



# EVALUATION OF RESEARCH OUTPUT IN THE HUMANITIES AND SOCIAL SCIENCES

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# Structure of presentation

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1. About Bibliometrics
2. Data sources
3. Bibliometrics in the social sciences and humanities
4. Databases for the social sciences and humanities
  - 4.1 Initiatives for new databases
  - 4.2 How to weight a publication?
  - 4.3 Book Citation Indexes: New horizons?
5. Concluding word

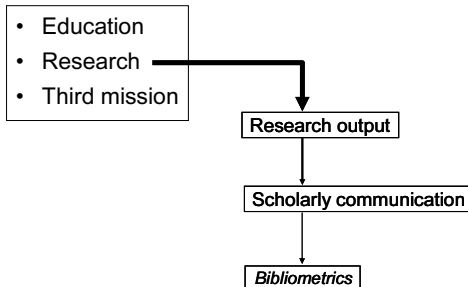
- ▶ Bibliometrics measures dissemination and flow of scientific information in the framework of documented scholarly communication.

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- ▶ These statements define the scope of evaluation using bibliometrics as well as opportunities and limitations of bibliometric applications.

## Function of bibliometrics in quantifying and measuring activities of HEIs

### University activities



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## Characteristics of scholarly communication in the sciences

- ▶ Scientific journals are the main forums.
- ▶ Scholarly communication (in terms of information sources and targets) takes generally place within the scientific community.

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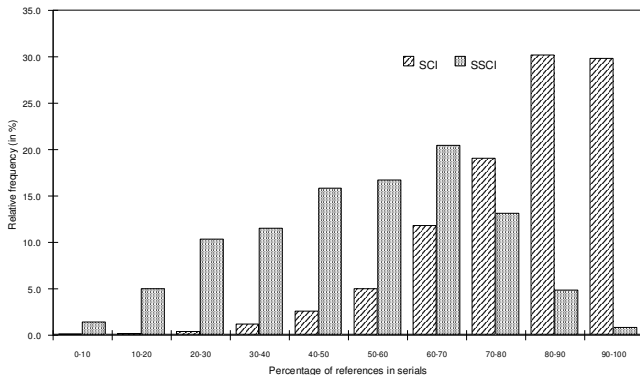
⇒ Bibliometric studies should preferably be based on international bibliographic citation and abstract-databases.

*Precondition:* All co-authors and their affiliations must be recorded in the database.

The extension of bibliometrics to the social sciences and humanities (SSH) is confronted with the following issues:

- ▶ publication type
- ▶ journal coverage
- ▶ editorship vs. authorship
- ▶ national representation
- ▶ language representation
- ▶ role and interpretation of citation

Distribution of the share of references to serials over journals in the sciences and social sciences (SSCI CDE 1993)



Source: GLÄNZEL & SCHOEPFLIN, *IPM*, 1999

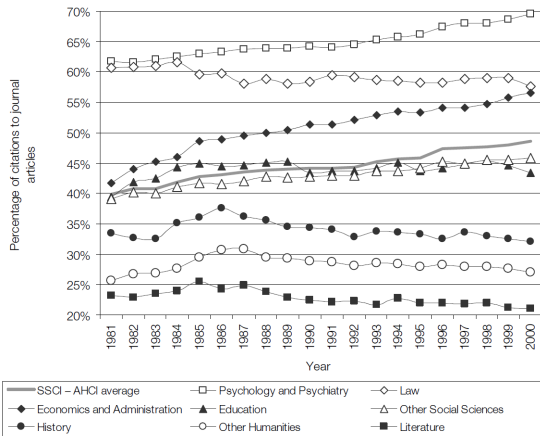
## Reference-based indicators for selected science and social science areas ranked by the percentage of serials (SSCI CDE 1993)

