**Comparison of SSH research outputs in national databases of Flanders and Finland: STSM Report**

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This is a report of the research project carried out during an exchange visit to the Centre for R&D Monitoring (ECOOM) at the University of Antwerp in the period from 09-01-2017 until 27-01-2017. The project belongs to the framework of the Short-Term Scientific Mission (STSM) scheme of ENRESSH Call Number 1 Topic 3: Comparison of national and regional databases of social sciences and humanities research outcomes.

A brief description of the project: comparison of the VABB-SHW and the Finnish publication data for SSH patterns and coverage. The aim of the comparison is to find out to what extent the SSH output of Flemish and Finnish universities show similar patterns concerning the share of national/English language publications, book/journal publications, single/co-authored publications, and WoS and/or Scopus coverage, and to explain possible differences.

This project was carried out in collaboration with Tim Engels, Raf Guns and Frederik Verleysen. It is our plan to publish the results of the comparison in a co-authored peer-reviewed article, and to include in the comparison (if possible) also data from Norway.

**Introduction**

The objective of the STSM is to compare the VABB-SHW[1] with databases used in other participating COST countries for different types of publications, publication language, collaboration and productivity, both overall and at the level of SSH disciplines. The purpose of this project was to bring to the comparison with the VABB-SHW the national publication data from Finland. The publication metadata from Finland covers the universities' output in all fields - including SSH - from 2011 to 2015. In addition to VABB-SHW and the CRISTIN data from Norway, which have already been compared,[2] this is probably one of the more complete datasets available for cross-country comparisons. The Finnish data has been analysed for publishing patterns in different fields,[3] but it has not been systematically compared with publication data from any other country.

This report is divided in five parts. Part 1 describes the Finnish publication data; part 2 describes the SSH publishing and coverage patterns in the Finnish data; part 3 compares the authority lists of publication channels produced in Flanders and Finland; part 4 compares the peer-reviewed journal articles from Flanders and Finland; in part 5 the most important findings are discussed.

**1. Description of the Finnish publication data**

In Finland, the universities are obliged under the Universities act to provide certain data, including information on publishing activities, to the Ministry and Education and Culture. From 1994 to 2010, information

[1] For a description of VABB-SHW, see Verleysen, F., *Books in the social sciences and humanities: analyses of scholarly publication patterns in Flanders based on the VABB-SHW*, University of Antwerp, Antwerp 2016.
[2] Ossenblok, T., Engels, T. & Sivertsen, G., The representation of the social sciences and humanities in the Web of Science : a comparison of publication patterns and incentive structures in Flanders and Norway (2005-9), *Research Evaluation*, 21:4(2012), 280 -290.
[3] Puuska, H.-M., *Scholarly Publishing Patterns in Finland: a comparison of disciplinary groups*, Tampere University Press, Tampere 2014.

on publications was collected by means of questionnaire, which resulted in yearly scientific publication statistics on university and national level. Since 2011, Ministry of Education and Culture has collected annually full metadata on peer-reviewed and non-peer-reviewed publications from the universities' local current research information systems (CRIS) to be used as criteria in the national performance-based research funding system (PRFS).[4]

To be included in the MinEdu publication data, universities have to make the data from their local crises compliant with the formal and substantive requirements stated in the Ministry's *Publication data collection Guide*. Once the data has been transferred to the ministry, CSC – IT Center for Science Ltd., a company entrusted with the technical solution, has checked it for missing fields, technically incorrect data and duplicates. Universities are, however, responsible for the data contents, including assignment of publications to publication types and identification of peer-reviewed publications. Universities have various data collection practices. Input from international and national databases, researchers themselves, as well as library and data-collection personnel can be involved in registering and validating the data contents to the local CRISes.

The publication information collected by the Ministry results in a database (MinEdu publication data) containing a total of 187667 publication records published by researchers affiliated with Finnish universities from 2011 to 2015. Publications with co-authors from several Finnish universities appear in the data more than once. For the purpose of this study, a dataset without duplicates was created. After deduplication, the Finnish MinEdu data contains 172341 unique publications from all fields of science. It was decided that in this study, whole counting of publications is used at the national level.

*Field classifications*

The Field of science classification used in the data collection is adapted from OECD FOS classification for the Finnish context by the Statistics Finland (Appendix 1). In the MinEdu data, the field of science of publications is determined locally at record level. According to the *Publication data collection Guide*, "the field of science is not primarily determined based on the publication channel or the home department or unit of the authors but rather on the content of the specific publication". It is obligatory to give each publication at least one field but up to six can be given. In this study, SSH publications are defined as those publications, including the duplicates, having at least one field belonging to the social sciences or the humanities fields in the OECD FOS classification.

On average, 1.6 fields have been reported per publication. Publications reported by Aalto-university have, however, on average 3.7 fields. This is because Aalto assigns a certain percentage of each publication mechanically to the fields of science its departments and units represent. Aalto has controlled the primary field to comply with the *Publication data collection Guide* but the fields 2-6 reflect the variety of fields determined for each unit and its publications. In order to avoid inflating the number of SSH publications, only the two first fields reported by Aalto University were taken into account. In all, the SSH publications amount to 79822, or 46 % of all publications in the MinEdu data.

[4] Giménez-Toledo, E., Mañana-Rodríguez, J., Engels, T., Ingwersen, P., Pölönen, J., Sivertsen, G., Verleysen, F. & Zuccala, A., Taking scholarly books into account: current developments in five European countries, Scientometrics 107 (2016) 685–699.

*Publication types*

All publications in the MinEdu data have been assigned locally, according to the *Publication data collection Guide*, to one of 20 publications types (Table 1). In the data-model used by the Ministry, publications can be divided in two broad categories: scientific publications and other publications. Scientific publications include publication type categories A Peer-reviewed scientific articles, B Non-peer-reviewed scientific articles and C Scientific Monographs (peer-reviewed). Other publications include categories D Publications intended for professionals, E Publications intended for the general public, and G Doctoral dissertations.

**Table 1 Number and share of SSH publications by publication type in Finland, 2011-2015.**

| | Publication type | Publications | Share of total |
|---|---|---|---|
| Scientific publications | A1 Peer-reviewed journal article, original research | 18644 | 23 % |
| | A2 Peer-reviewed journal article, review | 897 | 1 % |
| | A3 Peer-reviewed article or chapter in book | 12512 | 16 % |
| | A4 Peer-reviewed article in conference proceedings | 6314 | 8 % |
| | B1 Non-peer-reviewed journal article | 8592 | 11 % |
| | B2 Non-peer-reviewed article or chapter in book | 5749 | 7 % |
| | B3 Non-peer-reviewed article in conference proceedings | 1439 | 2 % |
| | C1 Monograph (peer-reviewed) | 1574 | 2 % |
| | C2 Edited book or special issue (peer-reviewed) | 2366 | 3 % |
| Other publications | D1 Article in a trade journal | 4177 | 5 % |
| | D2 Article in a professional book | 2072 | 3 % |
| | D3 Article in professional conference proceedings | 293 | 0 % |
| | D4 Published development or research report or study | 2324 | 3 % |
| | D5 Textbook, professional manual or guide | 757 | 1 % |
| | D6 Edited professional book | 63 | 0 % |
| | E1 Popularised article, newspaper article | 10318 | 13 % |
| | E2 Popularised monograph | 477 | 1 % |
| | E3 Edited popularised book | 32 | 0 % |
| | G4 Doctoral dissertation (monograph) | 713 | 1 % |
| | G5 Doctoral dissertation (article) | 509 | 1 % |
| | Total | 79822 | 100 % |

According to the *Publication data collection Guide*, scientific publications reported to the categories A, B and C must have an ISSN and/or ISBN identifier and meet the following qualifications:

1. The publication must produce new information in relation to previous research data on the same subject.
2. The publication must be presented in a format that enables the verification of the research results and/or use of the research results in a new research, thus allowing other researchers to assess the research results and use them in their own work.
3. The publication channel for the publication specialises in publishing scientific research results, and it has an editorial staff consisting of experts in the field of science as well as a peer review practice.

The distinction between peer-reviewed and non-peer-reviewed articles is made locally at the record level. This local determination of peer-reviewed publications is independent of the national "Publication Forum" list (PF list) of peer-reviewed publication channels.

The Federation of Finnish Learned Societies (FFLS) has been entrusted with the task of producing a quality index of scientific publication channels. In the so-called Publication Forum classification, the publication channels can be generally divided into two categories: those the 23 expert panels have approved at least to the level 1 ("basic peer-reviewed channels") of the classification scheme, and those not fulfilling the level 1 criteria, marked as level 0 in the publication channel database. The channels approved to the level 1 are further differentiated to levels 2 ("leading") and 3 ("top") according to their prestige and/or impact. In this study, we need to focus only on the distinction between the level 1 and 0 channels.[5]

Publications in level 1-3 channels may be locally assigned to non-peer-reviewed publication type B, and level 0 channels may have publications assigned to peer-reviewed publication type A or C. This often represents the researchers' definition of peer-reviewed publications. For the purpose of the funding model for allocating budget funding to universities, publication channels and the respective Publication Forum levels have been systematically identified in the MinEdu data for the peer-reviewed publication types A1, A2, A3, A4 and C1 (on type C2 see below). Consequently, peer-reviewed publications can be distinguished in the MinEdu data on basis of both the local as well as the national Publication Forum definition.

*Peer-review definition of the Publication data collection Guide*

According to the researcher version of the 2015 *Publication data collection Guide*, which has been translated also in English, the peer-review has to meet the following criteria in order for the articles or books to be included in the publications types A1, A2, A3, A4, C1 and C2:

1. The referees were independent in terms of the manuscript to be evaluated. This refers to accomplished researchers or other experts who are not editors of the publication series (journal or book series) or the publication (research book, journal special issue, conference publication).
2. The process assesses the completeness of the material and the management of the theoretical framework, the reliability of how the research has been carried out and its accuracy, the originality of the results and their novelty value in relation to previous research, as characteristic of the field of science.
3. The evaluation has covered the entire manuscript offered for publication rather than just an abstract or extract.
4. The author has received a written referee statement of the peer review (original statement or a summary by the editorial staff/editor in chief).

