Is publication in the hands of outstanding scientists? A study on the determinants of editorial board membership in economics

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Research agenda

Two papers

- Do close editorial boards homogenizes the discipline? Evidence from the top journals in economics

- Determinants of editorial board membership

Motivation

- Academic journals are complex organizations in which the **editorial board members define the editorial strategy** (Thompson and McEwen, 1958) by deciding what is worthy for publication

    -> editors manage the *peer-review* process (Dasgupta and David, 1994)

- Surprisingly the role of editors in science has been largely neglected in past literature especially in the field of economics. Exceptions are Bedeian et al. (2008), Burgess and Shaw (2010) and Brogaard et al. (2012), Baccini and Barabasi (2009 and 2011)

Aim of the paper (1/3)

We classify the journals in two groups:

"house journals" -> The editorial board is representative of a specific, institution, university, or department (Brogaard et al. 2014; McDowell and Amacher 1986)

"non-house journals" -> The editorial board cannot be easily connected to an institution

Aim of the paper (2/3)

(RQ1) **We aim to find empirical evidence that house and non-house journals differ in terms of editorial outcomes as represented by:**

- **Journal content specialisation**:
  - Editorial boards of house-journals tend to support publications aligned with specific *relevant past research, requested theoretical framework, appropriate techniques, rigor of result interpretation, ...* (Rockwell, 2005) discouraging alternative approaches / theories / interpretations

- **Journal institutional oligopoly**:
  - Editorial boards of house-journals discourage publications from less prestigious institutions or from competing institutions

  -> Bairam, 1994; Elliott et al., 1998; Kirman and Dahl, 1994; Kocher and Sutter, 2001 claim that institutional oligopoly might be a problem

Aim of the paper (3/3)

Journals are not isolated from each other, they are part of an ecosystem

Baccini and Barabasi (2011) state that "*if the same individual sits in the board of two journals, those journals could have some common elements in their editorial policies [strategy]*". Following this line we aim to show that…

(RQ2) … **editors' characteristics determine the editorial outcomes**

    In particular, we expect that publications of journals managed by editorial boards with similar characterises tend to converge according to three dimensions:
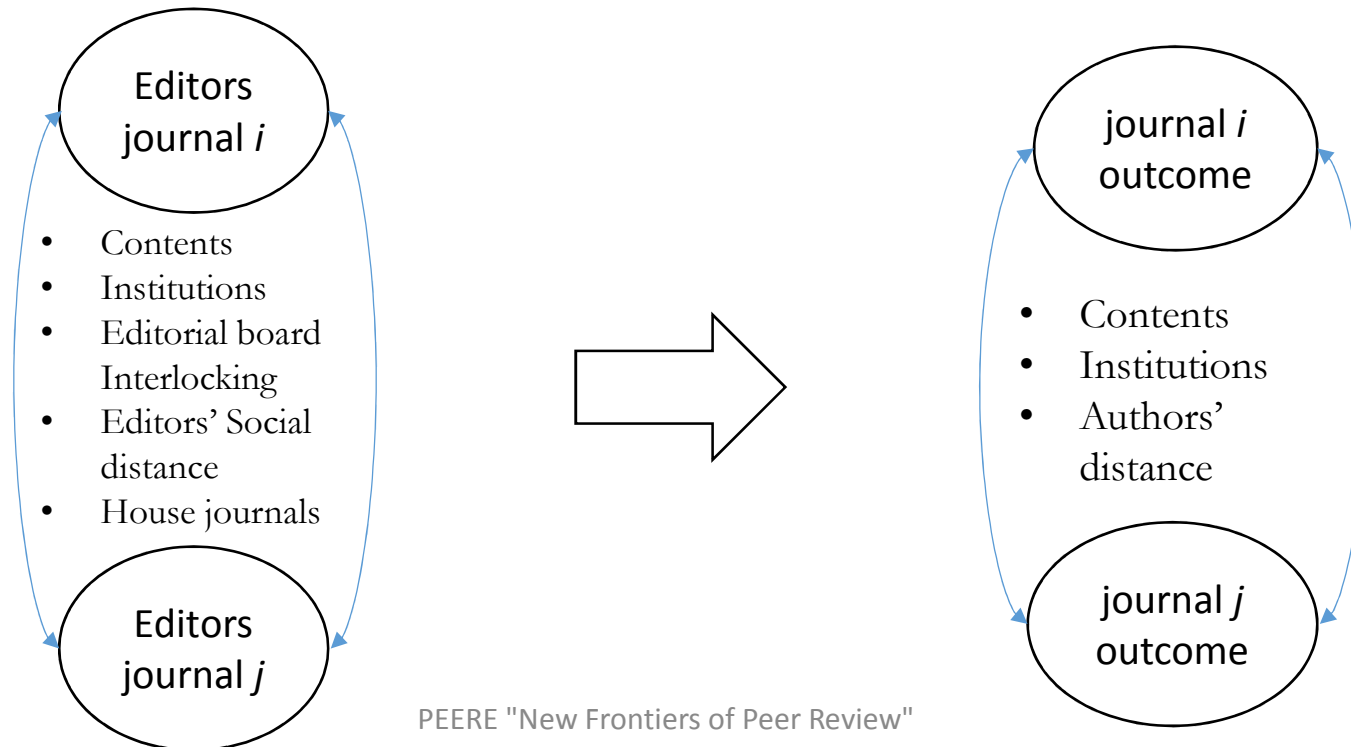
- Articles contents
- Institutional representation
- Authors become closer in the co-authorship network

