

Can the national repository of Sweden be utilized for in-depth bibliometric analysis: unlocking insights into Swedish research

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Introduction

Importance of national repositories in shaping global research accessibility.

Evaluate Swepub - national bibliographic database of Sweden, for bibliometric analysis.

The screenshot shows the Swepub 2.0.8 interface. At the top left is the Swepub logo and version number. A navigation bar includes 'search', 'Bibliometry' (highlighted), 'Data processing', 'Subject classification', and 'Data status'. Below this, there are tabs for 'SOCKET' and 'DATA DUMP'. A text block explains that the interface provides metadata for bibliometric analysis. The main area contains several filters: 'Organisation' and 'Research topic (SSIF)' are dropdown menus; 'Output type' is a dropdown menu; 'Release year' has 'From' and 'even' fields, both set to '2024'; 'Publication status' has four checkboxes: 'Published', 'Epub ahead of print/Online first', 'Submitted, Accepted, In print', and 'Retracted'; 'Content labeling' has three checkboxes: 'Peer reviewed (ref)', 'Other scientific/artistic (know)', and 'Other (popular science, debate) (pop)'; 'The Swedish list' has one checkbox: 'Only output included in peer-reviewed publication channels according to the Swedish list'; and 'Open access' has one checkbox: 'Openly available output only'. At the bottom are 'SHOW' and 'CLEAR' buttons.

Figure 1: Swepub's interface for bibliometric data retrieval (<https://bibliometri.swepub.kb.se/bibliometrics>)

Purpose

- Foster knowledge dissemination.
- Break down information barriers.
- Promote an inclusive academic environment (Swan, 2012; UNESCO, 2021).

Role of repositories

- Pivotal in transforming scholarly communication.
- Enable broad dissemination of academic research (Marsh, 2015; Sile et al., 2018).

SwePub: Sweden's national repository

- **Established:** 2008.
- **Collaborative effort:** Swedish universities and research organizations.
- **Integration:** Combines institutional repositories across Sweden (Hagerlid, 2011)
- **Goal:** Provide a coordinated approach to managing and sharing academic publications.

Research questions

RQ1 To what extent is Swedish research available through open access and the trend of publishing?

RQ2 What is the publication behavior of Swedish researchers in non-OA, Gold OA and Green OA journals?

RQ3 Is there a way to use Swepub for in-depth bibliometric analysis?

Data & method



- Data source : Swepub database (swepub.kb.se).
- Publication years : 2015-2022 (8 years window).
- Document types : Articles, reviews, conference papers, books, chapters.
- Data retrieved : 443,632 publications.
- Data cleaning : Addressed inconsistencies/errors and data duplication.
- Additional data : OpenAlex (openalex.org) to clean affiliation metadata.
- Tools used : R program (r-project.org) and JMP (jmp.com).
- Final dataset : 366,341 publications (77,291 publications excluded).
- Classification : Open access and non-open access (Swepub's tags).
- Re-classification : Gold OA, Green OA and non-OA.
- Visualization tool : VOSviewer (vosviewer.com).

Data & method (continued)

Table 1: Distribution of publication between non-open access and open access.

Document types	No. of publications	Non-Open Access		Open Access	
Journal article	288,317	104,080	(36%)	184,237	(64%)
Review article	10,894	3,507	(32%)	7,387	(68%)
Conference paper	42,261	27,645	(65%)	14,616	(35%)
Book chapter	23,093	19,004	(81%)	4,089	(19%)
Book	1,776	1,452	(82%)	324	(18%)
Total	366,341	155,688	(42%)	210,653	(58%)