It should be noted that all these qualifications have been in place for all peer-reviewed publication types since 2015. In 2011, qualifications were not as stringent for the peer-reviewed articles or chapters in books (A3), articles in conference proceedings (A4), scientific monographs (C1) and edited works (C2). Before 2015, type A3 could be admitted without ISBN, and A4 without ISSN and ISBN. In case of C1 and C2 peer-

[5] Auranen, O. & Pölönen, J., *Classification of scientific publication channels: Final report of the Publication Forum project (2010–2012)*, Federation Of Finnish Learned Societies Web Publication 1/2012; Pölönen, J. & Ruth, A.-S., *Final Report on 2014 Review of Ratings in Publication Forum – Julkaisufoorumin 2014 päivitysarvioinnin loppuraportti*, Federation Of Finnish Learned Societies Web Publication 3/2015.

review was not a specific requirement, and editorial peer-review was accepted in case of A3. The most important change has taken place in the definition of C2. It was not the edited work that was reported in this class but the introductory piece of writing, of which the book editors were the authors. As of 2015, the edited work is reported to the C2 and introductory articles to the relevant article type. In the MinEdu 2011-2015 data, C2 has not been treated as one of the peer-reviewed publication types.

Since 2015, the *Publication data collection Guide* also stipulates that in unclear cases, it must be possible to verify the peer review locally based on a written peer-review statement. To support the definition of peer-reviewed publications, the Federation of Finnish Learned Societies, inspired by the example of the GPRC-label in Flanders, introduced a national label for peer-reviewed publications in 2014. Finnish publishers of academic/scholarly monographs and journals use the label to indicate published articles in journals and books as well as monographs that have undergone peer-review according to the label requirements. Since December 2014, seven book publishers and 138 journals and book series are registered users of the label. If a Finnish science publisher uses the FFLS peer review label, only articles and monographs containing the label will be reported in the data collection under the refereed publication types.

*Publication Forum definition of peer-review*

According to the evaluation guidelines approved by the Publication Forum steering-group, level 1 can be awarded to domestic and foreign journals, conferences and book publishers considered to be most important from the Finnish research perspective that meet the criteria of an academic publication channel:

1. specialised in the publication of scientific or scholarly research outcomes;
2. editorial board constituted by experts;
3. entire manuscripts of scientific or scholarly articles or books subject to peer review;
4. registered ISSN or ISBN number.

As a main rule, however, even a publication channel meeting these criteria should not be included in Level 1 if:

1. over half (1/2) of the referees and authors represent a single research organisation (such as publication series or doctoral dissertation series of universities and research institutes);
2. the relevance or quality of research raises questions.

This means that the level 1/0 distinction in the Finnish authority list is not based only on peer-review, as panels may use discretion to reject peer-reviewed channels that are local, ones that they consider not relevant to the Finnish research community, or ones that they think are of questionable quality (e.g. so-called "predatory journals"). In addition to full bibliographic information and links to websites, panels are provided the following data on journals: inclusion in the Web of Science, Scopus, ERIH Plus, DOAJ and Beall's list; the level-rating in the Norwegian and Danish classification; impact factors JIF, IPP, SJR and SNIP. The panels may use this data to inform their decision-making but are not bound by it. For example, journals included in the Web of Science or having an impact factor may be assigned to level 0.

*Peer-reviewed SSH publications in the Finnish database 2011-2015*

Of all 79822 SSH publications in the 2011-2015 MinEdu data, 30319 (38 %) are peer-reviewed publications published in PF level 1-3 channels, 9622 (12 %) are peer-reviewed publications published in PF level 0 channels, and 39881 (50 %) are non-peer-reviewed publications (Table 2). Over time, the number of publications

has remained stable. For the latest publication year 2015 the record is yet to some extent incomplete (it can be estimated on basis of previous years' experience that about 7 % of the 2015 publication will be reported in 2017). The share of peer-reviewed publications in level 1-3 channels has increased from 35 % in 2011 to 40 % in 2015, and that in level 0 has decreased from 14 % to 9 %.

**Table 2 Number of SSH publications and share of peer-reviewed and non-peer-reviewed publications per year in Finland, 2011-2015.**

| | 2011 | 2012 | 2013 | 2014 | 2015 | All |
|---|---|---|---|---|---|---|
| Number of publications | 16279 | 16101 | 15981 | 16558 | 14903 | 79822 |
| Peer-reviewed in levels 1-3 | 35 % | 36 % | 40 % | 39 % | 40 % | 38 % |
| Peer-reviewed in level 0 | 14 % | 14 % | 13 % | 11 % | 9 % | 12 % |
| Non-peer-reviewed | 52 % | 50 % | 47 % | 50 % | 51 % | 50 % |

There is a considerable discrepancy between the local definition and channel-based Publication Forum definition of peer-reviewed publications, as 12 % of all SSH publications belong to this category according to the local (often the researchers') definition but have been published in channels that have not been approved by the expert panels to the levels 1-3. This suggests that the definition of peer-reviewed outputs is not clear-cut.

The widest agreement between the local and PF definition is attested among the peer-reviewed articles in journals (publications types A1 and A2), and the widest disagreement in case of proceedings articles (Table 3). In journals, the peer-review procedures are probably more standardized than in the case of book or conference publishing. In the case of book publications, the discrepancy is notably high for monographs (C1).

**Table 3 Number of SSH publications and share of peer-reviewed and non-peer-reviewed publications per publication type in Finland, 2011-2015.**

| | A1-A2 (journal articles) | A3 (articles in books) | A4 (conference articles) | C1 (monographs) | All |
|---|---|---|---|---|---|
| Number of publications | 18644 | 12512 | 6314 | 1574 | 39941 |
| Peer-reviewed in levels 1-3 | 91 % | 77 % | 31 % | 58 % | 76 % |
| Peer-reviewed in level 0 | 9 % | 23 % | 69 % | 42 % | 24 % |

The share of scientific monographs published in level 0 channels has, however, decreased from 50 % in 2011 to 34 % in 2015. This could be due to increasing emphasize in the data collection placed on definition of peer-review, which before 2015 was not yet an explicit requirement in case of monographs. In contrast, for the peer-reviewed articles and chapters in books (A3) the share of level 0 publications has remained quite constant.

The publication type for which the discrepancy between reported and observed peer review occurs most frequently is the peer-reviewed article in conference proceedings (A4), of which 69 % have appeared in channels not approved to PF levels 1-3. One-half of all SSH proceedings articles have been attributed to Business and management, where the share of level 0 publications is as high as 91 %. Overall, in the case of peer-reviewed articles in proceedings, the share of level 0 has decreased from 75 % in 2011 to 58 % in 2015. This is probably due to increasingly stringent data collection requirements concerning ISSN and ISBN codes, as well as peer-review.

## 2. SSH Publishing and coverage patterns in the Finnish data

*Share of book publications*

One of the typical characteristics of SSH is the importance of book publishing, meaning peer-reviewed articles and chapters in books as well as monographs. For the purpose of analyzing the share of book publication in different SSH fields, the analysis is limited to the peer-reviewed publications according to the most stringent definition, meaning the publication types A1-4 and C1 that appeared in channels approved to levels 1-3. The field of publications has been defined by the primary OECD FOS field in the MinEdu data. Out of 30319 peer-reviewed SSH publications in PF level 1-3 channels, 2602 (9 %) have as primary field other than social sciences or humanities fields (mostly computer and information sciences, what explains the relatively high share of proceedings articles in this group).

Overall, 17780 (59 %) of the peer-reviewed level 1-3 SSH publications are articles in journals, 10589 (35 %) are book publications, and 1950 (6 %) are articles in conference proceedings (Table 4). The share of book publications is larger (51 %) in humanities than social sciences (30 %). Over 60 % share of book publications is attested in History and archaeology, Theology, and Literature. The share of book publications is less than 10 % in Psychology and Economics. The share of peer-reviewed level 1-3 book publications in SSH has decreased from 40 % in 2011 to 33 % in 2015 (Table 5).

**Table 4 Number of SSH publications and share of journal articles, book publications and conference articles in different fields in Finland, 2011-2015.**

| Field of science | Number of publications | Share of journal articles | Share of book publications | Share of conference articles |
|---|---|---|---|---|
| Other fields | 3303 | 56 % | 9 % | 35 % |
| 511 Economics | 587 | 90 % | 8 % | 2 % |
| 512 Business and management | 3772 | 77 % | 16 % | 6 % |
| 513 Law | 1783 | 50 % | 50 % | 1 % |
| 5141 Sociology | 1704 | 62 % | 37 % | 1 % |
| 5142 Social policy | 697 | 63 % | 37 % | 0 % |
| 515 Psychology | 1653 | 90 % | 8 % | 2 % |
| 516 Educational sciences | 3134 | 62 % | 32 % | 6 % |
| 517 Political science | 1293 | 54 % | 45 % | 0 % |
| 518 Media and communications | 973 | 55 % | 40 % | 5 % |
| 519 Social and economic geography | 510 | 74 % | 26 % | 0 % |
| 520 Other social sciences | 1324 | 61 % | 36 % | 2 % |
| 611 Philosophy | 1304 | 53 % | 44 % | 3 % |
| 6121 Languages | 2533 | 44 % | 44 % | 12 % |
| 6122 Literature studies | 977 | 37 % | 61 % | 3 % |
| 6131 Theatre, dance, music, other performing arts | 497 | 57 % | 34 % | 8 % |
| 6132 Visual arts and design | 579 | 49 % | 27 % | 25 % |
| 614 Theology | 1001 | 37 % | 62 % | 2 % |
| 615 History and archaeology | 2557 | 35 % | 64 % | 2 % |
| 616 Other humanities | 839 | 50 % | 43 % | 6 % |
| Total | 30319 | 59 % | 35 % | 6 % |

| | | | | |
|---|---|---|---|---|
| Social sciences | 17430 | 67 % | 30 % | 3 % |
| Humanities | 10287 | 43 % | 51 % | 7 % |

**Table 5 Number of SSH publications and share of book publications per year in Finland, 2011-2015.**

| | 2011 | 2012 | 2013 | 2014 | 2015 | All |
|---|---|---|---|---|---|---|
| All publications | 5645 | 5748 | 6451 | 6526 | 5949 | 30319 |
| Book publications | 2124 | 2167 | 2343 | 2108 | 1847 | 10589 |
| Share of book publications | 38 % | 38 % | 36 % | 32 % | 31 % | 35 % |

*Share of English language publications*

One of the typical characteristics of SSH publishing is the importance of publishing in national languages, or languages other than English. Publication language is determined in the MinEdu data at the record level, not for instance at the channel level. The publication language is not an obligatory field; however 9 out of 14 universities have provided this information for all publications. Out of 30319 peer-reviewed SSH publications in PF level 1-3 channels, 29190 (96 %) have the publication language information and 1129 (4 %) do not have that information. For these publications, the language was determined manually on the basis of the publication title. The language of all publications published in Finland, and of all publications with Finnish as publication language published abroad, was also manually checked.

