

Open Access Journals & Academics' Behavior

Matteo Migheli & Giovanni B. Ramello
University of Eastern Piedmont & IEL

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Aim of the paper

- Conducting a behavioral investigation about academic habits on Open Access (OA) scholarly journals (economics)
- Identifying emerging issues related to the recognition of OA journals among economists (e.g. whether OA & Closed Access CA journals are substitutes or complements) and possibly
- Providing policy implications

Economics of science

- The primary goal of scientific activity is production and dissemination of knowledge
- Many institutions emerged in order to set up the proper environment and incentives to researchers
- Scholarly journals have become a pivot in a broader knowledge system
- But they are also central in the researchers' rewarding system (they have so far produced the most important currency, i.e. reputation & prestige)

Publish or Perish

- In many countries publishing in peer review ranked journals is crucial (since Hamermesh et al. 1982):
  - for career (tenure and promotion)
  - for economic rewards (salary, prizes, etc.)
  - for funds (research assessment evaluation)
- Journals and citations are becoming the bread and butter of researchers' everyday life everywhere
- Of course, the access to previous knowledge (articles) is a necessary (though not sufficient) condition for playing the "publish or perish" game

The publishing dilemma

- Free access enhances the impact probability of an article (readership and citation)
- The attractiveness of an article is positively correlated to the rank of journal and many journals rely upon the “enclosure” model (CA via price) which is actually limiting the accessibility

The shifting boundaries of scientific publishing

- Journals in many disciplines took over any kind of publications (e.g. books)
- Today this equilibrium is challenged by the serial crisis, essentially determined by two factors
  - dramatic increase in journal prices
  - significant reduction of university budgets
- Open Access publishing has been identified as a possible relief to the serials crisis

Innovation in scholarly communication

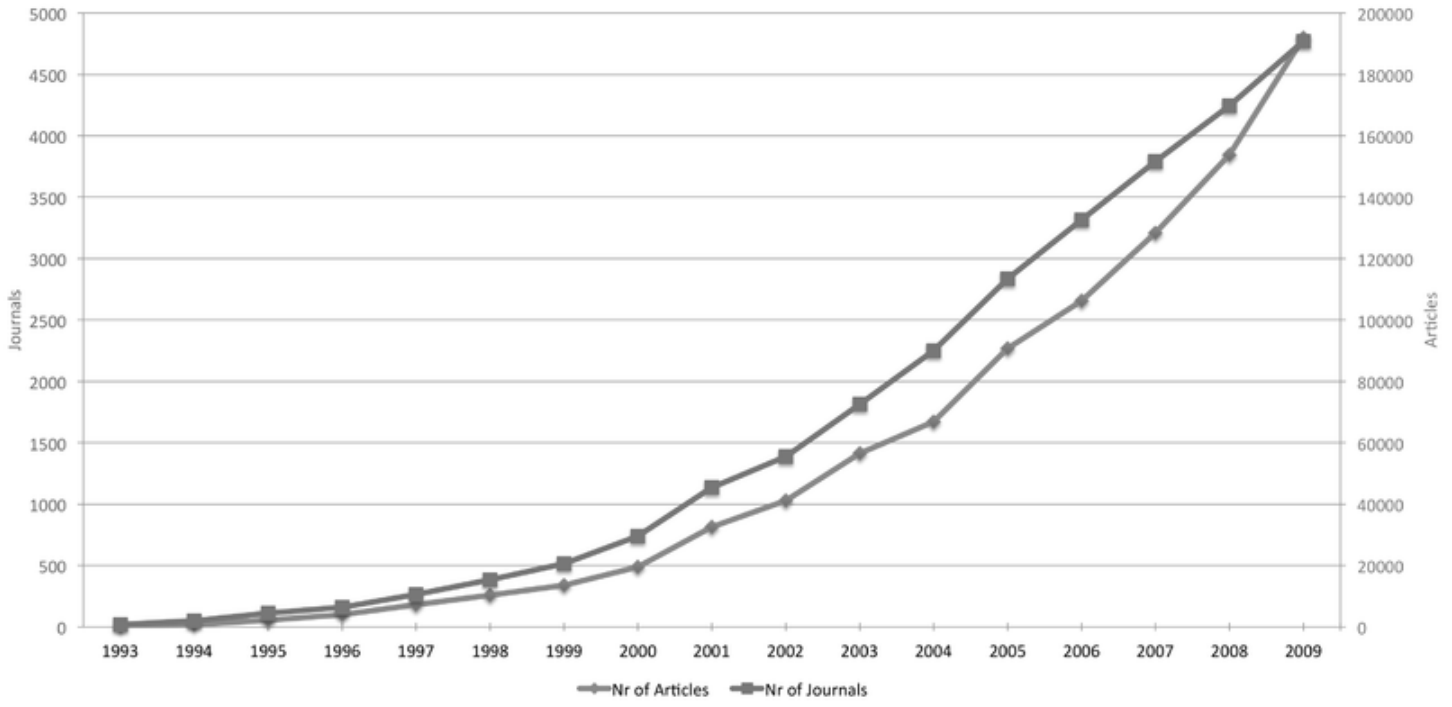
- “The market [of scholarly journals], which operates worldwide, has a number of features that suggest that competition may not be working effectively. However, market forces harnessing new technology may change this without the need for intervention” (John Vickers-OFT, 2002)
- For solving the “Faustian Grip of academic publishing “ Parks (2002) proposes “freely available electronic journals”
- The expectation is that OA journals will possibly do the job or at least….