Results

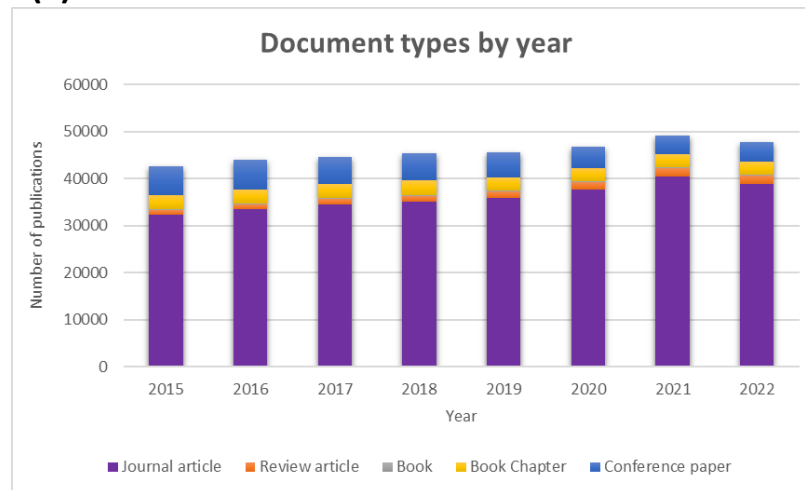


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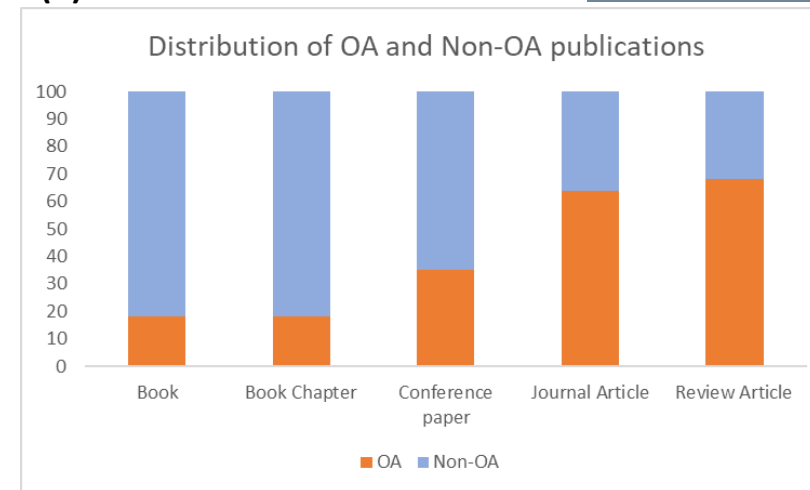
RQ1

To what extent is Swedish research available through open access and the trend of publishing?

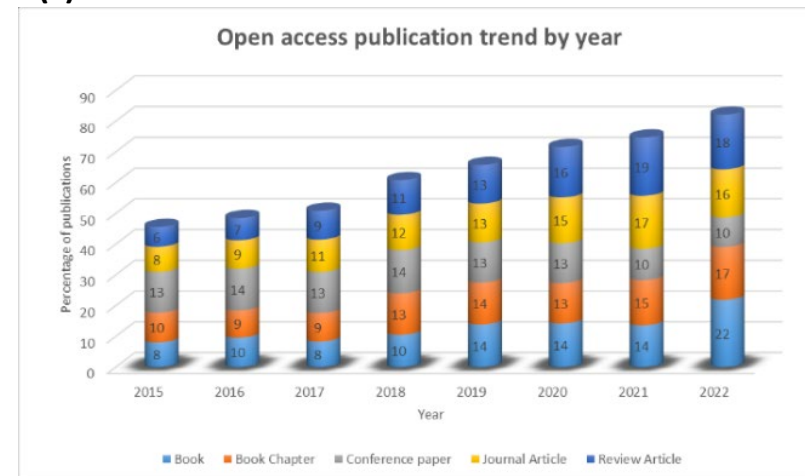
1(a)



1(b)



1(c)



1(d)

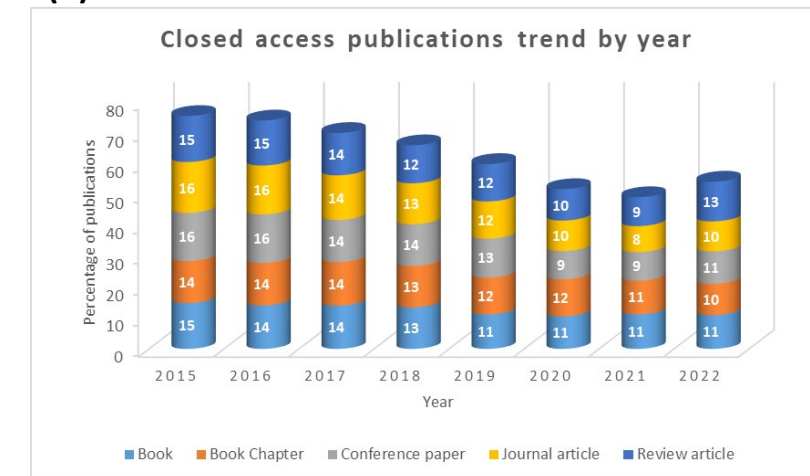


Figure 1: Publication trends across document types.