In Finland, Finnish and Swedish are the national languages. Swedish language publications, however, have potentially a wider Scandinavian audience. Out of 30319 peer-reviewed SSH publications in PF level 1-3 channels, 21249 (70 %) are in English, 7414 (24 %) are in Finnish, 731 (2 %) are in Swedish, and 925 (3 %) are in another language (Table 6). Overall, the humanities have a smaller share of English language publications (56 %) than the social sciences (75 %). The largest share of English language publications occurs in Business and management (95 %), Economics (91 %), and Psychology (88 %). The share of English language publications is the smallest in History and archaeology (43 %), Literature studies (43 %), and Law (46 %). The share of other languages is largest in the fields of Languages and Literature studies (more than 10 %).

Overall, the share of peer-reviewed level 1-3 English language publications in the SSH has increased from 65 % in 2011 to 75 % in 2015.

**Table 6 Number of SSH publications and share of English, Finnish, Swedish and other language publications in different fields in Finland, 2011-2015.**

| Field of science | Number of publications | Share of English | Share of Finnish | Share of Swedish | Share of Other |
|---|---|---|---|---|---|
| Other fields | 2602 | 93 % | 6 % | 0 % | 0 % |
| 511 Economics | 587 | 91 % | 8 % | 1 % | 0 % |
| 512 Business and management | 3772 | 95 % | 4 % | 0 % | 0 % |
| 513 Law | 1783 | 46 % | 49 % | 3 % | 2 % |
| 5141 Sociology | 1704 | 70 % | 27 % | 1 % | 2 % |
| 5142 Social policy | 697 | 61 % | 37 % | 1 % | 1 % |
| 515 Psychology | 1653 | 88 % | 11 % | 0 % | 0 % |
| 516 Educational sciences | 3134 | 70 % | 26 % | 2 % | 1 % |

| | | | | | |
|---|---|---|---|---|---|
| 517 Political science | 1293 | 69 % | 26 % | 3 % | 2 % |
| 518 Media and communications | 973 | 69 % | 29 % | 1 % | 1 % |
| 519 Social and economic geography | 510 | 80 % | 19 % | 0 % | 1 % |
| 520 Other social sciences | 1324 | 65 % | 32 % | 1 % | 2 % |
| 611 Philosophy | 1304 | 75 % | 22 % | 1 % | 2 % |
| 6121 Languages | 2533 | 57 % | 21 % | 7 % | 15 % |
| 6122 Literature studies | 977 | 43 % | 39 % | 6 % | 13 % |
| 6131 Theatre, dance, music, other performing arts | 497 | 68 % | 28 % | 2 % | 1 % |
| 6132 Visual arts and design | 579 | 75 % | 23 % | 1 % | 2 % |
| 614 Theology | 1001 | 55 % | 37 % | 5 % | 3 % |
| 615 History and archaeology | 2557 | 43 % | 48 % | 4 % | 5 % |
| 616 Other humanities | 839 | 58 % | 30 % | 9 % | 2 % |
| Total | 30319 | 70 % | 24 % | 2 % | 3 % |
| Social sciences | 17430 | 75 % | 23 % | 1 % | 1 % |
| Humanities | 10287 | 56 % | 32 % | 5 % | 7 % |

**Table 7 Number of SSH publications and share of English language publications per year in Finland, 2011-2015.**

| | **2011** | **2012** | **2013** | **2014** | **2015** | **All** |
|---|---|---|---|---|---|---|
| All publications | 5645 | 5748 | 6451 | 6526 | 5949 | 30319 |
| English language publications | 3648 | 3942 | 4440 | 4730 | 4489 | 21249 |
| Share of English language publications | 65 % | 69 % | 69 % | 72 % | 75 % | 70 % |

*Web of Science and Scopus coverage*

Web of Science and Scopus coverage of publications, notably the lack of it, is of great importance when it comes to research evaluation in the SSH. It is one of the main purposes of national data collection based on local CRISes to achieve more complete coverage of SSH output than is currently available in the international databases.

In the MinEdu publication data, the information on whether the publication has been indexed in Web of Science or Scopus is not available. For the purpose of studying the international database coverage, journals in the Publication Forum list that are included in the Web of science master journal lists of SCIE, SSCI and AHCI as well as the Scopus journal list were identified on the basis of their ISSN. This is not an entirely accurate method because some journals identified as WoS or Scopus journals may not have been indexed in those databases the whole period from 2011 to 2015. Also, this method is not able to identify indexed conference articles and book publications. Hence using this methodology , it is possible only to estimate the potential share of peer-reviewed SSH journal articles indexed in the international databases.

Out of 17780 peer-reviewed SSH articles in journals in PF level 1-3 channels, 8218 (46 %) have been published in currently Web of Science indexed journals, and 11736 (66 %) have been published in Scopus indexed journals (Table 8). Overall, social sciences journal articles are more extensively covered in both WoS and Scopus than humanities articles. The share of WoS publications is the largest in Psychology (81 %) and Economics (66 %), and the smallest coverage is present in Law (11 %). Also in Scopus, Psychology is the most extensively covered field, but also Economics and Business and management have over 80 % share of

indexed journal articles. Also in Scopus, the coverage is weakest in Law. The greatest difference between WoS and Scopus coverage is observed in Theology, in which the Scopus share is 66 % compared to 25 % in WoS.

The share of peer-reviewed level 1-3 SSH articles in Web of Science indexed journals has not changed much, increasing only from 43 % in 2011 to 46 % in 2015, and that of Scopus indexed articles increased from 64 % in 2011 to 66 % in 2015 (Table 9).

**Table 8 Number of SSH journal articles and share of Web of Science and Scopus articles in different fields in Finland, 2011-2015.**

| Field of science | Number of publi-cations | Share of WoS | Share of Scopus | Scopus advantage |
|---|---|---|---|---|
| Other fields | 1701 | 70 % | 85 % | 15 % |
| 511 Economics | 528 | 66 % | 84 % | 18 % |
| 512 Business and management | 2918 | 56 % | 86 % | 30 % |
| 513 Law | 889 | 11 % | 22 % | 11 % |
| 5141 Sociology | 1057 | 52 % | 65 % | 13 % |
| 5142 Social policy | 436 | 40 % | 53 % | 13 % |
| 515 Psychology | 1480 | 81 % | 87 % | 6 % |
| 516 Educational sciences | 1943 | 33 % | 56 % | 23 % |
| 517 Political science | 701 | 36 % | 53 % | 17 % |
| 518 Media and communications | 531 | 32 % | 57 % | 24 % |
| 519 Social and economic geography | 377 | 51 % | 75 % | 24 % |
| 520 Other social sciences | 813 | 42 % | 62 % | 19 % |
| 611 Philosophy | 694 | 45 % | 64 % | 19 % |
| 6121 Languages | 1113 | 32 % | 59 % | 27 % |
| 6122 Literature studies | 357 | 21 % | 31 % | 10 % |
| 6131 Theatre, dance, music, other performing arts | 285 | 34 % | 39 % | 5 % |
| 6132 Visual arts and design | 282 | 28 % | 44 % | 16 % |
| 614 Theology | 367 | 25 % | 66 % | 41 % |
| 615 History and archaeology | 885 | 30 % | 54 % | 24 % |
| 616 Other humanities | 423 | 29 % | 51 % | 22 % |
| Total | 17780 | 46 % | 66 % | 20 % |
| Social sciences | 11673 | 48 % | 68 % | 20 % |
| Humanities | 4406 | 32 % | 54 % | 22 % |

**Table 9 Number of SSH publications and share of Web of Science and Scopus publications per year in Finland, 2011-2015.**

| | 2011 | 2012 | 2013 | 2014 | 2015 | All |
|---|---|---|---|---|---|---|
| All journal articles | 3128 | 3154 | 3675 | 3990 | 3833 | 17780 |
| Journal articles in Web of Science | 1360 | 1393 | 1754 | 1958 | 1753 | 8218 |
| Journal articles in Scopus | 2001 | 2049 | 2473 | 2681 | 2532 | 11736 |
| Share of Journal articles in WoS | 43 % | 44 % | 48 % | 49 % | 46 % | 46 % |
| Share of Journal articles in Scopus | 64 % | 65 % | 67 % | 67 % | 66 % | 66 % |

*Co-authorship at university and individual level*

One of the distinctive characteristics of SSH publishing is the importance of single-authored publications. In the MinEdu data, the total number of authors is indicated at the record level, so it is possible to distinguish between single-authored and co-authored publications. In the MinEdu data, it is also possible to establish at record level to how many Finnish universities the authors of co-publications are affiliated. Out of 30319 peer-reviewed SSH publications in PF level 1-3 channels, 29444 (97 %) have the information on the total number of authors and 875 (3 %) do not have that information. The information concerning the number of affiliated universities is available for all publications.

Out of 30319 peer-reviewed SSH publications in PF level 1-3 channels, 17886 (59 %) have more than one author, and 2680 (9 %) have co-authors affiliated with more than one Finnish university (Table 10). Overall, the humanities have a smaller share of co-authored publications (39 %) than the social sciences (66 %). Also the share of university collaborations is smaller in the humanities (4 %) than in the social sciences (9 %). The share of co-authored publications is largest in Psychology (92 %), Business and management (82 %), and the educational sciences (76 %), and the same holds true also for the share of inter-university collaborations. The share of co-authored publications is the smallest in Literature studies (25 %), history and archaeology (33 %), Philosophy (34 %), and Law (34 %). The share of inter-university collaborations is smallest in Theology (2 %) and history and archaeology (2 %).

The share of co-authored peer-reviewed level 1-3 SSH publications has decreased from 49 % in 2011 to 56 % in 2015. The share of peer-reviewed level 1-3 SSH publications that involve inter-university collaboration has increasing from 7 % in 2011 to 11 % in 2015 (Table 12).