Subject area	Number of papers	Mean number of references	Percentage of serials	Mean reference age
<i>Immunology</i>	23396	29.6	94.3	6.9
<i>Research medicine</i>	24369	25.9	92.1	7.9
<i>Solid state physics</i>	28466	23.6	85.2	10.1
<i>Analytical chemistry</i>	9605	20.9	83.8	9.4
<i>Mathematics</i>	11987	16.2	64.4	11.3
<i>Psychology &amp; psychiatry</i>	11886	31.0	64.0	11.4
<i>Electronic engineering</i>	19222	15.0	62.2	8.6
<i>Business</i>	3663	20.8	56.0	10.9
<i>Economics</i>	7959	21.6	48.7	10.6
<i>Information &amp; library science</i>	2128	14.9	47.6	9.1
<i>Sociology</i>	3675	32.7	40.4	12.5
<i>History &amp; philosophy of science and social sciences</i>	658	48.7	34.7	38.8

Source: GLÄNZEL & SCHOEPFLIN, *IPM*, 1999

# Bibliometrics in social sciences and humanities

## Evolution of the percentage of references to journal articles in different disciplines



Source: LARIVIÈRE ET AL., *JASIST*, 2006


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1. international journals
2. national journals
3. books
4. non-scholarly press

📖 Hicks, *The four literatures of social science*, 2004

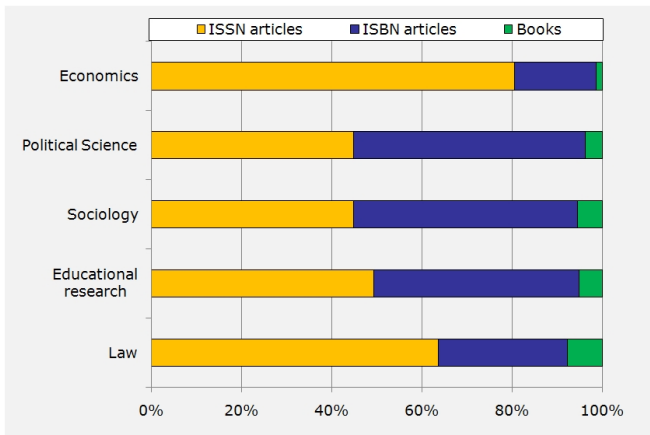
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Although these four literatures are used in the sciences as well, the distribution of these types differs in the sciences and SSH.

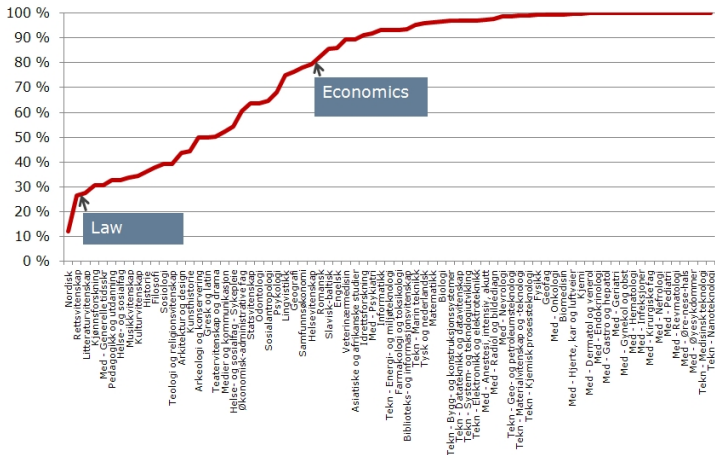
## Publications according to discipline and publication type (FRIDA)



Source: SIVERTSEN, *Data sources for bibliometrics in the humanities and social sciences*, 2010

# Databases for the social sciences and humanities

## Use of foreign language by disciplines in % (FRIDA)



Source: SIVERTSEN, *Data sources for bibliometrics in the humanities and social sciences*, 2010

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Extension by indexing new documents (incl. their references)  
Expensive and time consuming

## 2. Scenario: *New databases* (Examples)

- ▶ A new approach *without citations* was described in the report entitled “Towards research performance in the humanities”.  
📖 MOED, LUWEL, NEDERHOF, *Library Trends*, 2002
- ▶ Die Norwegische *Database for Statistics on Higher Education* (DBH). Articles in journal and conference series, book chapters and monographies are indexed.  
📖 SIVERTSEN, *ISSI Newsletter*, 2010

