

A Walk on the Wild Side: Predatory Journals and Information Asymmetries in Scientific Evaluations

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May 9, 2019

Pisa, Department of Physics

Motivation
Data
The extent of PP
Are they really bogus?
Why do people publish in PJ?

In a few days, you may receive an email like this...

Gmail - Call for papers and Invitation from Journal of Business and E... <https://mail.google.com/mail/u/0/?ui=2&ik=cde0952941&view=pt&q...>



Mauro Sylos Labini <sylostabini@gmail.com>

Call for papers and Invitation from Journal of Business and Economics (ISSN 2155-7950),IAB/ZEW

1 message

business@academicstar.us <business@academicstar.us>
To: "mauro.sylostabini" <mauro.sylostabini@unipi.it>

Mon, Dec 28, 2015 at 9:41 AM

Dear Mauro Sylos-Labini,

This is *Journal of Business and Economics* (ISSN 2155-7950), a professional journal published by Academic Star Publishing Company, USA.

We have learned your paper "**Does the Gender Composition of Scientific Committees Matter?**" in **IAB/ZEW Workshop: Assessing the Impact of Human Resource Management Practices**. We are very interested in your paper and want to publish it in the *Journal of Business and Economics*. If you have the idea of making our journal a vehicle for your research interests, please send the electronic version of your papers us through email attachment in MS word format. You can find the sample paper in the attachment.

All of your original papers and books which have not been published are welcome. Hope to keep in touch by email and publish some papers or books from you and your friends in USA. As an American academic publishing group, we wish to become your friends if necessary. We also want to invite some people to be our reviewers or editorial board members. If you are interested in our journal, you can send your updated CV to us. Expect to get your reply soon.

Best regards,

Nicole
Editorial office



- Some fishy details:
 - **Everybody** attending the conference will receive the email
 - Too **easy**: no refereeing
 - Weird phrasing: "...we wish to become your friends if necessary..."
 - They claim to be based in the US, but the IP is from **China**
 - The Editorial Board is **fake**!
 - Check of a few articles reveals **plagiarism** or poor scientific content...
 - **Unrelated** to the *Journal of Economics and Business*, a legitimate journal!
- If you are planning to submit:
 - They charge **\$50** per page.
 - You will **not be the first Italian** researcher to publish there!

‘Predatory’ journals

- Jeffrey Beall’s list of “potential, possible, or probable predatory” journals and publishers
 - No peer review
 - False information of editorial board or location
 - Spamming
- **Growing** problem (Shen and Bjork 2015)
 - 2010: 53,000 articles, less than 1,000 journals
 - 2014: 420,000 articles, over 12,000 journals!

Our paper

- 1 The extent of predatory publication in Italy
- 2 Are predatory journals (where Italian researcher publish) really bogus?
- 3 Why researchers submit articles to predatory journals?

Data 1

Publication record of Italian researchers

- CVs from participants in national qualification exams
 - All disciplines
 - 46,000 researchers (60% of all Assistant and Associate Professors in Italy)
- Very rich information
- We identify articles published in journals included in Beall's list

Data 2

Survey information

- Approximately 2,200 Italians have published in predatory journals
- In February 2016 we survey a random sample of them:
 - Questions about the editorial practices of the journal
 - Response rate: 54% (584 out 1,088)
 - The sample includes 268 journals, 74 are also in Scopus.
 - The characteristics of repliers are very similar to the target population
- Several caveats:
 - recall bias, reluctance bias, cognitive dissonance...
- Most likely → underestimation of irregular practices

Data 3

Bibliometric data

- Google Scholar
 - 1 Predatory Journals H index (if they have one!)
 - 2 Article citations (if they have any!)

