Drivers and Implications of Scientific Open Access Publishing:

Findings from a pilot International Survey of Scientific Authors - ISSA

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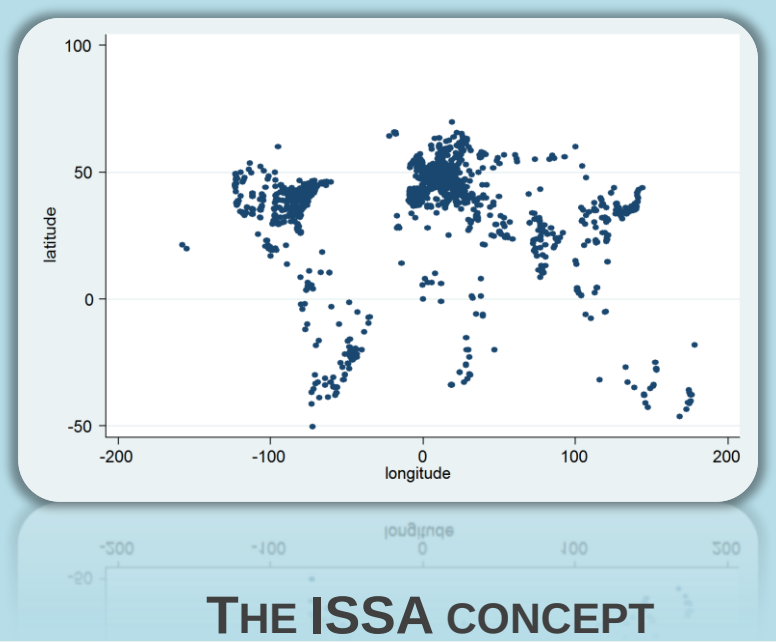
Objectives

- Obtain statistical, micro-data based evidence on **scientific publishing and open access** (OA) to outputs of scientific research
  - Openness
  - Incentives, behaviour
  - Demographics and careers
- Test feasibility of an OECD-run, online international survey of scientific authors (**ISSA**) as an addition to the OECD evidence infrastructure.

Worldwide distribution



Pilot survey design and outcomes

Population
- 1.9m docs in Scopus published in 2011 with corresponding author email address

Target population
- 856k docs in selected fields
- 380k unique authors
- Stratification by country*field, min stratum of 30
- Target sample= 61K

Sample for analysis
- Use Surveygizmo tool. Survey.
- Pre-test and piloting on 1K.
- 12% bounce rate, 73% no click, 2% click but no response
- 13% response rate, mostly complete.
- Country differences.

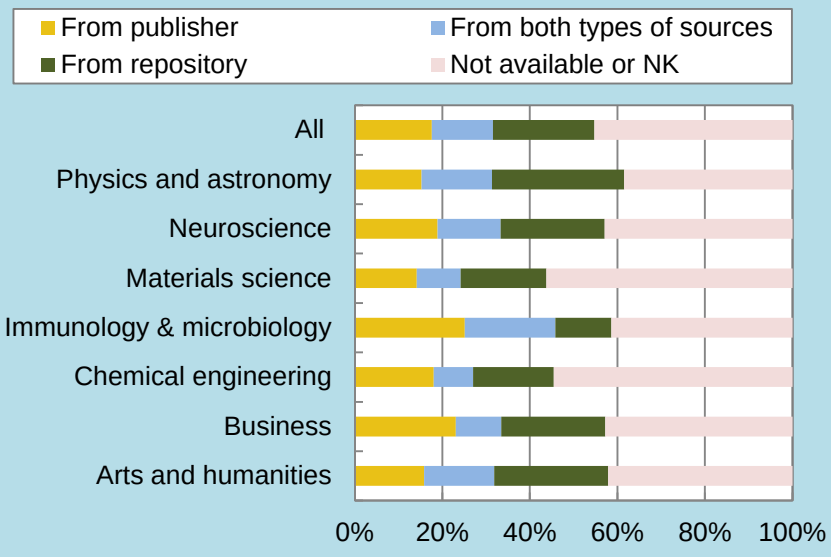
The ISSA concept

- Leverage strengths and link **administrative and survey data**
- Central, secure access to confidential **microdata**
- **Common questions and survey design** across countries
- A **global study** to address global policy issues
- Focus on **topical issues** of high global policy priority
- **Complement/avoid overlap** with NSO surveys
- Pursuit of **value for money**

