Danish Open Access Indicator
Monitoring Open Access in a National Context

OpenAIRE workshop, 14th February 2017, Oslo

Karen Hytteballe Ibanez
Office for Bibliometrics and Data Management
Technical University of Denmark, DTU
kshi@dtu.dk
Agenda

- Background
- What is measured?
- How is it measured?
- Challenges
- Developments & improvements
- Usage of the data
Denmark’s National Strategy for Open Access

Launched July 2014
By former Minister of Higher Education and Science;
Sofie Carsten Nielsen
Definition of OA publications

Scientific and peer reviewed articles and conference contributions in journals and proceedings with ISSN
Targets

To achieve by 2017 via digital archives – repositories – unimpeded, digital access for all to **80 per cent** of Danish peer-reviewed scientific articles from Danish research institutions published in **2016**.

To achieve from 2022 and onwards unimpeded, digital access for all to **100 per cent** of all Danish peer-reviewed scientific articles from Danish research institutions published from **2021** and onwards.
The Danish Open Access Indicator

• The Open Access indicator monitors how the Danish universities fulfil the targets of the National Strategy for Open Access
• Add on to the Danish National Research Database
• Measures once a year
Definition of Open Access

Danish take:

Gold Open Access
- Must be Real Gold journal
- Listed in the Directory of Open Access Journals

Green Open Access
- Must be downloadable from trusted repository
- Institutional or disciplinary

Hybrid Open Access
- No double-dipping/Fool’s Gold option
- But if deposited in a trusted repository, then OK
Data sources

- Publication metadata from all 8 universities
- BFI – Bibliometric Research Indicator
- DOAJ
- Sherpa/Romeo
- Authority list of trusted external repositories
- Authority list of journals with extreme embargo periods
1. Publication metadata is collected automatically from the universities.
2. Subset with duplicates (for university calculation)

3. Deduplication of records using data from BFI

4. This results in "target field without duplicates" (for National calculation)
5. Check whether the article is published in a dedicated and scientific Gold OA journal (DOAJ & BFI).
8 universities
Research Databases & Repositories

1. BFI
2. DOAJ

Recognized and Compatible External Repositories

6. Check whether the article may be downloaded from a Green Open Access repository
8 universities
Research Databases & Repositories

BFI    DOAJ    Sherpa/Romeo

1

3

4

5

6

7

Recognized and Compatible External Repositories

Journals with extremely long embargo periods

7. Check whether the article is published in a journal with Green OA potential

In addition a list of journals with extremely long embargo periods is consulted in order not to claim Green OA potential for those with more than 12 month embargo
8 universities
Research Databases & Repositories

8. This results in a statistical dataset in two parts:
(1) University statistics
(2) National statistics
8 universities
Research Databases & Repositories

BFI  DOAJ  Sherpa/Romeo

1  3  4  5  6  7  8

1. Recognized and Compatible External Repositories
2. Journals with extremely long embargo periods

9. The result is communicated via web-pages of the Danish National Research Database

10. via spreadsheets, which may be downloaded from the Danish National Research Database
Categories in the OA Indicator

Realised Open Access potential
Referring to publications that are freely accessible online

Unused Open Access potential
Referring to publications that are not freely accessible online, but which have been published in journals which allow Green Open Access with an embargo period of up to one year

Unclear Open Access potential
Referring to publications that are not freely accessible online and which have been published in journals with an undetermined Open Access policy
Challenges when measuring

• Comparability and definitions
• Hybrid publications
• Many different data sources
• Long embargo periods
### Publication Statistics

**BY INSTITUTION**

<table>
<thead>
<tr>
<th>Institution</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aarhus University</td>
<td>229,931</td>
</tr>
<tr>
<td>University of Copenhagen</td>
<td>214,901</td>
</tr>
<tr>
<td>Technical University of Denmark</td>
<td>138,664</td>
</tr>
<tr>
<td>Aalborg University</td>
<td>96,491</td>
</tr>
<tr>
<td>University of Southern Denmark</td>
<td>88,859</td>
</tr>
<tr>
<td>Capital Region of Denmark</td>
<td>39,168</td>
</tr>
<tr>
<td>Roskilde University</td>
<td>32,115</td>
</tr>
<tr>
<td>Copenhagen Business School</td>
<td>31,224</td>
</tr>
<tr>
<td>University Colleges Denmark</td>
<td>16,760</td>
</tr>
<tr>
<td>Research Institutions in Architecture, Design and Conservation</td>
<td>6,457</td>
</tr>
<tr>
<td>Ministry of Culture</td>
<td>4,813</td>
</tr>
</tbody>
</table>

### Open Access Indicator

**NATIONAL**

<table>
<thead>
<tr>
<th>Open Access Indicator</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>18%</td>
</tr>
</tbody>
</table>