"…There are some hopeful signs"

(Open Sesame, The Economist, April 14, 2012)



The growth of OA publishing



Open Access in a nutshell (I)

- **OA**: the practice of providing unrestricted access (and free of charge) to scholarly articles in digital form (as defined by Harnad, 1999). The journal must exercise peer-review or editorial quality control to be included. OA is also increasingly being provided to theses, scholarly monographs and book chapters.

- **OA** journals use a funding model that does not charge readers or their institutions any fees for access

- **Gold OA** currently refers to journals that provide free access to the peer-reviewed article on the journal website (see Green OA and other hybrids)

Open Access in a nutshell (II)

- Today about the 8.5% of journal literature is available OA but only the 62% in full OA journals
- According to DOAJ there are today 7787 OA journals on the whole and the lion's share is taken by US (1357 journals). 181 of them are classified in Economics (May 28; 2012)
- The oldest in economics is Economics Bulletin founded in 2001 by Myrna Wooders (Vanderbilt University)
- From 2011 the (formerly CA) Journal of Economic Perspectives provides its contents (since 1999) OA

Current issues of the OA debate

- Economic sustainability of OA journals (author's pay, institutional patronage, advertising, etc.) (see e.g. Ithaka Report, 2008)
- OA for improving cost efficiency: can widen access to research results while lowering the cost (the social cost of CA)

  e.g. the poetic economics blog was showing that the $ 2,075 billion (Elsevier's 2009 revenues)/ 1,5million (articles per year) gives an average cost of $1383 more than what PLoS ONE is charging per article ($1350)
- Role of institutional mandates for funded research
- The visibility/citation impact vis-à-vis traditional journals
- The value of OA articles for researchers' career

The OA paradox

- “While there is a widespread acceptance by the academy of the desirability of OA journals, many researchers are reluctant to use it when it comes to publishing their own work especially” (Davies, 2011)

- The reason for that relies upon cultural factors and social norms governing the scientific community (Park & Qin, 2007)

The empirical investigation

Our research is specifically devoted to understand:

- How researchers perceive OA journals subjectively
- Whether there are differences connected to:
  - The role in the academic hierarchy
  - Idiosyncratic features such as geographical location, gender, etc.
  - Other determinants that could affect OA journals acceptance within the scientific community