Aim of the paper

(RQ1) House journal VS non-house journal

- content specialization
- institutional oligopoly
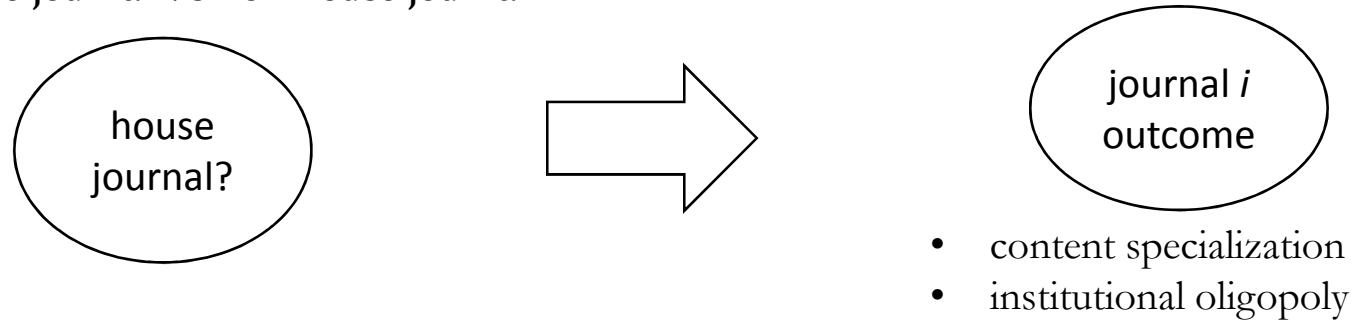
(RQ2) Proximity of editors of journal *i,j* determines similar editorial outcomes

Empirical strategy: (RQ1) House journal VS non-house journal

We adopt the Brogaard et al. (2014) definition of "house journal":

- a review that in *"every year of the editorial history contains at least one editor from the same* [hosting] *university (e.g. Harvard and the Quarterly Journal of Economics)"*

We measure the impact on:

- department concentration *Herfindahl-Hirschman index*

$$Hd_{jt} = \sum_{d \in DEP_{jt}} s^2_{djt}$$

- contents concentration *Herfindahl-Hirschman index*

$$Hc_{jt} = \sum_{k \in JEL_{jt}} s^2_{kjt}$$

j=journal
t=year
DEP=list of affiliations
JEL=list of JEL codes
S$_{djt}$=share of pubs where appears the department d
S$_{kjt}$=share of pubs where appears the JEL code k

Empirical strategy: (RQ1) House journal VS non-house journal

Career progress in centralized academic systems: Social capital and institutions in France and Italy

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ABSTRACT

We analyze the role of social capital in academic careers. We distinguish between ties with reputed scientists and laboratories (scientific and technical human capital) and ties with influential actors with respect to recruitment/promotion decisions (political capital). We use institution-wise bibliometric indicators to measure separately the two types of capital for a large sample of French and Italian academic physicists between 2000 and 2003/2005. Controlling for scientific productivity, seniority and gender issues, career progress is explained by: the scientist's affiliation to important public research organizations (scientific and technical human capital – France); his/her social ties with senior members of the discipline, who exercise control over careers (political capital – Italy), and the commitment to work with senior colleagues in his/her own university (political capital – Italy). Significant differences exist between the two countries also with respect to the importance of productivity, seniority, and gender.

