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Prevalence of Potentially Predatory Publishing in Scopus on the Country Level

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Introduction

1. Global rise of metrics-based research evaluation (HEFCE Metrics Tide report 2016)
2. Poorly designed evaluation systems across a broad range of countries and institutions – including metrics-based barriers for young \ locally-oriented researchers
3. Proliferation of simplified metrics-based notions of research merit in the scholarly communities themselves (“citizen bibliometrics”)
4. Global rise of Scopus usage in research evaluation, incl. on a national level (UK, Italy, Australia, Russia, Indonesia...)

Relevance for national R&D policy

1. Scopus-based KPI are widely used in Russia by government officials
2. The main KPI stated by Vladimir Putin in 2012 is to get 5 universities into top-100 of world university rankings by 2020 => 5-100 Excellence initiative (15 universities receive good \$)
3. General notion that QS and THE are the much easier to conquer comparing to Shanghai, they both use Scopus data
4. Local HSE usage of Scopus KPI at individual, project and departmental level
5. Quartile-based academic bonus system – authors get paid a lot for publishing WoS\Scopus-indexed papers
6. General lack of understanding of preferred\respected publication venues among a sizeable proportion of HSE faculty and postgraduates
7. A typical situation for top Russian universities

Our interests

Our goals are mainly practice-driven...

1. To develop a filter to detect publications in potentially predatory journals (PPJ) on various levels
2. To monitor local and global trends in PPJ publishing

...but could be interesting for wider scientometrics and science policy community:

Research goals

- 1. To determine scale and degree of intersection between Beall's Listed PPJs and Scopus**
- 2. To investigate main bibliometrics characteristics of Scopus-indexed PPJs and to compare them to Scopus averages**
- 3. To investigate disciplinary structure of indexed PPJs and PPJ-published papers**
- 4. To investigate world and country-level dynamics of PPJ-published papers**

Why Beall's List?

- 1. The only global, multidisciplinary “black list”**
- 2. Regularly updated**
- 3. Produced by academic librarian, who is a tenured professor in library science**
- 4. Clearly defined criteria and policies**
- 5. Only OA!**
- 6. Regularly criticized, notably for including Frontiers Media**

Typical criticism: Berger M., Cirasella J. Beyond Beall's List. College & Research Libraries News vol. 76 no. 3 132-135

Matching Beall's lists and Scopus title list

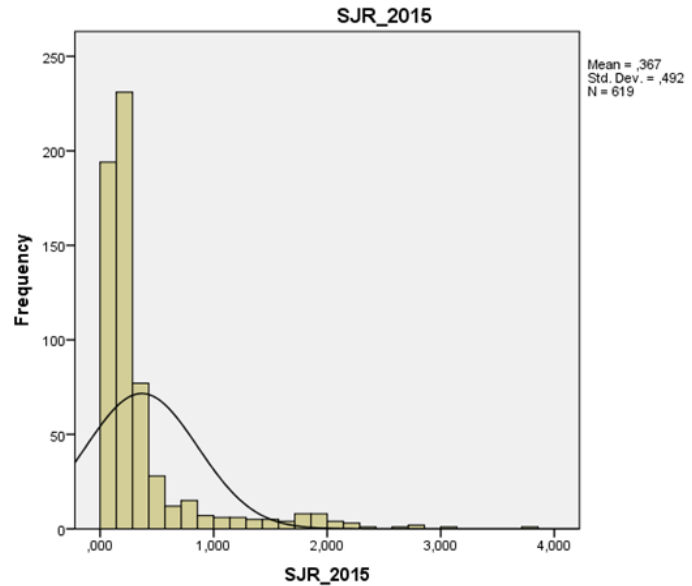
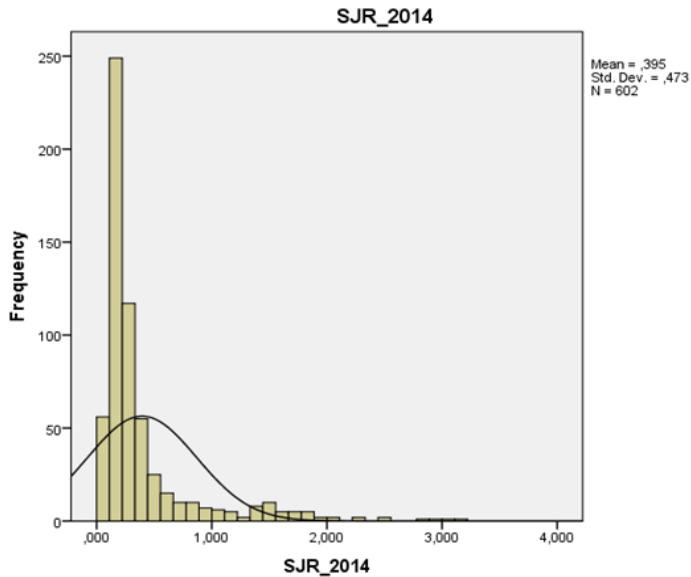
- Beall's lists were downloaded on 28 July 2016. List of predatory publishers included 1064 items. List of individual journals included 1132 items. We used Scopus Title List downloaded on the same date.
- We created an algorithm for searching journals from Beall's lists in Scopus title list - and vice versa - by publisher's name and by journal's name, including partial matches. Ca. 2000 matches found
- Comprehensive manual scan for false positives
- Added 23 journals which were not in Beall's list, but were "red-colored sources" for which indexing was stopped in Scopus in 2015 or earlier on the basis of low quality\predatory practices.
- Preliminary list of Scopus-indexed PPJ's consisted of 678 sources
- Finally, we excluded all source types except 'journal'. We got 665 journals (447 active and 218 inactive journals)
- Matching is not perfect: later we've found out that we've missed 5 journals (4 journals by Serials Publications). But we believe it to be representative