Data and Methodology

- Data collected through an online survey (LimeSurvey Open Source software)
- Selected respondents invited worlwide by email (through societies, departments and OA journals mailing lists)
- 320 complete questionnaires 419 total responses
- Academics from all the world, although the majority from Europe.
- Questionnaire divided into two parts:
  - Please answer as an author
  - Please answer as a reader (and referee)

Data and methodology

- 3 kinds of questions:
  - real data (e.g. bio, # of OA articles published in the last 3/10 years, etc.)
  - subjective experience (e.g. choices in submission, in reviewing, etc.)
  - hypothetical answers (e.g. how much would you pay for submitting an article on a OA/CA journal, etc.)
- Collected data analysed econometrically
  - OLS
  - Probit
  - Ordered probit

Results: descriptive statistics

Table 1. Descriptive statistics

	Post-docs (16.15%)	Assist. Prof. (28.21%)	Associate Prof. (20.26%)	Full Prof. (35.38%)
Seniority (years)	3.05	6.24	11.44	24.62
Publishing is important (mean)[1]	7.51	8.33	8.47	8.67
CA is better than OA (mean)[1]	5.62	6.31	5.90	6.38
Would pay a SF to OA (%)	18.87	18.56	18.57	23.33
Submission fee OA (USD)	**54.41**	**64.04**	**65.00**	**73.23**
Submission fee CA (USD)	**50.87**	**71.28**	**94.34**	**78.13**
Would pay a PF to OA (%)	22.64	15.46	27.14	26.67
Publication fee OA (USD)	**87.95**	**104.15**	**133.48**	**210.74**
Publication fee CA (USD)	**59.78**	**76.67**	**81.00**	**74.24**
Number of paper published in OA	0.77	1.41	2.36	2.12
OA better than CA for career (%)	13.21	8.33	11.43	7.76
OA wider audience than CA (%)	75.47	78.12	72.86	69.57
OA provides more citations than CA (%)	45.28	58.33	60.00	43.97
Submit first to OA (%)	32.07	39.18	40.85	39.97
Quality submitted to OA (mean)[1]	5.45	6.19	6.49	5.95

[1] 1 - 10 scale

Results: econometric analysis

Table 2. Number of OA articles (OLS - s.e. in brackets)	
Male	1.880
	(0.579)***
Anglosaxon	-1.058
	(0.432)***
Assistant professor	1.226
	(0.477)***
Associate professor	1.960
	(0.687)***
Full professor	2.223
	(0.834)***
CA journals are better than OA	-0.187
	(0.090)**
OA more important than CA for career	3.573
	(1.789)**
OA publishing popular in my department	0.361
	(0.166)**
Obs	330
R2	0.215

Other controls: seniority, country/region dummies, importance of publishing, OA privides wider audience

Results: econometric analysis

Table 3. WTP for a submission fee to OA journal: USD (OLS estimates s.e. in brackets)	
Associate professor	20.262
	(9.991)**
Full professor	38.302
	(12.539)***
Seniority	-0.782
	(0.380)**
Total articles published in OA	-1.128
	(0.523)**
CA journals are better than OA	3.583
	(1.387)***
OA more important than CA for career	12.382
	(5.785)**
Pay accession fees to CA because	
CA are better than OA	-21.787
	(10.892)**
fees needed to cover printing expenses	-17.339
	(9.585)*
fees as incentive to improve journal quality	-18.366
	(9.329)**
Obs	319
R2	0.108

Results: econometric analysis

Table 4. Publishing in OA journals (Probit - s.e. in brackets)		
	Coeff	mfx
Male	0.502	0.196
	(0.209)**	(0.078)**
Anglosaxon	-0.451	-0.177
	(0.240)*	(0.091)*
Assistant professor	0.511	0.201
	(0.263)*	(0.100)**
Associate professor	1.362	0.466
	(0.309)***	(0.084)***
Full professor	0.948	0.361
	(0.377)**	(0.130)***
Seniority	-0.020	-0.008
	(0.011)*	(0.004)*
CA journals are better than OA	0.066	0.027
	(0.040)*	(0.016)*
OA journals provide wider audience than CA	0.532	0.208
	(0.239)**	(0.089)**
OA publishing popular in my department	0.182	0.073
	(0.048)***	(0.019)***
Reading OA articles	0.732	0.286
	(0.197)***	(0.073)***
Citing OA articles	0.130	0.052
	(0.042)***	(0.017)***
Constant	-30.57	
	(0.587)***	
Obs	320	
R2	0.278	

