esci/). In this study, we have analysed the various databases individually and provide figures for the entire Web of Science Core Collection and for the three classical journal indexes, SCIE/ SSCI/AHCI. In some of the analyses, figures are also shown for individual databases.

The comparative analysis consists of several steps. For the journal articles indexed in Cristin, the analyses are based on the list of source journals for Scopus and Web of Science. For Scopus, the October 2016 source list was used, which was the most recent available when the study was carried out. For Web of Science, the 2017 journal source list has been applied. In order to map the journal records of Cristin indexed in Scopus and Web of Science (SCIE, SSCI, AHCI and ESCI), the journal name, ISSN-number and e-ISSN numbers were used as identifiers. Because both database produces apply a cover-to-cover indexing of the journal literature, and fully index all issues such a method is justified.

The analysis of book publications is more complicated where information on the title/name of the monographs, edited books, book series, conferences, conference series, as well as ISBN numbers in various ways were used as identifiers. The source lists of Scopus and Web of Science for book publications and proceedings were used as basis for comparison.

Although considerable efforts have been made to match the records as exact as possible, there inevitably will be cases where items mistakenly have been identified as being indexed or not. This is due to issues such as errors in core data, changes in the name of journals, or in the ISSN or ISBN numbers. Nevertheless, we believe that the sources of errors have rather minor importance when it comes to the overall findings of the study.

3   Results

Figure 1 shows overall results for the 2015 and 2016 publications. Scopus covers 72 percent of the total publication output, while the corresponding figure for Web of Science Core Collection is 69 percent. Thus, the large majority of the Norwegian scientific and scholarly publication output is indexed in the two databases. Although Scopus has the highest coverage, the difference is not large. The three classical databases, SCIE, SSCI, and AHCI, cover 56 percent of the publication output, while the figures for the CPCI, ESCI and BKCI, are 7 percent, 5 percent, and 1 percent respectively.

The publications have been classified in four domains: humanities, social sciences, health sciences, natural sciences and engineering (note that law is included under the social sciences, while psychology is classified in health sciences, not in the
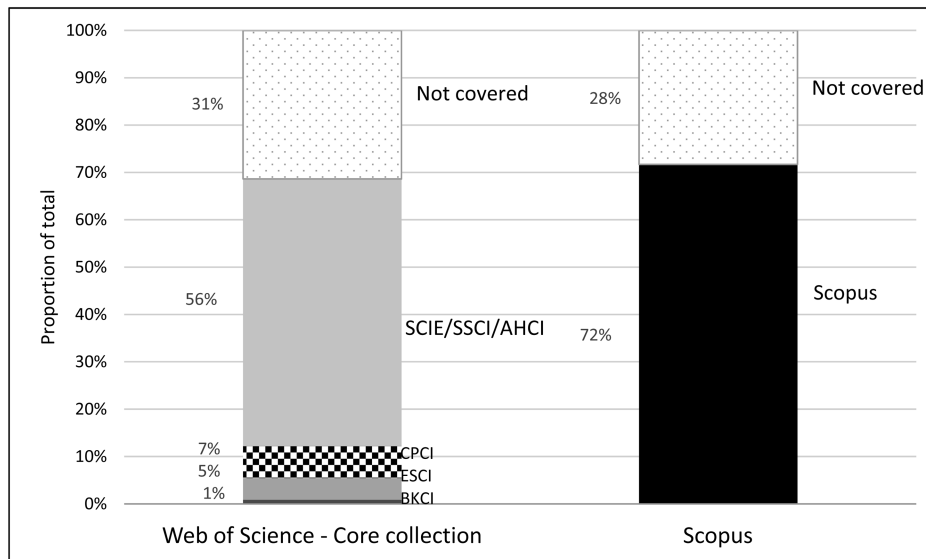
Figure 1.   Coverage of 2015 and 2016 publications, total all fields and publication types, Scopus and Web of Science.

social sciences). For both databases, there are large variations in coverage across different domains. This is shown in Figure 2. In medicine and health, the coverage is not far from complete, with proportions of 89 percent for Scopus and 87 percent for Web of Science Core Collection. The three journal indexes of Web of Science, SCIE, SSCI, and AHCI capture 82 percent of the production. The coverage is also very high for the natural sciences and technology, although for SCIE, SSCI, and AHCI the coverage is reduced (due to the importance of proceeding papers in technology).

For the social sciences the coverage is significantly lower. Here, 48 percent of the publications are indexed in Scopus and 40 percent in Web of Science Core Collection, while 27 percent appear in the SCIE, SSCI, and AHCI subset. Only a minor part of the publication output in humanities are indexed. Here the proportions are 27 percent and 23 percent for Scopus and Web of Science Core Collection.

Further details on the coverage by domains are provided in Table 1.