**Table 10 Number of SSH publications and share of co-authored and inter-university collaboration publications in different fields in Finland, 2011-2015.**

| Field of science | Number of publications | Co-authored articles | Inter-university collaborations |
|---|---|---|---|
| Other fields | 2602 | 90 % | 27 % |
| 511 Economics | 587 | 68 % | 8 % |
| 512 Business and management | 3772 | 82 % | 11 % |
| 513 Law | 1783 | 34 % | 3 % |
| 5141 Sociology | 1704 | 60 % | 7 % |
| 5142 Social policy | 697 | 64 % | 8 % |
| 515 Psychology | 1653 | 92 % | 19 % |
| 516 Educational sciences | 3134 | 76 % | 10 % |
| 517 Political science | 1293 | 43 % | 6 % |
| 518 Media and communications | 973 | 53 % | 6 % |
| 519 Social and economic geography | 510 | 53 % | 5 % |
| 520 Other social sciences | 1324 | 59 % | 7 % |
| 611 Philosophy | 1304 | 34 % | 3 % |
| 6121 Languages | 2533 | 49 % | 5 % |
| 6122 Literature studies | 977 | 25 % | 4 % |
| 6131 Theatre, dance, music, other performing arts | 497 | 37 % | 4 % |

| | | | |
|---|---|---|---|
| 6132 Visual arts and design | 579 | 51 % | 8 % |
| 614 Theology | 1001 | 42 % | 2 % |
| 615 History and archaeology | 2557 | 33 % | 2 % |
| 616 Other humanities | 839 | 37 % | 5 % |
| Total | 30319 | 59 % | 9 % |
| Social sciences | 17430 | 66 % | 9 % |
| Humanities | 10287 | 39 % | 4 % |

**Table 11 Number of SSH publications and share of co-authored and inter-university collaboration publications per year in Finland, 2011-2015.**

| | 2011 | 2012 | 2013 | 2014 | 2015 | All |
|---|---|---|---|---|---|---|
| All publications | 5645 | 5748 | 6451 | 6526 | 5949 | 30319 |
| Co-authored publications | 2768 | 3241 | 3756 | 3935 | 3311 | 17011 |
| Inter-university collaborations | 404 | 480 | 516 | 653 | 627 | 2680 |
| Share of co-authored publications | 49 % | 56 % | 58 % | 60 % | 56 % | 56 % |
| Share of inter-university collaborations | 7 % | 8 % | 8 % | 10 % | 11 % | 9 % |

**3. Comparison of the Flemish and Finnish journal lists**

The number of journals/series in the Publication Forum list (PF list) from all fields of science is 26325. This includes a number of book series of mostly Finnish book publishers. Of these channels, 19481 were approved to the levels 1-3 in the first rating of 2012, and 6844 are later additions. The original 2012 list was compiled selectively in collaboration with the expert panels from several sources. These sources included journal lists of Web of Science and Scopus, as well as those produced for the Norwegian, Danish, Australian and ERIH classifications. The panels could also suggest additions both regarding international and national titles. Since 2012, journals and series in which researchers affiliated with a Finnish university have published, as well as new additions suggested by the researchers, have been evaluated annually by the panels and added to the list, either to the level 1 or 0. In all, the PF list contains 22381 journals/series approved to at least level 1, and 3944 titles assigned to level 0.

The ECOOM-VABB list contains from SSH-fields 12276 journals, in which researchers affiliated with a Flemish university have published between 2005 and 2014. Of these, 5573 (45 %) are fully or partially indexed in the Web of Science (WoS), and 6703 (55 %) are other journals with ISSN. The list appears to also contain some book series with ISSN. The WoS-journals are automatically approved by virtue of the BOF-regulation, and so are presumed to be peer-reviewed. The non-WoS journals have been evaluated by the Authoritative panel (GP) in consultation with disciplinary subpanels of experts. The GP has approved 3518 non-WoS-journals that apply a peer review procedure and publish scholarly content and rejected 3185 journals without verifiable peer-review policy. In all, the ECOOM-VABB list contains 9090 peer-reviewed and 3186 non-peer-reviewed journals.

*Overlap between ECOOM-VABB and PF lists*

To compare the two lists, journal records were matched by means of comparing the ISSN on the ECOOM list to the ISSN-L, ISSN-print, and ISSN-online on the PF list. In all, the PF and ECOOM lists contain 30972 journals, of which 7629 (25 %) appear on both lists, 4647 (15 %) appear only on the ECOOM list, and 18696

(60 %) appear only on the PF list. The large share of journals appearing only on the PF list is explained by the fact that PF list includes journals from all fields of science, and ECOOM list includes only journals in which Flemish SSH researchers have published. Of those 7629 journals that appear on both lists, it is possible to observe that 3407 (45 %) have been evaluated in Finland in expert panels other than SSH, and so do not perhaps belong to the SSH core (the boundary between social and health sciences is not, however, clear cut).

*Agreement/disagreement over peer-reviewed journals*

Of the 7629 journals that appear on both lists, 7164 (94 %) are GP approved and 465 (6 %) are GP rejected journals on the ECOOM list, and 7307 (96 %) are level 1-3 and 322 (4 %) are level 0 journals on the PF list. Of the GP approved journals, 6963 are placed in levels 1-3, and 201 are placed in level 0 in the PF list. Of the GP rejected journals 344 are placed in levels 1-3, and 121 are included in level 0 on the PF list. In all, the two lists concur in case of 7084 (93 %) journals, and disagree in case of 545 (7 %) of the journals (Table 12).

**Table 12 Number and share of journals approved in Flanders and/or Finland**

| | **PF level 1-3** | **PF level 0** |
|---|---|---|
| **GP Approved** | 6963 (91,3 %) | 201 (2,6 %) |
| **GP Rejected** | 344 (4,5 %) | 121 (1,6 %) |

The PF rating is more often in line with ECOOM rating in case of GP approved WoS journals than other GP approved ISSN journals, the share of level 0 placed journals being 1,4 % and 7,3 % respectively. Much more important disagreement is attested among the GP rejected journals, of which 74 % are approved to level 1-3 in PF list (Table 13).

**Table 13 Number and share of WoS and other journals approved in Flanders and/or Finland**

| **ECOOM list** | **Publication Forum list** | | |
|---|---|---|---|
| | **All** | **Level 1-3** | **Level 0** |
| GP Approved | 7164 | 97,2 % | 2,8 % |
| WoS journals | 5399 | 98,6 % | 1,4 % |
| Other ISSN journals | 1765 | 92,7 % | 7,3 % |
| GP Rejected | 465 | 74,0 % | 26,0 % |
| Total | 7629 | 74,0 % | 26,0 % |

*Overlap in the use of SSH publication channels*

In order to study the overlap in the use of channels a combined journal list was created, which contains a total of 8357 journals that have been approved as peer-reviewed publication channels in either Flanders or Finland, and in which researchers from Flanders and/or Finland have published peer-reviewed SSH journal articles in 2011-2014.

All journals were also assigned to one OECD FOS field category in the social sciences or humanities (Table 13). The Norwegian field classification, in which each journal is assigned to one of 87 field categories, covered 7131 (79 %) journals (Appendix 2). Of the remaining 1873, 1062 were on the Publication Forum list and 811 were only on the ECOOM list. For these journals OECD FOS fields were determined both mechanically and manually on the basis of variety sources, none of which covered all journals: Danish, ERIH, WoS, Scopus, OECD FOS classifications in the PF list, Norwegian, WoS and Scopus classifications as well as UDC

and Dewey codes from the International ISSN Center available in the ECOOM list. Journals whose scope is outside the SSH fields were assigned to the category of Other fields, which is much larger in case of journals used by the Flemish than Finnish researchers. This may have to do with the different starting-point to the definition of SSH output, which in Flanders is the department or unit and in Finland the content of publications.

Of all 8357 journals on the combined list, 1827 (22 %) have been used by researchers from both countries, 2319 (28 %) have been used only by researchers from Finland, and 4211 (50 %) have been used only by researchers from Flanders. Of channels used only by the researchers from Flanders 1786 (42 %) belong to the Other fields category.

The share of journals with publications from both Flemish and Finnish universities varies considerably between SSH fields (Table 14). The share of journals used by researchers from both Flanders and Finland is the largest in Psychology (38 %), Social and economic geography (36 %) and Economics and business (32 %). The share of journals used by researchers from both countries is smallest in Arts (13 %) and Other humanities (13 %) (see also Figure 1). The share of journals used only by researchers from Flanders is relatively large in Other fields and law, and in Finland in Educational sciences (see also Figure 2). Overall, it seems that different SSH fields show fairly similar patterns in both countries.

**Table 14 Number of journals and share of journals with articles from Finland and/or Flanders, 2011-2014**

| Field of Science | Journals | Flanders and Finland | Only Finland | Only Flanders |
|---|---|---|---|---|
| 5.1 Psychology | 513 | 38 % | 21 % | 41 % |
| 5.2 Economics and business | 862 | 32 % | 35 % | 33 % |
| 5.3 Educational sciences | 491 | 27 % | 48 % | 25 % |
| 5.4 Sociology | 481 | 24 % | 42 % | 34 % |
| 5.5 Law | 486 | 18 % | 19 % | 63 % |
| 5.6 Political science | 288 | 25 % | 32 % | 43 % |
| 5.7 Social and economic geography | 239 | 36 % | 31 % | 33 % |
| 5.8 Media and communications | 286 | 25 % | 36 % | 39 % |
| 5.9 Other social sciences | 171 | 19 % | 33 % | 48 % |
| 6.1 History and archaeology | 377 | 15 % | 38 % | 47 % |
| 6.2 Languages and literature | 782 | 17 % | 33 % | 51 % |
| 6.3 Philosophy, ethics and religion | 512 | 22 % | 33 % | 45 % |
| 6.4 Arts | 209 | 13 % | 37 % | 50 % |
| 6.5 Other humanities | 86 | 13 % | 44 % | 43 % |
| Other fields | 2574 | 16 % | 15 % | 69 % |
| Total | 8357 | 22 % | 28 % | 50 % |