Results: descriptive statistics for journal metrics

2015		PPJ list		Scopus Source title list minus PPJ list		Scopus Source title list	
		SNIP	SJR	SNIP	SJR	SNIP	SJR
N	Valid	618	619	21072	21629	21661	22219
	Missing	47	46	11719	11162	11788	11230
Mean		,49309	,36684	,77595	,69987	,76891	,69150
Median		,40250	,18800	,64000	,33600	,63100	,32900
Maximum		15,330	3,756	50,569	32,928	50,569	32,928
Percentiles	25	,18175	,12600	,28600	,15000	,28200	,14900
	75	,65800	,34300	1,02200	,79050	1,01400	,78200

Results: analysis by journal metrics

Unsurprisingly, highly skewed distributions



American Journal of Cancer Research (SNIP 2014 - 12,717;
IPP 2014 - 17,000; SJR 2014 - 3,107; SNIP 2015 - 15,330;
IPP 2015 - 20,000; SJR 2015 - 3,756)
Aging (IPP 2014 - 5,939; SJR 2014 - 2,882; IPP 2015 - 4,780;
SJR 2015 - 2,596)
Frontiers in Evolutionary Neuroscience (SJR 2014 - 2,499;
SNIP 2015 - 1,811; SJR 2015 - 3,096).

Results: major PPJ publishers

Publisher's name	N (>10)	mean			median		
		SNIP	IPP	SJR	SNIP	IPP	SJR
Bentham	231	0,43	0,86	0,35	0,34	0,53	0,21
ANSInet	35	0,37	0,34	0,18	0,39	0,32	0,17
Frontiers	29	1,01	3,24	1,92	0,96	3,29	1,89
Internet Scientific Publications	24	0,02	0,01	0,02	0	0	0
Academic Journals Inc	24	0,35	0,32	0,15	0,38	0,34	0,15
American Scientific Publishers	18	0,39	0,9	0,29	0,37	0,58	0,22
WSEAS Press	17	0,66	0,34	0,18	0,71	0,33	0,18
OMICS Publishing Group	16	0,37	0,54	0,28	0,3	0,35	0,19
Science Publications	13	0,55	0,48	0,22	0,48	0,46	0,25
e-Century Publishing Corporati	12	2,09	3,63	1	0,71	1,96	0,67
Medwell	11	0,27	0,6	0,15	0,26	0,15	0,13
Kowsar	11	0,57	0,82	0,32	0,61	0,83	0,33

The leader among publishers is Bentham with 231 journals. 132 publishers in total, 87 publishers each have only one predatory journal in Scopus. Journals metrics (2015) are presented for top 12 publishers (more than 10 journals each)