Empirical strategy: (RQ2) do editors' characteristics determine editorial outcomes?

For each pair of journal i,j we construct:

(#a) journal proximity indices = $f($ **(#b) board proximity indices** $)$

Empirical strategy: (RQ2) do editors' characteristics determine editorial outcomes?

1a) Proximity of journal contents $(pc_{i,j})$ -> inverse of the Euclidean distance between two vectors of shares of JEL **codes in publications** of journal i and j

$$dc_{ijt} = \sqrt{\sum_{k \in \{JEL_{it} \cup JEL_{jt}\}} \left(s_{kjt} - s_{kit}\right)^2}$$

$$pc_{ijt} = 1/dc_{ijt}.$$

	i	j
JEL A	0.2	0
JEL B	0.3	0.5
JEL c	0.5	0.5

i,j=journals
t=year
JEL=list of JEL codes
Skit=share of pubs of journal i
where appears the JEL code k

$$dc_{i,j} = \sqrt{(0.2)^2 + (-0.2)^2 + (0)^2} = 0.28$$
$$pc_{i,j} = 1/0.28 = 3.53$$

Empirical strategy: (RQ2) do editors' characteristics determine editorial outcomes?

1b) Proximity of board contents $(pce_{i,j})$ -> inverse of the Euclidean distance between two vectors of shares of JEL codes **in publications of board members** of journal i and j

2a) Proximity of journal institutions $(pd_{i,j})$

$$dd_{ijt} = \sqrt{\sum_{d \in \{DEP_{it} \cup DEP_{jt}\}} \left(s_{djt} - s_{dit}\right)^2}$$

$$pd_{ijt} = 1/dd_{ijt}.$$

i,j=journals
t=year
DEP=list of affiliations
Sdit=share of pubs of journal i
where appears the department d

2b) Proximity of board institutions $(pde_{i,j})$ -> inverse of the Euclidean distance between two vectors of shares of affiliations in publications of board members of journal i and j

Empirical strategy: (RQ2) do editors' characteristics determine editorial outcomes?

3a) Journal i and j authors' **proximity in the co-authorship network** of an extended sample of 108 journals in economics (pa_{ijt})

$$Avg\,da_{ijt} = \sum_{a_{it} \in A_{it}, a_{jt} \in A_{jt}} da_{a_{it}a_{jt}} / NA_{ijt},$$

$$pa_{ijt} = \frac{1}{1 + Avg\,da_{ijt}} \times \frac{NA_{ijt}}{A_{jt} \times A_{it}}$$

> i,j=journals
> t=year
> $Avg\,da_{ijt}$=avg distance between i and j authors
> NA_{ijt}=number of authors' pairs
> A_{it}=pool of authors in journal i
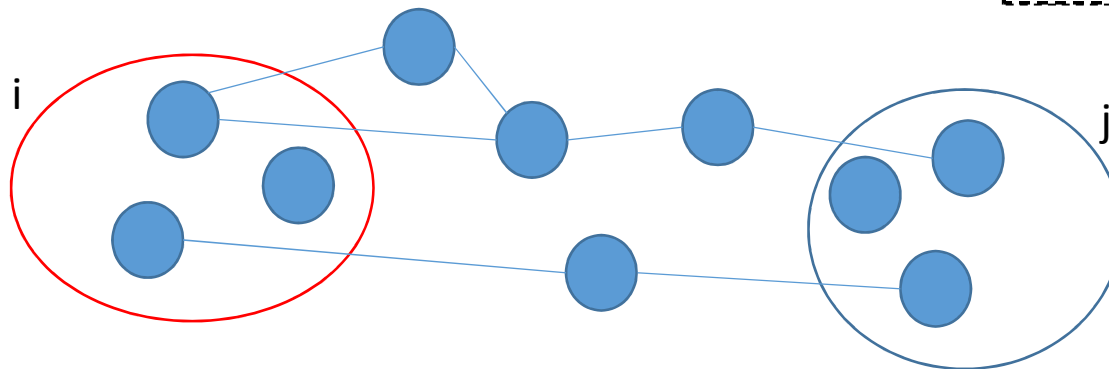
NA=2
Avg da=(3+2)/2