**Figure 1 Share of journals used by researchers from both Flanders and Finland, 2011-2014**

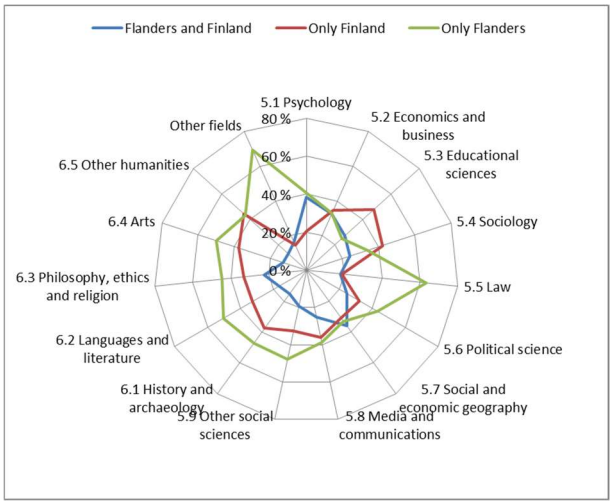
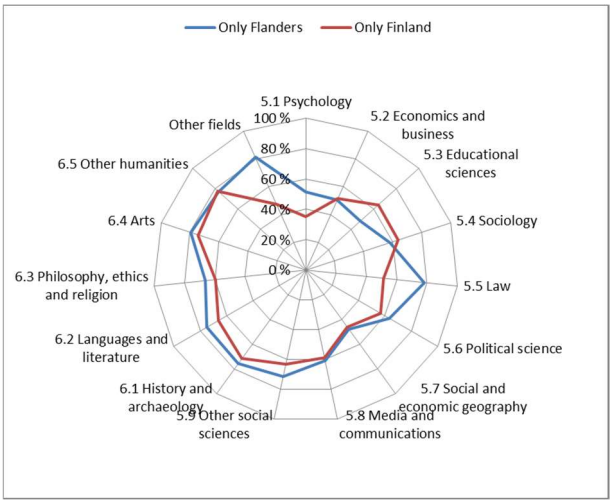



**Figure 2 Share of journals (6038) used by researchers from Flanders with no publications from Finland, and Share of journals (4146) used by researchers from Finland with no publications from Flanders, 2011-2014**




## 4. Comparison of the publication data from Flanders and Finland

The VABB-SHW database gathers the bibliographic references of published research outputs by SSH researchers affiliated with Flemish universities, used as data in the performance-based research funding system (PRFS) under the BOF regulation. In the VABB-SHW publication data are available in whole counts, and it has been possible to produce whole counts from the MinEdu data for Finland. In the Flemish publication data each publication is assigned to one of five publication types (Table 15). These five publication types have corresponding publication types in the MinEdu data.

**Table 15 Corresponding publication types in VABB and MinEdu data**

| Publication type | VABB categories | Corresponding MinEdu categories |
|---|---|---|
| 1 articles in journals | VABB-1 | A1, A2, B1, D1, E1 |
| 2 books as author | VABB-2 | C1, D4, D5, E3 |
| 3 books as editor | VABB-3 | C2, D6, E3 |
| 4 articles or chapters in books | VABB-4 | A3, B2, D2 |
| 5 proceedings papers | VABB-5 | A4, B3, D3 |

The BOF regulation lists the following criteria that outputs need to meet in order to count in the funding-scheme as peer-reviewed publications:

1. be publicly accessible;
2. be unambiguously identifiable by ISBN or ISSN number;
3. make a contribution to the development of new insights or to applications resulting from these insights;
4. 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. Peer review should be done by

an editorial board, a permanent reading committee, external referees or else by a combination of these.

There is no local definition of peer-reviewed publications, which are determined at ECOOM against the authority list of publication channels indexed in the web of Science or approved to be peer-reviewed by the Authoritative panel (GP). The GP has also enforced a rule, in addition to the four BOF criteria, that only publications of at least four pages are taken into account as peer-reviewed publications in the VABB-SHW. The purpose of this rule is to distinguish research publications (see point 3 of the BOF regulation) from editorials and other non-peer-reviewed writings that typically are published also in peer-reviewed outlets.

The Flemish publication data resulting from the data collection from local CRISes contains a wider range of publications than just peer-reviewed publications that are used in the performance-based funding system according to the BOF regulation. Besides GP approved peer-reviewed outputs, the data includes publications intended for the academic, professional and the general audiences, which do not fulfil the BOF and GP criteria. In the Finnish MinEdu publication data, a corresponding definition of peer-reviewed outputs includes peer-reviewed articles (A1-4) and scientific monographs and edited works (C1-2) in publication channels approved to levels 1-3 in the PF list.

*Overall SSH profile of publication types*

For the years 2011-2014 the data from Flanders contains a total of 52669 publications, of which 27466 (52 %) are approved peer-reviewed outputs and 25203 (48 %) are defined as non-peer-reviewed. In the Finnish data for the same time-frame there are 64280 SSH publications, of which 25602 (40 %) are peer-reviewed publications in level 1-3 approved channels and 38678 (60 %) are other publications. If we look at all publications per publication type, the two datasets show very similar publishing profiles for SSH output (Table 16). Articles in journals is the most common publication type, followed by book publications (books as author or editor, as well as articles in books), and the share of proceedings articles is low. The share of journal articles and books as editor is a bit larger in Flanders, and that of books as author and proceedings articles in Finland.

**Table 16 Number of all publications and peer-reviewed publications and share of different publications types for Flanders and Finland, 2011-2014.**

| | **All publications** | | **Peer-reviewed** | | |
|---|---|---|---|---|---|
| | **Flanders** | **Finland** | **Flanders** | **Finland*** | **Finland**** |
| Number of publications | 52669 | 64280 | 27466 | 25602 | 25204 |
| 1 articles in journals | 58 % | 53 % | 75 % | 54 % | 69 % |
| 2 books as author | 5 % | 7 % | 2 % | 3 % | 2 % |
| 3 books as editor | 5 % | 3 % | 3 % | 5 % | 2 % |
| 4 articles or chapters in books | 27 % | 26 % | 17 % | 31 % | 19 % |
| 5 proceedings papers | 5 % | 11 % | 4 % | 7 % | 7 % |

* Including publication types A3, C1 and C2 published in level 1-3 channels
** Including publication types A3, C1 and C2 published in level 2-3 channels

When we look at the peer-reviewed subset of publications, it appears that larger share of the SSH output in Flanders are journal articles and the share of book publications is much smaller than in Finland. This difference is explained by the fact that the GP approved book publisher list contains a relatively small set of the most prestigious international publishers (roughly corresponding to level 2 publishers in the Norwegian

list). In addition to this, book publications by Flemish publishers are approved if they meet the criteria of GPRC-label. The PF list contains 1265 national and international book publishers approved to levels 1-3. This means that a much more restricted subset of book publications are counted as peer-reviewed in Flanders compared to Finland. If we limit the Finnish subset of peer-reviewed book publications to those that appeared with the 108 publishers approved to the levels 2-3 in the PF list, the output profiles look quite similar also for the peer-reviewed publications.

*Comparison of SSH journal articles in Flanders and Finland 2011-2014*

For the purpose of comparing the publication practices of SSH outputs, the analysis is limited to articles that have been published 2011-2014 in journals approved to be peer-reviewed in Flanders or Finland. In order to be able to use comparable field definition for articles in both data, the OECD FOS fields identified to all journals in the combined list of 8357 journals were assigned for all publications in the Finnish and Flemish data. This means that the field definition is based on the journal, rather than the unit as in Flanders or the content as in Finland. The data contains 20585 publications from Flanders and 13945 publications from Finland (Table 17).

**Table 17 Number of articles, share of output in common channels, English language, WoS and Scopus indexed journals, with co-authors, and average number of co-authors for Finland (FIN) and Flanders (FLA), 2011-2014.**

| Field | | # of articles | Common channels | English language | WoS coverage | Scopus coverage | Co-authored | Inter-univ. collaboration | Avg. co-authors |
|---|---|---|---|---|---|---|---|---|---|
| 5.1 Psychology | FIN | 961 | 70 % | 91 % | 80 % | 86 % | 84 % | 19 % | 4,7 |
| | FLA | 1842 | 59 % | 90 % | 88 % | 91 % | 86 % | 8 % | 4,4 |
| 5.2 Economics and business | FIN | 2249 | 57 % | 96 % | 58 % | 86 % | 76 % | 12 % | 2,9 |
| | FLA | 1492 | 57 % | 94 % | 65 % | 80 % | 86 % | 9 % | 3,2 |
| 5.3 Educational sciences | FIN | 1418 | 42 % | 78 % | 38 % | 58 % | 69 % | 9 % | 3,1 |
| | FLA | 667 | 61 % | 83 % | 58 % | 74 % | 83 % | 10 % | 3,7 |
| 5.4 Sociology | FIN | 1319 | 27 % | 64 % | 30 % | 48 % | 48 % | 8 % | 3,1 |
| | FLA | 790 | 36 % | 67 % | 48 % | 58 % | 71 % | 7 % | 3,7 |
| 5.5 Law | FIN | 703 | 47 % | 48 % | 10 % | 22 % | 22 % | 4 % | 2,7 |
| | FLA | 2837 | 11 % | 25 % | 5 % | 12 % | 33 % | 3 % | 2,6 |
| 5.6 Political science | FIN | 577 | 25 % | 55 % | 31 % | 44 % | 44 % | 8 % | 3,0 |
| | FLA | 648 | 40 % | 66 % | 39 % | 57 % | 62 % | 6 % | 2,6 |
| 5.7 Social and economic geography | FIN | 580 | 43 % | 78 % | 53 % | 76 % | 54 % | 7 % | 2,8 |
| | FLA | 503 | 63 % | 95 % | 71 % | 89 % | 73 % | 8 % | 3,6 |
| 5.8 Media and communications | FIN | 510 | 44 % | 85 % | 41 % | 70 % | 59 % | 8 % | 2,9 |
| | FLA | 539 | 48 % | 81 % | 53 % | 76 % | 71 % | 11 % | 3,0 |
| 5.9 Other social sciences | FIN | 304 | 37 % | 85 % | 20 % | 55 % | 53 % | 8 % | 3,1 |
| | FLA | 216 | 38 % | 82 % | 37 % | 59 % | 66 % | 4 % | 3,3 |
| 6.1 History and archaeology | FIN | 645 | 19 % | 53 % | 34 % | 61 % | 21 % | 3 % | 3,0 |
| | FLA | 790 | 22 % | 49 % | 44 % | 63 % | 37 % | 4 % | 3,6 |
| 6.2 Languages and literature | FIN | 1285 | 29 % | 60 % | 30 % | 51 % | 25 % | 5 % | 2,9 |
| | FLA | 1429 | 30 % | 59 % | 51 % | 69 % | 38 % | 5 % | 2,7 |
| 6.3 Philosophy, ethics and | FIN | 820 | 30 % | 66 % | 33 % | 61 % | 19 % | 3 % | 2,6 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| religion | FLA | 971 | 31 % | 67 % | 41 % | 62 % | 24 % | 4 % | 3,1 |
| 6.4 Arts | FIN | 358 | 23 % | 62 % | 32 % | 39 % | 33 % | 9 % | 3,0 |
| | FLA | 339 | 17 % | 63 % | 36 % | 53 % | 49 % | 3 % | 3,3 |
| 6.5 Other humanities | FIN | 195 | 16 % | 57 % | 21 % | 37 % | 21 % | 4 % | 2,9 |
| | FLA | 125 | 23 % | 63 % | 32 % | 40 % | 29 % | 1 % | 3,8 |
| Other fields | FIN | 2021 | 60 % | 95 % | 79 % | 92 % | 88 % | 22 % | 6,2 |
| | FLA | 7397 | 35 % | 97 % | 91 % | 97 % | 94 % | 7 % | 7,0 |
| All SSH | FIN | 13945 | 43 % | 77 % | 46 % | 66 % | 56 % | 10 % | 3,9 |
| | FLA | 20585 | 36 % | 76 % | 62 % | 73 % | 70 % | 6 % | 5,1 |