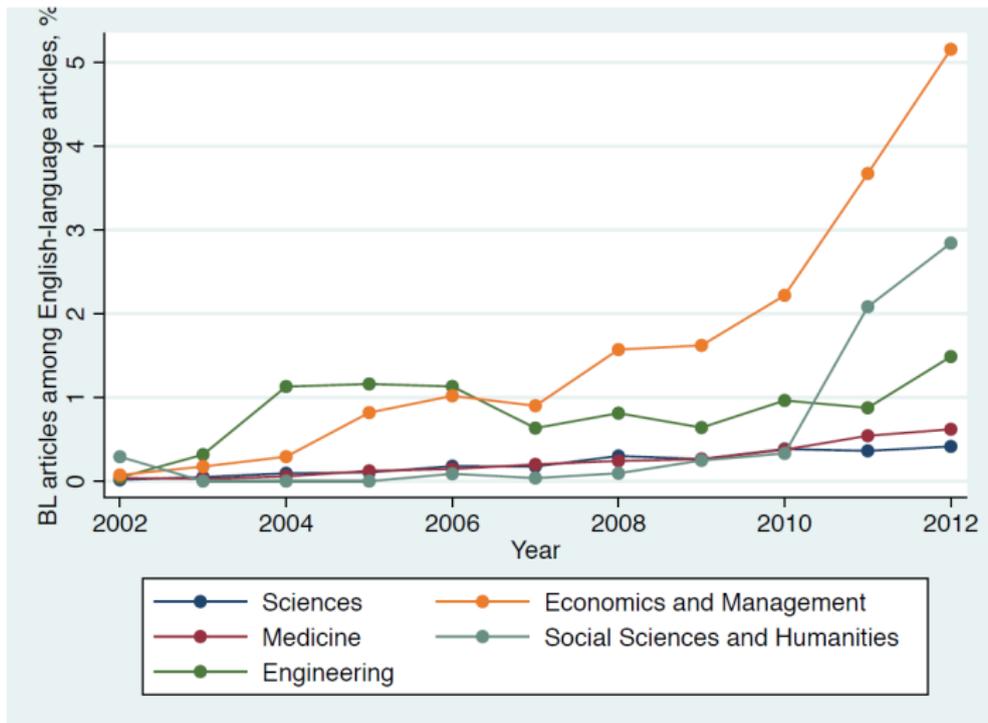
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Table 1: Descriptive statistics – Candidates in NSQ

| | All | | Sciences | | Medical Sciences | | Engineering | | Econ. & Business | | Soc.Sc. & Hum. | |
|---|--------|-----------|----------|-----------|------------------|-----------|-------------|-----------|------------------|-----------|----------------|-----------|
| | Mean | Std. Dev. | Mean | Std. Dev. | Mean | Std. Dev. | Mean | Std. Dev. | Mean | Std. Dev. | Mean | Std. Dev. |
| Individual characteristics: | | | | | | | | | | | | |
| Female | 0.4 | 0.49 | 0.4 | 0.49 | 0.37 | 0.48 | 0.22 | 0.42 | 0.41 | 0.49 | 0.46 | 0.5 |
| Experience | 16 | 8 | 16 | 7 | 18 | 8 | 13 | 6 | 12 | 6 | 15 | 8 |
| Permanent position in an Italian university: | 0.6 | 0.49 | 0.57 | 0.5 | 0.59 | 0.49 | 0.7 | 0.46 | 0.75 | 0.43 | 0.57 | 0.5 |
| - A assistant professor | 0.64 | 0.48 | 0.66 | 0.48 | 0.64 | 0.48 | 0.62 | 0.49 | 0.61 | 0.49 | 0.64 | 0.48 |
| - Associate professor | 0.36 | 0.48 | 0.34 | 0.48 | 0.36 | 0.48 | 0.38 | 0.49 | 0.39 | 0.49 | 0.36 | 0.48 |
| University location: | | | | | | | | | | | | |
| - North | 0.45 | 0.5 | 0.45 | 0.5 | 0.46 | 0.5 | 0.46 | 0.5 | 0.48 | 0.5 | 0.42 | 0.49 |
| - Center | 0.26 | 0.44 | 0.27 | 0.44 | 0.28 | 0.45 | 0.23 | 0.42 | 0.24 | 0.43 | 0.27 | 0.44 |
| - South | 0.29 | 0.45 | 0.28 | 0.45 | 0.27 | 0.44 | 0.31 | 0.46 | 0.28 | 0.45 | 0.31 | 0.46 |
| Department research score | 0.59 | 0.21 | 0.7 | 0.18 | 0.55 | 0.23 | 0.71 | 0.18 | 0.35 | 0.21 | 0.56 | 0.16 |
| Publications | | | | | | | | | | | | |
| Journal articles | 45 | 41 | 50 | 44 | 60 | 52 | 58 | 39 | 26 | 21 | 31 | 26 |
| - Articles in English | 24 | 30 | 35 | 38 | 38 | 34 | 21 | 17 | 10 | 11 | 10 | 13 |
| - ISI/Scopus articles | 19 | 29 | 33 | 35 | 33 | 33 | 19 | 17 | 6 | 8 | 1 | 3 |
| - ANVUR list articles (SS&H) | 18 | 29 | 32 | 36 | 33 | 33 | 19 | 17 | 6 | 8 | 1 | 3 |
| - Q1-journal articles (STEM&Med) | - | - | - | - | - | - | - | - | 9 | 9 | 8 | 10 |
| - A-journal articles (SS&H) | - | - | 17 | 23 | 15 | 19 | 7 | 9 | - | - | - | - |
| Conference proceedings | 8 | 15 | 7 | 14 | 7 | 15 | 30 | 25 | 4 | 7 | 3 | 5 |
| Chapters | 6 | 9 | 2 | 4 | 4 | 6 | 4 | 6 | 7 | 8 | 11 | 12 |
| Books | 2 | 3 | 0.5 | 1.6 | 0.8 | 2.1 | 0.9 | 2.1 | 2 | 3 | 4 | 4 |
| Other publications | 5 | 15 | 5 | 12 | 10 | 25 | 3 | 8 | 2 | 6 | 3 | 8 |
| Publications in Beall's list | | | | | | | | | | | | |
| Number of Beall's list articles | 0.08 | 0.52 | 0.07 | 0.39 | 0.09 | 0.48 | 0.22 | 1.03 | 0.21 | 0.94 | 0.01 | 0.015 |
| At least one Beall's list article | 0.05 | 0.21 | 0.05 | 0.22 | 0.06 | 0.24 | 0.11 | 0.31 | 0.11 | 0.32 | 0.01 | 0.08 |
| % of Beall's list articles in journal articles | 0.5 | 3.5 | 0.3 | 1.7 | 0.3 | 1.9 | 1.4 | 6.4 | 2.2 | 8.5 | 0.1 | 1.6 |
| % of Beall's list articles in journal articles in English | 0.9 | 6.0 | 0.3 | 2.3 | 0.5 | 3.3 | 1.6 | 7.0 | 4.1 | 14.2 | 0.7 | 6.9 |
| Observations | 46,244 | | 11,953 | | 10,712 | | 4,607 | | 3,256 | | 15,716 | |

