VILNIUS TECH
Vilniaus Gedimino technikos universitetas

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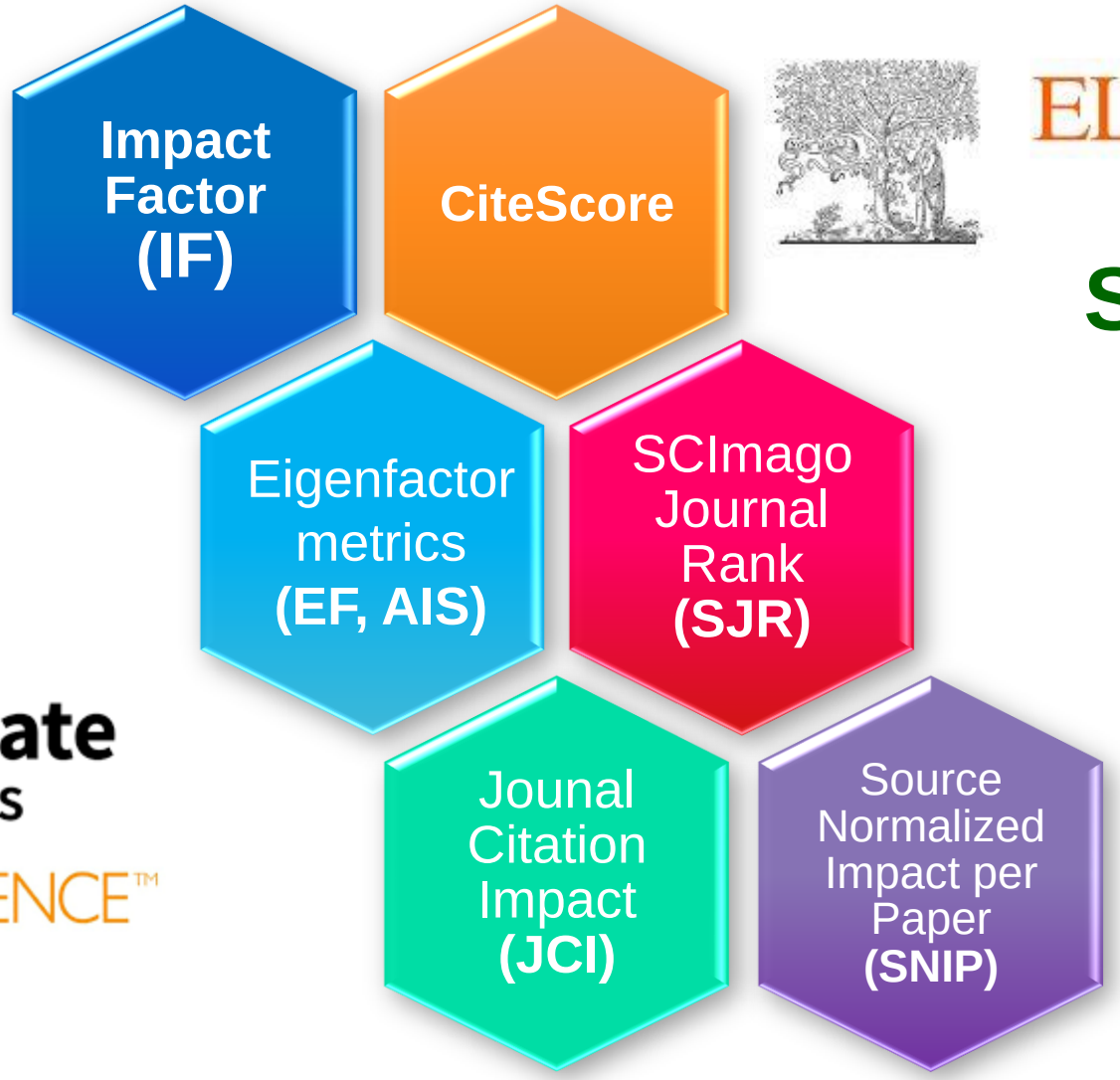
Bibliometric (Citation) Indicators

2021-11

Most commonly used indicators



ELSEVIER Scopus

Scopus

Clarivate Analytics

WEB OF SCIENCE™

(WoS)

Most commonly used - journal impact indicators

WoS

Journal Impact Factor (JIF)

- Publication counting interval – **2** years
- Publication types (A and B) **are different:** A – all types, B – **only „citable documents“** (original and review articles)

$$JIF = \frac{\text{Citations in 2019 to items published in 2017 + 2018 (A)}}{\text{Number of citable items in 2017 + 2018 (B)}}$$

5-Year IF – publication counting interval – **5** years.