Results: econometric analysis

Table 5. Between two equal-quality journals submit first in CA (ordered probit - s.e. in brackets)			
	Coeff	Y=5	Y = 7
Associate Professor	-0.455	-0.055	-0.022
	(0.225)**	(0.031)*	(0.011)**
Submission fee CA	0.738	0.036	0.039
	(0.221)***	(0.013)***	(0.014)***
Publication fee CA	0.544	0.032	0.030
	(0.258)***	(0.009)***	(0.016)*
CA journals are better than OA	0.075	0.007	0.004
	(0.034)**	(0.004)**	(0.002)*
OA journals provide more citations than CA	-0.569	-0.056	-0.030
	(0.161)***	(0.018)***	(0.010)***
OA less important than CA for career	0.370	0.036	0.020
	(0.159)**	(0.015)**	(0.010)**
Fees as incentive to improve CA journal quality	0.553	0.036	0.030
	(0.207)***	(0.011)***	(0.013)**
Pr (Y = n)		0.228	0.043
Obs	320		
R2	0.105		

Results: econometric analysis

Table 6. CA journals are better than OA journals			
	coeff	Y = 5	Y = 7
OA more important than CA for career	-0.494	0.086	-0.040
	(0.256)**	(0.029)***	(0.023)*
OA journals provide wider audience than CA	-0.305	0.068	-0.015
	(0.154)**	(0.036)**	(0.007)**
Citing OA articles	-0.064	0.014	-0.004
	(0.030)**	(0.007)**	(0.002)**
Publishing important in my department	0.077	-0.017	0.005
	(0.029)***	(0.007)***	(0.002)**
Pay accession fees to CA because			
CA are better than OA	0.554	-0.121	0.027
	(0.187)***	(0.043)***	(0.011)**
fees needed to cover printing expenses	-0.348	0.069	-0.024
	(0.183)*	(0.034)**	(0.015)
publishers are profit-oriented	-0.548	0.093	-0.044
	(0.195)***	(0.027)***	(0.020)**
Pr (Y = n)		0.320	0.162
Obs	320		
R2	0.103		

Results: summary (I)

- Scholars have lower *wtp* for submission fees to an OA than to a CA journal, but the opposite holds for publication fees.
- Associate professors are more likely to publish in OA journals than the others (they are siblings of OA journals)
- There is:
  - a gender inequality
  - a geographical inequality (anglo-saxon countries are publishing the highest number of OA journals but the authors are then more relying upon CA journals)
  - a rank inequality within the academic hierarchy

Results: summary (II)

- Despite the fact that the OA tenet is that the journal must exercise peer-review and pursue editorial quality, there is a general tendency to consider by default OA worse than CA as if the publisher was fundamental in warranting quality
- Consequently they have so far seemed to be rather complements than substitutes
- Social norms and local incentives (e.g., habits in the dept.) are governing submission choices
- Citation and readerships are two distinct issues (Davis, 2011). Readership (more than citations) of OA journals increases the probability of publishing in them

Some tentative policy implications

- After all publication are different currencies; a proper “monetary” policy can be designed in order to raise the exchange rate of OA journals
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- An alternative incentive system affecting social norms and governance of science (e.g. mandates incentive compatibles) can change scholars’ attitude
- Enhancing the familiarity as a reader of OA journals can further create inertia in the scholars’ choice while submitting
- The use of branding – intended as the use of ancillary signs conveying quality perception – is reasonably providing a “publisher effect” and will positively affect the perceived quality (e.g. BE press, but also new AEA journals)