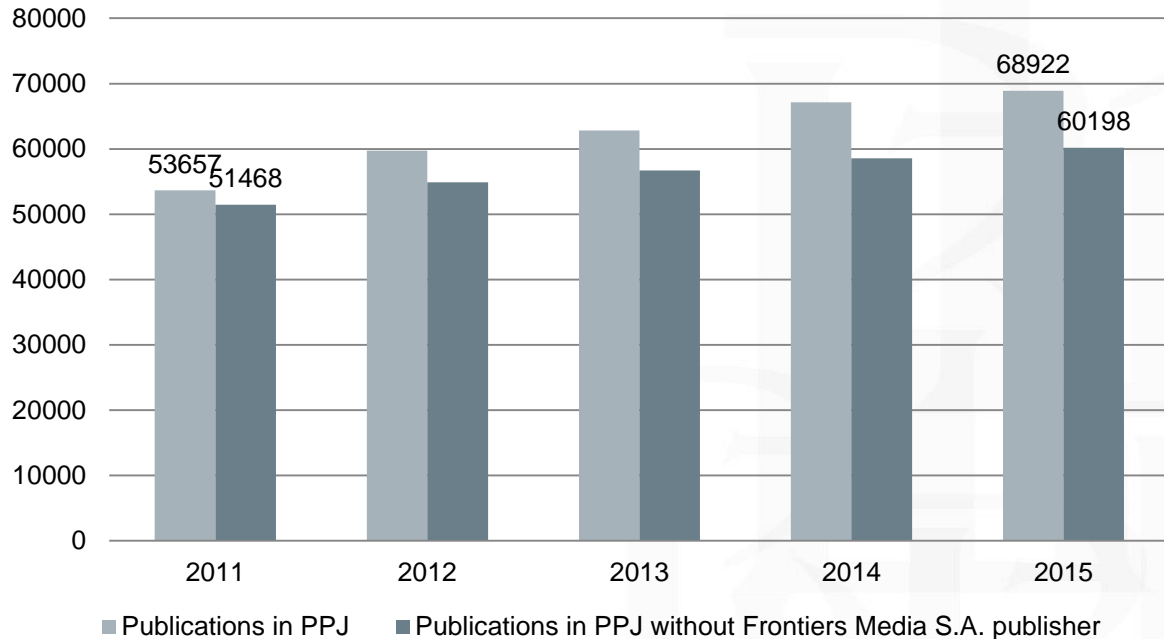
Results: analysis by journal country

Bentham publishes 178 journals in United Arab Emirates and 53 journals in Netherlands.

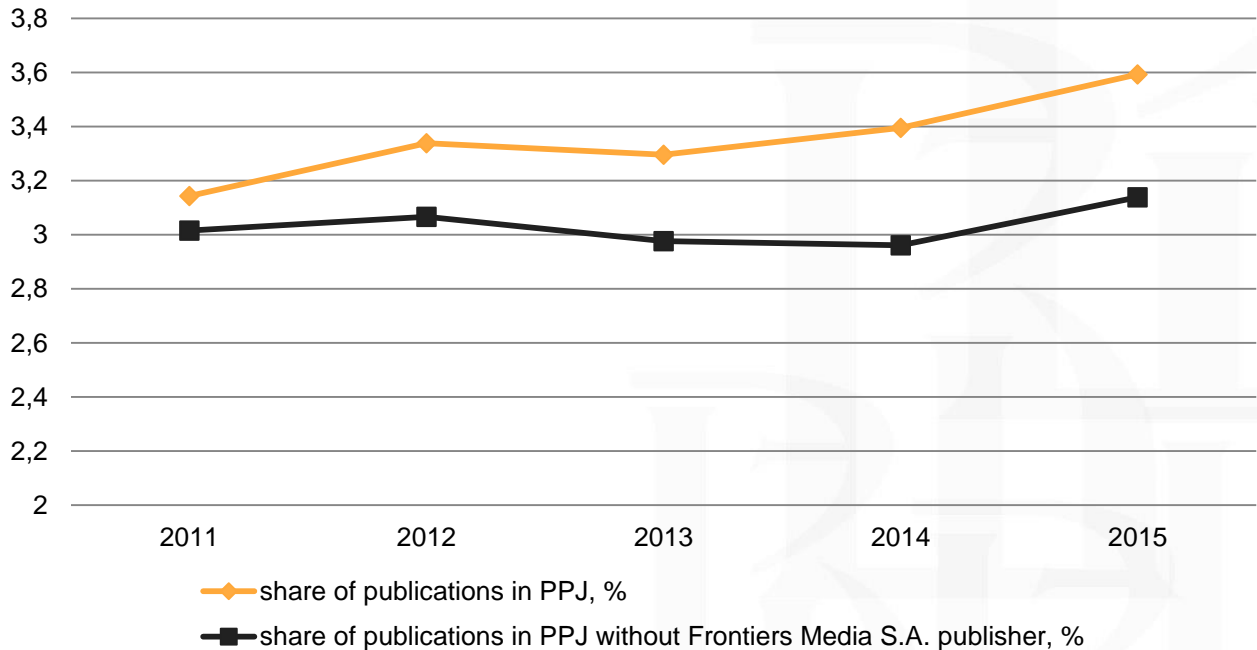
Country	Journals
United Arab Emirates	178
United States	132
India	73
Netherlands	65
Pakistan	63
Switzerland	28
United Kingdom	19
Greece	18
Canada	11
Nigeria	10

1. Used PPJ ISSN + Journal names for searching
2. Data exported 9\08\2016, publication window=2011-2015
3. Publication type = Article or Review
4. Two sets: “PPJ” and “PPJ minus Frontiers Media Journals”
5. Also used WoS SCIE+SSCI+AHCI ar+re counts for comparison