3b) Boards i and j **proximity in the co-authorship network** of an extended sample of 108 journals -> Dummy *Borads i and j have co-authors in common* at any distance

NA_{ijt} =number of authors' pairs

$Avg\ da_{ijt}$ =avg distance between i and j authors
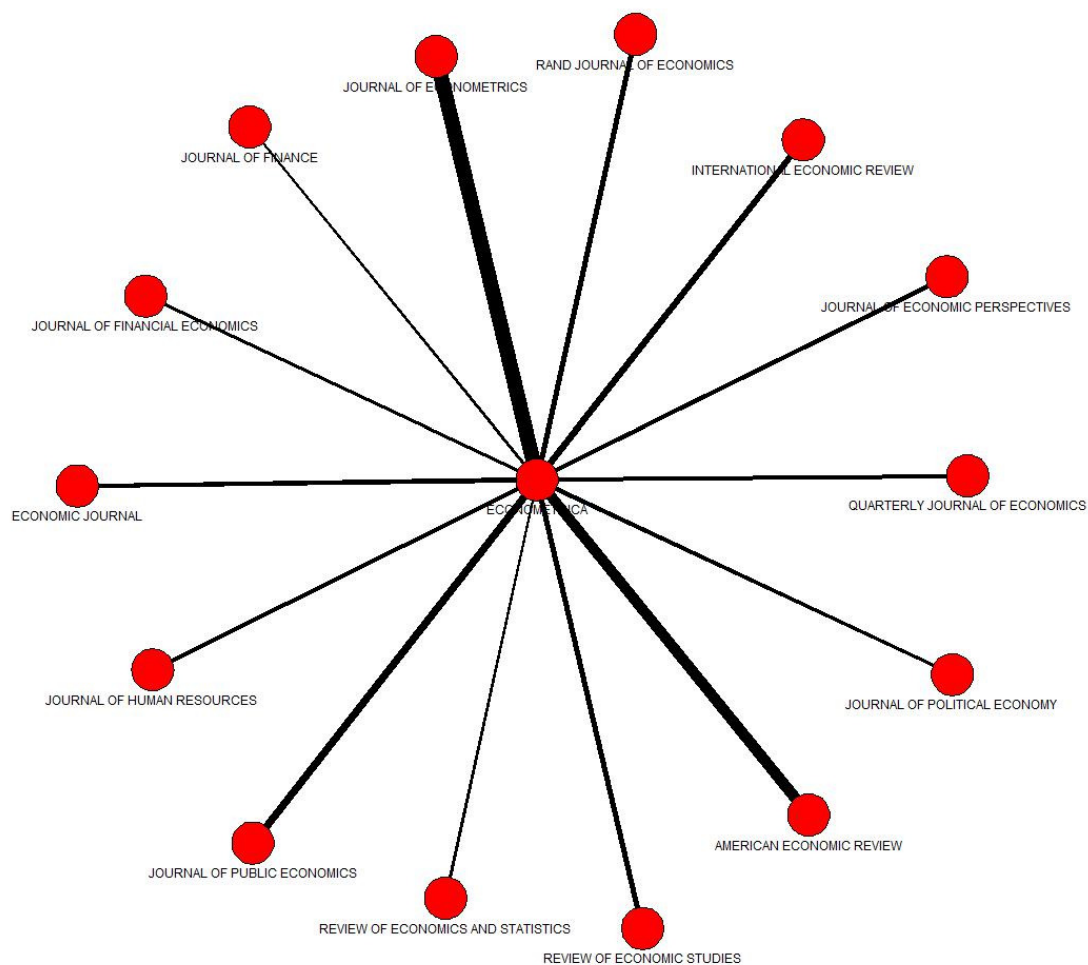
i=ECONOMETRICA, j=	NA	Avg da
AMERICAN ECONOMIC REVIEW	47.97	0.75
ECONOMIC JOURNAL	17.44	1.03
INTERNATIONAL ECONOMIC REVIEW	24.98	1.11
JOURNAL OF ECONOMETRICS	▲ 67.03	1.25
JOURNAL OF ECONOMIC PERSPECTIVES	16.43	2.17
JOURNAL OF FINANCE	▼ 9.17	1.20
JOURNAL OF FINANCIAL ECONOMICS	11.74	▲2.41
JOURNAL OF HUMAN RESOURCES	16.95	1.85
JOURNAL OF POLITICAL ECONOMY	13.90	0.79
JOURNAL OF PUBLIC ECONOMICS	32.50	1.61
QUARTERLY JOURNAL OF ECONOMICS	14.72	0.93
RAND JOURNAL OF ECONOMICS	21.59	2.22
REVIEW OF ECONOMIC STUDIES	20.54	▼0.68
REVIEW OF ECONOMICS AND STATISTICS	9.40	0.84

NB when an author publishes in the same year in i and j, the distance is equal to 0

Empirical strategy: (RQ2) do editors' characteristics determine editorial outcomes?