The output of journal articles is larger in Flanders than in Finland, but the difference is mostly due to the SSH publications in Other fields' journals. If these are excluded, the SSH output from Finland is 11924 articles and 13188 articles from Flanders. Most fields are of fairly comparable size. The most important exceptions, where output from Flanders is much larger, are Psychology and Law. Psychology output in Flanders was large also compared to Norway in 2005-2009, and in case of law the difference may be due to certain amount of double-counting resulting from part of Flemish articles being published in both Dutch and French language. The fields that are notably larger in Finland are Economics and business and Educational sciences; the same fields that were also larger in Norway compared to Flanders in 2005-2009.[6] Also sociology output is relative large in Finland compared to Flanders.

*Use of common publications channels*

One of the typical characteristics of the SSH fields is the importance of research questions specific to local, regional or national language, culture, history and society. This should influence the choice of publications channels and publications language. In 2011-2014, Flemish SSH researchers published a total of 20595 articles in 6100 different journals (3.4 publications per outlet), and the Finnish SSH researchers published 13945 articles in 4247 journals (3.3 publications per outlet). Of all journals, 1827 were used by both the Flemish and Finnish SSH researchers as publication channels. Of 20585 Flemish articles 7469 (36 %) and 6050 (43 %) of 13945 Finnish articles have been published in journals that researchers from both countries have used as outlets (Table 17). The share is larger in social sciences than humanities fields, and it is larger in Finland especially in Law and Other fields, and in Flanders in Educational sciences, Social and economic geography, Sociology and Political science (Figure 3). In case of law, the share for Flanders is probably diminished by the possible double publishing in national Dutch and French language journals.

*English language publications*

Information concerning the publication language does not cover the entire data in either database. Of the Finnish peer-reviewed journal articles 664 (5 %) had no language information. Of the Flemish articles 6256 (30 %) had no language information, or the publication language is indicated at journal level as Miscellaneous languages or Multiple languages. For the MinEdu data, the language was manually checked, and in some cases corrected. For the VABB-SHV the language was manually checked. The share of English language SSH journal articles is almost the same in Finland (77 %) as it is in Flanders (76 %). Overall, the share of English language articles is larger in social sciences than the humanities, and the differences between SSH fields are similar in both datasets. Share is notably large in Finland compared to Flanders in Law and

[6] Ossenblok *et all*. 2012.

smaller than in Flanders in Political science and Social and economic geography (Figure 4). Again, the difference in law may be due to some extent to the double publishing in Dutch and French language.

**Figure 3 Share of publications in channels with publications from both Finland and Flanders, 2011-2014**

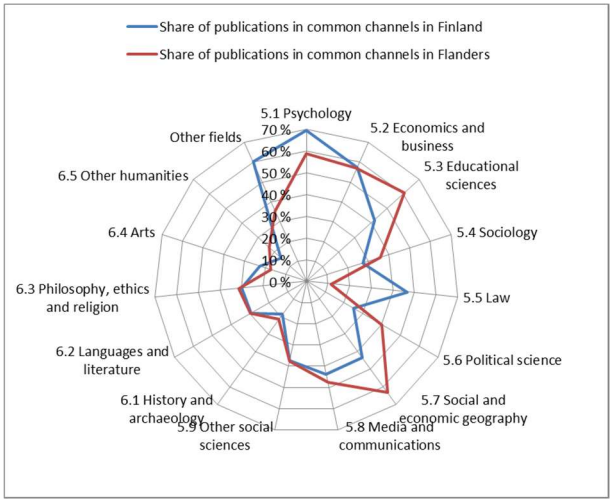



**Figure 4 Share of English language publications, 2011-2014**

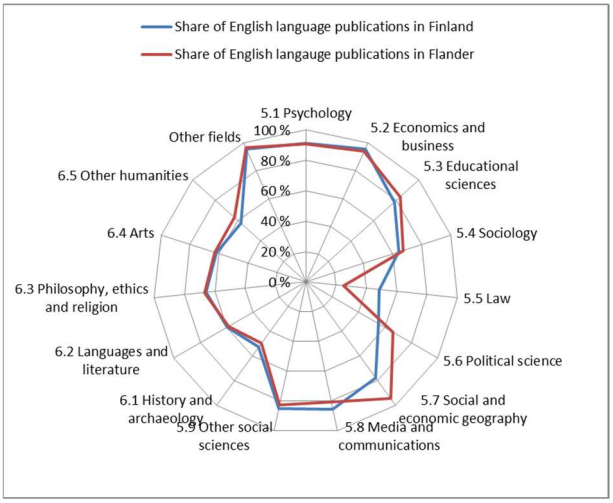



**Figure 5 Share of Web of Science publications, 2011-2014**

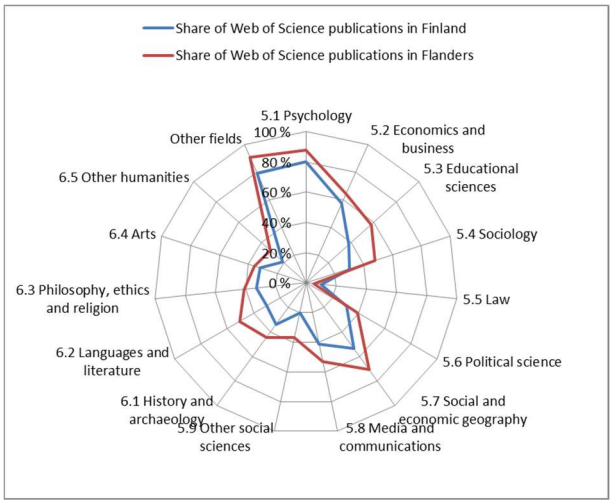
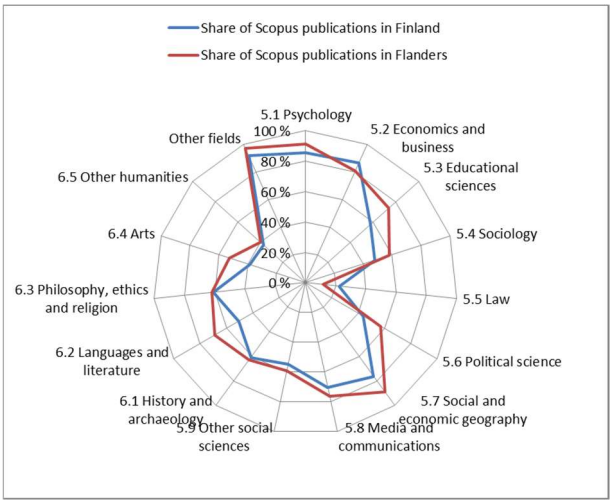



**Figure 6 Share of Scopus publications, 2011-2014**




*Web of Science and Scopus coverage*

The inclusion of publications in the Web of Science and Scopus databases is determined based on the identification of currently indexed journals in the master journal lists of SCIE, SSCI and AHCI as well as the Scopus journal list on basis of ISSN-codes. Therefore, the information on the international database coverage is less accurate than it is for example in the Flemish data that identifies WoS publications at record level. Overall, larger share of Flemish than Finnish journal articles is indexed in Web of Science (62 % in Flanders and 46 % in Finland) as well as Scopus (73 % in Flanders and 66 % in Finland) (Table 17). The differences between SSH fields in both datasets are remarkably similar (Figure 5). The coverage is most extensive in fields of Psychology, Social and economic geography, and Economics and business, and weakest in law. It appears

that English language does not go hand-in-hand with the WoS-coverage. The share of English language publications in other than WoS-indexed journals is much larger in Finland (40 %) than in Flanders (20 %) (Figure 10).

*Co-authorship and inter-university collaboration*

SSH publishing is characterized also by research conducted and published by a single-author, although the differences between social sciences and humanities are considerable. In the two datasets collaboration patterns can be studied both at the level of researchers and universities. Data from Flanders and Finland contain record level information on the number of authors, on basis of which it has been possible to distinguish single-authored and co-authored publications, and to calculate the average number of co-authors per publication (single-authored papers excluded). It has also been possible to calculate the number of participating Flemish universities in Flemish publications and the number of Finnish universities participating in the Finnish publications.