Results (continued)

RQ2

What is the publication behavior of Swedish researchers in non-OA, Gold OA and Green OA journals?

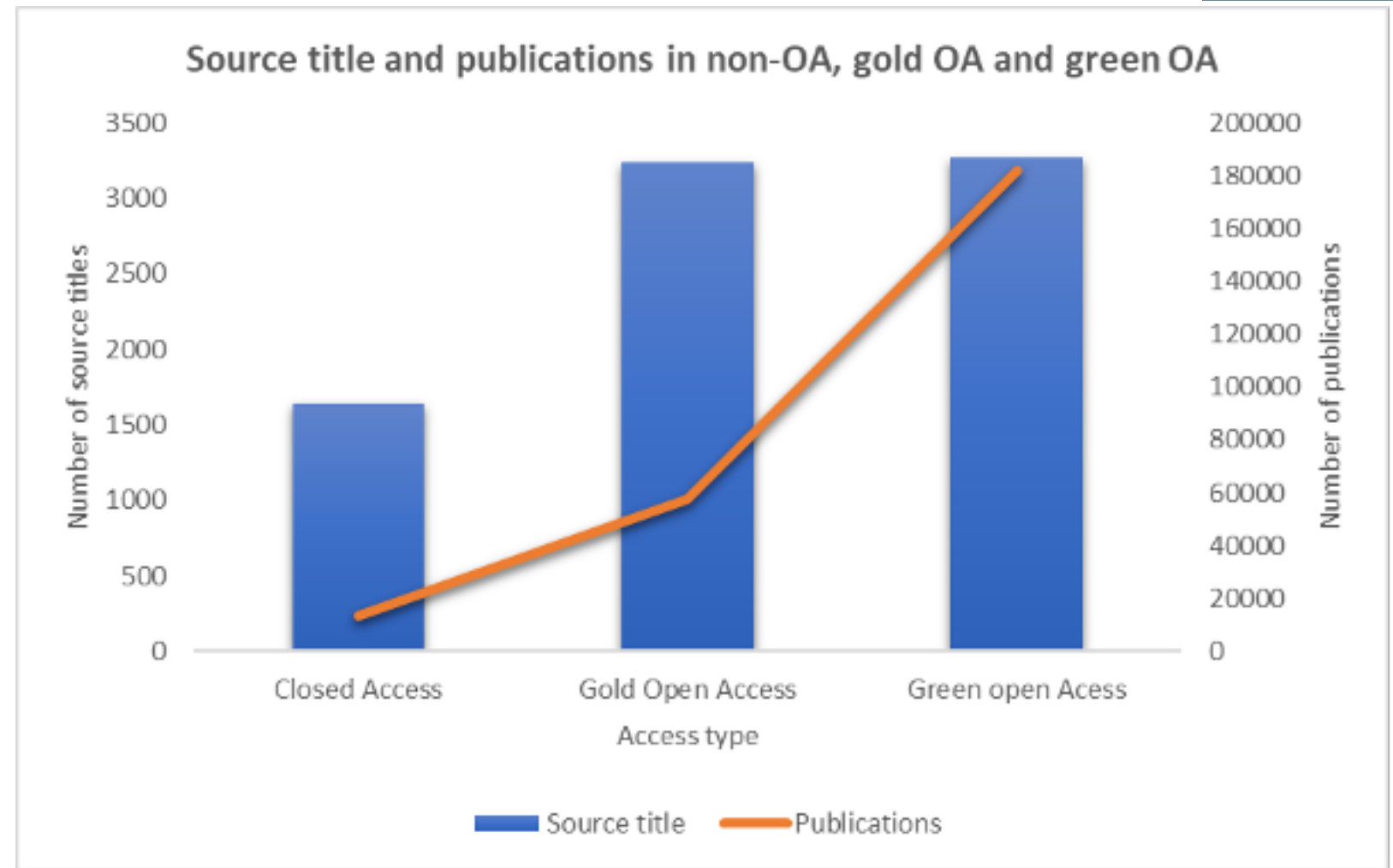


Figure 2: Publication behavior in Closed access, Gold OA, and Green OA journals.

