Italian Sociologists at stake.

A quantitative study on the internationalization and productivity of Italian sociologists pre and after ANVUR-VQR

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Outline of presentation

- Brief introduction

- Brief introduction to Literature reviewed

- Research questions and theoretical framework

- Method & Data

- Results (so far)

- Conclusions (so far)

- Next steps and timetable of research project

Introduction

- Research work doesn't happen in a social and institutional vacuum

- Different individual and structural factors might influence scientist's work, including institutional incentives and academic contexts (through studying: publication strategies and collaboration, …)

- **Individual motivations** and **publication strategies** are also sensitive to institutional policies, i.e., career incentives and rewards

- On **June 24th 2010**, the Italian government established ANVUR ("Agenzia Nazionale di Valutazione del Sistema Universitario e della Ricerca") **to assess research productivity**, including the degree of international exposure of research performed by Italian academics, and establish criteria to link promotion and resources to productivity

- This paper aims to provide an empirical analysis of the situation of our discipline before and after the implementation of ANVUR policies as a means to understand how Italian sociologists have reacted to this new institutional context

Literature review

Literature review

Three main bodies of research related to this paper **based on subject and focus**

- a general framework
- notion of collaboration
- Measurement efforts
- what should be considered collaboration and what should not

- research focused on **coauthorship** and coauthorship networks as a measure of research collaboration

- focused more on international coauthorship as a sign of the globalization of science;
- assessing pros and cons of international collaborations and suggesting empirical measures

Methodologically speaking

Quantitative

Qualitative

Literature review

- **Katz and Martin** (1997) suggested to categorize previous research on collaboration in four categories:

  - 1) multiple authorship and collaboration

  - 2) **factors contributing to collaboration**

  - 3) **sources** of collaboration, the role of communication and the effects of **physical and social proximity**

  - 4) the effects of collaboration on productivity and impact

- Level of centralization in the countries network in social sciences was higher than that in hard sciences

- Although **European** **programs and policies** have tried to incentivize international collaboration, it seems that these policies do not have the same impact everywhere and could only reinforce pre-existing patterns

Literature review

- 2 Underlying assumptions in study of collaborations through coauthorship:

  o **All authors contributed** to paper **!=** "honorary authorship"

  o **All Collaborations lead to publication** **!=** rejected papers, patents, collaborations without intention to publish

- Qualitative results:

  - Most interviewees suggested language as one of the **most dramatic challenges** in international research collaboration.

- Researchers in different stages of their research career have **different interest and aims** in mind while initiating a research collaboration both internationally or domestic

- **Significant connection** between key variables of interest such as researcher rank, region, gender, and funding source

Literature review

- International scientific cooperation is increasing

- different factors both **internal** and **external** to science affecting this

- Differences among **countries** and **fields of science**

- **higher (more than two times) citation** for papers that are written internationally

- larger the national scientific enterprise, the **smaller the proportion of international coauthorship** (e.g. case of France)

- International coauthorship is geographically driven, suggesting that extra-scientific factors (for example, geography, political factors and language) might have an influence

- Scientific collaboration and outputs would strongly depend on contextual factors, e.g., disciplines and fields, are largely resilient against institutional policies, at least in the short run, while they could incorporate a complex mix of inter-generational forces and incentive-sensitive strategic behavior

Literature review

Table 3. Co-authorship order in the publications

Co-authorship order	Number of publications
group member(s) – … – group leader(s)	113
group leader(s) – … – group member(s)	7
group leader – … group member(s) … – group leader	2
group member(s) – …. group leader(s) … – group member(s)	2
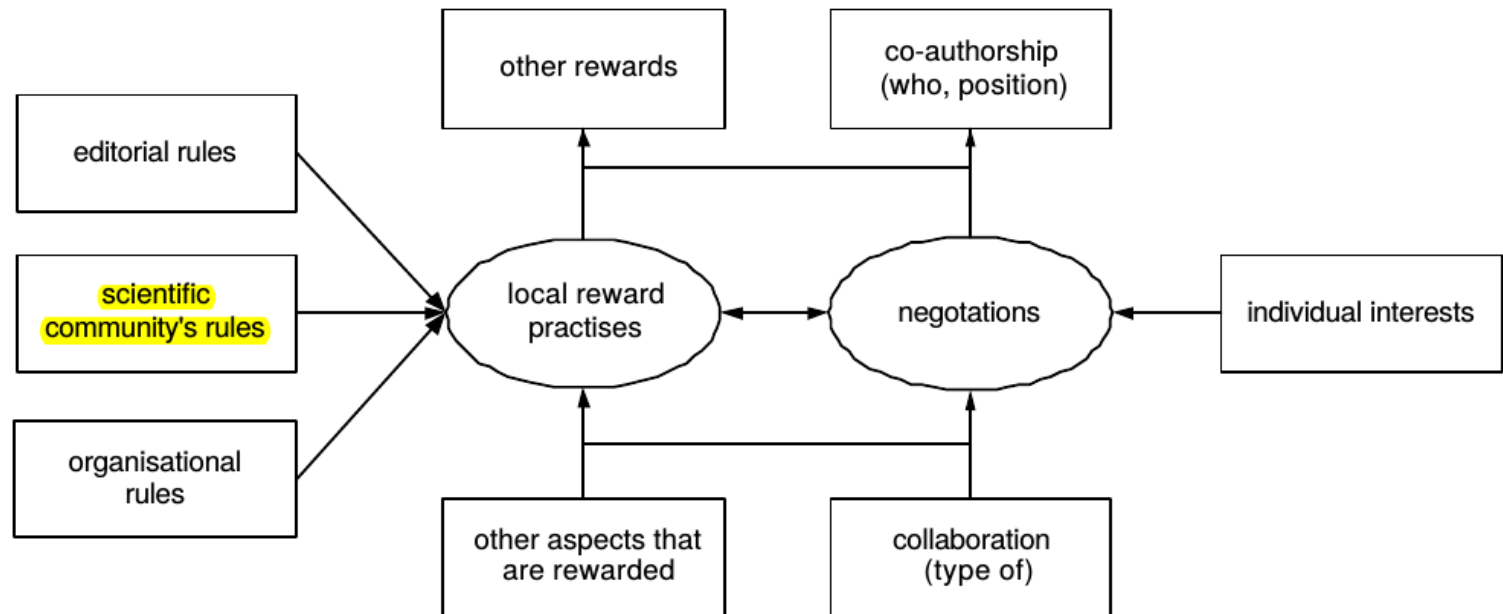
Figure 3. Factors influencing the rewarding of a collaboration

Laudel, G. (2002). What do we measure by co-authorships?. Research Evaluation, 11(1), 3-15.

Theoretical framework

- Social Capital
  - **Cohesion** (Coleman)
  - **Structural Holes** (Burt)

- **coauthorship network structures and success in publications**

- **7** grouping of coauthorship strategies authors use

- Scholars who use **both cohesive relationships and bridge between different communities** to further their publication chances (called complex strategy in this work) are the **most interesting scientists that manage between coordination costs and pros of cohesive groups in publication activity**

Co-authorship Network Structures

Rumsey-Wairepo, A. (2006); Kuzhabekova, A. (2011)
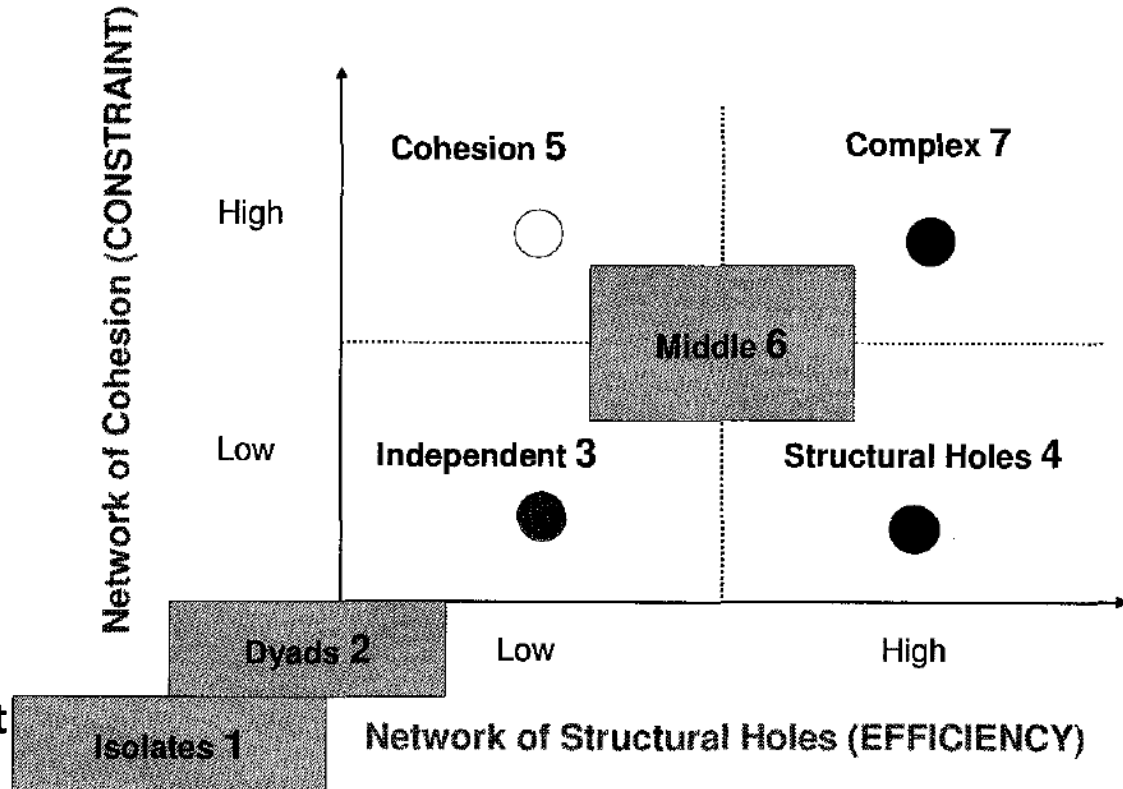
Research questions (explorative so far)

- Are there **different research styles among different sub communities** in the Italian community? (e.g., different exposure to internationalization, different publication attitudes, different coauthorship patterns)

- Is there a **UNI/department effect on productivity**? For example, are sociologists working in sociology department more productive or being exposed to other disciplinary communities is beneficial?

