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# Publication patterns in the social sciences and humanities in Flanders and Poland

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## Abstract

This paper investigates internationalization patterns in the language and type of social sciences and humanities publications in non-English speaking countries. This research aims to demonstrate that such patterns are related not only to discipline but also to each country's cultural and historic heritage. We used data from Flemish and Polish databases collected between 2009 and 2014. In Flanders, on the one hand, we found that changes in the use of languages and publication types were moderate and occurred gradually over several years. In Poland, on the other hand, we found significant shifts in the use of certain publication types, sometimes from year to year. Examining the social sciences and humanities literature both as a whole and broken down by discipline, we observed similar variability over time in the proportion of work published in English and in article form. However, we found remarkable differences between Flanders and Poland regarding the most commonly used languages and publication types. Overall, we found few similarities between Flemish and Polish social sciences and humanities publication patterns.

## Conference Topic

Country-level studies, Science policy and research assessment

## Introduction

This study aims to advance the knowledge regarding social sciences and humanities (SSH) publication patterns in Europe. National studies on SSH research outputs in Finland (Puuska 2014), Flanders (Engels, Ossenblok, & Spruyt, 2012; Verleysen, Ghesquiere, & Engels), and Norway (Sivertsen, 2016) have reported stable patterns in terms of publication type, though in terms of publication language, academic work is gradually leaning toward greater English use. Furthermore, Sivertsen (2016) suggests that though publication patterns across countries are similar within SSH disciplines, these patterns differ between SSH disciplines. However, these studies have focused on Western and Northern European countries, rather than on Central and Eastern European countries, which have undergone various academic transformations over the past three decades, following the breakdown of Communist regimes (Kozak, Bornmann, & Leydesdorff, 2014; Kwiek, 2014). Thus, our contribution here is to demonstrate that in non-English speaking countries, internationalization patterns in the language and type of SSH publications are related not only to discipline but also to each country's specific cultural and historic heritage.

We analyze all scholarly SSH publications written by academics affiliated with Flemish and Polish institutions between 2009 and 2014. Though the presence of SSH publications in databases like Scopus and Web of Science (WoS) has grown—and though, as a result, various

research evaluation systems have come to use this presence as a criterion of productivity—these citation databases have limited coverage, particularly of scholarly publications from non-English speaking countries (Sivertsen 2014). Therefore, to develop a broader picture of publication patterns in Europe, we examine the Flemish and Polish academic databases, which offer a complete representation of SSH publications within their respective countries. We begin by describing the structure of the Flemish and Polish academic databases and defining the various publication types and inclusion criteria. We then briefly explain how the databases classify fields and disciplines, as well as how comparisons between SSH publication patterns in Flanders and Poland are made possible using both databases. Next, we describe the data and methods, as well as our findings regarding SSH publication patterns related to language and type. We conclude by discussing and interpreting the results in a broader context.

### **Design and Structure of the Flemish and the Polish Databases**

Over the past two decades, several European countries have developed research evaluation systems for assessing national research productivity based on the number of published works. For instance, in the U.K., disciplinary panels evaluate the quality of publications, whereas Norway, Denmark, Finland, Flanders, and Poland have developed full-coverage bibliographic databases to underpin local performance-based research funding systems (Hicks 2012). The most well-known of these databases is the Current Research Information System in Norway database, or the CRISTin database, which collects bibliographic information from all fields and all higher education institutions. In 2008, the Flemish government established the Flemish Academic Bibliographic Database for the Social Sciences and Humanities (VABB–SHW, [www.ecoom.be/nl/vabb](http://www.ecoom.be/nl/vabb)), which collects all bibliographic references to published SSH research outputs by scholars affiliated with universities in Flanders, the northern Dutch-speaking region of Belgium. Similarly, the Polish government developed the Polish Scholarly Bibliography (PBN, [www.pbn-ms.opi.org.pl](http://www.pbn-ms.opi.org.pl)) in 2011 to underline its performance-based research funding system. Like CRISTin, the PBN collects bibliographic information from all science fields and all higher education institutions.