Results (continued)



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RQ3

Is there a way to use SwePub for in-depth bibliometric analysis?

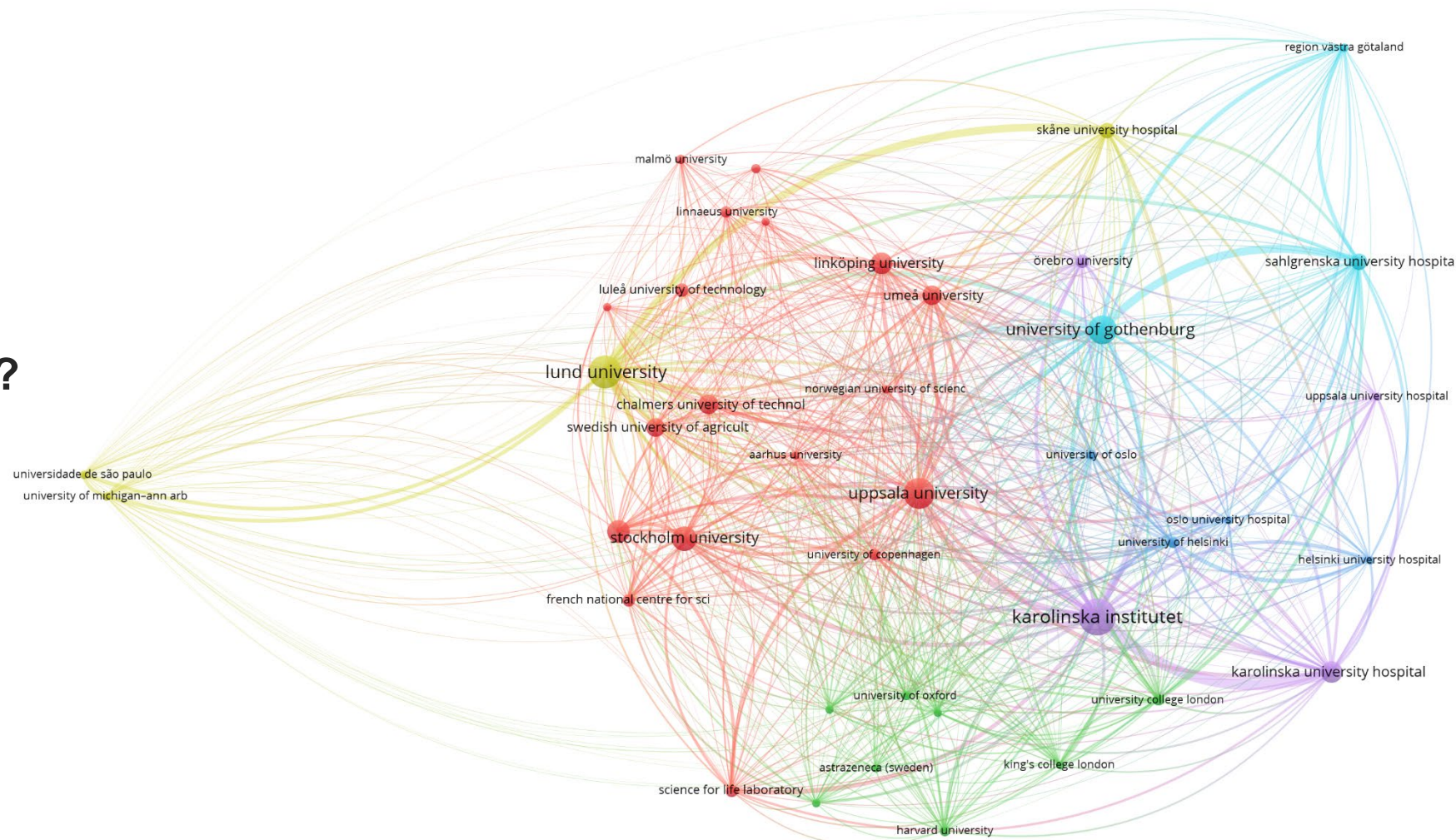


Figure 3: National collaboration (year 2022 only).

Results (continued)

RQ3

Is there a way to use Swepub for in-depth bibliometric analysis?