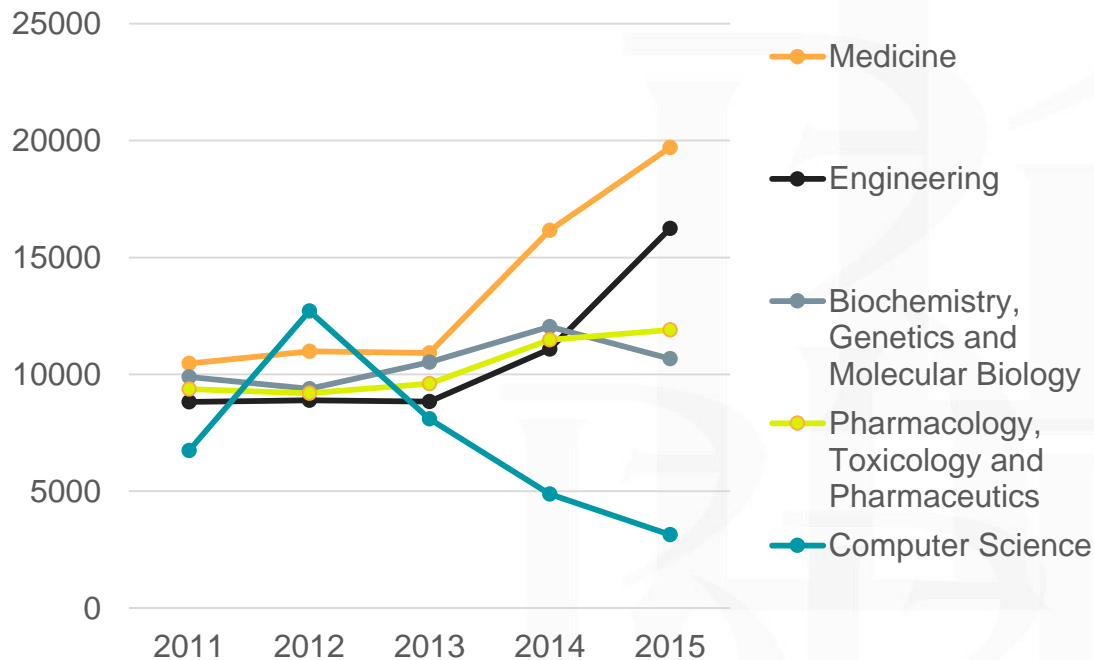
PPJ and PPJ minus Frontiers: number of publications



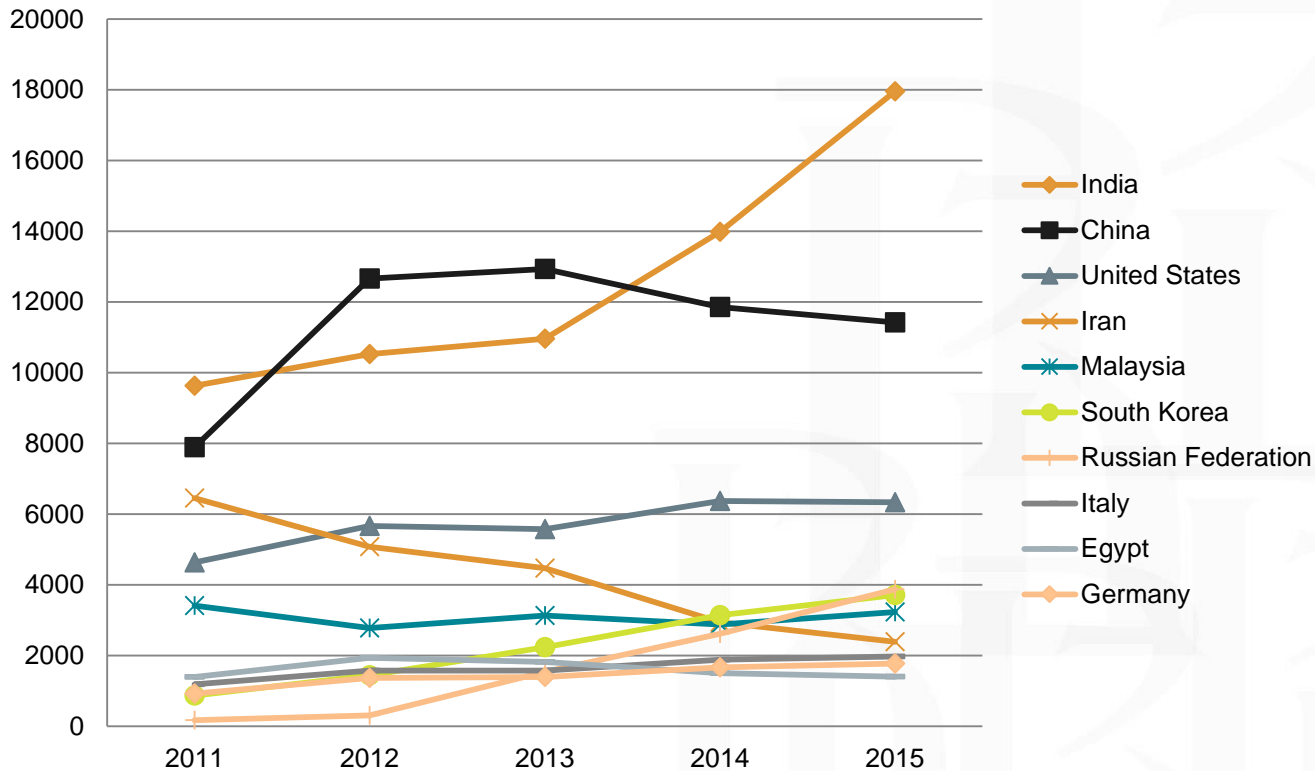
Share of publications in PPJ (%) and share of publications in PPJ without Frontiers Media S.A. (%)