The **Appendix 1** contains a complete overview with details for individual disciplines. In the humanities there are large differences in coverage across different disciplines. For example, the Scopus coverage ranges from 11 percent in Scandinavian studies to 54 percent in architecture and design. These differences are likely to reflect the patterns of publication types and publication language applied. Also disciplines within the social sciences show large variations, with law at the bottom
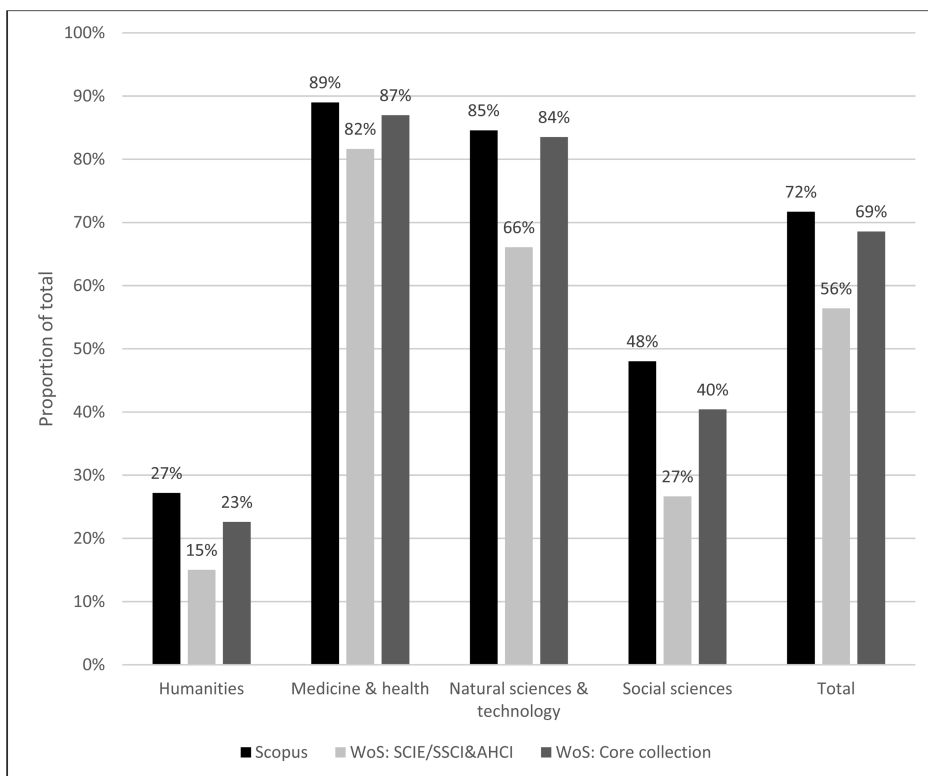
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Figure 2. Coverage of 2015 and 2016 publications by domain, total all publication types, Scopus and Web of Science.

Table 1. Coverage of 2015 and 2016 publications by domain, total all publication types, Scopus and Web of Science.

	Scopus	WoS Core Collection					N (total number of publications)
		SCIE/SSCI/AHCI	CPCI	BKCI	ESCI	Total	
Humanities	27%	15%	1%	2%	5%	23%	5,067
Medicine & health	89%	82%	0%	0%	5%	87%	12,879
Natural sci & tech	85%	66%	15%	0%	2%	84%	18,223
Social sciences	48%	27%	3%	2%	9%	40%	9,803
Total	72%	56%	7%	1%	5%	69%	45,972

in terms of coverage. In medicine and health a few disciplines achieve a 100 percent coverage in both Scopus and Web of Science Core collection. Disciplines within health, such as nursing and psychology, tend to be less well covered, in nursing approximately 50 percent of the publications are indexed in Scopus and Web of Science Core collection. Disciplines with the natural sciences tend to be very well

covered, with chemistry and physics on the top. The proportions for the engineering fields are generally lower than for the natural sciences. Here publishing in proceedings plays a more important role, and this publication type is less well covered that the journal publications.

Data in the Norwegian Science Index are classified into three publication types: monographs, book chapters (articles/chapters in anthologies) and articles in journals/ series. The latter category accounts for the large majority of the publications (81 percent), while 17 percent appear as book chapters and 1 percent as monographs.

Figures 3a and 3b show how the coverage of publications varies according to publication type. In total, 84 percent of the journal articles are indexed in Scopus, 80 percent in Web of Science Core Collection, while 68 percent appear in the SCIE, SSCI, and AHCI subset. The coverage of the book chapters is much lower, 12–13 percent for both Scopus and Web of Science Core Collection.