#### *The Flemish Academic Bibliographic Database for the Social Sciences and Humanities (VABB–SHW)*

Earlier studies have described the VABB–SHW’s methodology for collecting bibliographic data (Ossenblok & Engels, 2015; Verleysen et al., 2014). Five Flemish universities annually provide bibliographic information for publications from the previous two years. The interuniversity Centre for Research and Development Monitoring (ECOOM) serves as the database coordinator and technical operator. Moreover, the Flemish government has established an authoritative panel comprising 18 professors affiliated with Flemish universities, and this panel evaluates whether journal and book publishers fulfill the VABB–SHW’s inclusion criteria.

#### *The Polish Scholarly Bibliography (PBN)*

No English publication has described the PBN’s design and structure. However, the database’s records are used for Poland’s performance-based research funding system, and so the inclusion criteria and publication forms have been described in previous studies (Kulczycki, 2017; Kulczycki, Korzeń, & Korytkowski, 2017).

In Poland, all scientific units, including faculties and basic and applied research institutions, among others, must submit to the PBN all bibliographic information for their affiliated scholarly publications. The database is updated daily, and the data is verified by PBN editors and higher education administrators. Each scientific unit must submit its data at least once

every six months. However, missing data can be added until the next cycle of scientific unit evaluation, which is conducted every four years.

### *Publication Forms and Inclusion Criteria*

The VABB–SHW classifies each publication into one of five publication types: (1) journal articles, (2) monographs, (3) edited books, (4) book articles or chapters, and (5) proceedings papers that are published independently of special journal issues and edited books. The PBN assigns publications to one of four publication types: (1) journal articles, (2) monographs, (3) edited books, and (4) book chapters. It is important to note that in Poland, proceedings papers are classified as chapters in edited books. Hence, by merging the Flemish database’s “book articles and chapters” and “proceedings papers” classifications, these two classification systems can be compared.

Table 1 presents the inclusion criteria for each publication type in the VABB–SHW and the PBN. All publications recorded in these databases are peer-reviewed papers that contribute to the development of new insights or applications resulting from these insights (the Flemish criterion) and present an original research problem (the Polish criterion).

Universities can also submit records with incomplete bibliographic metadata. In Flanders, such publications cannot be approved by the authoritative panel or contribute toward the performance-based research funding system, but in Poland, such publications may or may not be approved by the expert panels during the evaluation of scientific units. In our study, we analyze all publication types, whether approved or unapproved, because the PBN’s design and structure do not allow us to make this distinction.

### **Field and Discipline Classifications**

In Flanders, each SSH publication is assigned to at least one of sixteen SSH disciplines (see Table 2). Moreover, publications are classified into three general categories based on the authors’ research affiliations with an SSH unit (i.e., a research group, research center, institute, or department).

In Poland, the science field classification includes eight areas, 22 fields, and 102 disciplines. For research evaluation purposes, each publication is first assigned a classification based on the authors’ affiliations with a scientific unit, and then the scientific unit is given two classifications:

1. *Scientific unit types*: (a) faculty, (b) applied research institute, (c) basic research institute at the Polish Academy of Sciences, and (d) other.
2. *Science fields*: (a) social sciences and humanities, (b) life sciences, (c) sciences and engineering, and (d) arts sciences and artistic production.

In the PBN’s final discipline classification, the original 102 disciplines are merged into 29 joint evaluation groups (JEGs), 11 of which belong to SSH fields. Different scientific unit types within the same science fields are assigned to the same JEGs according to discipline. For example, all Polish history faculties and history institutes at the Polish Academy of Sciences are classified into one JEG called “History.”

As shown in Table 2, we compared the Flemish and the Polish SSH classifications and found four congruent disciplines. Of the four, a direct comparative analysis is possible for three disciplines: “Economics and Business,” “History,” and “Law.” Two Flemish categories, “Philosophy” and “Theology,” can be merged and compared with the Polish classification “Philosophy and Theology” to form the fourth discipline for comparison in this study.