Notes: University location is identified for all applicants with a permanent or temporal position in an Italian university. Department research score is from the 2011 department assessment by ANVUR (*Valutazione della Qualità della Ricerca*). Q1-journals are journals in the first quartile in the corresponding field in Web of Science in terms of the Article Influence Score. A-journals are high-impact journals in the fields of economics, business, social sciences and humanities as defined by ANVUR expert committee. Experience is defined as the number of years since the first publication. Publication data refer to publications between 2002 and 2012 listed in applicants' CVs.

Figure 1: Beall's list articles (%)



More formally...

$$B_{i,e} = \beta_0 + \mathbf{X}_{i,e}\beta_1 + \mu_e + \epsilon_{i,e},$$

- Where:
 - $B_{i,e}$ an indicator for candidates who published in Beall's list journals
 - $\mathbf{X}_{i,e}$ is a set of individual (and 1 department) characteristics
 - μ_e are evaluation fixed effects (i.e. discipline times promotion category dummies)

Table 2: Who publishes in Beall's list?

| | 1 | 2 | 3 |
|---|----------------------|----------------------|----------------------|
| | All | Disciplinary group: | |
| | | STEM&Med | Econ&SSH |
| Female | -0.001 (0.002) | -0.003 (0.003) | 0.001 (0.002) |
| Experience | -0.004*** (0.001) | -0.004*** (0.002) | -0.004*** (0.001) |
| Position (benchmark - non-tenured university position): | | | |
| - Assistant Professor, tenured | 0.003 (0.003) | 0.002 (0.005) | 0.002 (0.003) |
| - Associate Professor, tenured | 0.004 (0.005) | 0.002 (0.008) | 0.004 (0.006) |
| - Abroad or non-university position | -0.021*** (0.006) | -0.027*** (0.009) | -0.020*** (0.006) |
| University location: | | | |
| - Central Italy | 0.006** (0.003) | 0.007 (0.004) | 0.004 (0.003) |
| - Southern Italy | 0.029*** (0.003) | 0.039*** (0.004) | 0.014*** (0.003) |
| University ranking | -0.036*** (0.007) | -0.040*** (0.010) | -0.042*** (0.008) |
| Total number of publications | 0.018*** (0.001) | 0.022*** (0.001) | 0.011*** (0.001) |
| Proportion of Q1/A-journal articles | -0.011*** (0.001) | -0.014*** (0.002) | -0.005*** (0.001) |
| Mean dependent variable | 0.048 | 0.065 | 0.024 |
| Evaluation panel FE | Yes | Yes | Yes |
| Adjusted R-Squared | 0.062 | 0.044 | 0.099 |
| Observations | 46,244 | 27,272 | 18,972 |

Note: OLS estimates. The dependent variable is an indicator for authors who have publications in Beall's list journals. All productivity indicators in the prediction model exclude publications in Beall's list. Productivity indicators and experience are normalized to have zero mean and unit standard deviation for all applicants in a given field and category.