- Did the **community react to the new internationalization** trend imposed by ANVUR in 2010 by modifying certain patterns?
  - Did certain **specific communities adapt better** than others, and did initial conditions of those specific communities matter (e.g., were those communities already more internationalized before 2010 also those one which reacted better and were even more internationalized later?)

Method and Data

Data (Administrative data)

- Coauthorship as a measure of research collaboration

- **administrative list of all Italian sociologists** including faculty members (1029 in total) and Postdocs (198 in total) from MIUR website

  - Seniority (rank in university professors' rankings like Assistant professor, Associate professor, and Full professor)

  - Sociology areas (ANVUR categories)

  - Gender

  - Affiliation

  - Department

  - Last and first names

Data (Scopus and Google scholar)

- R script to interact with Google scholar and Scopus APIs and extract author publications data (July 27th 2016 – mid-August)

- Search in web interface of both databases

- **Download Scopus csv** files of publications data (September 8th – 15th 2016)

- 4 Italian native speakers (PhD student, postdoc and professor) help with searching names

- **All publication records of each sociologist**, Scopus numeric ID, h-index

- R packages used: **base, dplyr, igraph, ggvis**

Indexes built or extracted

- **Productivity** index (total pub / months of publishing); control for age

- **Internationalization** index (extracted affiliation and country names, then n.o. of non-Italian authors / n.o. of total authors of paper)

- **Mean coauthors** index (average coauthors for all publications)

- **Type of documents** produced by each scientist (article, review, book, chapter, …)

- Publication **language**

- Publication **impact** index (number of citations per record for each scientist)

- **Six different sub-communities**, i.e., Sociology, Sociology of culture and communication, Economic sociology, Environmental sociology, Political sociology, and Sociology of law and social change

Coauthorship network indexes

- To examine how scientists managed coauthorship strategies throughout their scientific career

- Multiple ties for repeated coauthorship

- Loop for solo written papers

- Network analysis indexes
  - ➢ Structural holes and clustering coefficient (e.g. transitivity)
  - ➢ Density of graph
  - ➢ number of triangles
  - ➢ Degree and betweenness centralization
  - ➢ Kcore
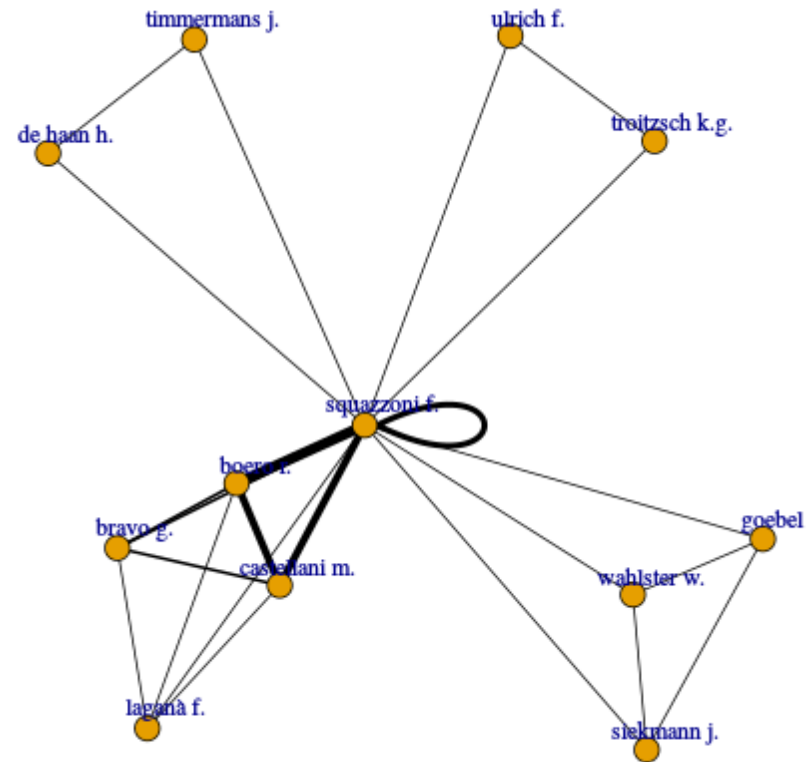
Results

Faculty members

Scopus profile

	with profile	without profile
men	67	33
women	66	34

Google Scholar profile

	with profile	without profile
men	24.23	75.77
women	15.58	84.42

■ men ■ women
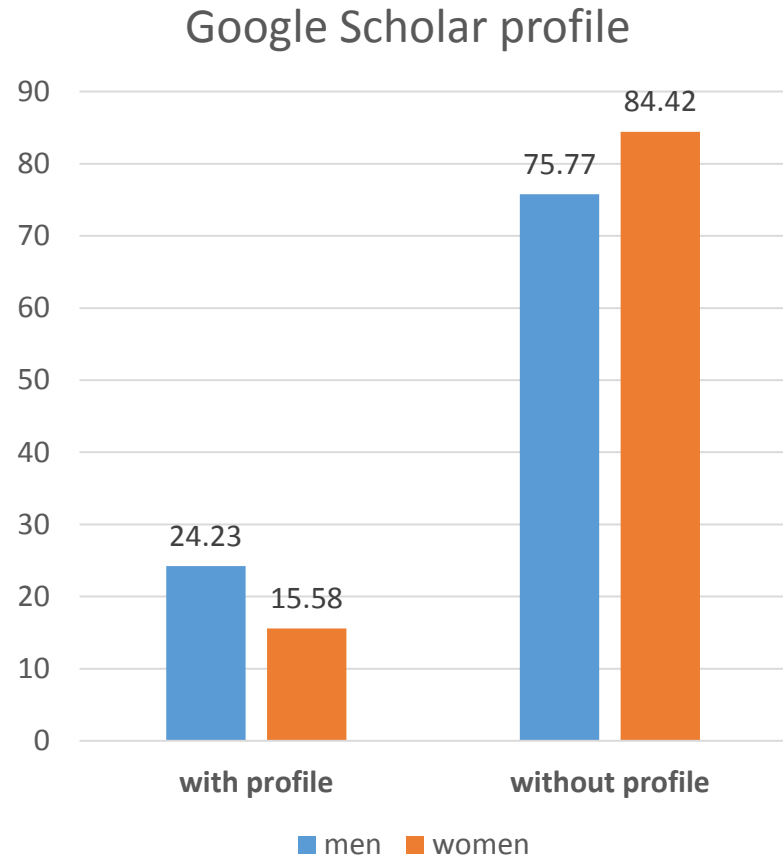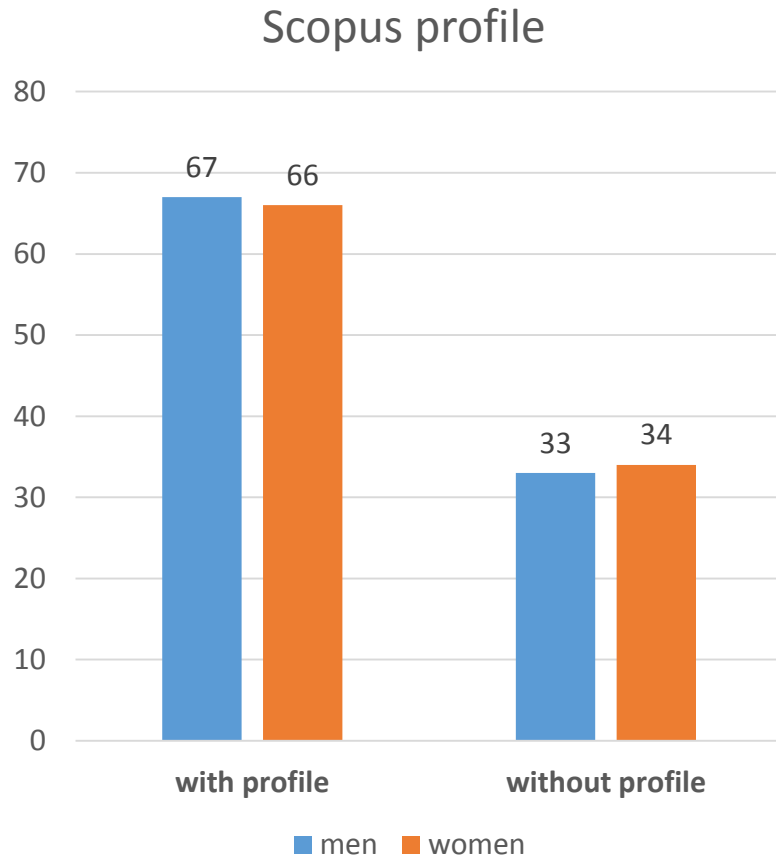
- Only **67** % have Scopus profile (at least one publication in indexed journals, book or book chapter, conference proceeding, etc.) **33** % no profile

- Scopus profile coverage of male and female sociologists are close (67% & 66%)