**Figure 7 Share of co-authored publications, 2011-2014**

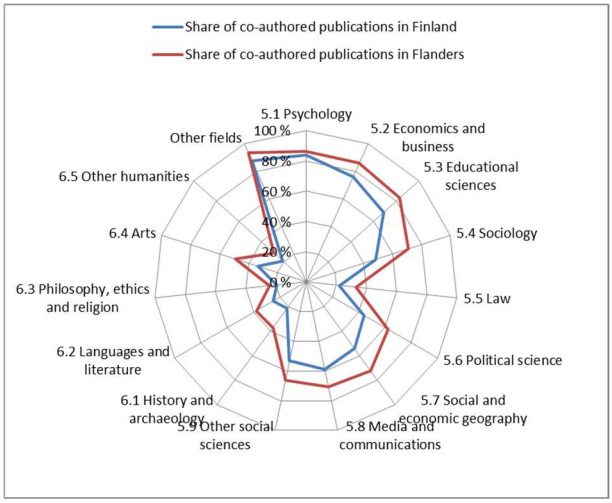



**Figure 8 Average number of co-authors per publication, 2011-2014**

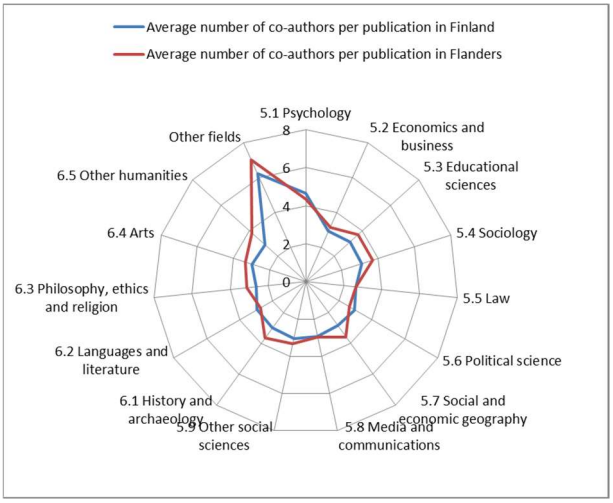



**Figure 9 Share of inter-university collaborations, 2011-2014**

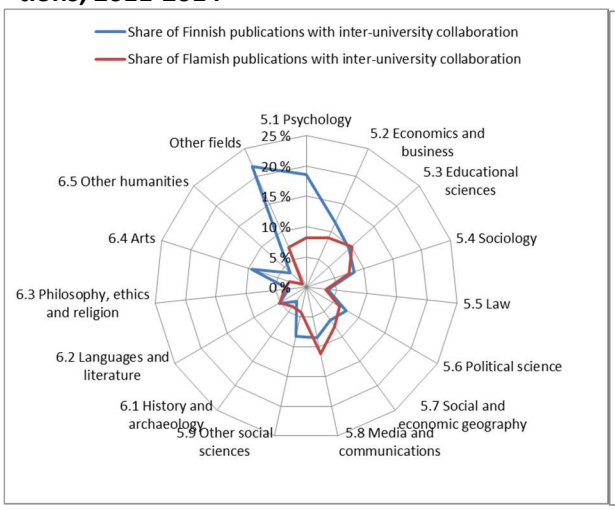
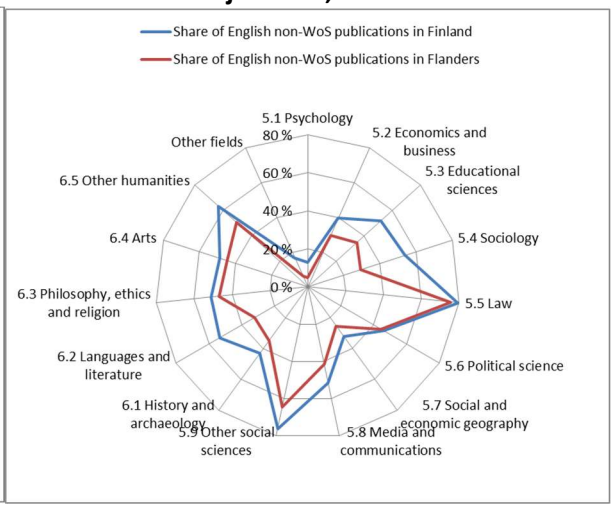



**Figure 10 Share of English language publications in other than WoS-journals, 2011-2014**




The share of co-authored SSH publications is much larger in Flanders (70 %) than in Finland (56 %), and also the average number of co-authors per publication is higher in Flanders (5.1) than Finland (3.1) (Table 17).

The differences between SSH fields, however, are almost identical in Finland and Flanders (Figures 7 and 8). The share of co-authored articles is the largest in Psychology and Economics and business, in Flanders also in Education. The share is smallest in Law and all humanities fields. The share of journal articles, in which inter-university collaboration is attested, is larger in Finland (10 %) than in Flanders (6 %) (Figure 9). This may have to do with the number of universities, 5 in Flanders and 14 in Finland, and possibly unit size. There appears to be a large difference especially in Psychology, in which there are much more inter-university collaborations in Finland than in Flanders.

*Development in English language, international database coverage and collaboration*

To make the results of this analysis more comparable with the Ossenblok *et al.* (2012) study, in which the development of English language and WoS coverage was compared between Flanders and Norway, SSH publications in Other fields journals have been excluded for both Flanders and Finland. The other major difference is that the Flanders-Norway comparison used fractionalized counts, whereas this Flanders-Finland comparison uses whole counts.

The share of English language publications has developed in an almost identical way in both Flanders and Finland, although the share is larger in Finland than in Flanders. This difference is due to Law. In Finland, the share of English language publications has increased from 72 % in 2011 to 75 % in 2014, and in Flanders from 62 % in 2011 to 67 % in 2014 (Table 18). In 2011, the share of WoS publications was 9 % larger in Flanders (47 %) than in Finland (38 %). Since 2011, the difference has diminished to 2 %. The Scopus coverage was 1 % larger in Finland in 2011, and it is 5 % larger in 2014. Both the WoS and Scopus coverage has increased in Finland, while in Flanders the share of WoS and Scopus publications has started to decline. It seems that the international database coverage and English language publications no longer develop in parallel (Figure 11).

Collaboration in SSH journal publications has developed very differently in Flanders and Finland (Table 18). In 2011 the share of co-authored publications was 13 % larger in Flanders than in Finland. There has been a stronger increase in Finland, so in 2014 the difference is 6 %. In case of inter-university collaborations, the share was 7 % in 2011 in both countries. Since 2011, the share has increased in Finland to 10 % but in Flanders it has declined to 5 % (Figure 12).

**Table 18 Number of publications and share of English language, Web of Science, Scopus, co-authored and inter-university collaboration publications per year, 2011-2014 (Other fields excluded).**

| | | 2011 | 2012 | 2013 | 2014 | All |
|---|---|---|---|---|---|---|
| Publications | FIN | 2709 | 2709 | 3120 | 3386 | 11924 |
| | FLA | 3165 | 3461 | 3465 | 3097 | 13188 |
| Share of English publications | FIN | 72 % | 73 % | 74 % | 75 % | 74 % |
| | FLA | 62 % | 65 % | 65 % | 67 % | 65 % |
| Share of WoS publications | FIN | 38 % | 39 % | 42 % | 43 % | 41 % |
| | FLA | 47 % | 48 % | 46 % | 45 % | 46 % |
| Share of Scopus publications | FIN | 60 % | 61 % | 63 % | 63 % | 62 % |
| | FLA | 59 % | 61 % | 59 % | 58 % | 59 % |
| Share of co-authored publications | FIN | 44 % | 51 % | 54 % | 55 % | 51 % |
| | FLA | 56 % | 57 % | 53 % | 61 % | 57 % |
| Share of inter-university | FIN | 7 % | 9 % | 8 % | 10 % | 8 % |

| | | | | | | |
|---|---|---|---|---|---|---|
| collaborations | FLA | 7 % | 6 % | 6 % | 5 % | 6 % |

**Figure 11 Share of English language, WoS and Scopus publications for Flanders and Finland, 2011-2014 (Other fields excluded).**

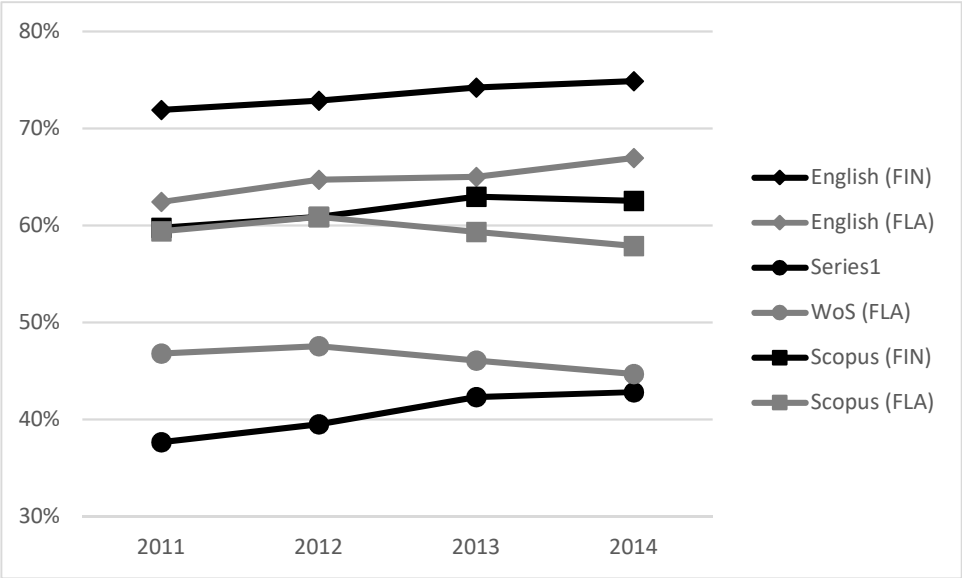
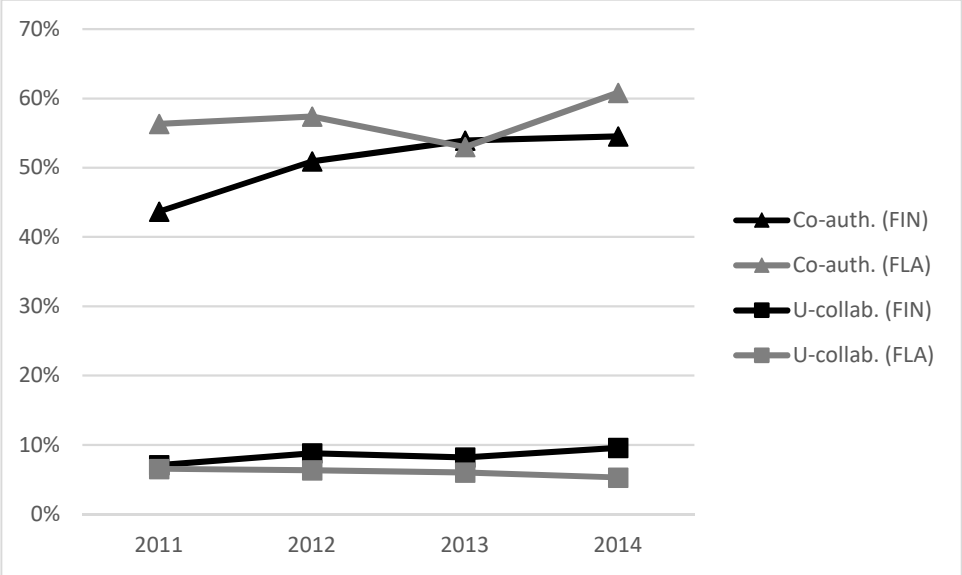



**Figure 12 Share of co-authored and inter-university collaboration publications for Flanders and Finland, 2011-2014 (Other fields excluded).**




## 5. Main findings

The Finnish data show that the definition of peer-review is not always clear-cut. There can be a difference in what researchers consider as peer-reviewed publications and what is counted as peer-reviewed publications in the funding-model. It was also pointed out that the expert panels in Flanders and Finland have disagreed on the classification of some publication channels as peer-reviewed or not.