All publications in the Norwegian Science Index are classified according to publication language. Overall, 87 percent of the Norwegian publications are written in English (2015–2016). Of the remaining publications, most of them are written in
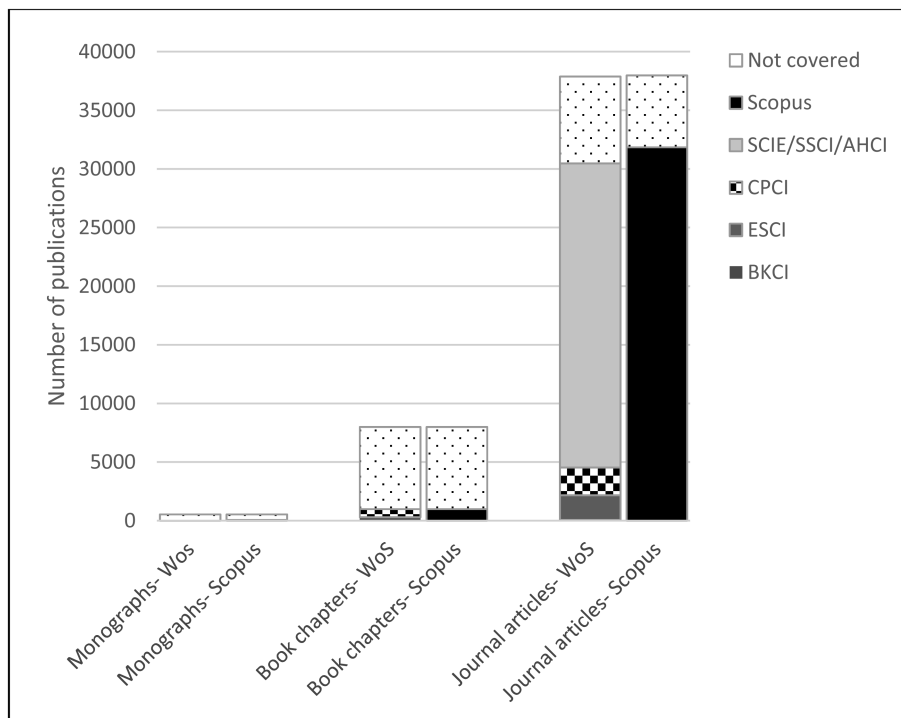

Figure 3a.   Coverage of 2015 and 2016 publications by publication types, Scopus and Web of Science, number of publications.
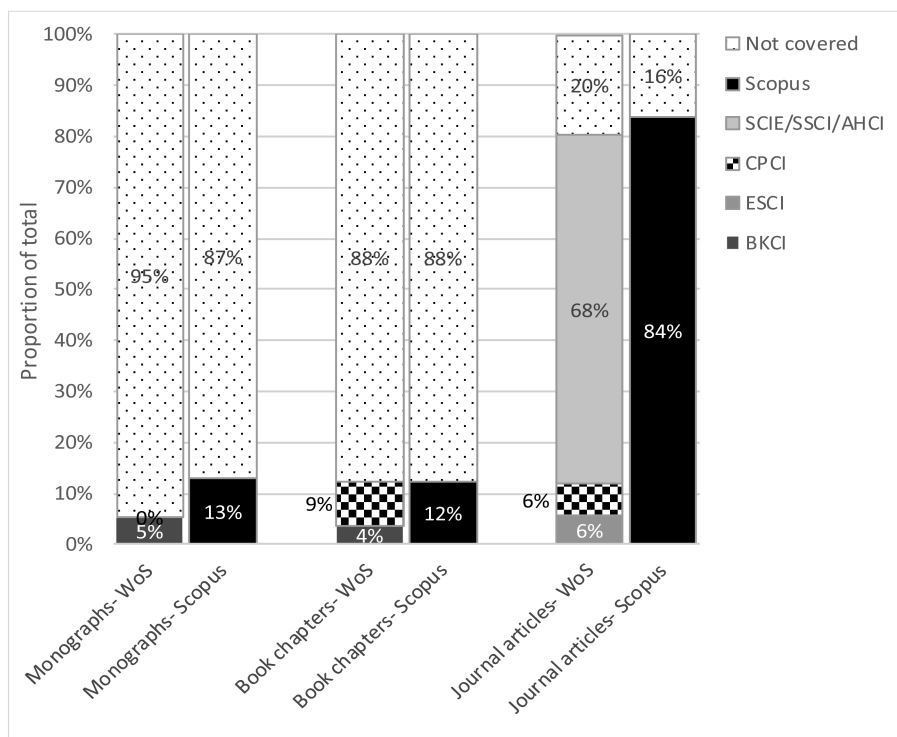
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Figure 3b.   Coverage of 2015 and 2016 publications by publication types, Scopus and Web of Science, proportions.

Norwegian and a small minority in other languages. However, Norwegian accounts for a much higher share of the publications in humanities and social sciences than in the other domains.

Figure 4 shows that both databases have a poor coverage of the Norwegian-language literature.[①] This is an important reason why the databases cover humanities and social sciences less well than what is the case for the other domains. However, also the English language publications of these domains are less well covered. For the humanities Scopus covers 43 percent of this literature, while the corresponding figure for Web of Science Core Collection is 36 percent. The English language publications of the social sciences are better covered with 67 percent and 57 percent indexed in Scopus and Web of Science Core Collection, respectively.