Academic levels coverage in Scopus data
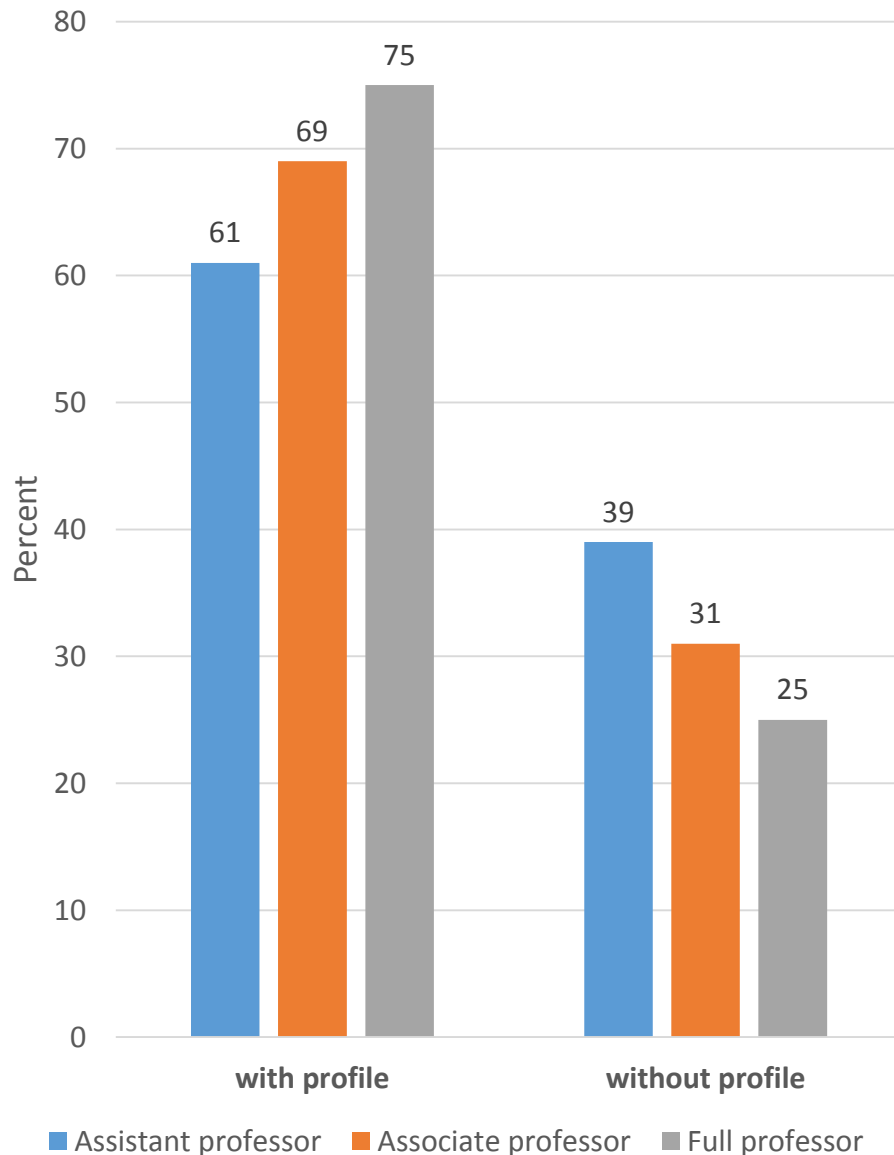
Level	Freq With Scopus profile	Freq Without Scopus profile
Assistant professor	303	190
Associate professor	226	102
Full professor	157	51
Total	**686**	**343**

Sub-communities of Sociology
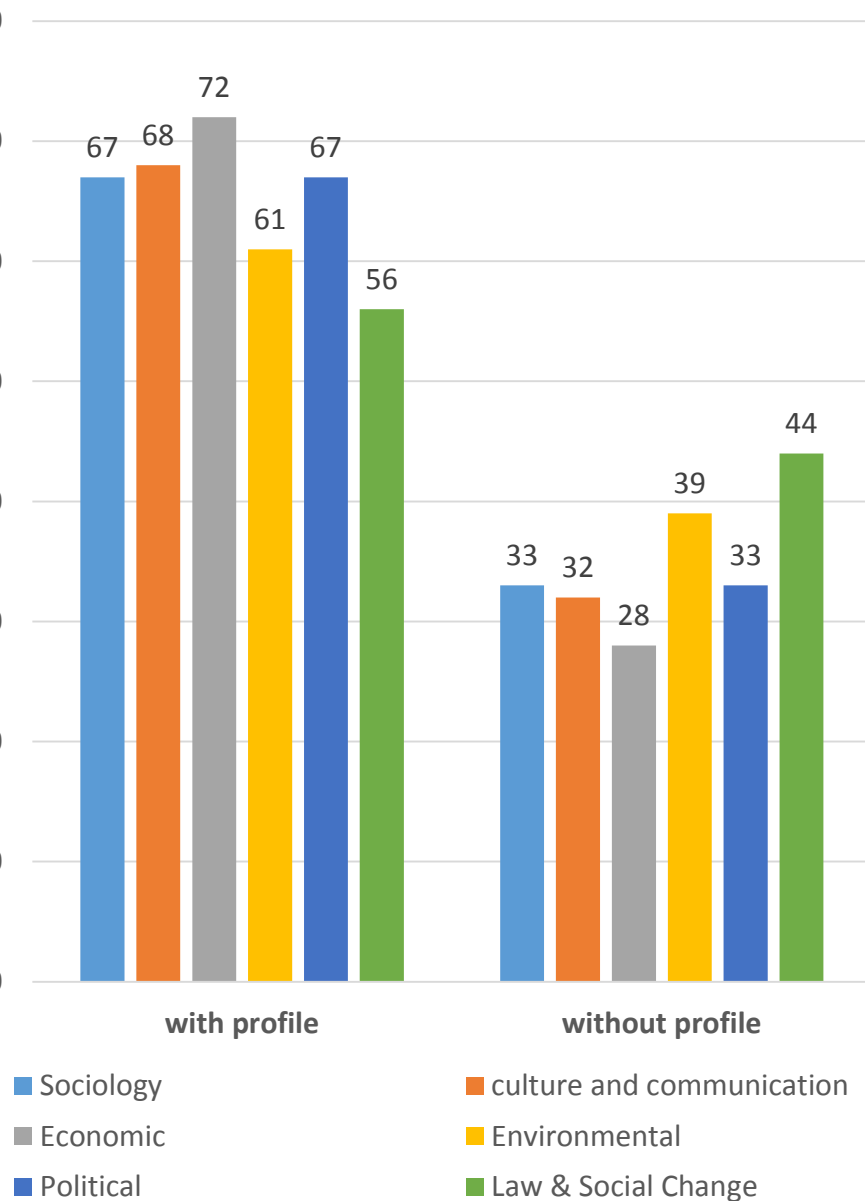
Name of sociological area	Freq With Scopus profile	Freq Without Scopus profile
Sociology	264	131
Sociology of culture and communication	210	100
Economic sociology	103	41
Environmental sociology	43	28
Political sociology	32	16
Sociology of law and social change	34	27
Total	686	343

Legend:
- Sociology
- culture and communication
- Economic
- Environmental
- Political
- Law & Social Change

Postdocs

Profile status	Frequency	Percent
With Scopus profile	109	55.05
Without Scopus profile	89	44.95
Total	198	100

Profile status	Frequency	Percent
With Gscholar profile	31	15.66
Without Gscholar profile	167	84.34
Total	198	100

20 most **prolific** & 20 most **cited** sociologists in our sample (Scopus)

Name	Group	pubs	Name	Group	citations
FORTUNATI-Leopoldina	SPS/08	69	MACMILLAN-Ian Ross	SPS/07	1155
SQUAZZONI-Flaminio	SPS/09	49	NIERO-Mauro	SPS/07	1012
DONATI-Pierpaolo	SPS/08	36	CARDANO-Mario	SPS/07	917
DIANI-Mario	SPS/07	35	DIANI-Mario	SPS/07	599
PAVOLINI-Emmanuele	SPS/09	35	PELLIZZONI-Luigi	SPS/10	572
ARVIDSSON-Adam Erik	SPS/08	31	POGGIO-Barbara	SPS/09	513
MANCINI-Paolo	SPS/08	30	CATALANO-Gilda	SPS/10	501
BOCCAGNI-Paolo	SPS/07	28	ARVIDSSON-Adam Erik	SPS/08	485
BUCCHI-Massimiano	SPS/07	28	MAZZOLENI-Gianpietro	SPS/08	473
NIERO-Mauro	SPS/07	28	SQUAZZONI-Flaminio	SPS/09	346
BRIGHENTI-Andrea	SPS/08	27	SCHERER-Stefani	SPS/07	344
AMBROSINI-Maurizio	SPS/10	26	ODELLA-Francesca	SPS/07	337
BIXIO-Andrea	SPS/08	26	FORTUNATI-Leopoldina	SPS/08	272
PELLIZZONI-Luigi	SPS/10	25	BRIGHENTI-Andrea	SPS/08	261
BALLARINO-Gabriele	SPS/09	24	ALBERTINI-Marco	SPS/09	258
BARALDI-Claudio	SPS/08	24	SCIORTINO-Giuseppe	SPS/07	251
CALDERONI-Francesco	SPS/12	23	MINGIONE-Terenzio Roberto	SPS/07	232
RUZZA-Carlo	SPS/11	23	BUCCHI-Massimiano	SPS/07	214
MACMILLAN-Ian Ross	SPS/07	22	DA ROIT-Barbara	SPS/09	197
SCIORTINO-Giuseppe	SPS/07	22	PAVOLINI-Emmanuele	SPS/09	168