**Table 1. Publication types and inclusion criteria in the VABB–SHW and the PBN**

<i>VABB–SHW</i>	<i>Inclusion criteria</i>	<i>PBN</i>	<i>Inclusion criteria</i>
Article	<ul style="list-style-type: none"> <li>• It must be publicly accessible.</li> <li>• It must be unambiguously identifiable by an ISBN or an ISSN number.</li> <li>• It must make a contribution to the development of new insights or to applications resulting from these insights.</li> </ul>	Article	<ol style="list-style-type: none"> <li>1. Articles in journals indexed on the Polish Journal Ranking prepared by the Ministry of Science and Higher Education. This ranking organizes journals into three lists—A, B, and C: <ul style="list-style-type: none"> <li>• The <i>A list</i>: Journals indexed in the Journal Citation Reports;</li> <li>• The <i>B list</i>: Polish (and until 2014, also foreign) journals without an impact factor;</li> <li>• The <i>C list</i>: Journals indexed in the European Reference Index for the Humanities.</li> </ul> </li> <li>2. Articles in foreign journals written in a foreign language (at least half an author sheet length).</li> </ol>
Monograph	<ul style="list-style-type: none"> <li>• It must have been subjected, prior to publication, to a demonstrable peer-review process by scholars who are experts in the (sub)field to which the publication belongs. The peer review should be carried out by an editorial board, a permanent reading committee, external referees, or a combination of these. The review should contain input from outside the authors’ research teams and be independent from the authors. Authors cannot organize their own peer reviews.</li> </ul>	Monograph	<ul style="list-style-type: none"> <li>• It must be a scientific paper.</li> <li>• It must present an original research problem.</li> <li>• It must be peer-reviewed.</li> <li>• It must contain a bibliography (or footnotes/endnotes); this criterion is not obligatory for the maps.</li> <li>• Its length should be at least six author sheets.</li> <li>• It must be published as a standalone volume (not obligatory for the maps). The work was published online, or copies were sent to the libraries.</li> <li>• It must be identifiable by an ISBN, ISMN, ISSN, or DOI.</li> </ul>
Edited book		Edited book	
Conference proceeding		Chapter	
Book chapter		Chapter	<ol style="list-style-type: none"> <li>1. The chapter (or map) length should be at least a half an author sheet.</li> <li>2. Encyclopedia and dictionary entries should be at least one quarter of an author sheet.</li> <li>3. If a book chapter is classified as a conference proceeding and indexed in the WoS, then the chapter length does not matter.</li> </ol>

**Table 2. Matching the VABB–SHW and PBN SSH discipline classifications**

<i>VABB–SHW disciplines</i>	<i>PBN JEGs</i>
Archeology	Arts
Art history	Language, bibliography and culture studies
Communications studies	Music
History	History
Law	Law
Linguistics	Performing arts
Literature	
Philosophy	Philosophy and theology
Theology	
Criminology	Plastic arts
Economics and business	Economics and business
Educational sciences	Social sciences
Political science	Theater
Psychology	
Social health sciences	
Sociology	

## Materials and Methods

For the purposes of this paper, we analyzed data for the SSH literature as a whole, as well as for specific SSH disciplines. For our analysis of SSH publication patterns in Flanders and Poland, we used VABB–SHW and PBN data collected between 2009 and 2014. The two datasets we used are described below:

- (A) Dataset A contained bibliographic information for 77,870 publications registered in the VABB–SHW and 134,111 publications registered in the PBN between 2009 and 2014. For our analysis of overall SSH publication patterns in Flanders and Poland, we used the number of publications per country as our unit of analysis, along with two nominal sub-variables, i.e., (1) publication type (article, monograph, edited book, or chapter) and (2) language (local language [Dutch in Flanders, Polish in Poland], English, or other), as well as one rank variable, i.e., the publication year (2009–2014). Dataset A included no duplicate publications at the country level.
- (B) Dataset B contained bibliographic information for publications within four disciplines in Flanders and Poland, including 37,338 “Economics and Business” publications; 21,345 “History” publications; 32,285 “Law” publications; and 12,333 “Philosophy and Theology” publications. For our discipline-level analysis of publication patterns in Flanders and Poland, we used the number of publications per discipline as our unit of analysis, along with the same set of variables used in dataset A. In the VABB–SHW, publications can be assigned to more than one discipline, which means that publications assigned to disciplines in the Flemish database do not constitute distinct sets. However, in dataset B, the percentage of publications with only one assigned discipline was high, including for “Economics and Business” (92.28%), “History” (95.85%), “Law” (94.12%), and “Philosophy and Theology” (96.86%). Publications assigned to two or more disciplines were excluded from our analysis ( $N = 1,042$ ).