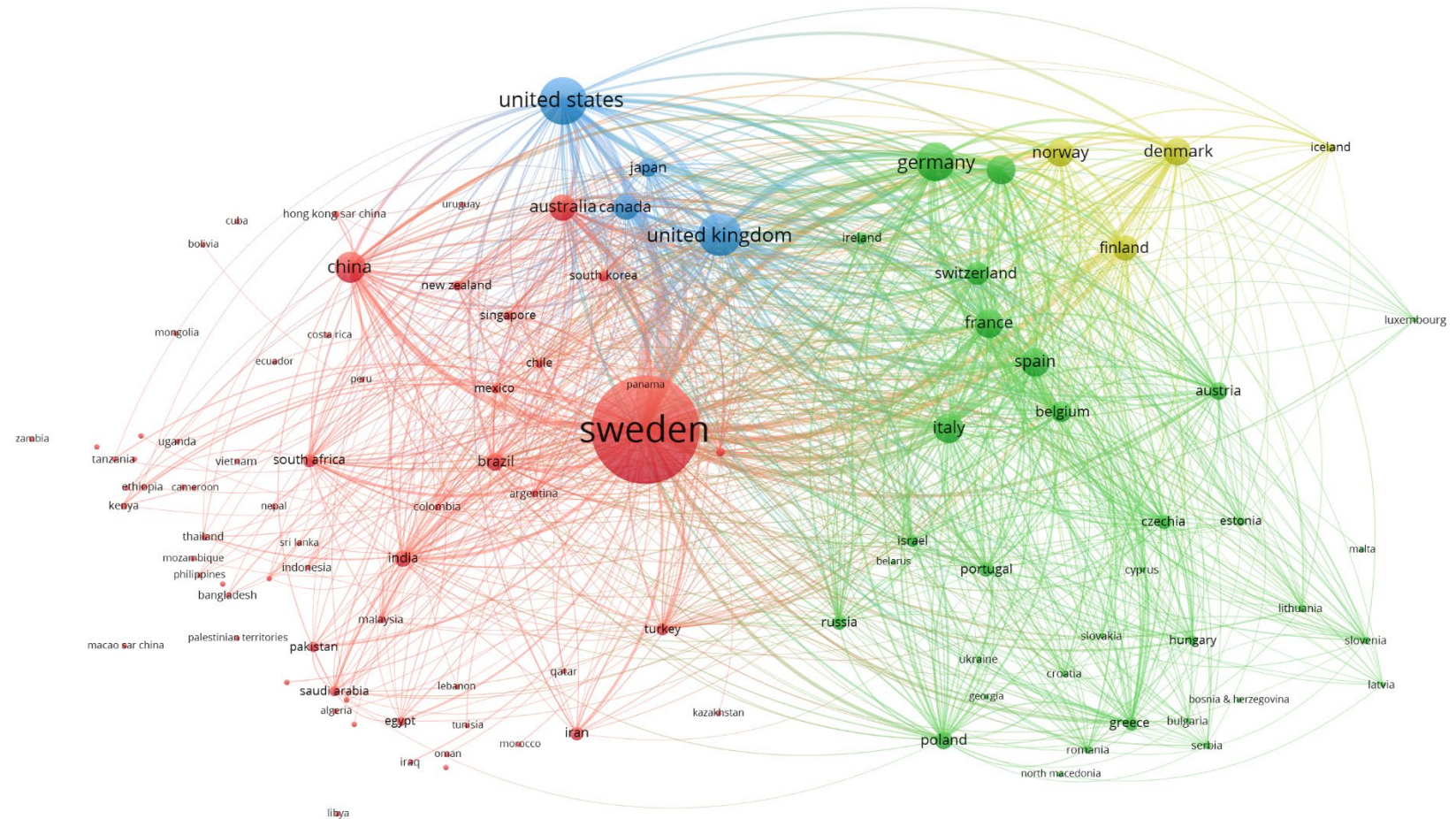


Figure 4: International collaboration at the country level (year 2022 only).

Conclusion

Swepub is a national-open access repository that displays publications from Swedish institutions.

Due to limitations in its metadata fields, only some basic and descriptive bibliometric analyses can be conducted.

Its metadata fields should be enriched to include not only binary OA status but also Gold OA, Green OA, etc.

Author-affiliation metadata need to be standardized.

There is potential for collaboration between Swepub and OpenAlex to enrich metadata and add required metadata fields.

Further study is needed to create the potential tool to enrich Swepub data through bibliometric databases.





Questions, answers & discussion

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