- **This is based on number of records (publications) indexed on Scopus**

Changes in Internationalization score
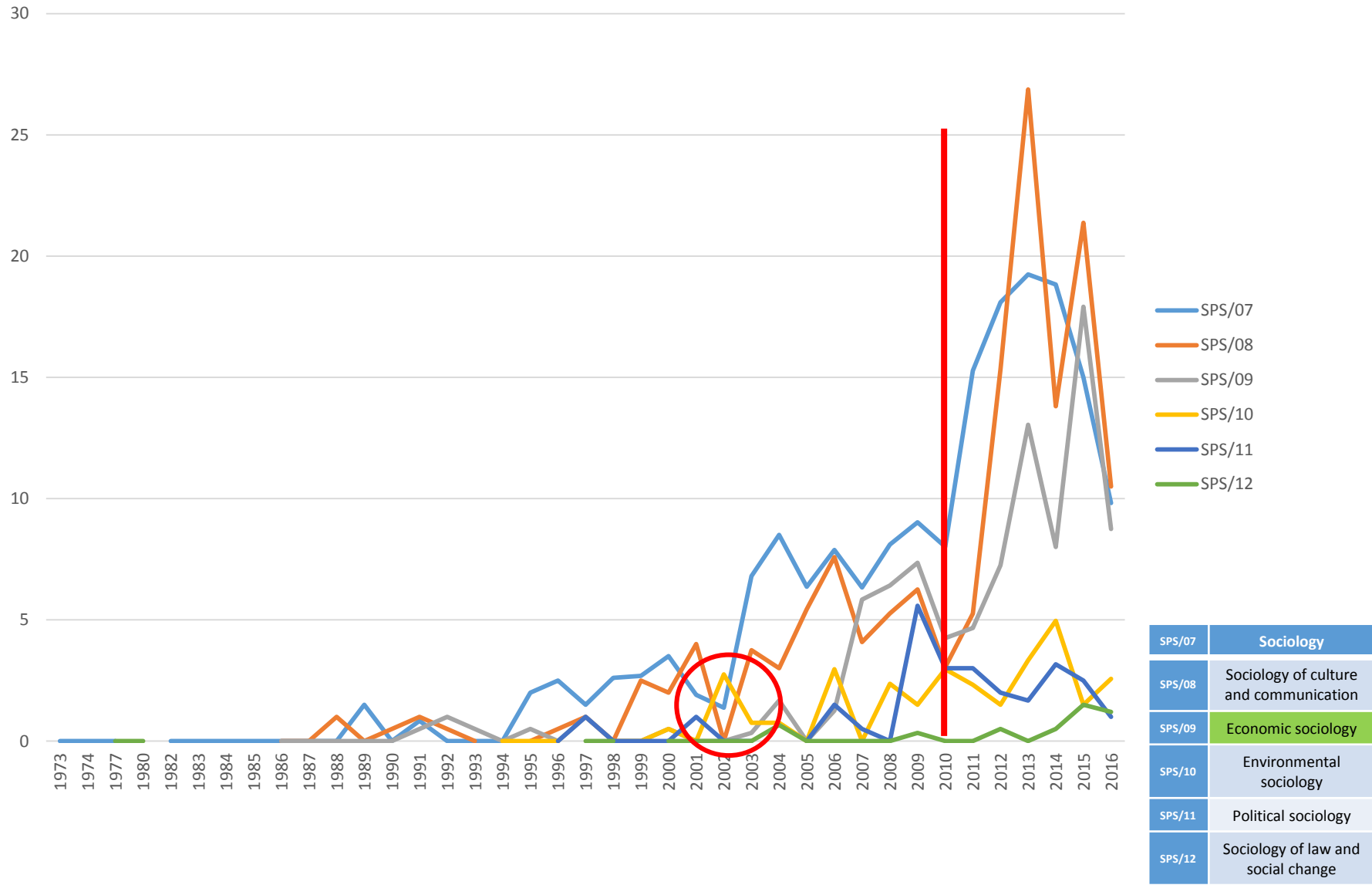
SPS/07	**Sociology**
SPS/08	Sociology of culture and communication
SPS/09	Economic sociology
SPS/10	Environmental sociology
SPS/11	Political sociology
SPS/12	Sociology of law and social change

Changes in Internationalization score
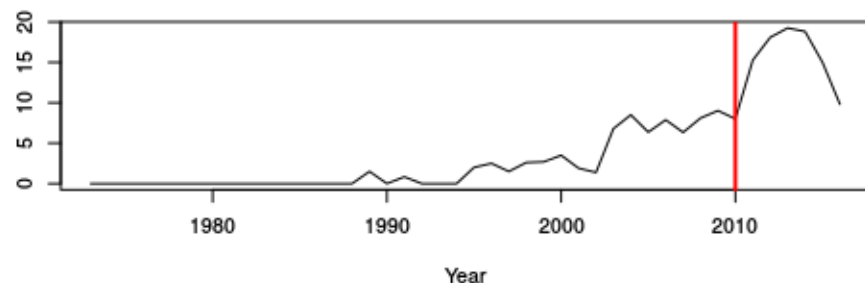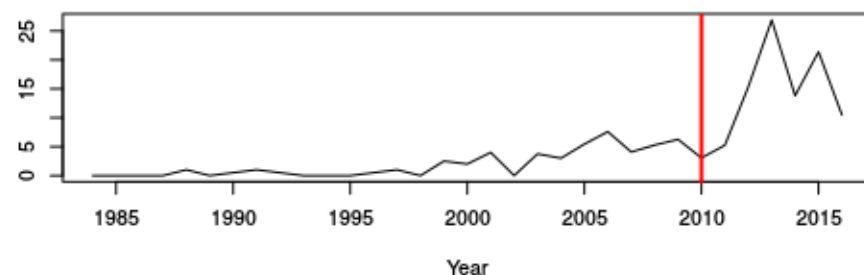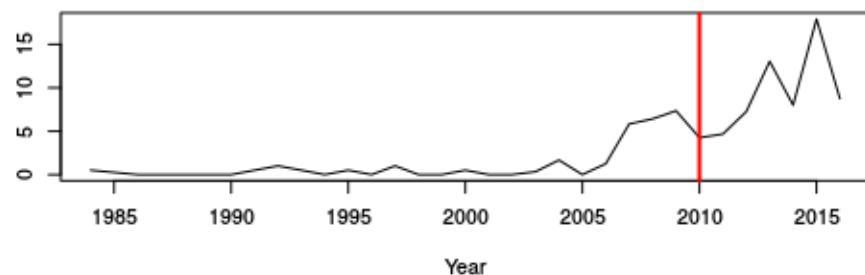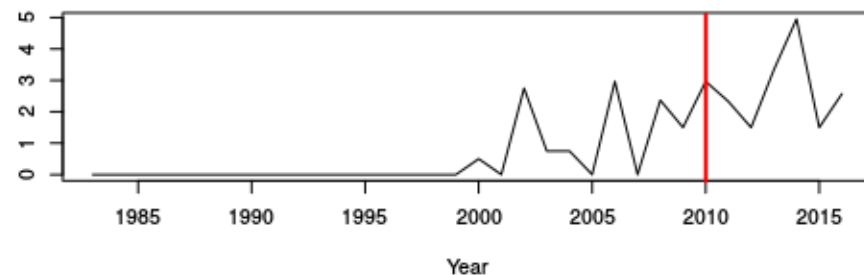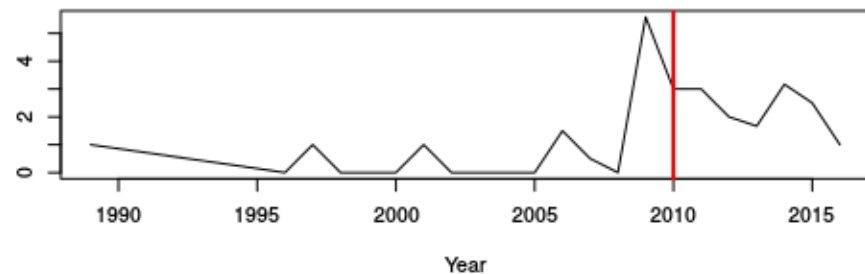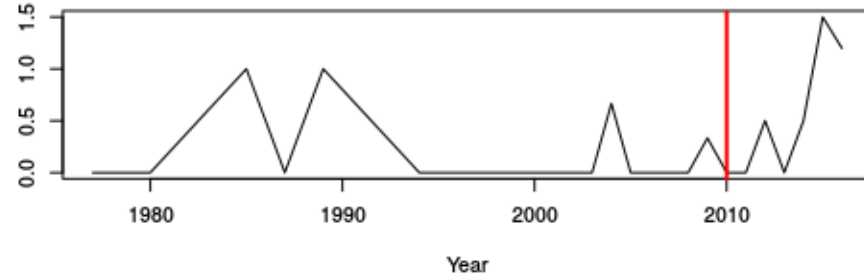
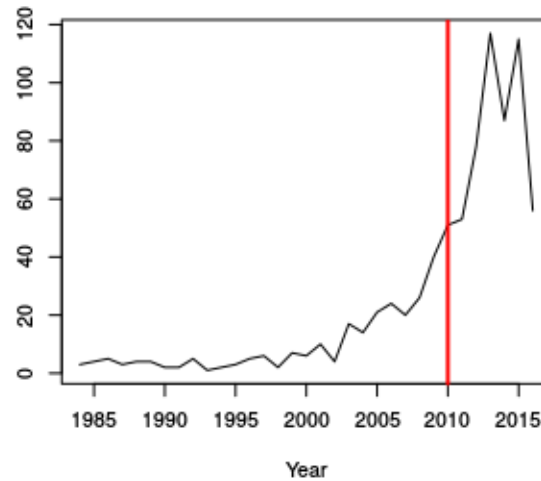|	
SPS/07	Sociology
SPS/08	Sociology of culture and communication
SPS/09	Economic sociology
SPS/10	Environmental sociology
SPS/11	Political sociology
SPS/12	Sociology of law and social change

