Course Goals and content

The goal of the course is to gain a thorough understanding of the analysis of economic networks. We will discuss theoretical concepts such as the measurement and mathematical characterization of networks but also practical issues such as the storage, organization and visualization of network data. Moreover, we will envisage what networks imply for effects analysis in economic models. Also for the latter, the course will cover theoretical aspects and practical (implementation) issues.

Lecturer

Prof. Peter Egger is professor of economics at ETH Zurich (egger@kof.ethz.ch). His research focus is on applied and theoretical panel econometrics (time-invariant variables, long- and short-run estimates, spatial econometrics), applied and theoretical international and regional economics (outsourcing, multinational firms, trade volumes; economic integration, new economic geography), industrial organization and multinational firms.

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Organization of the lecture

Day 1: Introduction to economic networks (Jackson Ch. 1); Representation and measurement of networks in general (Jackson Ch. 2 and empirical implementation/examples)

Day 2: Representation and measurement of networks continued (Jackson Ch. 2 and empirical implementation/examples); Managing and visualizing network data (Robinson, Webber, Efém and empirical examples)

Day 3: Managing and visualizing network data (Robinson, Webber, Efém and empirical examples); Random networks and network formation (Jackson parts of Ch. 4-6)

Day 4: Effects of networks in cross-sections of data (Kelejian and Prucha, 1999, and STATA implementations); Effects of multiplex networks (Badinger and Egger, 2011, and STATA implementations); Network effects in structural systems of equations (Drukker, Egger, and Prucha, 2018, and STATA implementation)

Day 5: Effects of endogenous networks; Network effects in panel data (Badinger and Egger, 2015)

Class participation (10%); referee report (take-home exam, 90%). Participants taking this course for credit must attend all lectures and complete the take-home exam.

Bibliography

Networks in general
- Robinson, Ian, Jim Webber, and Emil Efrém, Graph Databases, 2nd edition. Free online book

Network effects

Organization

The course is intended for PhD students. A limited number of people with relevant professional or academic interest may be also admitted.

Lecture hours: 25 ECTS: 4

Timetable and Registration

The course takes place from Monday to Friday from 9.30 to 12.00 and from 13.30 to 16.00 in the Anna Nussbaum at the World Trade Institute, University of Bern, Hallerstrasse 6, 3012 Bern.

This is an intensive course. Please try to complete (some) of the readings already before the course-week starts.

Tuition fee: 500 CHF.

Tuition waivers available

Available course outlines and reading material can be found under the course listing on the Doctoral Programme webpage.

https://www.wti.org/education/doctoral-programme#open-71871-phd-summer-school-2019

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