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Are they really bogus?

Bibliometric evidence

- Only 38% of Journals in Google Scholar
- median h-index 10

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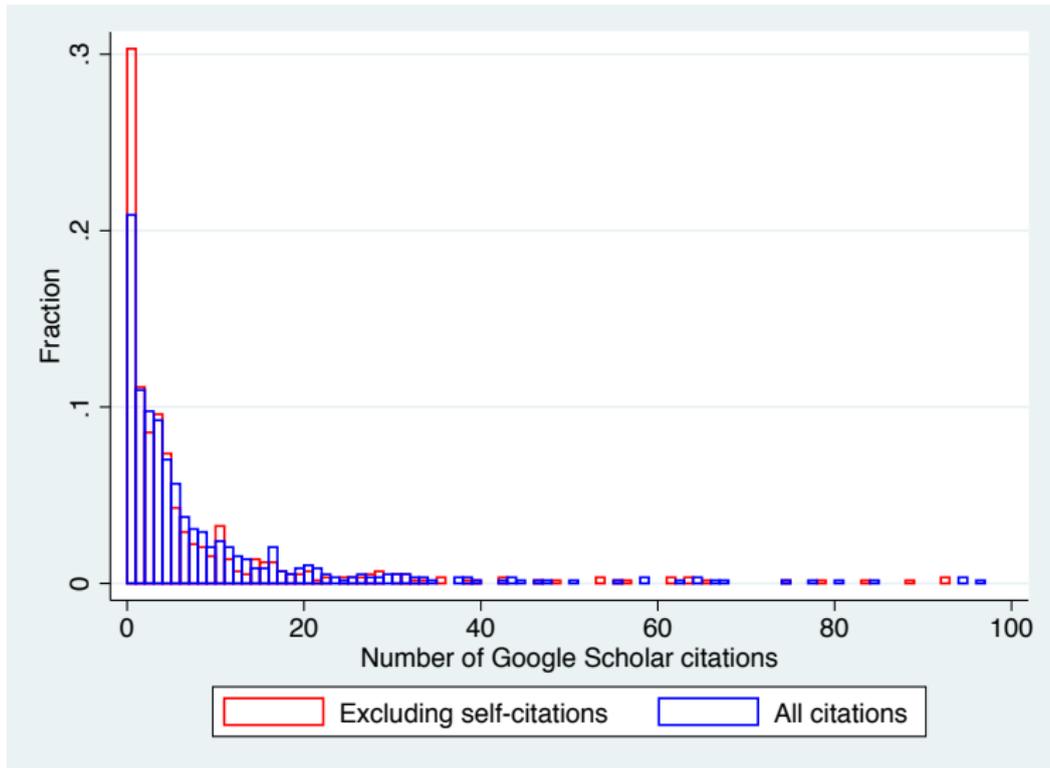


Table 3: Survey responses on Beall's list journals

| | 1 | 2 | 3 | 4 | 5 | 6 |
|--|--------------|----------------------------|-------------------|----------------------------|-----------------|----------------------------|
| | All journals | | Indexed in Scopus | | Listed by ANVUR | |
| | % of answers | % with at least one answer | % of answers | % with at least one answer | % of answers | % with at least one answer |
| No referee report | 8 | 12 | 9 | 19 | 11 | 22 |
| No or superficial referee report | 22 | 30 | 21 | 33 | 27 | 43 |
| No or superficial referee report, or something odd | 26 | 36 | 27 | 40 | 31 | 49 |

Notes: The table includes information on 242 journals for which at least one respondent could recall whether the publication involved a referee report.

Economics of ‘predatory’ journals (work in progress...)

Why would anybody want to publish in such a journal?

- Open access model shifted **burden of payment** from readers to authors
 - Plus: **everybody** can access published academic papers
 - Cons: **incentive problem** may arise
- Strong pressure to publish (**publish or perish**)
- Information asymmetries
 - Authors **fooled** by fake information provided by predatory journals.
 - Or even if aware, they may be **accountable to principals** who don't accurately observe quality of publications
- ⇒ Predatory publications reflect **information asymmetries** in evaluations

Why do people publish in PJ?