Changes in number of coauthors

n.o. Coauthors of SPS/07
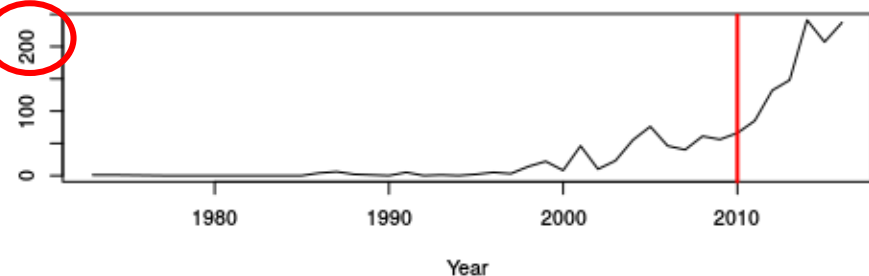
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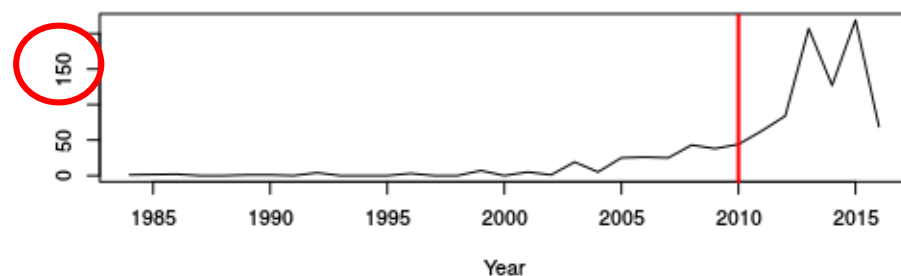
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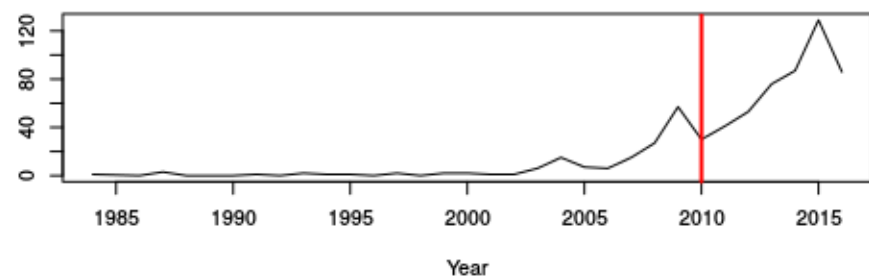
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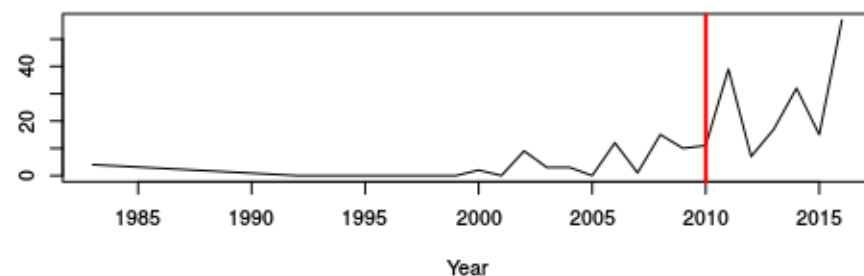
n.o. Coauthors of SPS/11
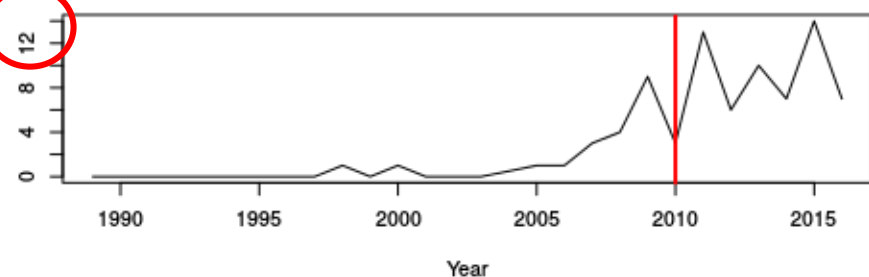
n.o. Coauthors of SPS/12
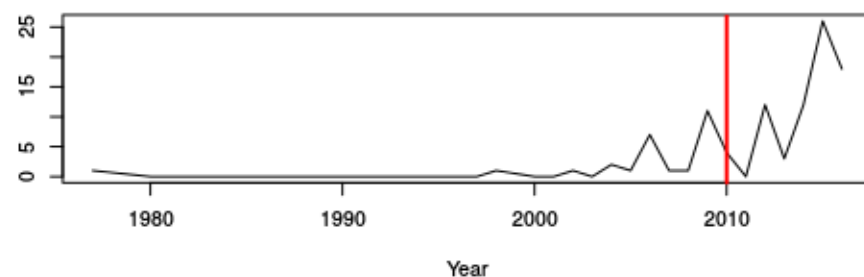
Languages of publications

journal name	Freq of pubs
Sociologia	243
International Review of Sociology	68
Rassegna Italiana di Sociologia	64
Salute e Societa	55
Studi Emigrazione	38
Stato e Mercato	35
Quality and Quantity	31
Italian Sociological Review	29
European Societies	26
European Sociological Review	25
Sociologica	25
Journal of Modern Italian Studies	22
Etnografia e Ricerca Qualitativa	19
European Journal of Social Work	19
European Journal of Communication	18
Polis (Italy)	18
Current Sociology	17
Lecture Notes in Computer Science	17
South European Society and Politics	17
Total published papers in above 20	**786**
Percent of total publications	**24.43**

Pie chart — Languages:
- English 79.30%
- Italian 17.94%
- French 1.77%
- 0.37%
- 0.22%
- 0.19%
- 0.09%
- 0.03%
- 0.03%
- 0.03%
- 0.03%

Legend: English, Italian, French, Spanish, Slovak, Portuguese, German, Hungarian, Spanish, Croatian, Dutch
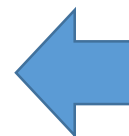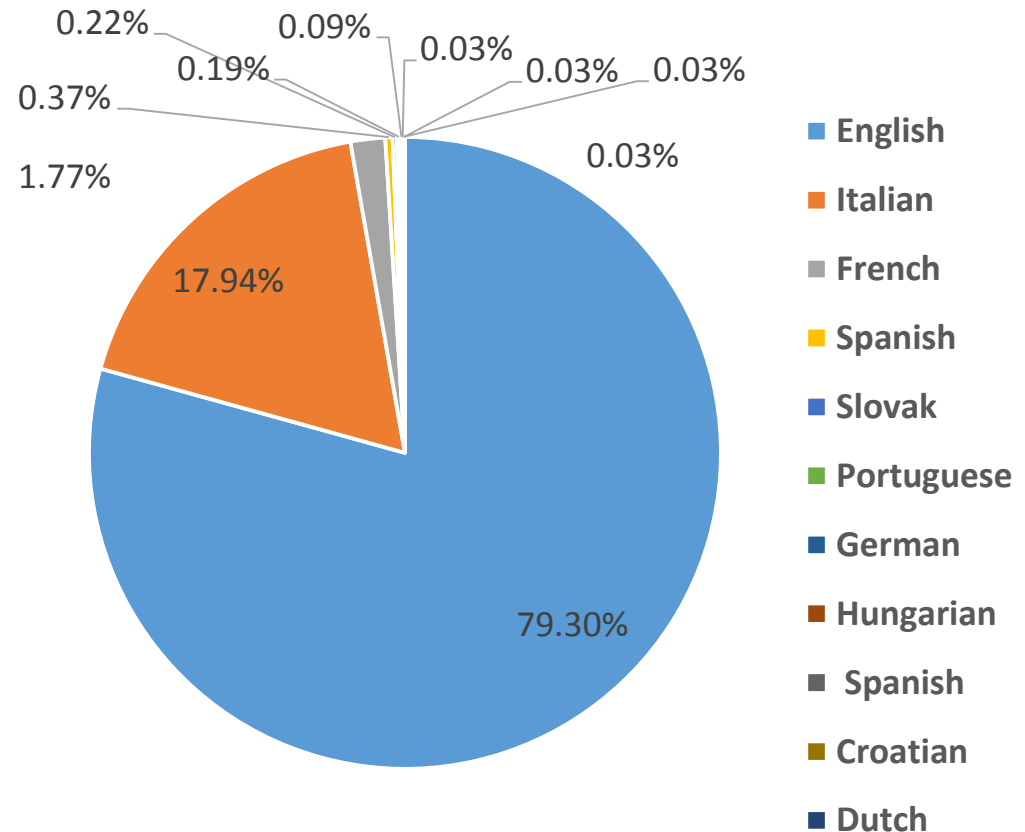
- **20 first journals with highest papers in our sample**

Number of English publications
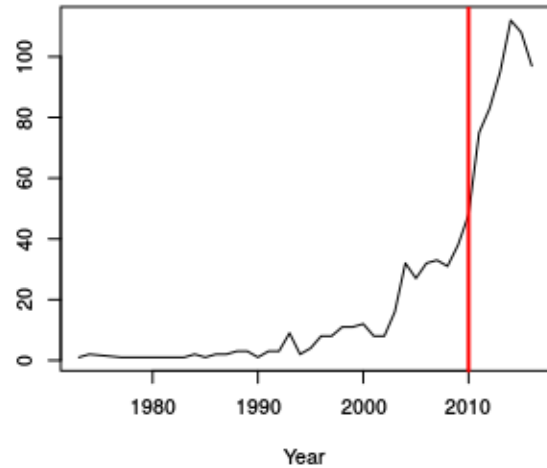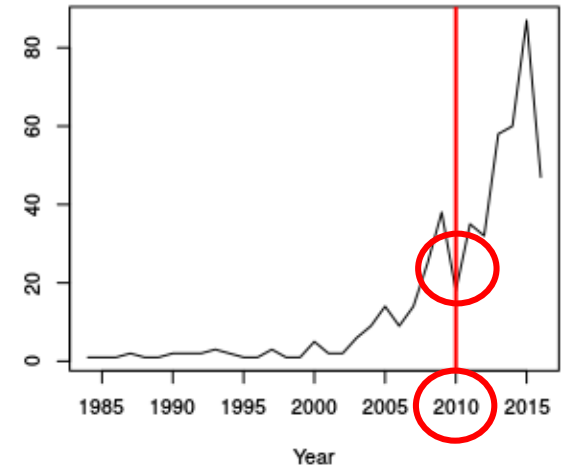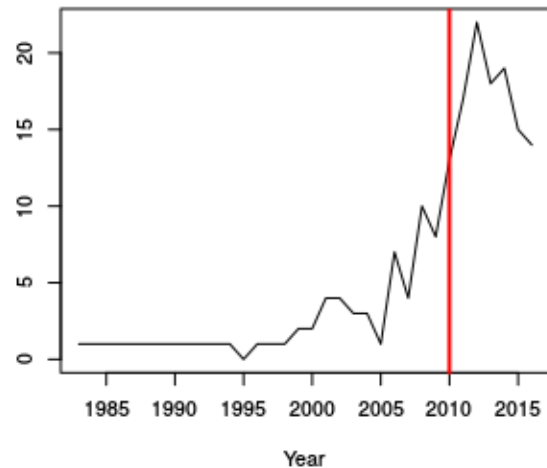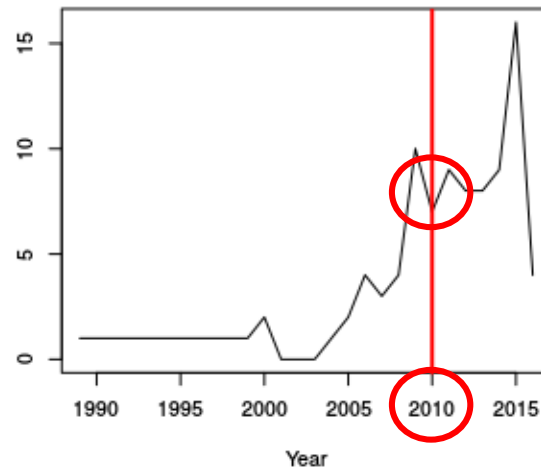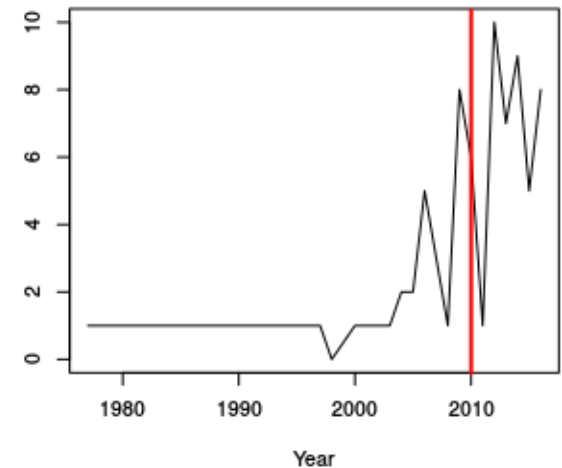
SPS/07	**Sociology**
SPS/08	Sociology of culture and communication
SPS/09	Economic sociology
SPS/10	Environmental sociology
SPS/11	Political sociology
SPS/12	Sociology of law and social change