## Results

In the first part of this section, we describe the language and publication type occurrence frequencies in Flanders and Poland based on dataset A. We analyze the variability in the

proportion of publications in English and in article form between 2009 and 2014 in Flanders and Poland separately. In the second part of this section, we present the differences in the use of publication types and languages between SSH disciplines in Flanders and Poland based on dataset B.

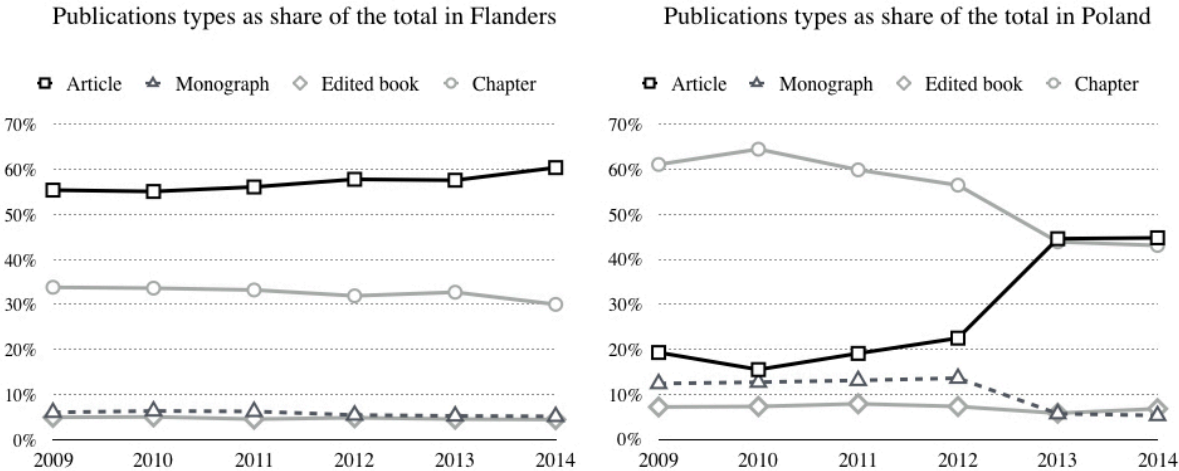
*Part A: Characteristics of SSH Publications Patterns in Flanders and Poland*

Table 3 shows the distribution of publication types in Flanders and Poland. Though there are country-level differences for all publication types, the highest disproportion is between articles and chapters. In Flanders, articles are the most common publication type (57%), whereas in Poland, articles constitute only 26.2% of all published work. At the same time, in Flanders, chapters constitute only 32.6% of all published work, whereas in Poland, chapters constitute 55.9%.

**Table 3. Number and percentage of SSH publications per type between 2009 and 2014**

	Flanders (N)	Flanders (%)	Poland (N)	Poland (%)
Article	44,419	57.0	35,091	26.2
Monograph	4,445	5.7	14,611	10.9
Edited book	3,652	4.7	9,565	7.1
Chapter	25,354	32.6	74,844	55.8
Total	77,870	100.0	134,111	100.0

Figure 1 displays the distribution of publication types between 2009 and 2014. In Flanders, we observed that patterns related to publication type were rather stable, whereas in Poland, we observed considerable changes of the proportions of publication types. In 2013, the most significant change occurred in Poland: the share of the articles dramatically increased. Whereas in 2009, articles had constituted 19.3% of all publications in Poland, by 2013 this proportion had increased to 44.6%. In Flanders, in contrast, articles constituted 55.4% of the total in 2009 and 57.6% in 2013.