On the whole, the Finnish data from 2011 to 2015 in itself show typical patterns and developments of SSH publishing and international database coverage. The share of peer-reviewed book publications is decreasing, and the share of journal articles in increasing. Also the share of English language publications, co-authored publications and inter-university collaboration is increasing.

It can be expected that SSH researchers from Flanders and Finland rarely publish in the same channels, as researchers from both countries prefer national or regional channels in dealing with research questions concerning national language, culture, history or society. However, even the international publishing in SSH happens in a variety of relatively small journals.[7] The comparison of journal publishing 2011-2014 shows that majority of Flemish and Finnish SSH research is indeed published in different channels.

It has been shown on the basis of the Web of Science data, as well as national publication data from Flanders and Norway, that different SSH fields show similar publishing patterns across countries.[8] This comparison of national journal article data from Flanders and Finland agrees with and contributes to these findings. It seems that SSH researchers in Flanders and Finland largely follow the international pattern specific to their fields, as measured in terms of use of English language or co-publication. They are also faced with similar deficits in WoS and Scopus coverage, because of which the international database coverage is not a proper measure of research quality or internationalisation in SSH.[9]

In the comparison of SSH journal publishing in Flanders and Norway 2005-2009, Ossenblok *et al.* observed that the share of English language publishing was increasing the same way in both countries but the share of Web of Science publications evolved differently. This was linked to the national PRFS, which in Flanders accepted only WoS publications but in Norway included also other peer-reviewed publications. This prompted Flemish SSH researchers to use WoS index journals as outlets, and to actively pursue indexing of regional journals in WoS. Ossenblok *et al*. raised two specific questions that it is possible to address in this study: the impact of introduction of VABB-SHW in 2008-2010, and the possible effect of whole counting in the funding-scheme on collaboration patterns in the SSH.

English language publishing shows similar growth in both Flanders and Finland in 2011-2014 but in Flanders the share of WoS (and Scopus) publications has turned to a decline. It is tempting to see this development at least partly as the effect of including in the funding-scheme also other than WoS publications in the VABB-SHW. In Finland, the share of WoS publications was considerably smaller to begin with but it has increased even if the funding-scheme (like that in Norway) is not tied only to WoS publications. Note however that almost all the level 2 and 3 journals in SSH are indexed in WoS and Scopus, and almost all the rest of WoS and Scopus journals are included in the level 1. This means that WoS and Scopus journals are attractive, if not required, publication channels.

In principle, Flanders' and Finland's funding-scheme should provide incentives for researchers to increase inter-university collaboration because such articles are reported to the system by all participating universities and counted for funding more than once. This is in stark contrast to Norway, where publications are fractionalized in the national funding-scheme at the author level. It is indeed the most common argument against any kind of fractionalization in the funding-model that it is damaging to co-publishing. It has been shown that the share of co-authored publications has not diminished in Norway.[10]

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[7] Sivertsen, G, & Larsen, B., Comprehensive bibliographic coverage of the social sciences and humanities in a citation index: an empirical analysis of the potential, *Scientometrics* 91.2 (2012): 567-575.

[8] van Leeuwen, T. N., The application of bibliometric analyses in the evaluation of social science research. Who benefits from it, and why it is still feasible, *Scientometrics* 66 (2006), 133–154; Ossenblok *et al.* 2012

[9] Sivertsen, G., Patterns of internationalization and criteria for research assessment in the social sciences and humanities, *Scientometrics*, 107 (2016) 357–368.

[10] Aagaard, K, Bloch, C., Schneider J. W., Henriksen, D., Ryan, T. K. & Lauridsen, P. S., *Evaluering af den norske publiceringsindikator,* Aarhus Universitet, Aarhus 2014.

It seems that the funding-scheme may have little influence on the collaboration patterns, as Flanders and Finland show quite different developments. The share of both co-authored publications and inter-university collaborations is increasing in Finland. In Flanders, the share of co-authored publications has increased less rapidly, and the share of inter-university collaborations has declined. There may, however, be interesting cultural and traditional differences between the conduct of SSH research in Flanders and Finland, as co-authorship is more common in all fields in Flanders and the average number of co-authors is larger.

**APPENDIX 1 Field classification in the MinEdu data (fields in *Italics* are not used)**

| | |
|---|---|
| ***1*** | ***Natural sciences*** |
| 111 | Mathematics |
| 112 | Statistics and probability |
| 113 | Computer and information sciences |
| 114 | Physical sciences |
| 115 | Astronomy and space science |
| 116 | Chemical sciences |
| *117* | *Geography and environmental sciences* |
| 1171 | Geosciences |
| 1172 | Environmental sciences |
| *118* | *Biological sciences* |
| 1181 | Ecology, evolutionary biology |
| 1182 | Biochemistry, cell and molecular biology |
| 1183 | Plant biology, microbiology, virology |
| 1184 | Genetics, developmental biology, physiology |
| 119 | Other natural sciences |
| ***2*** | ***Engineering and technology*** |
| 211 | Architecture |
| 212 | Civil and construction engineering |
| 213 | Electronic, automation and communications engineering, electronics |
| 214 | Mechanical engineering |
| 215 | Chemical engineering |
| 216 | Materials engineering |
| 217 | Medical engineering |
| 218 | Environmental engineering |
| 219 | Environmental biotechnology |
| 220 | Industrial biotechnology |
| 221 | Nanotechnology |
| 222 | Other engineering and technologies |
| ***3*** | ***Medical and health sciences*** |
| *311* | *Basic medicine* |
| 3111 | Biomedicine |
| 3112 | Neurosciences |
| *312* | *Clinical medicine* |
| 3121 | Internal medicine |
| 3122 | Cancers |
| 3123 | Gynaecology and paediatrics |
| 3124 | Neurology and psychiatry |
| 3125 | Otorhinolaryngology, ophthalmology |
| 3126 | Surgery, anesthesiology, intensive care, radiology |
| 313 | Dentistry |
| *314* | *Health sciences* |
| 3141 | Health care science |

3142 Public health care science, environmental and occupational health
315 Sport and fitness sciences
316 Nursing
317 Pharmacy
318 Medical biotechnology
319 Forensic science and other medical sciences
***4*** ***Agricultural sciences***
*411* *Agriculture and forestry*
4111 Agronomy
4112 Forestry
412 Animal science, dairy science
413 Veterinary science
414 Agricultural biotechnology
415 Other agricultural sciences
***5*** ***Social sciences***
511 Economics
512 Business and management
513 Law
*514* *Social sciences*
5141 Sociology
5142 Social policy
515 Psychology
516 Educational sciences
517 Political science
518 Media and communications
519 Social and economic geography
520 Other social sciences
***6*** ***Humanities***
611 Philosophy
*612* *Languages and literature*
6121 Languages
6122 Literature studies
*613* *Arts*
6131 Theatre, dance, music, other performing arts
6132 Visual arts and design
614 Theology
615 History and archaeology
616 Other humanities
***9*** ***Others***
999 Others

**Appendix 2 OECD FOS classification of the Flanders-Finland comparison**

| **OECD FOS Fields** | **NPI Scientific Field (Norway)** |
|---|---|
| 5.1 Psychology | Psychology |
| 5.2 Economics and business | Business and Finance<br>Economics |
| 5.3 Educational sciences | Education and Educational Research |
| 5.4 Sociology | Anthropology<br>Ethnology<br>Gender Studies |

| | |
|---|---|
| | Social Work<br>Sociology |
| 5.5 Law | Law |
| 5.6 Political science | Political Science |
| 5.7 Social and economic geography | Development Studies<br>Geography |
| 5.8 Media and communications | Library and Information Science<br>Media and Communication |
| 5.9 Other social sciences | Interdisciplinary Social Sciences |
| 6.1 History and archaeology | Archaeology and Conservation<br>History |
| 6.2 Languages and literature | Linguistics<br>Asian and African Studies<br>Classical Studies<br>English Studies<br>Germanic Studies<br>Literature<br>Romance Studies<br>Scandinavian Studies<br>Slavonic Studies |
| 6.3 Philosophy, ethics and religion | Philosophy and History of Ideas<br>Theology and religion |
| 6.4 Arts | Architecture and Design<br>Art History<br>Dance<br>Musicology<br>Theatre and Drama |
| 6.5 Other humanities | Interdisciplinary Humanities |
| Other fields | Anaesthesia, Emergency and Intensive Care<br>Applied geology, petroleum science and engineering<br>Biology<br>Biomedicine<br>Biotechnology<br>Cardiovascular and Respiratory Systems<br>Chemical Engineering<br>Chemistry<br>Civil Engineering<br>Computer and information science, Computer engineering<br>Dentistry<br>Dermatology and Venerology<br>Earth sciences<br>Electric power engineering<br>Electronics and cybernetics<br>Endocrinology<br>Energy<br>Environmental technology and industrial ecology<br>Gastroenterology and Hepatology<br>General Medicine |

| | |
|---|---|
| | General Technology<br>Geriatrics<br>Gynecology and Obstetrics<br>Haematology<br>Industrial engineering and management<br>Infectious Diseases<br>Informatics<br>Interdisciplinary Natural Sciences<br>Marine Technology<br>Materials Science and Engineering<br>Mathematics<br>Mechanical engineering<br>Multidisciplinary technology<br>Nephrology<br>Networks and network based services<br>Neurology<br>Nursing<br>Oncology<br>Ophthalmology<br>Otorhinolaryngology<br>Pediatrics<br>Pharmacology and Toxicology<br>Physics<br>Psychiatry<br>Public, Environmental and Occupational Health<br>Radiology, Nuclear Medicine and Medical Imaging<br>Rheumatology<br>Sport Sciences<br>Surgical Sciences<br>Undecided |