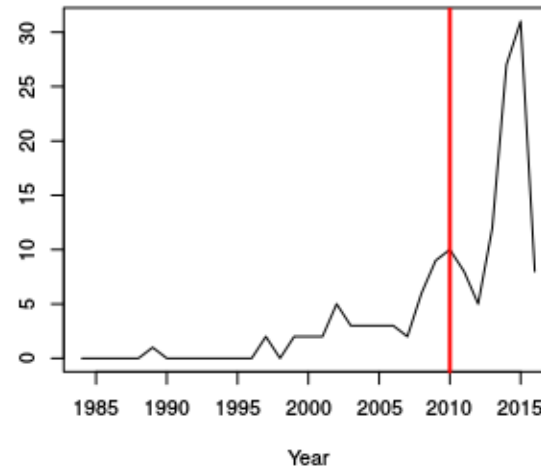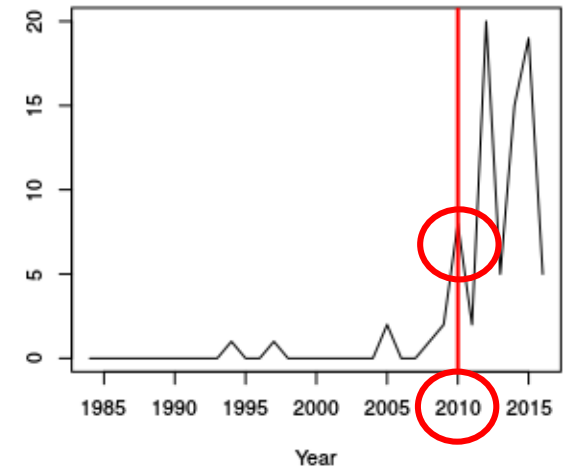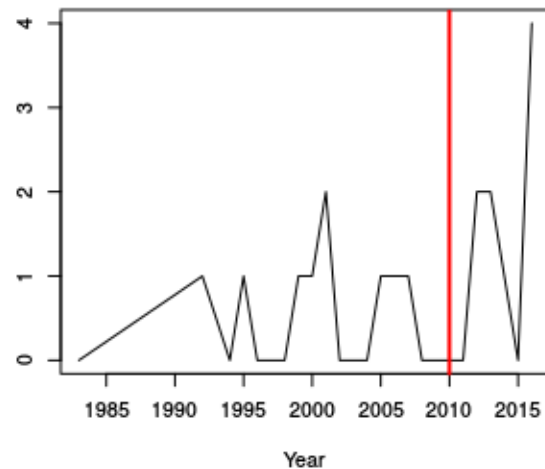# Number of Italian publications
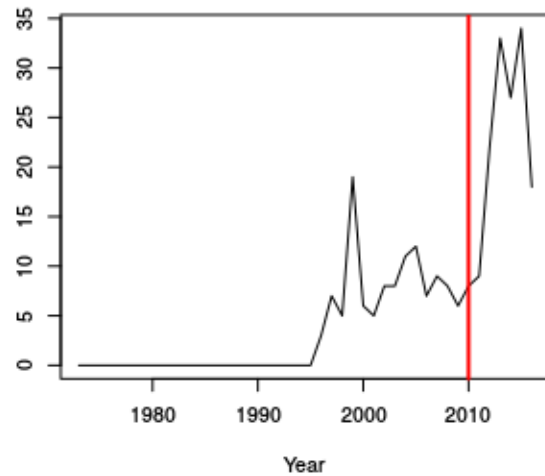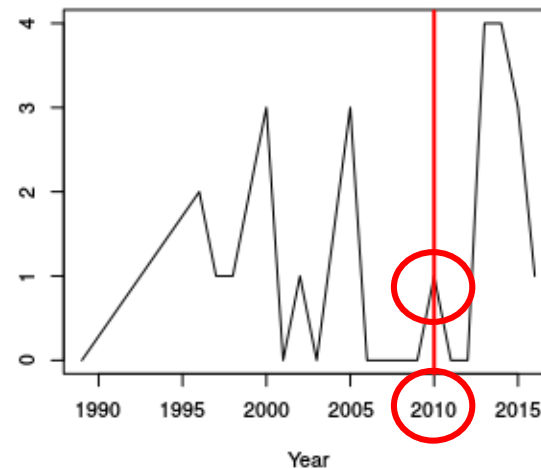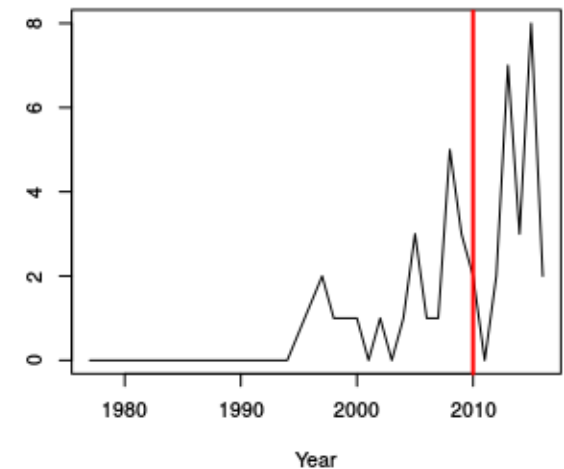
Means of publications Italian sociologists use

Type of publication on Scopus in %
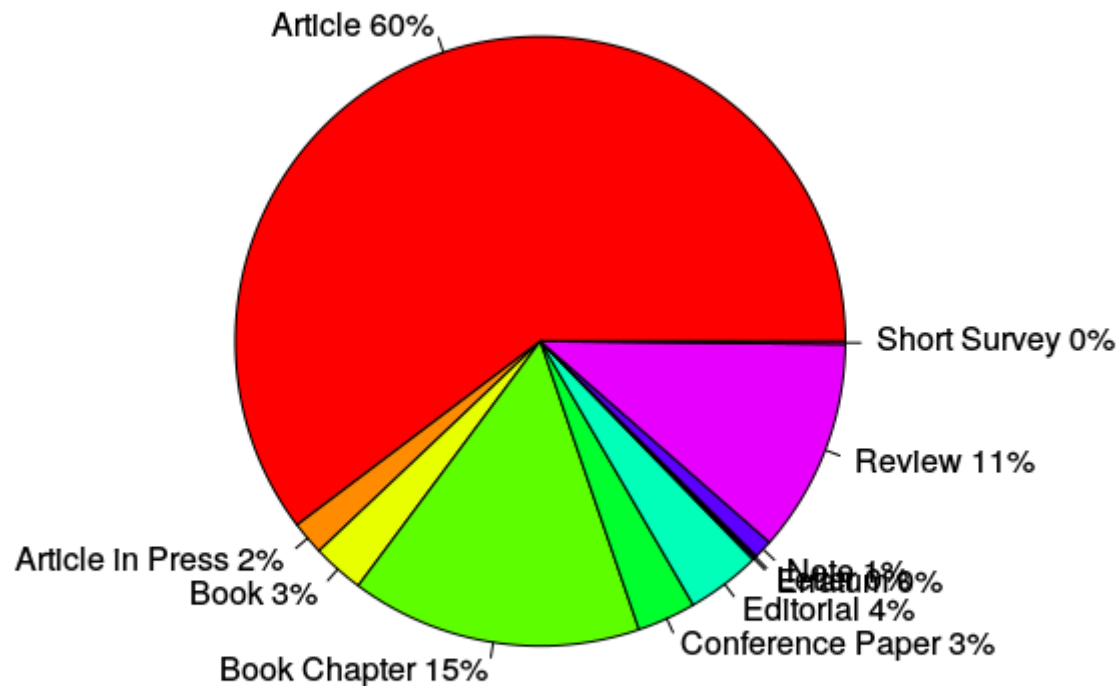
- Article 60%
- Short Survey 0%
- Review 11%
- Note 1%
- Erratum 0%
- Editorial 4%
- Conference Paper 3%
- Book Chapter 15%
- Book 3%
- Article In Press 2%