[①] Cf. Scopus Web-page: "Scopus coverage is global by design to best serve researchers' needs and ensure that relevant scientific information is not omitted from the database. Titles from all geographical regions are covered, including non-English titles as long as English abstracts can be provided with the articles. In fact, approximately 22% of titles on Scopus are published in languages other than English, adding up to 40 local languages (or published in both English and another language)."
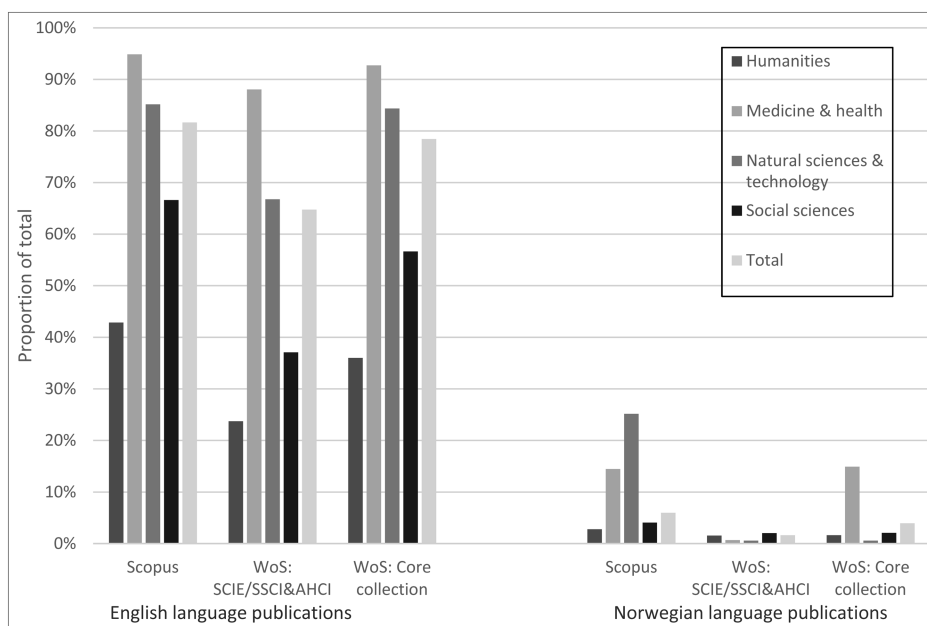
Figure 4. Coverage of 2015 and 2016 publications by publication language and domain, Scopus and Web of Science.

Appendix 2 provides a more detailed picture at the level of disciplines with regard to publications in journals. The left row (% in journals/series) shows the proportion of the total publication output appearing in journals and series. Here the proportions range from 42 percent in history to 100 percent in a few disciplines within medicine. Then follows a row showing the percentage of the journal publications having English as publication language. This proportion is between 90 and 100 percent in most disciplines within medicine and health and natural sciences and technology while it varies from 17 percent (Scandinavian studies) to 100 percent (English studies) in the humanities. Also, across the social science disciplines there are large variations in the prevalence of English as publication language. Finally, the table in the Appendix shows the proportion of the journal publications that are indexed in the two databases.

At the level of individual institutions, there are quite large differences in how well Scopus and Web of Science cover the publication output. For the largest hospital in Norway, Oslo University Hospital, almost all publications are indexed in Scopus and Web of Science Core Collection (96 percent and 95 percent), cf. Figure 5. On the other hand, Oslo and Akershus University College of Applied Sciences (now OsloMet) has less than half of their publications indexed. These differences reflect the field and publication profile of the institutions.

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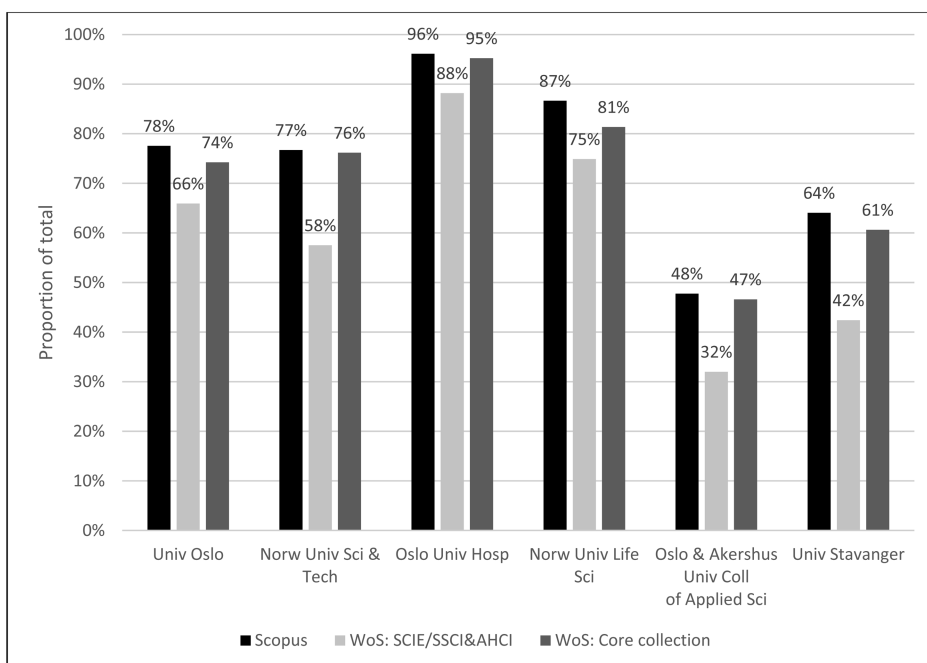
Figure 5.   Coverage of 2015 and 2016 publications for selected institutions, Scopus and Web of Science.