4b) Dummy *Board interlocking* (Baccini and Barabasi 2009 and 2011)

EB i

EB j

$$I_{ijt} = \mathbf{1}\left(EB_{it} \cap EB_{jt} \neq \varnothing\right),$$
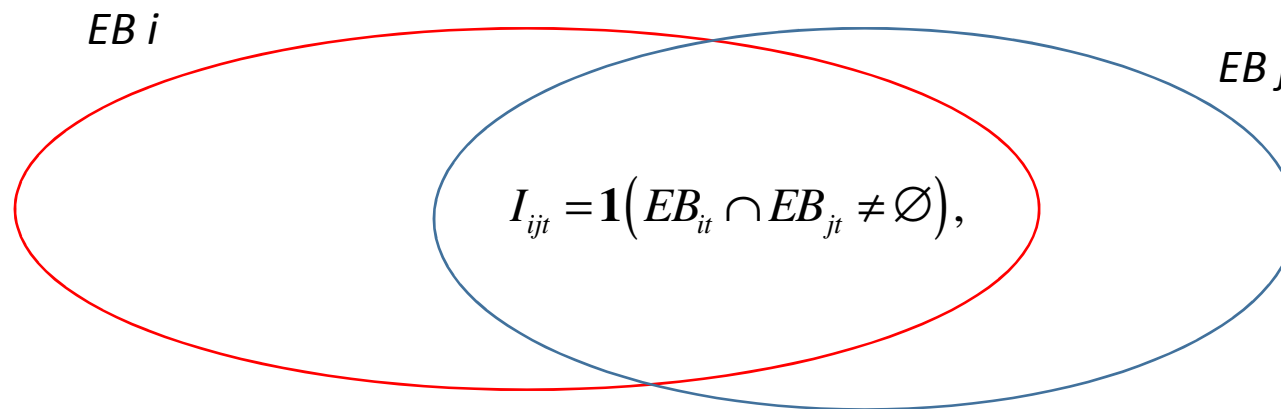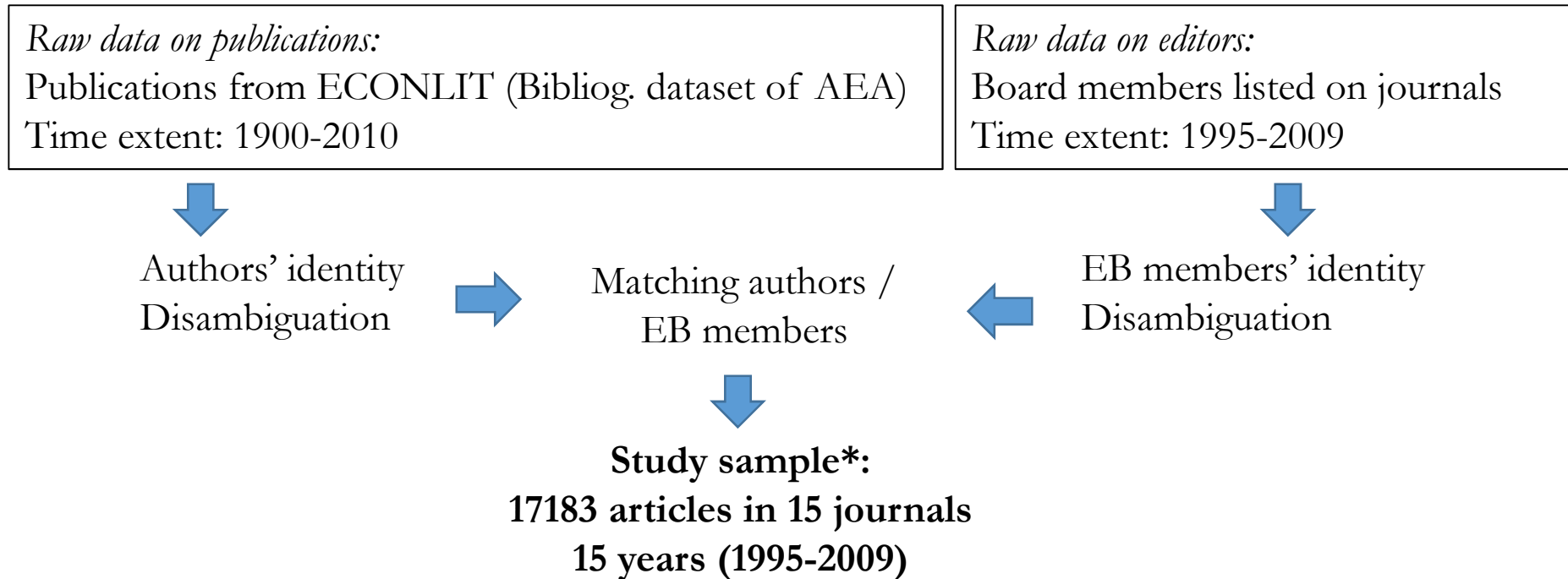
Data: journals