Number of Articles published
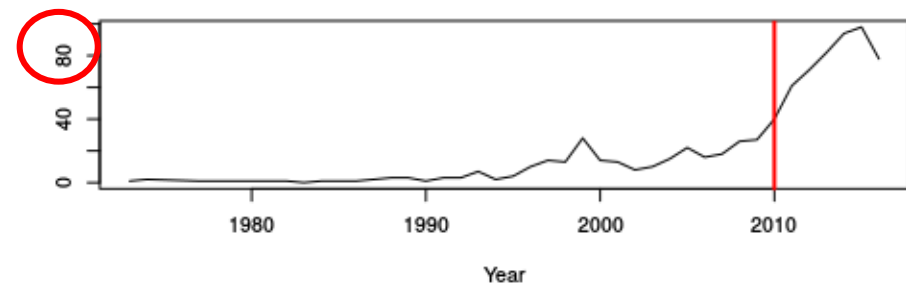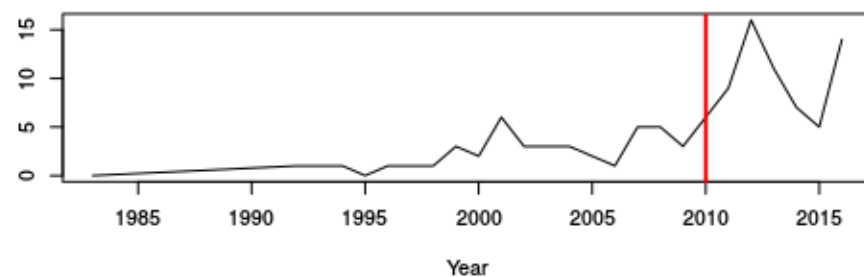
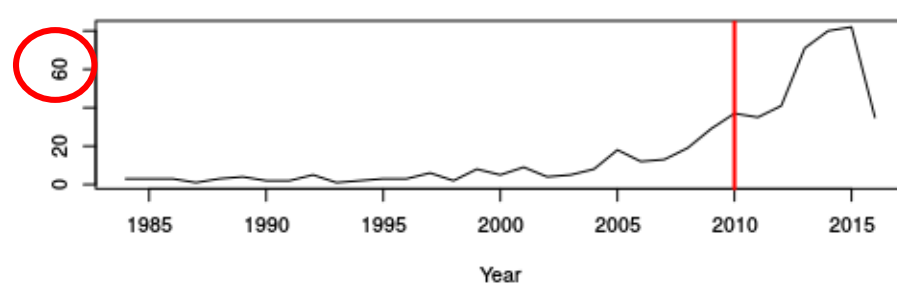|	
SPS/07	Sociology
SPS/08	Sociology of culture and communication
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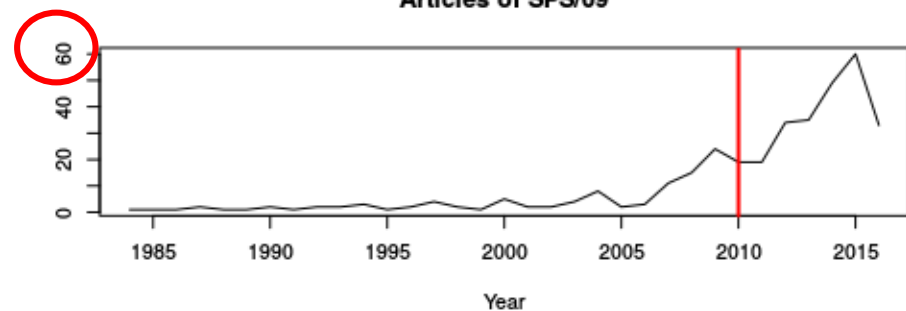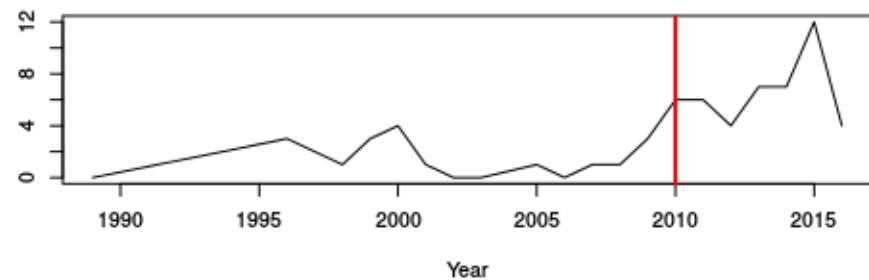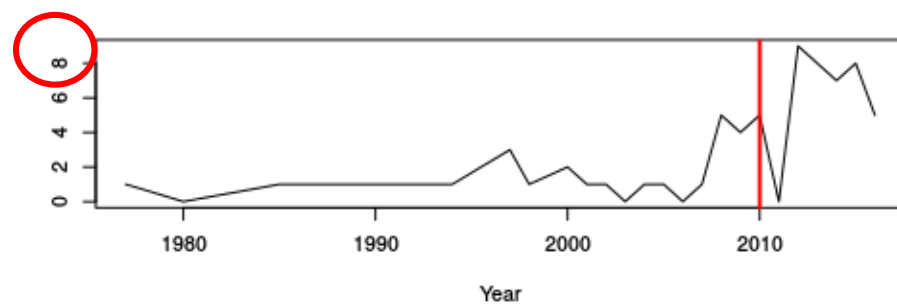| SPS/07 | Sociology |
SPS/08	Sociology of culture and communication
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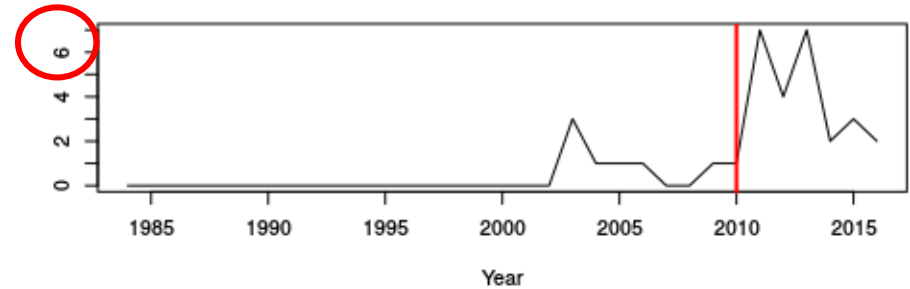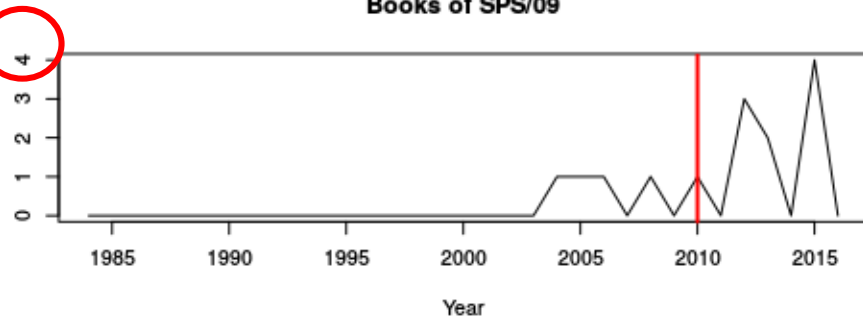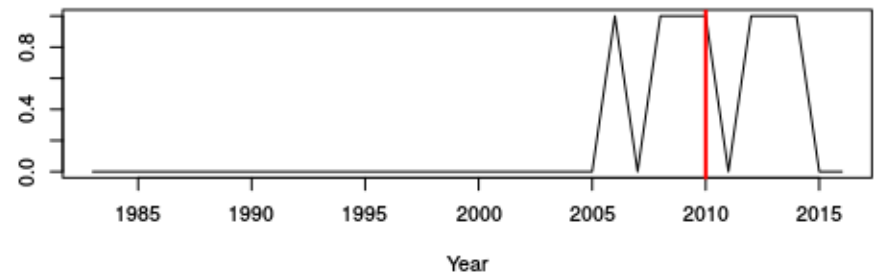# Number of Books published

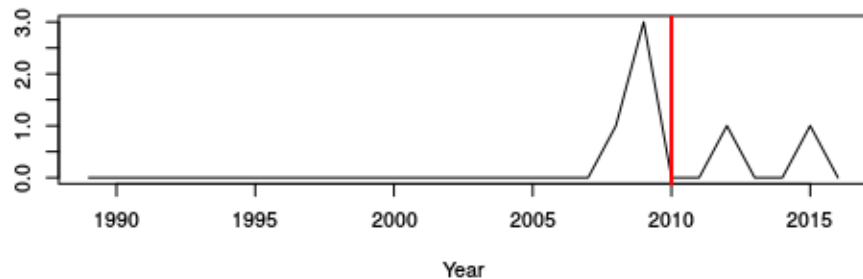Books of SPS/07
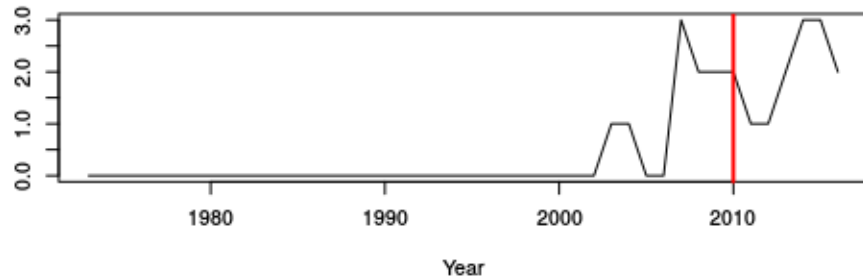
Books of SPS/08

Books of SPS/09

Books of SPS/10

Books of SPS/11

Books of SPS/12
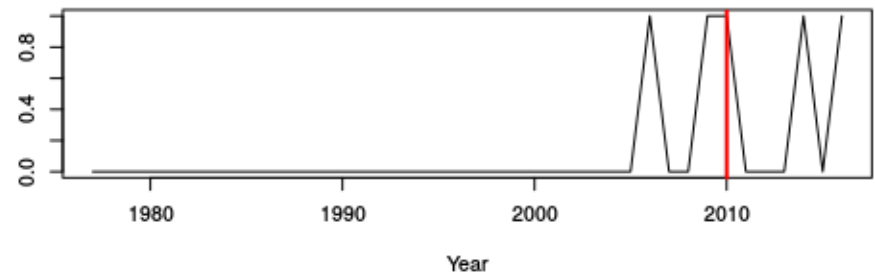
Coauthorship networks change

n.o	level	S.S.D.	be.density	af.density	be.clusteringC	af.clusteringC
1	assistant professor	Sociology	0.98	0.92	0.81	0.64
2	assistant professor	Sociology of culture and communication	1.10	1.02	0.84	0.74
3	assistant professor	Economic sociology	1.00	0.91	0.83	0.54
4	assistant professor	Environmental sociology	0.90	0.89	0.50	0.64
5	assistant professor	Political sociology	1.00	1.13	1.00	0.63
6	assistant professor	Sociology of law and social change	1.12	1.06	0.50	0.87
7	associate professor	Sociology	1.26	1.06	0.67	0.72
8	associate professor	Sociology of culture and communication	1.23	0.92	0.74	0.63
9	associate professor	Economic sociology	0.99	0.81	0.72	0.49
10	associate professor	Environmental sociology	1.14	0.97	0.51	0.69
11	associate professor	Political sociology	1.67	1.10	-	0.20
12	associate professor	Sociology of law and social change	1.06	0.83	1.00	0.87
13	full professor	Sociology	0.90	0.94	0.52	0.60
14	full professor	Sociology of culture and communication	1.17	0.99	0.70	0.56
15	full professor	Economic sociology	1.02	1.15	0.49	0.44
16	full professor	Environmental sociology	1.29	1.01	0.90	0.71
17	full professor	Political sociology	0.70	0.98	0.41	0.38
18	full professor	Sociology of law and social change	1.27	0.97	1.00	0.93