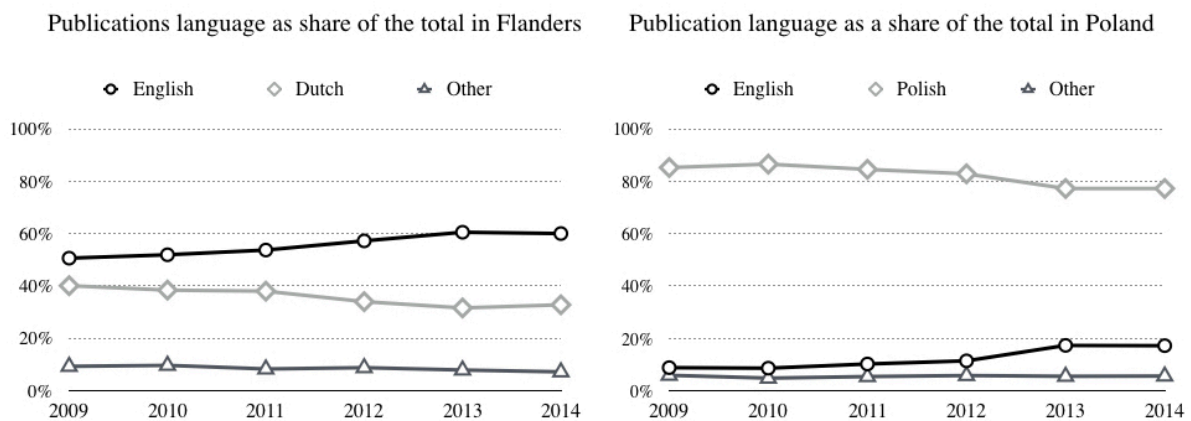
**Figure 1. Proportion of publication types in Flanders and Poland**

Table 4 presents the most commonly used publication languages in Flanders and Poland. On the one hand, in Flanders, most publications were written in English (55.7%), and 35.8% were written Dutch, the local language. On the other hand, in Poland, only a small percentage of work was written in English (11.8%), and the local language, Polish, dominated academic work (82.7%). Both in Flanders and in Poland, a limited share of publications appeared in languages other than English or the local language (8.5% and 5.5%, respectively).

**Table 4. Number and percentage of SSH publications per language between 2009 and 2014**

	Flanders (N)	Flanders (%)	Poland (N)	Poland (%)
Local	27,863	35.8	110,871	82.7
English	43,364	55.7	15,866	11.8
Other	6,643	8.5	7,374	5.5
Total	77,870	100.0	134,111	100.0

Figure 2 shows the distribution of publication languages between 2009 and 2014. The proportion of the publications in English is much higher in Flanders than in Poland. However, in both Flanders and Poland, there was an increase in the proportion of English publications. The difference in the proportion of English publications in 2009 versus 2013 was significant in both Flanders and Poland.



**Figure 2. Publications in English, the local language, and other languages as a percentage of the total (all publication types)**

*Part B: Characteristics of the Publication Patterns According to Four Disciplines in Flanders and Poland*

Table 5 shows the distribution of publication types within four disciplines: “Economics and Business,” “History,” “Law,” and “Philosophy and Theology.” The proportion of articles differed according to disciplines: articles were the dominant publication type within “Economics and Business,” “Law,” and “Philosophy and Theology” in Flanders, while within “History,” articles and chapters were both common. In Poland, chapters were the dominant publication type within each of the four disciplines.



**Table 5. SSH publications per type and by discipline in Flanders and Poland between 2009 and 2014**

<i>Publication type</i>		<i>Economics and Business</i>		<i>History</i>		<i>Law</i>		<i>Philosophy and Theology</i>	
		<i>FLA</i>	<i>POL</i>	<i>FLA</i>	<i>POL</i>	<i>FLA</i>	<i>POL</i>	<i>FLA</i>	<i>POL</i>
Article	<i>N</i>	5,833	9,264	1,681	3,945	7,408	5,596	3,457	1,179
	%	63.5	32.9	42.6	22.7	50.9	31.5	53.2	20.2
Monograph	<i>N</i>	563	2,474	293	2,127	1,122	1,469	309	975
	%	6.1	8.8	7.4	12.2	7.7	8.3	4.8	16.7
Edited book	<i>N</i>	269	2,102	230	1,172	883	1,064	375	470
	%	2.9	7.5	5.8	6.7	6.1	6.0	5.8	8.1
Chapter	<i>N</i>	2,521	14,312	1,746	10,151	5,132	9,611	2,356	3,212
	%	27.4	50.8	44.2	58.4	35.3	54.2	36.3	55.0
Total	<i>N</i>	9,186	28,152	3,950	17,395	14,545	17,740	6,497	5,836
	%	100	100	100	100	100	100	100	100

*Note:* FLA (Flanders); POL (Poland)

Table 6 presents the proportion of publications in English, the local language, and other languages in Flanders and Poland, according to the four defined disciplines.