Survey quotes: deception

*I was invited to join the **editorial board** of the journal, and this is why I did **not pay** to get published. Subsequently, I was asked to serve as **referee** but I realized that my comments did not have any impact: the papers were published without any improvement. This journal, as many others, do not have a real editor, but a graphical technician who deals with both referees and authors. I then wrote to the editor to resign but nobody even bother to reply.*

Why do people publish in PJ?

Survey quotes: legitimate

My experience with [JOURNAL TITLE] was very positive. I had the impression of a very careful and rigorous revision process, comparable to other Journals of the same scientific field. I remember we had two very competent Reviewers who addressed pertinent issues in the paper and helped us to improve our article. To me, this is a "trustable" Journal.

Why do people publish in PJ?

Survey quotes: perverse incentives

In 2011 I participated to a conference they organized. They run several journals and they offered me to publish on a fast track in one of them. (...) I needed a publication for the [National Scientific Qualification](#) and I accepted to publish in this journal. Today, I regret that decision.

Gandolfo Dominici

Associate Professor and Chair of Marketing
University of Palermo - Polytechnic School - Dep. SEAS, Italy

Scientific Director - Business Systems Laboratory



CURRICULUM

email



B.S.LAB

Business Systems Laboratory

10 of 46 publications are in Beall's list. Promoted to associate professor in Business.

Why perverse incentives?

How can things go so wrong?

- We investigate empirically two alternatives:
 - 1 White-lists
 - 2 Poor quality of evaluators

White-lists

- Out of 7,000 journals in Beall's List
 - 248 in Scopus
 - 14 in WoS
- Out of 599 journals in our sample
 - 131 in Scopus
 - 10 in WoS
- In ANVUR list (non biblio)
 - 273 journals from Beall's List
 - 213 actually used

Table 3: Survey responses on Beall's list journals

| | 1 | 2 | 3 | 4 | 5 | 6 |
|--|--------------|----------------------------|-------------------|----------------------------|-----------------|----------------------------|
| | All journals | | Indexed in Scopus | | Listed by ANVUR | |
| | % of answers | % with at least one answer | % of answers | % with at least one answer | % of answers | % with at least one answer |
| No referee report | 8 | 12 | 9 | 19 | 11 | 22 |
| No or superficial referee report | 22 | 30 | 21 | 33 | 27 | 43 |
| No or superficial referee report, or something odd | 26 | 36 | 27 | 40 | 31 | 49 |

Notes: The table includes information on 242 journals for which at least one respondent could recall whether the publication involved a referee report.

Predatory publications and probability of success in NSQ

$$Success_{i,e} = \beta_0 + \beta_1 B_i + \mathbf{X}_{i,e} \beta_2 + \mu_e + \epsilon_{i,e}.$$

- Where:
 - $Success_{i,e}$ is an indicator of success
 - B_i is an indicator of Beall's list publication
 - $\mathbf{X}_{i,e}$ vector that includes measures of candidates' research productivity and other proxies of quality
 - μ_e evaluation fixed effects

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Table 4: Determinants of success

| | 1 | 2 | 3 | 4 | 5 | 6 |
|--|----------------------|----------------------|---------------------|---------------------|---------------------|---------------------|
| | All | Disciplinary area: | | | | |
| | | Sciences | Engineering | Medical Sc. | Econ&Bus | Soc.Sc.&Hum |
| Author with Beall's list articles | -0.035** (0.014) | -0.059*** (0.021) | -0.054** (0.024) | -0.024 (0.021) | 0.012 (0.048) | -0.011 (0.041) |
| <i>Productivity measures:</i> | | | | | | |
| Q1 or A-journal articles | 0.125*** (0.007) | 0.134*** (0.018) | 0.081*** (0.013) | 0.152*** (0.011) | 0.161*** (0.022) | 0.081*** (0.006) |
| Other articles in Web of Science or Scopus | 0.029*** (0.004) | 0.036*** (0.009) | 0.060*** (0.009) | 0.044*** (0.014) | 0.009 (0.013) | 0.005 (0.004) |
| Other journal articles | -0.006** (0.003) | -0.001 (0.006) | -0.009 (0.006) | 0.005 (0.005) | -0.013 (0.008) | -0.011** (0.004) |
| Proceedings | 0.012*** (0.004) | -0.005 (0.010) | 0.077*** (0.009) | 0.000 (0.005) | 0.013 (0.012) | 0.019*** (0.005) |
| Books | 0.009*** (0.003) | -0.004 (0.006) | 0.007 (0.006) | -0.008* (0.004) | 0.001 (0.011) | 0.034*** (0.004) |
| Chapters | 0.038*** (0.003) | 0.030*** (0.005) | 0.014** (0.006) | 0.028*** (0.005) | 0.042*** (0.014) | 0.056*** (0.004) |
| Other publications | -0.009*** (0.002) | -0.014** (0.005) | -0.007 (0.008) | -0.002 (0.006) | -0.017** (0.006) | -0.006* (0.003) |
| Exam FE | Yes | Yes | Yes | Yes | Yes | Yes |
| Adj. R-Squared | 0.239 | 0.233 | 0.294 | 0.265 | 0.227 | 0.260 |
| Observations | 69020 | 19164 | 6813 | 15418 | 6005 | 21620 |