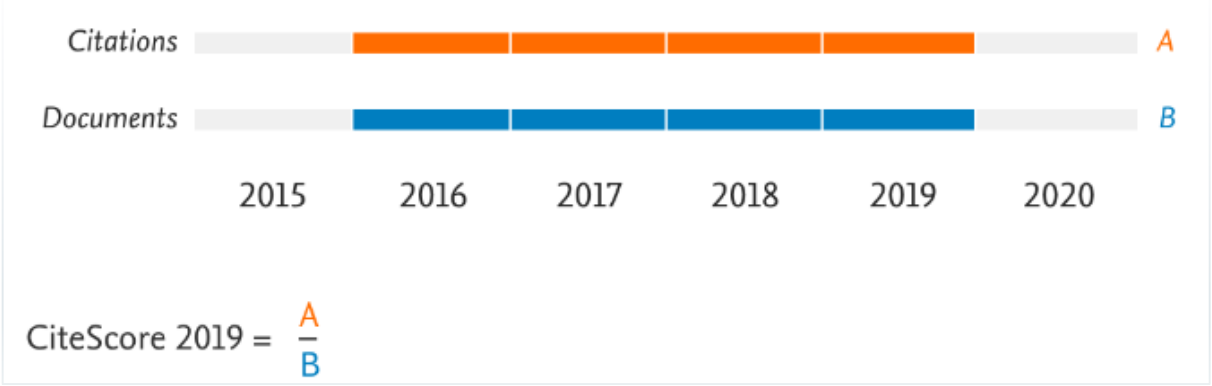
IF without Self-Cites – JIF **excluding self-citations** from the same journal.

Immediacy Index – indicates **how fast** an average publication in the particular journal **is being cited** since its publishing date.

Scopus

CiteScore

- Publication types (A and B) **coincide** (Original articles, reviews, conference publications, data sets ant book chapters are included)
- Publication and citation counting interval – **4** years



CiteScore Track

- **Predicts** an **average citation rate** for the source during the **current year**.

Not suitable *for direct comparison of sources from* ***different subject fields***

Journal position indicators

- Indicates the quality of a journal by its position in certain subject field.
- Calculated separately for all subject fields to which the journal is assigned.
- ***Suitable*** *for direct comparison of sources from* ***different subject fields****.*

Rank

- Journal's position by JIF value.

JIF Percentile

- **Percentage** of journal position**.**

Q (quartiles)

- **quartering** of journals by percentage of position.

Determined by journal's JIF value.

Rank

- Source's position by CiteScore value.

CiteScore percentile

- **Percentage** of journal position.

Quartiles

- **quartering** of journals by percentage of position.

Determined by source's CiteScore value.

Journal indicators normalized by discipline

Ratio of real and expected (potential) average number of citations to a single journal's publication within its represented subject field.

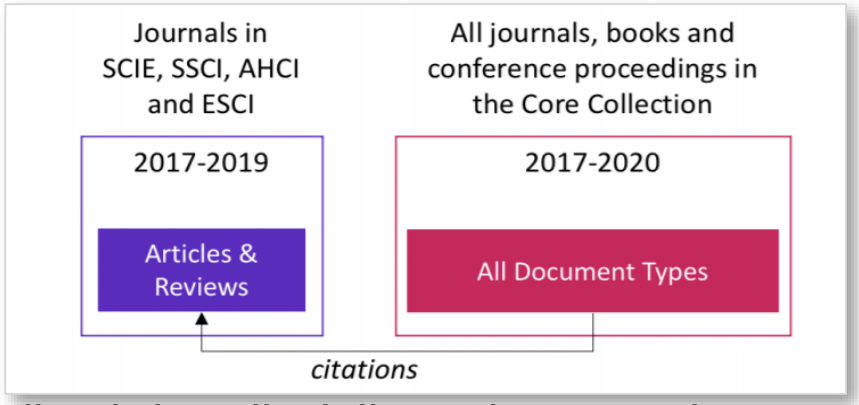
Suitable *for direct comparison of sources from* ***different subject fields****.*

Source Normalized Impact per Paper (SNIP)

- Delineation of disciplines do not depend on subject classification – subject field is determined individually for every journal.
- Differences in citation densities between disciplines are accounted for.
- Calculated from original and review articles, as well as conference material published during preceding **3 years.**
- **1** is a value for an **average journal**.