**BY UNIVERSITY**

<table>
<thead>
<tr>
<th>University</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Technical University of Denmark</td>
<td>31%</td>
</tr>
<tr>
<td>Roskilde University</td>
<td>29%</td>
</tr>
<tr>
<td>Aalborg University</td>
<td>19%</td>
</tr>
<tr>
<td>IT University</td>
<td>18%</td>
</tr>
<tr>
<td>Copenhagen University</td>
<td>17%</td>
</tr>
<tr>
<td>University of Southern Denmark</td>
<td>15%</td>
</tr>
<tr>
<td>Aarhus University</td>
<td>13%</td>
</tr>
<tr>
<td>Copenhagen Business School</td>
<td>4%</td>
</tr>
</tbody>
</table>
National level

Open Access Indicator — Statistics for 2014

Open Access Potential: Realized, Unused and Unclear

Indicator Year: 2014

Open Access Potential:
- Realized
- Unused
- Unclear

National

Total
- 18%
- 61%
- 21%
Main research area

Open Access Indicator — Statistics for 2014

Open Access Potential: Realized, Unused and Unclear

BY MAIN RESEARCH AREA

- Science / Technology: Realized 22%, Unused 62%, Unclear 16%
- Humanities: Realized 21%, Unused 33%, Unclear 46%
- Medicine: Realized 15%, Unused 66%, Unclear 19%
- Social Science: Realized 12%, Unused 60%, Unclear 28%
# University level

## Open Access Indicator — Statistics for 2014

### Open Access Potential:
- **Realized**
- **Unused**
- **Unclear**

### By University

<table>
<thead>
<tr>
<th>University</th>
<th>Realized</th>
<th>Unused</th>
<th>Unclear</th>
</tr>
</thead>
<tbody>
<tr>
<td>Technical University of Denmark (DTU)</td>
<td>31%</td>
<td>56%</td>
<td>12%</td>
</tr>
<tr>
<td>Roskilde University (RUC)</td>
<td>29%</td>
<td>42%</td>
<td>29%</td>
</tr>
<tr>
<td>Aalborg University (AAU)</td>
<td>19%</td>
<td>54%</td>
<td>27%</td>
</tr>
<tr>
<td>IT University (ITU)</td>
<td>18%</td>
<td>65%</td>
<td>18%</td>
</tr>
<tr>
<td>Copenhagen University (KU)</td>
<td>17%</td>
<td>64%</td>
<td>19%</td>
</tr>
<tr>
<td>University of Southern Denmark (SDU)</td>
<td>15%</td>
<td>62%</td>
<td>23%</td>
</tr>
<tr>
<td>Aarhus University (AU)</td>
<td>13%</td>
<td>66%</td>
<td>21%</td>
</tr>
<tr>
<td>Copenhagen Business School (CBS)</td>
<td>4%</td>
<td>67%</td>
<td>28%</td>
</tr>
</tbody>
</table>
View with 2 categories

Open Access Indicator — Statistics for 2014

Open Access Potential: Realized and Unused

Indicated Year: 2014

- Realized
- Unused
- Unclear

NATIONAL

- Total: 23% Realized, 77% Unused

BY MAIN RESEARCH AREA

- Humanities: 29% Realized, 61% Unused
- Science / Technology: 26% Realized, 74% Unused
- Medicine: 15% Realized, 82% Unused
- Social Science: 17% Realized, 83% Unused
Development

Open Access Indicator — Development for: Total

Realized Open Access Potential:
- Actual
- Projected (c.f. National Strategy)

- 2013: 17%
- 2014: 18%
- 2015: ???
- 2016: 80%
- 2017: 80%
- 2018: 80%
- 2019: 80%
- 2020: 100%
- 2021: 100%

14-02-2017

OpenAIRE Workshop
Documentation & Data set

Description:

- **Overview:**
- **Technical:**
- **At the Danish Agency for Science, Technology and Innovation**

**DOWNLOADS**
(Indicator year: 2014)

**Summary data**
The datasets behind the online visualisations

**Publications in scope**
The scope. All publications (deduplicated) in scope. The basis of the summations and aggregations

**Records in scope**
The scope. All publications (including duplicates) in scope. The basis of the summations and aggregations at the university level.
Suggested developments / improvements

• Distinguish between
  – Gold Open Access without APC charges?
  – Gold Open Access with APC charges?
  – Green Open Access via local repository?
  – Green Open Access via external repository?

• Hybrid articles?

• Draw on global bibliographic data (Crossref or similar)? → to simplify the processing pipeline?
What to do with the data - examples

• University level
  – Monitor status according to target in strategy
  – How much OA potential remains unused
  – Which journals do no allow OA publishing

• National level – further development
  – Monitor development of embargo periods
  – A great amount of data to dive into

• And whatever you want to do with the data 😊
  – 100% transparency
Questions?

Thank you for your attention

More info:
www.forskningsdatabasen.dk/en/open_access &

And don’t forget to check the OA Indicator in April 2017 for the brand new numbers