4   Discussions

As described in the introduction, the coverage of Scopus and the Web of Science has been analysed in many previous studies. It is clear that the results of these studies will depend on various issues related to how they are designed and their object of study:

a) Type of yardstick used to assess the coverage
b) Publication measure applied (e.g. journals or total number of publications)
c) Publication types included (e.g. journal articles or the entire research output)
d) Time period and database product analyzed
e) Fields and countries selected for analysis

Our analysis differs from earlier studies by applying an explicit set of general criteria developed by academic communities with which we can observe what is included and excluded in the two products (point a). Some main findings are discussed below.

In agreement with several previous studies (e.g. Archambault et al., 2009; Mongeon & Paul-Hus, 2016), our results show that Scopus has a broader coverage

than Web of Science. There has been an expansion in the number of sources covered in Scopus and Web of Science the recent years (Collazo-Reyes, 2014). The number of books indexed by Scopus is increasing by 20,000 each year (Elsevier, 2017) and the Web of Science has been supplemented with the Book Citation Index (BCI), and the Emerging Source Citation Index (ESI). We note, however, that compared with the entire Web of Science Core Collection, Scopus' coverage of the Norwegian publication output is not much higher (72 percent and 69 percent). This finding should be contrasted with the fact that currently more than 20,000 journals and 90,000 books are indexed Web of Science Core Collection (Clarivate Analytics, 2018), compared with 21,200 journals and 150,000 books in in Scopus (Elsevier, 2017). Previous studies such as Archambault et al. (2009) have shown that there is an extremely strong correlation in the number of papers per country in Scopus and WoS, with Scopus providing the largest numbers. This reflects that the two products have similar profile and biases. These have been characterised as to be in favour of large and frequently cited journals, articles written in English and published in English-language journals (Côté, Roberge, & Archambault, 2016).

For both databases our study shows large differences in the coverage across different domains. The health sciences, the natural sciences and technology are very well covered, while this does not hold for the social sciences and the humanities in particular. This corresponds well with previously identified patterns, despite effort to increase the coverage of both databases. Already in 1996, Bourke & Butler (1996) identified a large difference in the ISI (Web of Science) coverage of the Australian publication output in the sciences and social sciences and humanities. In the latter domains less than 20 percent were covered. A similar pattern was also found by (Moed, 2005), using the references patterns of the indexed publications as data source.

In addition, two more recent Norwegian studies using a similar approach showed analogous results. Sivertsen and Larsen (2012) found a coverage of ISI (SCIE, SSCI, and AHCI subset of the Web of Science) ranging from 11 percent in the humanities to 80 percent in the natural sciences. Generally, the figures reported in this study were 5–10 percentage points lower than the ones identified here, which can be explained by the increased coverage of the database during the time period. The study by Sivertsen (2014) included Scopus in the analyses, where the proportions typically were 5–10 percentage points lower than what has been reported here.

As another example, (Mongeon & Paul-Hus, 2016) used Ulrich's periodical database to assess the coverage. They found that in the natural sciences and engineering, Scopus covered 38 per cent of the journals, while the corresponding figure for Web of Science (SCIE, SSCI, and AHCI) was 33 percent. These proportions are much lower than the figures identified in this study, where Scopus and Web of

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Science (SCIE, SSCI, and AHCI) covered 94 and 73 percent, respectively of the journal publications. However, the studies have important differences in research design: while our study analyses the population of individual publications, Mongeon & Paul-Hus (2016) investigate the coverage by publication channels based on journal lists (cf. point b above). Ulrich's database indexes a large number of regional or national periodicals, most of them being irrelevant for researchers within a particular country. A journal-based approach would typically result in lower coverage, as the publication output is skewed at the level of periodicals: within country or field, a limited number publications channels account for a large proportion of the publications output. This is a variant of Bradford's Law of Scattering providing a basis for Eugene Garfield's creation of the Science Citation index (Garfield, 1979).

