Building Bibliometric Capacity
IMF Library
Possibilities

- Track **scholarly engagement** with IMF research institution / individual researcher(s) / (collection of) papers
- Track **public engagement** of IMF research in news, social media, etc. (altmetrics)
- Better **filters for monitoring scholarly literature**
- **Monitor research trends** for new concepts and influential research institutions/granting agencies/patent applicants
Data Sources: Academic Search Engines

2004 **Google Scholar**  https://scholar.google.com

*New!*

2016 **Microsoft Academic**  https://academic.microsoft.com

2018 **Dimensions.ai**  https://app.dimensions.ai/discover/publication

2018 **Lens.org**  https://lens.org
How did you get around the fact that Google Scholar has no API?

We spent three months scraping data from the website. I created a script to do so, but I had to be there to keep manually solving the CAPTCHAs that appeared regularly. It was a boring summer! We used several computers to distribute the enquiries because Google Scholar asks you to solve a CAPTCHA if one computer is making too many requests. Sometimes the CAPTCHAs appear so frequently that it is not practical to get the data this way. We don’t think it is a reliable method of getting the data."
Volume of citation counts depends on the size of the data set

<table>
<thead>
<tr>
<th>Source</th>
<th>Total docs</th>
<th>API?</th>
<th>Other data</th>
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<tbody>
<tr>
<td>Google Scholar</td>
<td>389,000,000</td>
<td>No</td>
<td>Patents</td>
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<tr>
<td>Microsoft Academic</td>
<td>227,837,499</td>
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<td>Lens.org</td>
<td>206,402,437</td>
<td>Yes</td>
<td>Patents</td>
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<td>Dimensions.ai</td>
<td>103,460,096</td>
<td>Yes</td>
<td>Patents, Grants, Clinical Trials, Policy Docs</td>
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<tr>
<td>Web of Science</td>
<td>90,000,000</td>
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<tr>
<td>Scopus</td>
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<td>Crossref</td>
<td>107,745,554</td>
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<td>Unpaywall</td>
<td>24,16,932</td>
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## Coverage of IMF research output

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<thead>
<tr>
<th>DataSource</th>
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<tbody>
<tr>
<td>Dimensions.ai</td>
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<td>Microsoft Acad.</td>
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### Overlap analysis

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<tr>
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<td>In Dim, not Lens</td>
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<tr>
<td>In Lens, not Dim</td>
<td>3366</td>
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<td>In Mic, not Lens/Dim</td>
<td>58</td>
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</table>
## Lens vs Dim

### Coverage comparison by publication

<table>
<thead>
<tr>
<th>Series</th>
<th>Dimensions.ai</th>
<th>Lens.org</th>
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<tbody>
<tr>
<td><strong>IMF</strong></td>
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<tr>
<td>IMF Staff Country Reports</td>
<td>7,712</td>
<td>7,686</td>
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<tr>
<td>IMF Working Papers</td>
<td>6,931</td>
<td>6,911</td>
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<tr>
<td>Finance &amp; Development</td>
<td></td>
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<tr>
<td>IMF Survey</td>
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<td>260</td>
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<tr>
<td>IMF Economic Review</td>
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<td>253</td>
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<tr>
<td>Regional Economic Outlook</td>
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<td>Global Financial Stability Report</td>
<td>3</td>
<td>38</td>
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<td>IMF Economic Review</td>
<td>241</td>
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<tr>
<td>IMF Staff Position Notes</td>
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<tr>
<td>External pubs with IMF affiliated authors</td>
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<td><strong>WB</strong></td>
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<tr>
<td>Policy Research Working Papers</td>
<td>7,458</td>
<td>6,910</td>
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<tr>
<td>(The) World Bank Economic Review</td>
<td>1,076</td>
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<td>World Bank Research Observer</td>
<td>383</td>
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<tr>
<td>Development outreach</td>
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<tr>
<td>World Bank Technical Papers</td>
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<td>Annual World Bank Conference on Development</td>
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Poverty Alleviation Through the Program Slums in the City of Kendari, Indonesia
Joko Tri Brata, La Ode Bariun, Asri Djauhar, Andi Gusti Tanttu

A cell-based dynamic congestion pricing scheme considering travel distance and time delay
Qixiu Cheng, Zhiyuan Liu, W.Y. Szeto
2019, Transportmetrica B Transport Dynamics - Article

Analysing the causes of long-distance travel in Europe – a system dynamics approach
Simon Shepherd, Paul Pfaffenbichler, Christiane Bielefedt
2019, Transportmetrica B Transport Dynamics - Article

Agent-based modelling of office market for a land use and transport model
Chengxiang Zhuge, Chunfu Shao
2019, Transportmetrica B Transport Dynamics - Article
Scholar Results

Scholarly Works (193,216,119) = All Docs

Filters: Year published = (1950 - 2019)

Works in Set
193,216,119

Works Cited by Patents
3,948,647

Patent Citations
19,645,102

Citing Patents
3,041,145

Works Cited by Scholarly
67,222,404

Citing Scholarly
1,447,051,053

Scholarly Works

Protein Measurement with the Folin Phenol Reagent

Oliver H Lowry, Nira J Rosebrough, A Lewis Farr, Rose J Randall

Additional Info: 688 Patent Citations 270,695 Scholarly Citations Reference Count: 0
Scholarly Data Set

Last Updated: Aug 21, 2019

The below scholarly data sources are currently ingested and integrated in the Lens. Updates are performed on a 3-4 week basis at the present time.

- 206.4M Scholarly Works
- 31.3M Authors
- 765.3K Source Titles
- 60.9K Publishers
- 650.4K Fields of Study
- 333 Journal Subjects
- 3.2M Keywords
- 245.7K Chemicals
- 29.3K MeSH Headings
- 18.8K Institutions
- 1.3M Funding Organisations
- 4.4K Conferences

View More
Further breakdown of scholarly works:

- 2M Indexed Full Text
- 93.5M Have Abstract
- 71.5M Have Affiliation
- 6M Have Keywords
- 66.6M Cited By Scholarly Works
- 4M Cited By Patent
- 148.3M Have Field of Study
- 14M Have Chemical Substance
- 26M Have MeSH Term
- 6.7M Have Funding
- 11.2K Have Clinical Trial
- 27.2M Open Access
Total Docs Found Comparison

Lens.org vs Dimensions.ai
For WB (World Bank) and IMF

Includes IMF/WB publications and externally published publications with authors affiliated with IMF/WB
Total Citations Comparison

Lens.org vs Dimensions.ai
For WB (World Bank) and IMF

In addition:
• Lens.org has **patent citations**
• Dimensions.ai has **Altmetric attention score**
Count of citing researchers by country
Microsoft Academic
  Web: https://academic.microsoft.com
  API doc: https://docs.microsoft.com/en-us/azure/cognitive-services/academic-knowledge/home

Dimensions.ai
  Web: https://www.dimensions.ai
  API doc: https://docs.dimensions.ai/dsl/

Lens.org
  Web: https://www.lens.org
  API doc: https://docs.api.lens.org

Unpaywall
  GetTheResearch: https://gettheresearch.org/
  API doc: https://unpaywall.org/products/api

CrossRef
  Web: https://www.crossref.org
  API: https://www.crossref.org/services/metadata-delivery/rest-api/
  Event Data API (altmetrics): https://www.crossref.org/services/event-data/

Thank you!
Linda Venable
LVenable@imf.org