List of the leading economics journals considered and summary statistics on their editorial board members. We referred to Brogaard et al. (2014) for the selection of the leading journals.

Ref.	Journal	House journal	Distinct editors and associate editors	Years in the sample		Mean number of editors per year		N. of articles 1994-200
				Min	Max	Editors	Associate	
AER	AMERICAN ECONOMIC REVIEW	no	200	1995	2009	4.7	40.4	2900
ECMA	ECONOMETRICA	no	155	1995	2009	5.8	39.4	937
EJ	ECONOMIC JOURNAL*	no	72	1995	2009	1.6	13.1	1131
IER	INTERNATIONAL ECONOMIC REVIEW	yes	70	1995	2009	6.6	13.9	799
JECM	JOURNAL OF ECONOMETRICS	no	82	1995	2009	5.4	35.1	1661
JEP	JOURNAL OF ECONOMIC PERSPECTIVES	no	68	1995	2009	2.6	12.6	848
JF	JOURNAL OF FINANCE	no	105	1995	2009	1.6	31.6	1187
JFE	JOURNAL OF FINANCIAL ECONOMICS	yes	54	1995	2009	8.3	21.3	1037
JHR	JOURNAL OF HUMAN RESOURCES	yes	36	1995	2009	12.6	0.0	613
JPOL	JOURNAL OF POLITICAL ECONOMY*	yes	17	1995	2009	3.4	0.0	1263
JPUB	JOURNAL OF PUBLIC ECONOMICS	no	96	1995	2009	10.6	25.5	1628
QJE	QUARTERLY JOURNAL OF ECONOMICS	yes	61	1995	2009	3.1	19.3	695
RAND	RAND JOURNAL OF ECONOMICS	no	61	1995	2009	8.3	15.5	619
RESTUD	REVIEW OF ECONOMIC STUDIES	no	156	1995	2009	13.9	27.8	769
RESTAT	REVIEW OF ECONOMICS AND STATISTICS	yes	111	1995	2009	6.4	36.7	1096

Data: publication data

Raw data on publications: Publications from ECONLIT (Bibliog. dataset of AEA) Time extent: 1900-2010	*Raw data on editors:* Board members listed on journals Time extent: 1995-2009

Authors' identity Disambiguation → Matching authors / EB members ← EB members' identity Disambiguation

Study sample*:
17183 articles in 15 journals
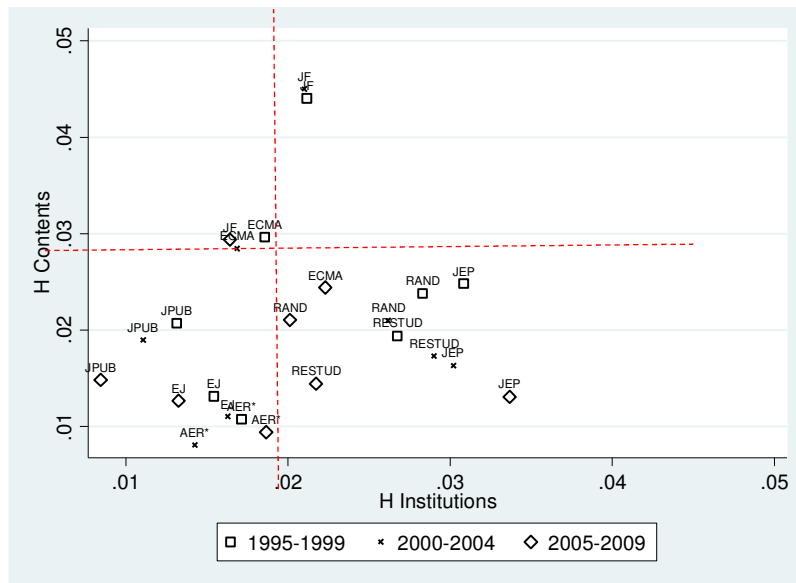**15 years (1995-2009)**