Journal Citation Indicator (JCI)

- It is a derivate indicator based on *Category Normalized Citation Impact* indicator.



- It is normalized by disciplines in accordance with *WoS Category Classification.*
- Calculated and applicable for all *WoS Core Collection* journals (including ones indexed in ESCI and A&HCI)

Journal prestige indicators

- Calculations are based on the journal citation networks.
- Citations from a higher quality journals carry higher value.

Eigenfactor Score

- **Citations** are calculated from the indicated year
- Interval for **cited publications** – **5 years**
- Composed in a way, that the sum of Eigenfactor for all JCR indexed journals would be **100**: value of 1 indicates that the journal accumulated 1% of overall influence.
- **Journal self-citations** are not included (neglected).

Article Influence Score

- An **average influence** of journal's publication, accumulated within **5 years** after its publishing.
- Calculated by multiplying Eigenfactor Score by 0.01 and dividing by the number of publications in the journal.

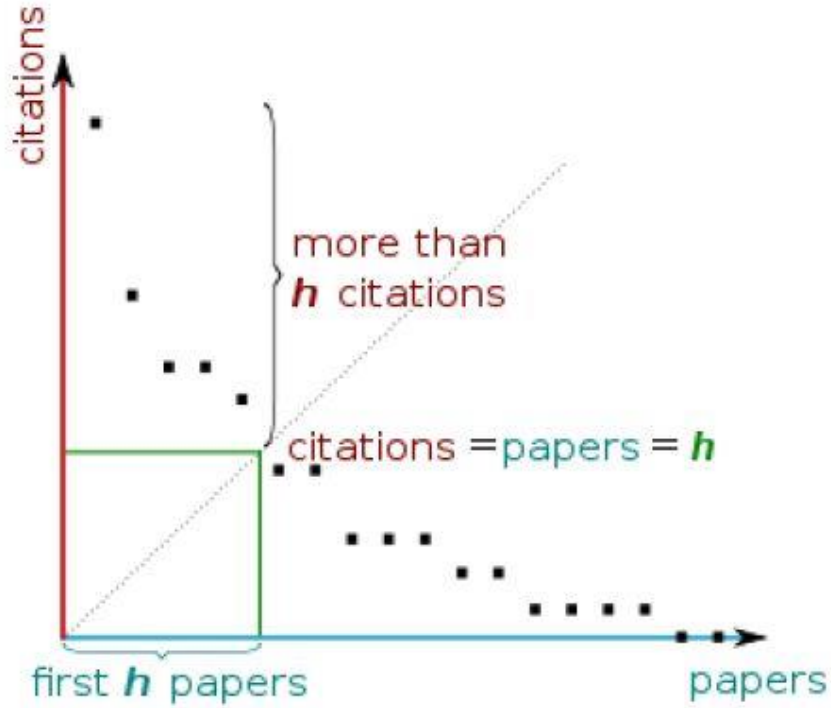
SCImago Journal Rank (SJR)

- **Citations** are calculated from the indicated year
- Interval for **cited publications** – **3 years**
- **Journal self-citations** are limited (up to 33%)
- **Journal size** is accounted for.
- T**hematic closeness** of journals is accounted for**.**

AIS *and* ***SJR*** *are* ***suitable*** *for direct comparison of sources from* ***different subject fields****.*
(**1** is a value for an **average journal**)

H-index

- Indicates the **number of publications *h***, which have been **cited *h*** (or more) times.



Advantages:

- Evaluates both quantity and quality of publications.
- Simple calculation.
- May be applied for evaluating not only authors, but also journals, institutions or any other publication sets.