**Table 6. Languages per publication type in the SSH literature by discipline in Flanders and Poland between 2009 and 2014**

<i>Publication type</i>		<i>Economics and Business</i>		<i>History</i>		<i>Law</i>		<i>Philosophy and Theology</i>	
		<i>FLA</i>	<i>POL</i>	<i>FLA</i>	<i>POL</i>	<i>FLA</i>	<i>POL</i>	<i>FLA</i>	<i>POL</i>
Local	<i>N</i>	1,807	22,899	1,699	14,047	10,145	16,372	1,940	5,409
	%	19.7	81.3	43.0	80.8	69.7	92.3	29.9	92.7
English	<i>N</i>	7,114	5,065	1,658	2,271	3,497	1,024	3,846	294
	%	77.4	18.0	42.0	13.1	24.0	5.8	59.2	5.0
Other	<i>N</i>	265	188	593	1,077	903	344	711	133
	%	2.9	0.7	15.0	6.2	6.2	1.9	10.9	2.3
Total	<i>N</i>	9,186	28,152	3,950	17,395	14,545	17,740	6,497	5,836
	%	100	100	100	100	100	100	100	100

*Note:* FLA (Flanders); POL (Poland)

The proportion of publications in English varied by discipline. Within “Economics and Business” and “Philosophy and Theology,” English was the dominant publication language in Flanders. Within “History,” the proportions of publications in English and Dutch were similar. However, Dutch was the dominant publication language within “Law” in Flanders. Polish, the local language in Poland, was dominant within all four disciplines in Poland.

## Conclusion

As we saw in the case of Norway (Sivertsen 2014), in Flanders, it appears that SSH publication patterns related to publication language and type evolved gradually between 2009

and 2014. This observation contrasts with what we observed in Poland, where the proportions of publication types changed significantly between 2009 and 2014 and the use of English only gradually increased. We furthermore observed that the variability over time in the proportions of publications in English and in article form were similar for both the SSH literature as a whole and each of four disciplines separately.

These publication patterns are rooted in scholarly traditions (Whitley, 2000; Ziman, 1968), as the relatively stable cases of Flanders and Norway show. Nonetheless, our analysis has revealed that discipline-level publication patterns differ more across countries than Sivertsen (2016) and van Leeuwen (2006) initially suggested. It appears that similarities between disciplines depend on not only the analogies within disciplines but also the similarities between countries. In comparing Flemish and Polish SSH publication patterns, we observed few similarities that could be compared at either the aggregate level or the discipline level. In each of the four Flemish disciplines, articles were more dominant than in the Polish disciplines, and the share of English publications was significantly higher among Flemish scholars compared to Polish scholars.

In general, our findings revealed two publication pattern characteristics that must be interpreted in a broader context. The first is related to the proportions of publication types, which were relatively stable in Flanders but were subject to significant change in Poland. Since 2009, in Poland, the number of journal articles has increased, whereas the number of book chapters has decreased. The number of scholarly books has decreased significantly as well. An interpretation of these changes is possible when we identify the main underlying mechanisms. In Poland, the regulations for both the performance-based research funding system and for academic promotions changed considerably between 2009 and 2014 (Kulczycki, 2017). Furthermore, science policy in Poland has increasingly provided incentives for publishing articles and for publishing in English. As our findings show, these policies seem to have achieved some of their intended effects. However, we have not analyzed the quality of the articles, for example, in terms of publication channel (e.g., top-tier journals indexed in WoS or Scopus). In other words, whether unintended effects have occurred as well remains to be studied.