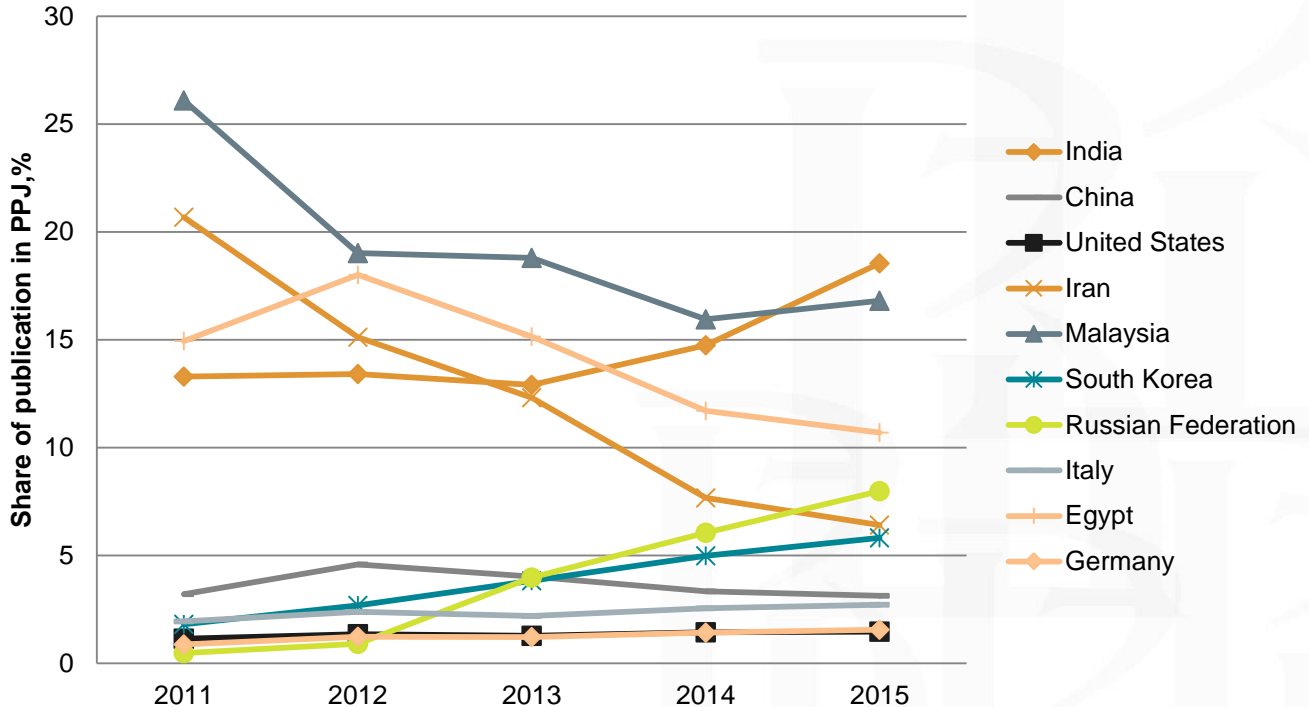
Results: analysis by subjects (top 5 major areas)



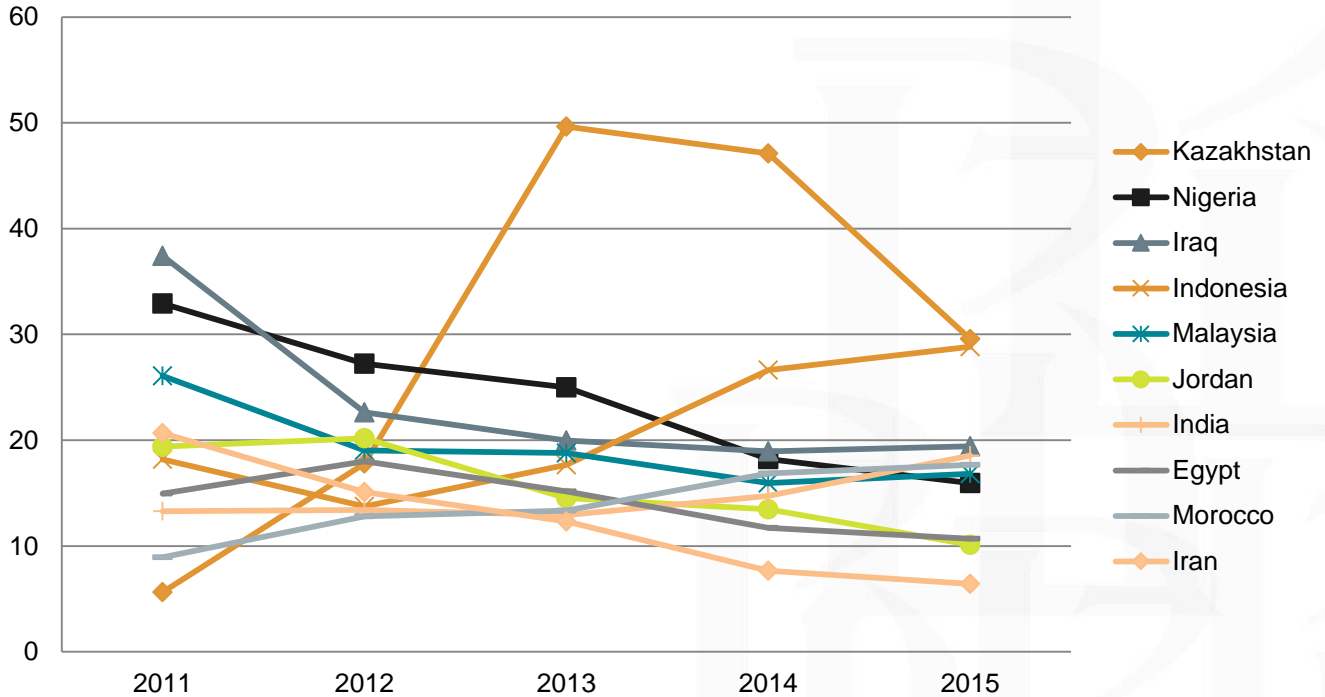
Results. Country-level PPJ publication counts. Top-10 countries by largest absolute number of PPJ publications in 2011-2015