Limitations:

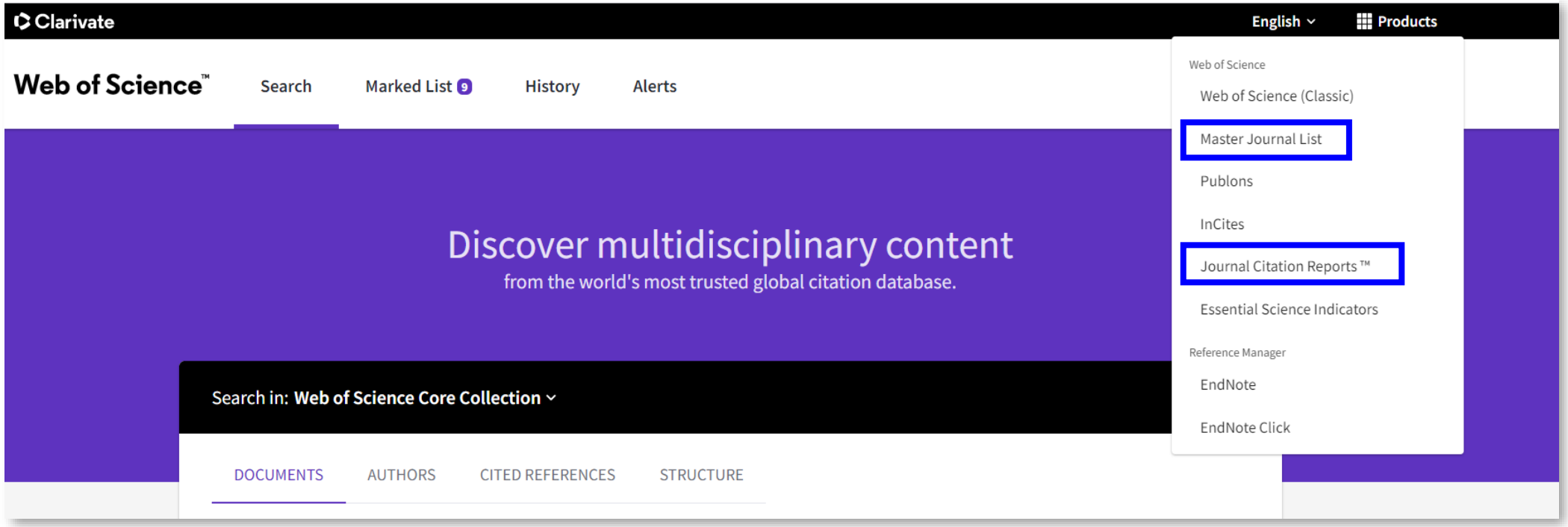
- Focusses only on the most cited publications.
- Unfavorable to young researchers and new journals.
- Not normalized by disciplines.

Availability of bibliometric indicators : **WoS**

All **WoS** indicators:

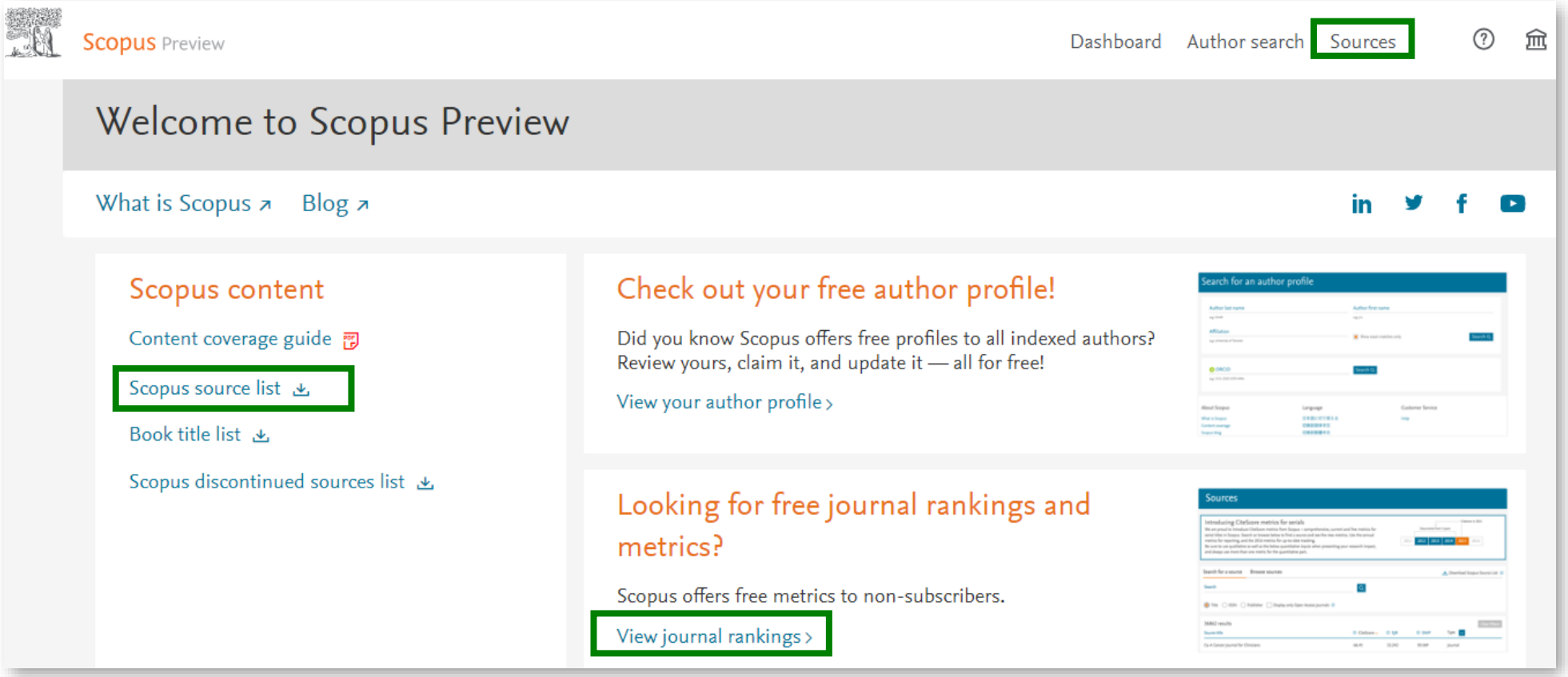
- Calculated only **for journals included in Journal Citation Reports (JCR)** (indexed in *Science Citation Index Expanded (SCIE)* and *Social Sciences Citation Index (SSCI)*):
  - Journals indexed in *Arts & Humanities Citation Index (A&HCI)* and *Emerging Sciences Citation Index (ESCI)* do not have main WoS journal impact indicators (except for JCI);
  - Citation impact indicators are not calculated for other type of sources (books, conference proceedings, etc.).

***Q** – the only one **journal** position **indicator** available in WoS **without access to JCR**.*



Availability of bibliometric indicators: Scopus

- Calculated and provided for **all types** of **periodical sources** (journals, conference proceedings, book series, trade publications)
- **Freely available** (subscription to the database is not required):
  - ✓ Direct preview in Scopus **Sources** section
  - ✓ Availability to **download** lists of indexed sources with the values of citations, indicators and additional information.



IMPORTANT – indicators limitations

All indicators provided in bibliographic databases are **calculated only from the content** (publications and citations) **indexed** in that database.

WoS indicators are calculated from:

- Citations – from WoS Core Collection;
- H-indexes – from the data available by the certain subscription terms (LT – content from 1990m.)

Scopus indicators:

✓ calculated **from all indexed data**

Journal citation impact indicators should not be applied for evaluation of the quality of **individual publications**.

More about WoS and Scopus:

publications

an Open Access Journal by MDPI

Web of Science (WoS) and Scopus: The Titans of Bibliographic Information in Today's Academic World

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Information resources

(web-pages and informational material provided by the owners of the databases)

Web of Science

- Web of Science web-page (http://apps.webofknowledge.com)
- http://clarivate.libguides.com/webofscienceplatform/woscc
- https://clarivate.com/products/web-of-science/
- Clarivate Analytics. 2018. Indicators Handbook. *Available at*: https://incites.help.clarivate.com/Content/Resources/Docs/indicators-handbook-june-2018.pdf .
- Carloni M., Tsenkulovsky T., Mangan R. 2018. Web of Science Core Collection Descriptive Document. *Available at*: https://clarivate.libguides.com/woscc/guides .

Scopus

- Scopus web-page (www.scopus.com)
- Scopus: Access and use Support Center
- https://www.elsevier.com/solutions/scopus
- Elsevier. 2020. Scopus Content Coverage Guide. *Available at*: https://www.elsevier.com/solutions/scopus/how-scopus-works/content .