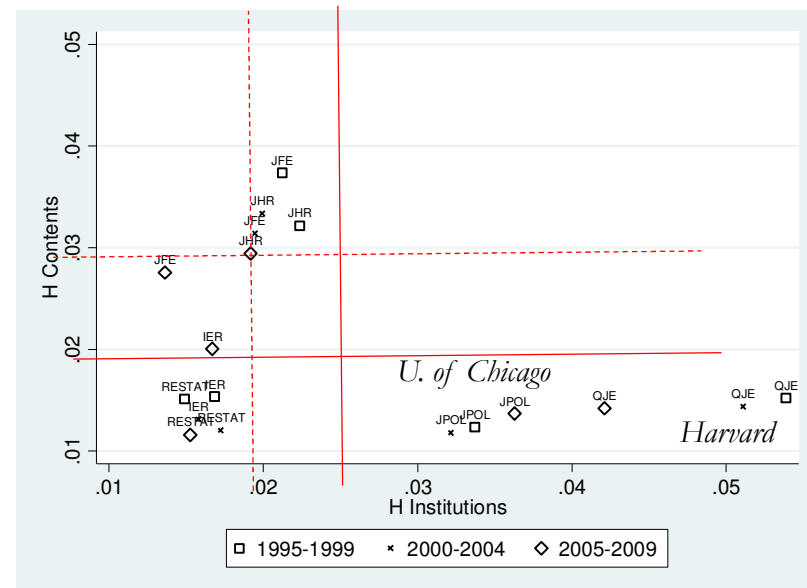**For the construction of the co-authorship network we considered 66760 articles in 108 journals*

Descriptive statistics: (RQ1) House journal VS non-house journal

Average Herfindahl indices (H) of the published papers with respect to JEL codes of the papers (Contents) and affiliation of the authors (Institutions), by journal type and 5-year periods

Results: (RQ1) House journal VS non-house journal

We observed 15 distinct journal for 15 years = 225 obs.

Average Herfindahl index of the published papers with respect to JEL codes of the papers (Contents) and affiliation of the authors (Institutions), by journal type and 5-year periods

		1995-1999	2000-2004	2005-2009
Non-house journals	Contents	0.035	0.030	0.025
	Institutions	0.020	0.020	0.018
House journals	Contents	0.021	0.019	0.019
	Institutions	0.027	0.026	0.024

- House journals are more concentrated in terms of institutions (p-value=0.000)
- Non-house journals are more specialized in terms of contents (p-value=0.0028)
- No significant time trend

Descriptive statistics: (RQ2) do editors' characteristics determine editorial outcomes?

We observed 15×7=105 distinct journal pairs for 15 years = 1575 obs.

Journal proximity measures (#a): Content, institution and author proximity, 5-year period averages

Period	1a) ▲ content proximity	2a) ▲ Institution proximity	3a) ▲ Author proximity	▲ Connected in the co-authorship network
1994–1999	1.57	1.73	0.45	76.4%
2000-2004	1.67	1.79	0.50	85.7%
2005-2009	1.73	1.80	0.57	85.5%
ANOVA p-values	0.00	0.00	0.00	0.00

Board proximity measures (#*b*): proximity indices, interlocking and number of published papers, 5-year period averages

| Period | Board proximity indices: | | | 3b) | 4b) |
	1b) Contents ▼	2b) Institutions ▲	Authors ∪	Connected in the co-authorship network ∪	Interlocked =
1994-1999	0.32	0.38	1.05	49%	34%
2000-2004	0.29	0.38	0.73	46%	33%
2005-2009	0.29	0.46	1.04	56%	32%
ANOVA p-values	0.00	0.00	0.00	0.01	0.86

NB We exclude from the publications of the board members from 1a=content proximity and 2a=institutions proximity. We exclude board members from the authors in 3a=author proximity .