Sample Coauthorship network structures of 2 most prolific authors

FORTUNATI-Leopoldina before 2010
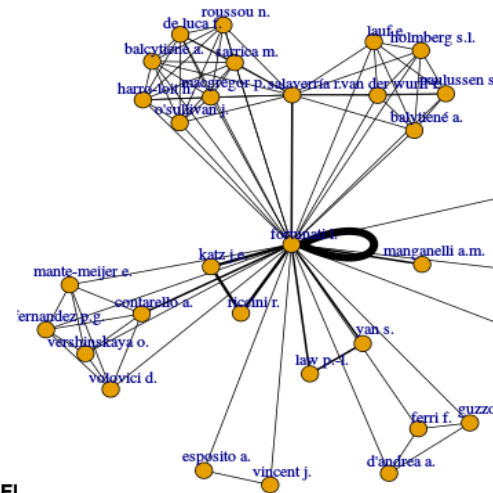
FORTUNATI-Leopoldina after 2010
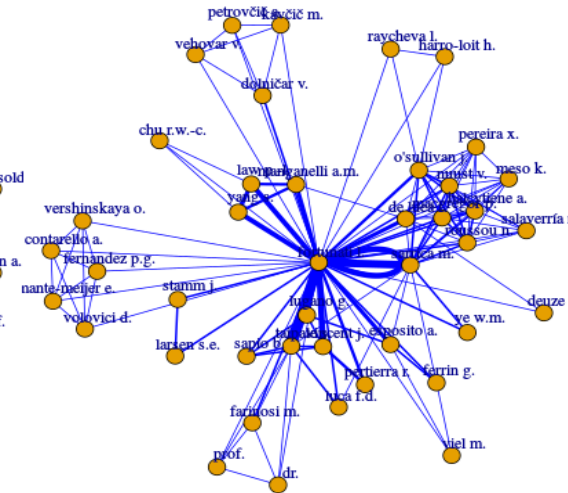
SQUAZZONI-Flaminio before 2010
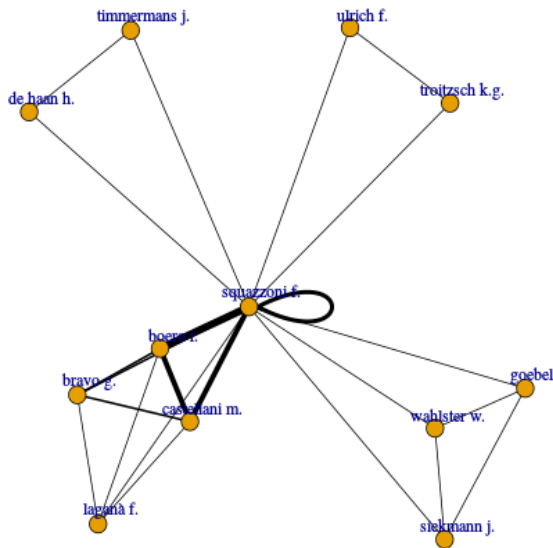
SQUAZZONI-Fl
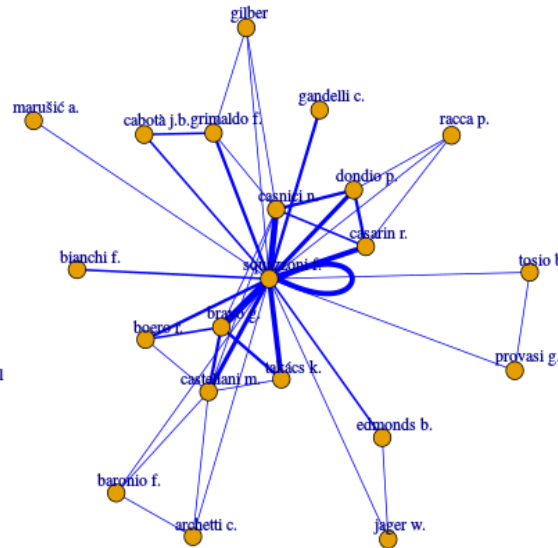
just a first snapshot, will be more insightful after ERGM

Conclusions

Conclusions

- Somehow similar coverage of Scopus data between men and women

- Highest coverage of Scopus on full professors

- Highest coverage of Scopus on Economic sociologists

- Differences in internationalization trends and not purely average increase as expected (based on literature)

- Differences in number of coauthors trends and not purely average increase as expected (based on literature)

- Differences in increase in English publications

- Huge differences in Italian publications trends

Conclusions

- General **increase** of article production although with some differences across communities

- Preference for books is different across communities (higher in political and economic and general rather than others)

- Density generally decreases (4 exceptions); This would indicate that sociologists developed less cohesion and cohesive subgroups

- Clustering coefficient generally decreased (confirming above) with exception of 5 groups; it shows sociologists in our sample, generally, are increasingly bridging between people who don't know or work with each other

- Differences in scientists individual strategies to manage their coauthorship networks that needs further investigation

- Macro view on community (graph of all Italian sociologists, in case there is time)

Timetable of research and other paper ideas

- **1st paper**
  - Evaluating how Italian sociologists reacted to ANVUR initiative
  - Literature review Data gathering (late July 2016-October 2016); Finalize report and submit (November 2016)

- **2nd paper**
  - Evolution of Italian sociologists community from beginning so far
  - January – March 2017

- **3rd paper**
  - Explanative view toward coauthorship networks, and answering why questions for observed trends (ERGM with contextual factors)
  - Simulation (ABM) with aim of projecting observed evolution of community to near future
  - April 2017 onwards

- Finalizing thesis report (putting pieces together; monograph / collection of papers)
  - 2018

Many thanks for your attention

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Example of Scopus feedback service

Dear customer, Thank you for contacting Scopus Author Feedback. This is an automated acknowledgement to confirm that we have successfully received your request for an amendment to the specified author profile. For all future correspondence regarding this request, please quote your unique reference number provided in the subject header of this email. Please be advised that it may take up to seven days before your requested changes appear online. We appreciate your patience in this matter. If we require further information about your inquiry, we will contact you at the email address provided within two working days. If the information you have provided is sufficient and allows us to process your request, we will only contact you upon completion. To learn more about the Scopus author
profiles, citation counting and our content policy, please visit our help files at http://help.elsevier.com/app/answers/list/p/8150/ (http://help.elsevier.com/app/answers/list/p/8150/)   Kind regards, The Scopus Feedback Team

Thank you for contacting Scopus.

I have reviewed your author profile request and not able to process the changes.

Upon investigation I noticed that different author IDs belonging to different authors are selected to merge.

For this reason it has failed the validation and the request is cancelled.

Could you please recheck the corrections and submit a valid request.

Please let me know if you have any questions, I will be happy to assist to you further.

Kind regards,

Nikitha DEv

The Scopus Feedback Team

Dear

thank you so much for your reply, but I still do not know how to solve the situation.
It is quite clear that many publications of mine have been assigned to another   , the fact is
that I don't know how to isolate them, since it seems that I do not have a scopus ID (despite I have many
publications and citations on scopus indexed journal)...

To sum up, I am:

Scopus
EXPORT DATE:22 Sep 2016

   Thank you for your feedback.

   Please note, I have processed the correction to remove your article from the author profile Id "22333280600".
   Once the article is removed a new author profile ID will be created for your article.

   I kindly request to wait for seven days for the correction to appear online in Scopus database. I appreciate
   your patience in this matter.

   Should you have further requests, please do not hesitate to contact us via the customer forms at
   http://elsevier6.custhelp.com/app/ask_scopus/p/8150 (http://elsevier6.custhelp.com/app/ask_scopus/p/8150)

   Kind regards,

   Nikitha DEv

   The Scopus Feedback Team

2 points of view to co-authorships

- **Choosing some journals and following all papers** published in them to see co-authorships (can be called sociocentric and complete network view)

- **Choosing some scholars, and following all their papers** and publications in different journals to see co-authorships (can be called ego-centric view)

  - Consider scholar like "**network manager**" type in **Burt's** terms, someone who decides and manages his scientific collaborations through time (**like a stochastic actor oriented model assumption**)

- How you define your nodes and ties, changes the way you are capturing the network and model the social phenomenon under study …

  - Revisiting the Foundations of Network Analysis, Carter T. Butts, Science 325 , 414 (2009)

Summary, Empirical and policy implications (1/2)

- I hope to understand the individual strategies in scientific collaborations; efficient strategies to suggest to others

- I hope to find ways to decrease the expenses in economy of science like university and research expenses through suggesting more fruitful strategies of collaboration

- tracing the strategic use of social capital by scholars for career in a competitive manner

- Better understanding of the interplay of collaboration and competitive pressures in the scientific community and their evolution

Summary, Empirical and policy implications (2/2)

- An economic sociology approach to **science** that looks at strategic, economic motivations and social norms and consider context-specific factors (e.g., disciplinary fields)

- How institutes can improve research initiatives and motivate scholars

- Where to publish, to get more noticed and build better collaborations in future

- Students, where to apply, where to affiliate, who to work with (personality and strategies); (**online laboratory, give your past, know your future**)

- Is it the university and department that matters, or individual initiative …

- Maybe better evaluation indexes for universities, departments, fields …