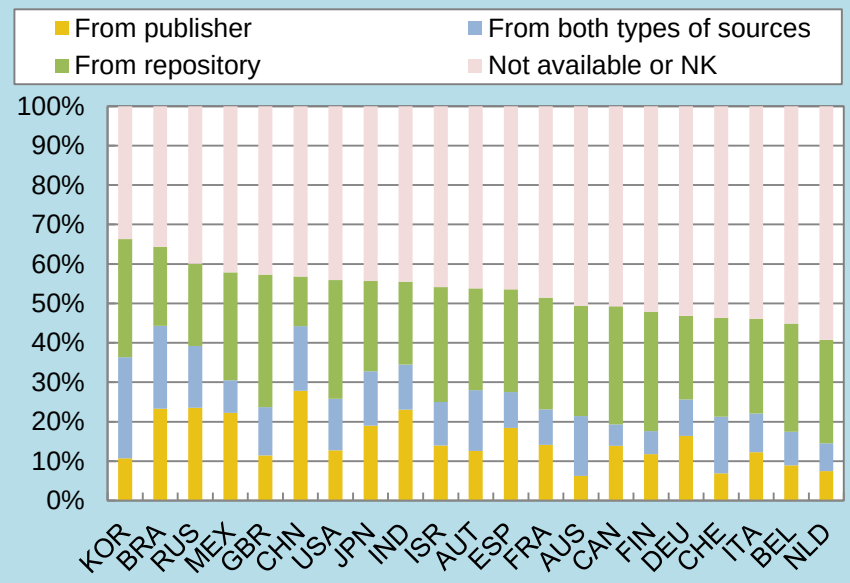
Respondents enticed to participate by expected impact of evidence on global policy discussions

Access to research outputs: Open access of scientific documents, by field and by country

- Approx. 55% of documents published in 2011 openly available in 2015
- Publisher open access limited
- Repository-based open access more important in developed countries
- Different norms across fields



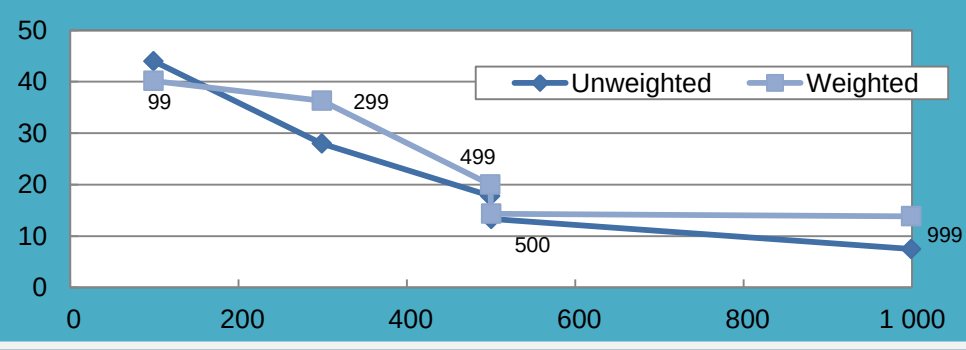
Significance levels: *=10%, **=5%, ***=1%.



An experiment: Valuing open access

Hypothetical deals proposed to authors:

- An offer to pay something (or more) for open access.
- Reveals value in excess of access cost
- Amounts randomly allocated.



Main Findings:

- Willingness to pay for open access to document declines with amount requested.
- Evidence of sweet spot pricing effects (499 vs 500)
- Journal prestige and funding sources also matter greatly.

The role of OA in accounting for self-reported citations

Weighted estimates of citation probability and T-test for difference

By source	Not OA	OA	Difference (T-stat and sig-levels)	
Peer-reviewed sci. lit. - major index	0.81	0.81	0.30	
Peer reviewed sci. lit - other	0.28	0.31	1.67	*
Working papers	0.12	0.18	4.40	***
Technical documents	0.07	0.08	1.63	*
Policy/government documents	0.05	0.07	2.05	**
Practitioner's protocols	0.02	0.02	0.00	
Media	0.06	0.07	1.88	*
Legal proceedings	0.02	0.03	2.21	**
Other	0.06	0.05	-0.79	

Main Findings:

- No citation advantage in major scientific indices
- Significant citation advantage found in most other vehicles, esp. working papers.

OA does facilitate diffusion, esp. among non sci. communities.

Explaining author's earnings

Log annual earnings regression results

	Coefficient	T-stat
Female	-0.171	(8.27)**
Born in another country	0.085	(4.09)**
# publications in 2011	0.026	(2.99)**
FT, research part time	0.129	(6.23)**
PT, research FT	-0.233	(5.70)**
PT, research PT	-0.082	(2.61)**
Fixed term contract	-0.050	(2.51)*
In Higher education	-0.079	(4.02)**
Journal prestige (SNIP)	0.049	(4.50)**
Log citations to doc	0.032	(2.15)*
Document open access	0.009	(0.52)

Main Findings:

- Implied earnings penalty on female corresponding authors (despite similar citations)
- Penalty to full time dedication to research and higher education
- Premium to international mobile
- Journal prestige matters a lot, more than actual citations

➔ Academic incentives

Conclusions and future plans

- Studies of open access need to look at incentives and consider link access/accreditation
- Preparing anonymised microdata access plan for interested researchers.
- Further testing on lessons learned from pilot
  - Emphasis on respondent value proposition
- Subject matter selection:
  - Insights on the digitalisation of scientific research.
  - Improved measures of scientific activity and impact

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For more information about the ISSA project, please visit the dedicated website: oe.cd/issa