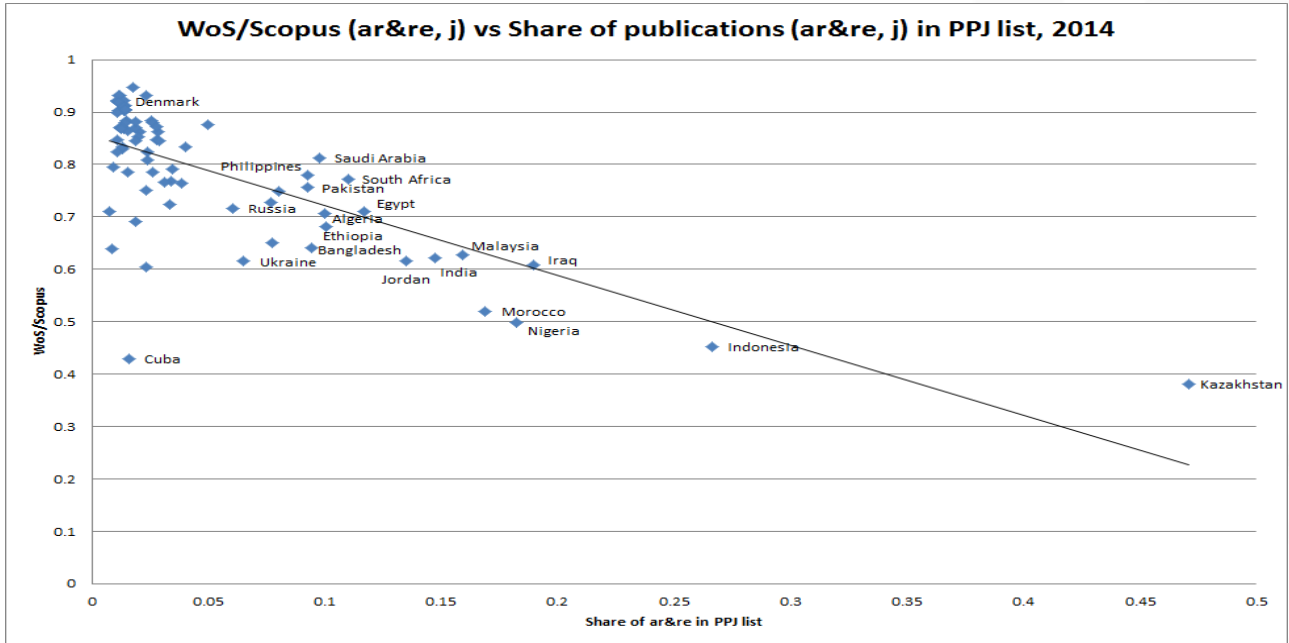
Results. Country-level PPJ publication counts. Top-10 countries by largest absolute number of PPJ publications in 2011-2015, Shares



Results. Country-level PPJ publication shares. Top-10 countries by largest share of PPJ publications in 2011-2015