- ▶ The *Vlaams Academisch Bibliografisch Bestand voor de Humane en Sociale Wetenschappen* (VABB-SHW) is used as an extension of the SSCI, AHCI and CPCI-SSH in the BOF-key. All articles in scientific journals and serials, proceedings, books and book chapters are indexed that meet given minimum criteria. VABB is since 2011 operational.  
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- ▶ The project *European Bibliometric Database SSH* – a co-operation of several institutes in France, Germany, UK, the Netherlands and the ESF – explores the “the feasibility and development of a robust bibliometric database for assessing the impact of all types of research output in these domains.”  
 URL: <http://www.sussex.ac.uk/Units/spru/esf/>

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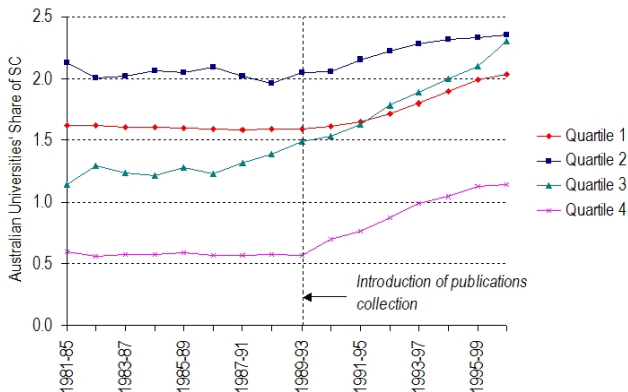
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Butler (2004) has shown what might happen, if funding is linked to “rough” publication counts. According to Butler, the “publication component” of the composite index used for university block funding in Australia stimulates publication activity in journals with low impact.

# “What happens when funding is linked to publication counts”

## Share of publication in the SCI, by journal impact quartile



Source: BUTLER, In: *Handbook of Quantitative Science and Technology Research*, 2004

The above-mentioned methods of extension or creation of publication databases proved useful in the context of allocation models of funding mechanisms.

The success of the Norwegian database is also reflected by its implementation in the Danish model and its influence on other European performance-based research funding systems.

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- For the evaluation of research performance (notably at larger scales), more fine-grained approaches than publication-type based “flat rates” for publication weighting are required.

Special features (such as global coverage, content-related subject classification, recorded references) needed to create appropriate common reference standards are a further indispensable prerequisite.

Web-based evaluation tools such as *Google Scholar* and its derivatives derivatives (e.g., Harizng's *Publish or Perish*, *Scholarometer*, *Arnetminer*, etc.) do not form any serious alternative for the evaluation of research.

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Insufficient documentation, lacking information concerning coverage, insufficient disambiguation for publications and citations, citations beyond the “publication universe”, in part questionable sources, insufficient possibility of address assignment and download restrictions for creating reference standards are the most striking problems concerning the use of Google Scholar.

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⇒ Google Scholar is a useful retrieval tool for author and topic searches with interesting link features but limited search fields. The database is not suited for systematic, comparative and/or large-scale bibliometric application.

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Unlike in the journal and proceedings citation indexes, several problems emerge in the context of subject classification and citation processes.

- ▶ Establishment of a categorical structure for books is not evident. “The level of granularity at which the data must be analysed is critical in establishing sensible and relevant baselines.”
- ▶ Little is known about citation processes of books, although ageing might be significantly longer than that of journal articles.

📖 ADAMS & TESTA, *Thomson Reuters Book Citation Index*, 2011

## The coverage of the BKCI by main subject area (in %)

Subject	Coverage
Clinical Medicine	5
Life Sciences	6
Agriculture/Biology	4
Physics/Chemistry	14
Engineering/Computing/Tech.	15
Social & Behavioral Sciences	38
Arts & Humanities	18

Source: ADAMS & TESTA, *Thomson Reuters Book Citation Index*, 2011

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For the evaluation of research performance one should opt for citation databases. Since references lead to further relevant publications, structural analyses can be also be included in evaluative studies.


In the development of bibliographic databases for application to SSH citations should therefore – if feasible – not be dispensed with as they form an important source of information.

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*“Therefore in law, the birthplace of citation study, even richer results may be possible than in other fields ...”*

 SHAPIRO, *JASIS*, 1992

**Thank you for your attention**