Our study shows that both databases have the same problems in terms of coverage of publications in non-English languages. Moreover, although the number of indexed books has been increasing in both databases, the coverage of book publications is still very limited. This publication type accounts for a small share of the indexed publications of both Scopus and Web of Science (Clarivate Analytics, 2018; Elsevier, 2017), although the number of books indexed in Scopus is higher than in the Web of Science Core Collection. Nevertheless, our study shows no differences in their coverage of the book publications. While the coverage of the English language journal publications is almost complete, this does not hold for the corresponding book publications. Apparently, many important publishers of scholarly books, particularly in the social sciences and humanities, are not covered by the databases (Sivertsen, 2014). The limited coverage of non-English literature on the one hand and book publications on the other, explain why the coverage of the social sciences and humanities is still inadequate.

Our study performs a test based on criteria developed by the academic communities in Norway. The criteria might well be changed or improved when discussed with academic communities in other countries. Although based on data from one country, we argue that the findings have general relevance because the study rooted in publication patterns that are similar across all countries (Sivertsen, 2014). Nevertheless, to some extent the biases identified might affect individual countries differently. There are variations across countries in the tendency towards publishing in international English language journals, in some countries publishing in non-English journals plays a more important role in others (Alperin, 2014). Variations in the coverage of different fields will also affect the overall coverage of each country differently, reflecting their individual specialisation profile (Aksnes et al., 2017).

The aim of our study transcends the one of analysing how Norwegian research is represented in Scopus and Web of Science. It is a test of what the two products look like in the perspective of properly organized research evaluation. This may be exemplified through the large differences that exist in how well Scopus and Web of Science cover the publication output of individual institutions (Figure 5). Research evaluation of institutions based on publication data from Scopus and Web of Science only will therefore rest on foundations lacking adequate justification. After decades of letting commercial providers act as the 'neutral guarantors of quality', we wish to empower the academic communities to take back responsibility for criteria and procedures also in the domain of bibliometrics for research evaluation and funding.

5   Conclusions

This study based on a whole country shows that there are minor differences between the coverages of the scientific literature in Scopus and the Web of Science Core Collection. The patterns of coverage are very similar with only partial representation of some fields of research. Both databases have the same problems in terms of coverage of the social sciences and humanities literature and with coverage of non-English languages. Moreover, although the number of indexed books has been increasing in both databases, the coverage of book publications is still very limited. Special efforts would be required to increase the coverage of the databases and reduce their bias towards particular fields and publication types.

Author Contributions

Both authors have contributed in all parts of the research process and to writing and revising the manuscript. Dag W. Aksnes (dag.w.aksnes@nifu.no) had a main responsibility for the data analysis, while Gunnar Sivertsen (gunnar.sivertsen@nifu.no) had a main responsibility for the introductory conceptual framework and the literature review.

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Research Paper

Appendix 1. Coverage in Scopus and Web of Science of 2015 and 2016 publications by discipline (with > 50 publications in the period)

Domain	Discipline	Scopus	WoS: SCIE/SSCI &AHCI	WoS: Core collection	N (publications)
Humanities	Architecture and Design	54 %	23 %	42 %	210
	English Studies	51 %	16 %	22 %	51
	Philosophy and History of Ideas	41 %	27 %	37 %	359
	Asian and African Studies	37 %	23 %	30 %	101
	Media and Communication	34 %	12 %	28 %	470
	Art History	33 %	18 %	21 %	73
	Linguistics	33 %	23 %	30 %	497
	Archaeology and Conservation	30 %	22 %	24 %	345
	Musicology	30 %	22 %	31 %	196
	Slavonic Studies	28 %	22 %	35 %	54
	History	26 %	13 %	20 %	518
	Theology and religion	22 %	8 %	15 %	811
	Literature	19 %	13 %	16 %	374
	Theatre and Drama	18 %	14 %	21 %	57
	Ethnology	13 %	4 %	13 %	184
	Interdisciplinary Humanities	12 %	8 %	14 %	377
	Scandinavian Studies	11 %	3 %	5 %	331
Medicine & health	Dermatology and Venerology	100 %	95 %	100 %	56
	Nephrology	100 %	88 %	97 %	68
	Pediatrics	100 %	99 %	100 %	135
	Oncology	100 %	96 %	99 %	781
	Gynecology and Obstetrics	99 %	97 %	99 %	328
	Rheumatology	99 %	97 %	97 %	221
	Haematology	99 %	97 %	98 %	91
	Biomedicine	98 %	94 %	97 %	1801
	Anaesthesia, Emergency and Intensive Care	98 %	90 %	98 %	193
	Gastroenterology and Hepatology	98 %	96 %	99 %	237
	Surgical Sciences	98 %	88 %	98 %	371
	Endocrinology	98 %	94 %	99 %	255
	Geriatrics	97 %	83 %	94 %	114
	Neurology	97 %	92 %	96 %	795
	Otorhinolaryngology	96 %	91 %	96 %	55
	Cardiovascular and Respiratory Systems	96 %	91 %	97 %	675
	Pharmacology and Toxicology	95 %	91 %	94 %	543
	Infections	95 %	97 %	99 %	170
	General Medicine	90 %	59 %	85 %	584
	Radiology, Nuclear Medicine & Med Imaging	89 %	81 %	93 %	158
	Psychiatry	88 %	83 %	88 %	600
	Veterinary Medicine	87 %	86 %	86 %	205
	Public, Environmental & Occupational Health	87 %	79 %	84 %	1636
	Sport Sciences	77 %	65 %	73 %	464
	Dentistry	75 %	70 %	74 %	227
	Psychology	71 %	62 %	66 %	1360
	Nursing	55 %	42 %	49 %	705