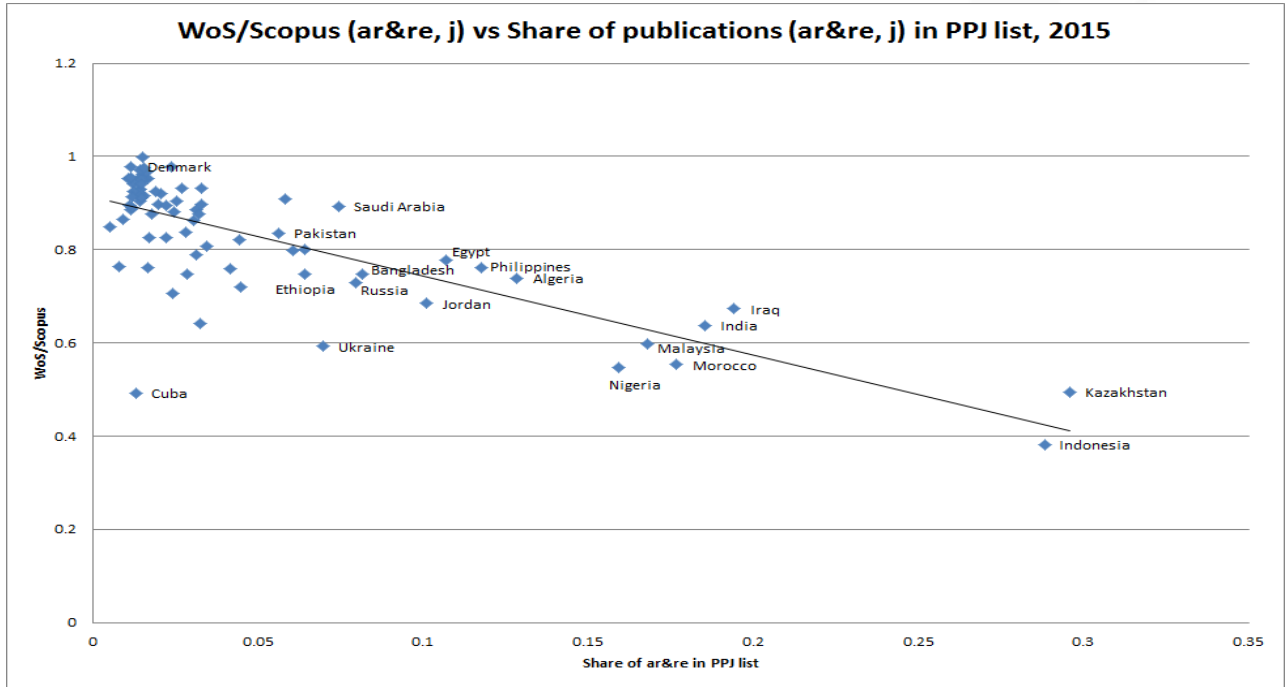


Results: share of publications in PPJ list vs WoS-to-Scopus ratio, 2014

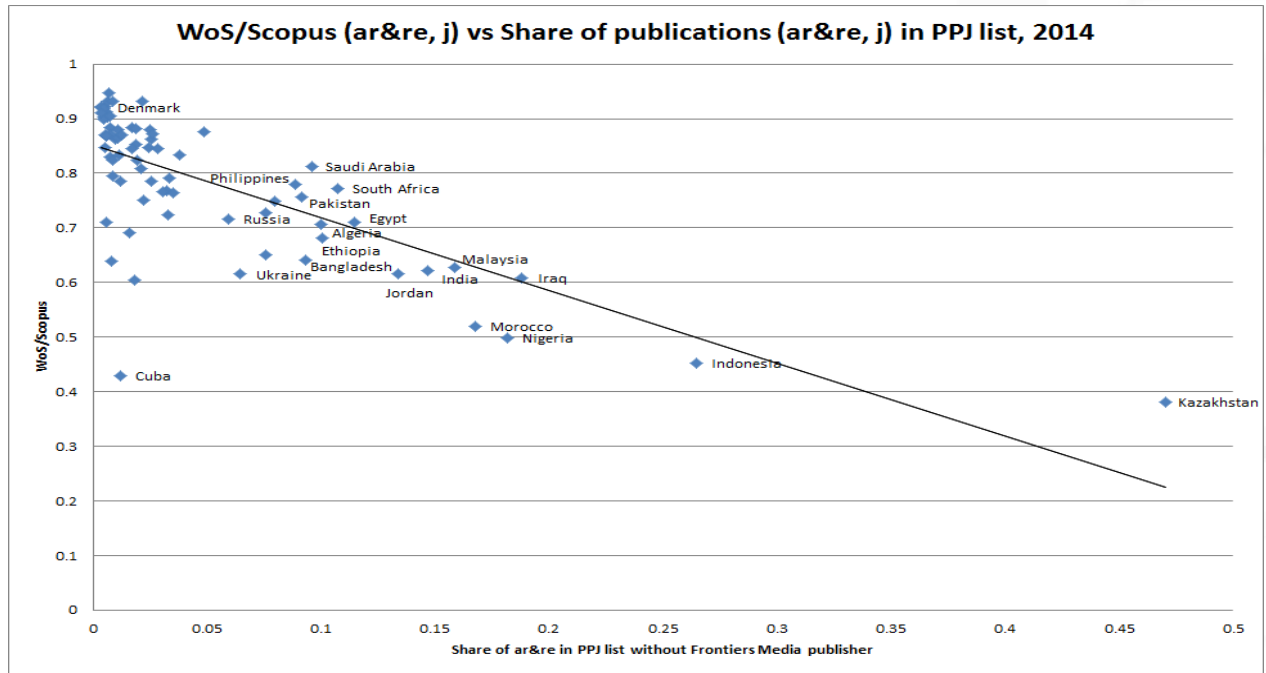


Share of publications in PPJ list is less than 1,5% for 27 countries, for example: Australia, Belgium, United States, Germany, Canada, Austria, France, Netherlands, Switzerland, Argentina, United Kingdom, Singapore, Sweden, Finland, Denmark, Norway