Results: (RQ2) do editors' characteristics determine editorial outcomes?

	1a) Content proximity	2a) Institutions proximity	3a) Author proximity
	$\ln(pc_{ij,t})$	$\ln(pd_{ij,t})$	$pa_{ij,t}$
Boards			
3b) Boards j and i have co-authors in common$_{t-1}$	-0.040***	-0.018*	0.083**
4b) Boards i and j interlocked in t-1 (I_{ijt})	0.013	0.0098	-0.062
1b) $\ln(pce_{ij,t-1})$	0.094***	-0.039**	0.042
2b) $\ln(pde_{ij,t-1})$	-0.013	0.051**	0.056
Authors			
$\ln(pc_{ij,t-1})$	-0.25***	0.018	0.21
$\ln(pd_{ij,t-1})$	-0.010	-0.037	0.20
$pa_{ij,t-1}$	-0.0050	0.0029	-0.019
Journals			
$\ln(NP_{it} + NP_{jt})$	0.049	0.32***	-0.018
Journal i or j is a house journal	0.016	-0.028	-0.16
Observations	1,365	1,365	1,365
	(105×13)	(105×13)	(105×13)
Number of journal pairs	105	105	105
Sargan test (P-value)	0.46	0.74	0.71
Arellano-Bond test for zero autocorrelation order 1 / order 2 (P-value)	0.00/0.07	0.00/0.62	0.00/0.72

GMM estimates. Significance tests: * p-value < 10%, ** p-value < 5%, *** p-value < 1%.

Conclusion

- We found statistical evidence that both house and non-house journals are **rather stable** in terms of contents specialisation and institutional concentration over the last 15 years

- House journals show a significantly **higher level of institutional concentration** and **lower level of content specialisation**

- **Pairs of journals with boards connected in the co-authorship network experience an increased connection of their authors**, however they become more distant in terms of contents and institutions

- **Boards similar in terms of contents (institutions) foster the proximity of contents published (affiliation reported) by the authors**, however boards close in terms of contents decrease also the institutional proximity

- **No effect of being a house journal and board interlocking**

Conclusion

- Two extreme scenarios:

    - Heterogeneous editorial boards (low content, institution and authors' proximity) -> different editorial strategies -> an ecosystem of isolated journals within the discipline

    - Homogeneous editorial boards -> the (unique) editorial strategy leads to a large "invisible college" where journals are connected in many dimensions and lose their specificities

Further work..

- Given the impact of boards' characteristics on the discipline, it is crucial to investigate **how editorial board members are appointed**:

- …on basis of their documented scientific production, their closeness to the journal contents, their department of affiliation, their position in the network of scientists…

Preliminary results on the determinants of editorial board membership

- The **appointment as editor is positively influenced by the productivity of the scientist**

- **The scientist's social connection to the editors in charge enhances the probability of appointment.** The following factors are relevant:
  - (lower) Social distance between the scientist and an editor
  - Being department colleague of an editor
  - Being protégé of an editor
  - Affiliation to NBER and CEPR

Obs. = authors in 108 jorunals in economics	Prob. of appointment Logit	Prob. of appointment Logit
		+ Fixed effects
Productivity		
Number of articles	0.21***	-0.047
Maximum impact factor	0.33***	0.24***
At least one publication in the 10 leading journals	1.38***	0.061
Stock of articles published before 1994	0.029***	-
Career		
Length of the career	0.24***	0.49***
Length of the career^2	-0.0056***	-0.013***
Institutional prestige		
PhD in a top institution	0.31*	-
Affiliation with top 30 institutions	0.13	0.043
Contents affinity		
At least one article in heterodox journals	-0.68***	-0.11
At least one content in common with the top 10 journals	-0.15*	-0.061
Scientific network		
Not connected to other economists	0.11	-0.072
Degree centrality	-0.033	0.028
Social connection variables		
Not connected to editors	-0.76***	-0.26**
Minimum distance in co-authorship network from editors	-0.17***	-0.090**
Institutional proximity to the editors	1.77***	0.60***
Mentor-protégé	0.66***	0.041
NBER / CEPR	0.67***	0.42**
Constant	-7.72***	-
Observations	136480	5213 (501 IDs)
Pseudo R	0.35	0.11

Thank you for your time!

Open discussion

Questions, Comments
&
Suggestions