Note: OLS estimates. Standard errors are clustered at the field level. Dependent variable takes value one if the applicant is granted a qualification. Research productivity indicators and experience are normalized for researchers applying to the same position and field.

Descriptive evidence

- Of course, we cannot interpret β_1 as causal
- It reflects both
 - negative effect
 - quality characteristics observed by evaluators

What we can identify...

- We can identify:
 - the impact of evaluators quality on
 - probability of promotion of "predatory" authors
- We estimate:

$$Success_{i,e} =$$

$$= \beta_0 + \beta_1 B_i + \mathbf{X}_{i,e} \beta_2 + \beta_3 [B_i * R_e] + \beta_4 [B_i * E(R_e)] + \mu_e + \epsilon_{i,e}.$$

- Where:
 - R_e is average quality of committee members
 - $E(R_e)$ is expected research quality of committee members

Table 5: **Effect of committee research quality on the success of candidates with Beall's list publications**

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---------------------|---------------------|----------------------|---------------------|-------------------|----------------------|-------------------|
| | Disciplinary area: | | | | | | |
| | | | Sciences | Engineering | Medical Sc. | Econ&Bus | Soc.Sc.&Hum |
| Author with Beall's list articles | -0.032** (0.014) | -0.032** (0.014) | -0.062*** (0.020) | -0.062** (0.024) | -0.029 (0.021) | 0.044 (0.038) | 0.005 (0.050) |
| Author with Beall's list articles * Evaluators' research quality | -0.062** (0.031) | -0.067** (0.033) | -0.110*** (0.031) | -0.037 (0.049) | 0.031 (0.049) | -0.292*** (0.093) | -0.026 (0.124) |
| Exam FE | Yes | Yes | Yes | Yes | Yes | Yes | |
| Adj. R-Squared | 0.240 | 0.240 | 0.233 | 0.295 | 0.265 | 0.232 | 0.260 |
| Observations | 69020 | 69020 | 19164 | 6813 | 15418 | 6005 | 21620 |

Note: Dependent variable takes value one if the applicant is granted a qualification. Evaluators' research quality is measured as the number of Q1 articles in STEM&Med fields and as the number of A-journal articles in business and economics, social sciences and humanities, and it is normalized for all eligible evaluators in a given field. Column 1 reports the estimate from an OLS regression. In columns 2-7, the research quality of actual evaluators is instrumented by the research quality of evaluators initially selected by the random draw. Standard errors are clustered at the field level. All regressions also include an interaction between the proportion of articles in Beall's list and the expected evaluators' research quality, which is obtained based on one million simulated draws taking into account the composition of the pool of eligible evaluators and the selection rules.

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Summary

- 1 Publications in Beall's list: **small** number but **not negligible**
 - 6,000 out 1.8 million publications
 - 5% of all articles by Italian economists in English-language
- 2 Not all journals in Beall's list are 'dodgy'
 - Respondents report irregularities for 36% of journals
 - Some journals are highly cited
 - Supportive qualitative evidence
- 3 Some journals **Scopus** are likely to be 'predatory':
 - Survey respondents report irregularities for 40% of journals

Summary

- Doubts on the **mechanical** use of white and black lists in evaluation
- Predatory journals a symptom of a deeper problem:
 - Some institutions:
 - lack the capability to evaluate research quality
 - or not willing to invest in collecting this information
 - \Rightarrow some researchers may strategically decide to \uparrow **quantity** and \downarrow **quality**

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Thank you for your attention!