Domain	Discipline	Scopus	WoS: SCIE/ SSCI &AHCI	WoS: Core collection	N (publi- cations)
Natural sciences & technology	Chemistry	98 %	95 %	96 %	827
	Physics	95 %	82 %	93 %	1412
	Interdisciplinary Natural Sciences	94 %	90 %	92 %	1402
	Earth sciences	93 %	88 %	91 %	2459
	Biology	92 %	80 %	84 %	3130
	Chemical Engineering	91 %	76 %	92 %	322
	Biotechnology	89 %	85 %	87 %	245
	Materials Science and Engineering	89 %	59 %	84 %	665
	Environmental technology and industrial ecology	88 %	81 %	85 %	342
	Mathematics	88 %	78 %	87 %	950
	Applied geology, petroleum science and engineering	85 %	75 %	87 %	213
	Energy	84 %	48 %	87 %	773
	Mechanical engineering	84 %	58 %	78 %	293
	Marine Technology	83 %	30 %	58 %	596
	Industrial engineering and management	78 %	20 %	76 %	85
	Electronics and cybernetics	76 %	45 %	89 %	929
	Civil Engineering	75 %	61 %	76 %	473
	Multidisciplinary technology	70 %	45 %	63 %	273
	General Technology	69 %	21 %	61 %	439
	Computer & information science, Computer engineering	64 %	8 %	70 %	1228
	Informatics	59 %	24 %	69 %	1004
	Networks and network based services	56 %	27 %	81 %	173
	Electric power engineering	51 %	41 %	71 %	249
Social sciences	Development Studies	79 %	47 %	72 %	205
	Economics	72 %	62 %	72 %	727
	Library and Information Science	69 %	42 %	52 %	219
	Geography	63 %	45 %	54 %	710
	Business and Finance	62 %	34 %	54 %	1391
	Social Work	57 %	32 %	45 %	617
	Sociology	55 %	30 %	49 %	520
	Political Science	55 %	28 %	42 %	1152
	Anthropology	53 %	21 %	36 %	325
	Gender Studies	38 %	18 %	30 %	132
	Interdisciplinary Social Sciences	36 %	10 %	33 %	834
	Education and Educational Research	29 %	13 %	24 %	2060
	Law	20 %	6 %	12 %	937

Research Paper

Appendix 2. Coverage of 2015 and 2016 journal publications by discipline, Scopus and Web of Science

Domain	Discipline	% in journals / series	% in English language	% cov. Scopus	% cov. WoS: SCIE/SSCI& AHCI	% cov. WoS: Core collect.	N (no. journal pub.)
Humanities	Architecture and Design	65 %	85 %	71 %	36 %	59 %	136
	English Studies	61 %	100 %	61 %	26 %	32 %	31
	Media and Communication	47 %	80 %	60 %	26 %	55 %	221
	Philosophy and History of Ideas	63 %	68 %	57 %	43 %	55 %	225
	History	42 %	57 %	54 %	31 %	41 %	215
	Linguistics	61 %	84 %	48 %	38 %	46 %	304
	Archaeology and Conservation	61 %	64 %	47 %	36 %	39 %	209
	Art History	62 %	53 %	47 %	29 %	33 %	45
	Asian and African Studies	65 %	76 %	45 %	35 %	44 %	66
	Musicology	63 %	77 %	40 %	35 %	40 %	124
	Theology and religion	52 %	56 %	36 %	15 %	25 %	421
	Slavonic Studies	74 %	70 %	35 %	30 %	45 %	40
	Theatre and Drama	46 %	69 %	31 %	31 %	46 %	26
	Literature	60 %	44 %	25 %	21 %	25 %	223
	Ethnology	56 %	63 %	18 %	8 %	17 %	103
	Interdisciplinary Humanities	63 %	75 %	18 %	12 %	20 %	239
	Scandinavian Studies	49 %	17 %	17 %	6 %	9 %	161
Medicine & health	Anaesthesia, Emergency and Intensive Care	98 %	98 %	100 %	92 %	100 %	189
	Dermatology and Venerology	100 %	100 %	100 %	95 %	100 %	56
	Geriatrics	96 %	99 %	100 %	86 %	95 %	110
	Gynecology and Obstetrics	99 %	100 %	100 %	98 %	100 %	326
	Haematology	99 %	100 %	100 %	98 %	99 %	90
	Nephrology	100 %	100 %	100 %	88 %	97 %	68
	Pediatrics	100 %	100 %	100 %	99 %	100 %	135
	Rheumatology	99 %	100 %	100 %	98 %	98 %	219
	Oncology	100 %	100 %	100 %	97 %	99 %	778
	Biomedicine	98 %	100 %	99 %	96 %	98 %	1769
	Gastroenterology and Hepatology	99 %	100 %	99 %	97 %	100 %	234
	Neurology	97 %	100 %	99 %	95 %	98 %	772
	Surgical Sciences	99 %	100 %	98 %	89 %	98 %	368
	Endocrinology	99 %	100 %	98 %	94 %	99 %	253
	Otorhinolaryngology	100 %	100 %	96 %	91 %	96 %	55
	Cardiovascular and Respiratory Systems	100 %	99 %	96 %	91 %	97 %	674
	Pharmacology and Toxicology	99 %	96 %	96 %	91 %	94 %	540
	Psychiatry	92 %	96 %	95 %	90 %	95 %	553
	Infections	100 %	100 %	95 %	97 %	99 %	170
	Public, Environmental and Occupational Health	92 %	96 %	94 %	86 %	91 %	1502
	Radiology, Nuclear Medicine and Medical Imag.	94 %	99 %	94 %	86 %	98 %	149
	Veterinary Medicine	94 %	95 %	92 %	91 %	91 %	193
	General Medicine	98 %	74 %	91 %	60 %	86 %	574
	Sport Sciences	86 %	99 %	86 %	76 %	84 %	397
	Psychology	85 %	87 %	80 %	72 %	76 %	1161
	Dentistry	100 %	81 %	75 %	71 %	74 %	226
	Nursing	86 %	76 %	64 %	49 %	57 %	605