The other characteristic is related to publication language, and particularly publications written in English. Belgium (Flanders) and Poland are non-English speaking countries. However, in terms of the scholars working there, internationalization in Flanders and Poland is different from other countries. An even more important explanatory factor, however, might be their respective XX-century histories. In Poland, Russian was a compulsory language at school prior to 1989, and publishing in English was not the best way to communicate research results. Moreover, presently, many Polish scholars perceive academic publishing in English as a form of communicative inequality that promotes “linguistic injustice” (Hyland 2016).

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## **References**

- Engels, T. C. E., Ossenblok, T. L. B., & Spruyt, E. H. J. (2012). Changing publication patterns in the Social Sciences and Humanities, 2000–2009. *Scientometrics*, 93(2), 373–390. doi:10.1007/s11192-012-0680-2

- Hicks, D. (2012). Performance-based university research funding systems. *Research Policy*, 41(2), 251–261. doi:10.1016/j.respol.2011.09.007
- Hyland, K. (2016). Academic publishing and the myth of linguistic injustice. *Journal of Second Language Writing*, 31, 58–69. doi:10.1016/j.jslw.2016.01.005
- Kozak, M., Bornmann, L., & Leydesdorff, L. (2014). How have the Eastern European countries of the former Warsaw Pact developed since 1990? A bibliometric study. *Scientometrics*, 102(2), 1101–1117. doi:10.1007/s11192-014-1439-8
- Kulczycki, E. (2017). Assessing publications through a bibliometric indicator: The case of comprehensive evaluation of scientific units in Poland. *Research Evaluation*, 26(1), 41–52. doi:10.1093/reseval/rvw023
- Kulczycki, E., Korzeń, M., & Korytkowski, P. (2017). Toward an excellence-based research funding system: Evidence from Poland. *Journal of Informetrics*, 11(1), 282–298. doi:10.1016/j.joi.2017.01.001
- Kwiek, M. (2014). Structural changes in the Polish higher education system (1990–2010): A synthetic view. *European Journal of Higher Education*, 4(3), 266–280. doi:10.1080/21568235.2014.905965
- Ossenblok, T. L. B., & Engels, T. C. E. (2015). Edited books in the Social Sciences and Humanities: Characteristics and collaboration analysis. *Scientometrics*, 104(1), 219–237. doi:10.1007/s11192-015-1544-3
- Puuska, H.-M. (2014). *Scholarly Publishing Patterns in Finland: A comparison of disciplinary groups* (Doctoral dissertation). University of Tampere, Tampere. Retrieved from <https://uta32-kk.lib.helsinki.fi/bitstream/handle/10024/95381/978-951-44-9480-2.pdf?sequence=1>
- Sivertsen, G. (2014). Scholarly publication patterns in the social sciences and humanities and their coverage in Scopus and Web of Science. In E. Noyons (Ed.), *Proceedings of the science and technology indicators conference 2014 Leiden* (pp. 598–604). Leiden: Centre for Science and Technology Studies.
- Sivertsen, G. (2016). Patterns of internationalization and criteria for research assessment in the social sciences and humanities. *Scientometrics*, 107(2), 357–368. doi:10.1007/s11192-016-1845-1
- van Leeuwen, T. (2006). The application of bibliometric analyses in the evaluation of social science research: Who benefits from it, and why it is still feasible. *Scientometrics*, 66(1), 133–154. doi:10.1007/s11192-006-0010-7
- Verleysen, F., Ghesquiere, P., & Engels, T. (2014). The objectives, design and selection process of the Flemish Academic Bibliographic Database for the Social Sciences and Humanities (VABB-SHW). In W. Blockmans, L. Engwall, & D. Weaire (Eds.), *Bibliometrics Use and Abuse in the Review of Research Performance* (pp. 117–127). London: Portland Press. Retrieved from <http://www.portlandpress.com/pp/books/online/wg87/087/0117/0870117.pdf>
- Whitley, R. (2000). *The Intellectual and Social Organization of the Sciences*. Oxford: Oxford University Press.
- Ziman, J. (1968). *Public Knowledge: An essay concerning the social dimension of science*. Cambridge: Cambridge University Press.