Results: share of publications in PPJ list vs WoS-to-Scopus ratio, 2015

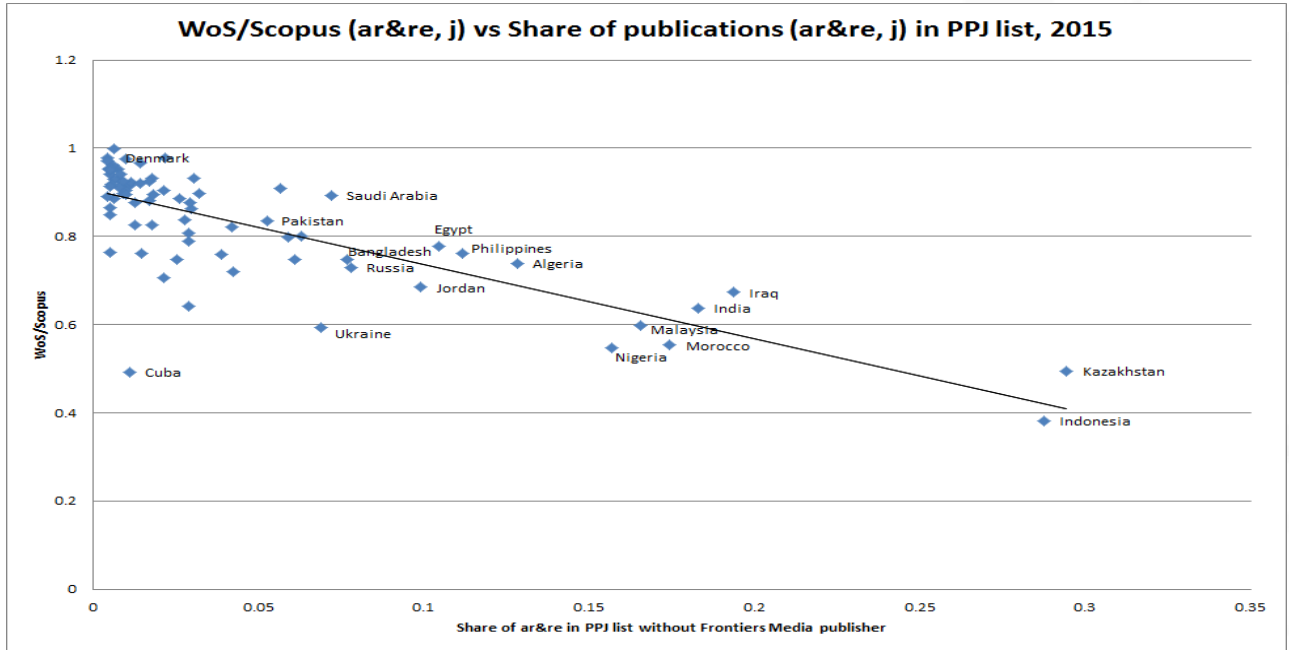


Results: share of publications in PPJ minus Frontiers vs WoS-to-Scopus ratio, 2014



If we exclude journals of Frontiers Media publisher then share of publications in PPJ list decreases for a group of developed countries

Results: share of publications in PPJ minus Frontiers vs WoS-to-Scopus ratio, 2015



Summary of our findings

- PPJs are prominently present in Scopus database: ca. 2,79% of journals in 2015
- Their citation metrics are in general rather low
- This is also true on a publisher level
- A number of prominent outliers (Frontiers) differ in citation metrics and country profiles
- PPJs are published by a wide variety of countries
- PPJ publications are even more widespread and affect virtually all countries, totaling ca. 3,1-3,6% of all journal publications in Scopus in 2015
- While for all highly developed countries the shares of PPJ publications are low, the situation is very different for a large number of other countries, reaching almost 50% for some
- Preliminary data suggests that PPJ share is negatively correlated with WoS-to-Scopus ratio

Shen, C., and Björk, B.-C. (2015). “Predatory” open access: a longitudinal study of article volumes and market characteristics. *BMC Medicine*, 13(1), 1–15.

Xia J, Harmon J, Connolly K, Donnelly R, Anderson M, Howard H. (2014) Who publishes in “predatory” journals. *JASIST*.

Xia J. (2015) “Predatory” journals and their article publishing charges. *Learned Publishing*, 28:69.

Bohannon J. (2013) Who’s afraid of peer review. *Science*, 342:60–5.

Thank you!
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