Domain	Discipline	% in journals / series	% in English language	% cov. Scopus	% cov. WoS: SCIE/SSCI& AHCI	% cov. WoS: Core collect.	N (no. journal pub.)
Natural sciences & technology	Mechanical engineering	85 %	100 %	99 %	68 %	83 %	248
	Chemistry	98 %	100 %	99 %	97 %	98 %	811
	Earth sciences	94 %	100 %	98 %	94 %	96 %	2310
	Chemical Engineering	93 %	100 %	98 %	82 %	98 %	299
	Physics	98 %	100 %	97 %	84 %	95 %	1380
	Electronics and cybernetics	78 %	100 %	96 %	57 %	96 %	728
	Marine Technology	85 %	100 %	95 %	35 %	67 %	506
	Interdisciplinary Natural Sciences	98 %	99 %	95 %	92 %	94 %	1377
	Biology	94 %	98 %	95 %	85 %	88 %	2956
	Mathematics	92 %	100 %	95 %	85 %	93 %	870
	Materials Science and Engineering	92 %	100 %	95 %	64 %	89 %	613
	Biotechnology	92 %	100 %	95 %	92 %	92 %	226
	Applied geology, petroleum science and engineering	90 %	100 %	94 %	83 %	95 %	192
	Energy	89 %	100 %	94 %	54 %	93 %	687
	Computer and information science, Computer engineering	68 %	100 %	94 %	12 %	82 %	834
	Environmental technology and industrial ecology	93 %	96 %	93 %	87 %	91 %	318
	Civil Engineering	80 %	100 %	90 %	76 %	92 %	378
	Multidisciplinary technology	71 %	100 %	90 %	63 %	85 %	194
	Electric power engineering	60 %	100 %	83 %	68 %	83 %	150
	Industrial engineering and management	92 %	90 %	82 %	22 %	82 %	78
	General Technology	87 %	99 %	78 %	24 %	66 %	380
	Informatics	79 %	98 %	74 %	30 %	75 %	790
	Networks and network-based services	76 %	99 %	73 %	35 %	86 %	132
Social sciences	Development Studies	75 %	100 %	95 %	63 %	88 %	153
	Geography	59 %	93 %	88 %	76 %	85 %	419
	Anthropology	52 %	82 %	85 %	41 %	66 %	168
	Economics	85 %	93 %	82 %	73 %	83 %	618
	Library and Information Science	84 %	97 %	81 %	51 %	61 %	183
	Political Science	52 %	87 %	79 %	53 %	73 %	597
	Business and Finance	77 %	89 %	74 %	44 %	68 %	1072
	Sociology	67 %	86 %	74 %	45 %	71 %	348
	Social Work	82 %	76 %	68 %	39 %	55 %	507
	Gender Studies	52 %	68 %	62 %	35 %	53 %	68
	Interdisciplinary Social Sciences	71 %	71 %	45 %	14 %	44 %	589
	Education and Educational Research	54 %	67 %	45 %	25 %	42 %	1115
	Law	45 %	57 %	28 %	13 %	22 %	423