Applied economics and econometrics of social networks

Syllabus

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Course's objective

The analysis of network data by applied economists and the econometric analysis of network models are two fast-growing, related subfields of the economics of networks. The objective of the course is to provide an overview of these two fields and to present selected topics of current research.

Outline

Lecture 1: An overview of econometric models of peer effects in networks and of econometric models of network formation

Linear-in-means model of peer effects in networks. The reflection problem. Correlated effects and various strategies to address it. Joint models of peer effects and network formation. Models of network formation: dyadic models, dyadic models with individual fixed effects, models of strategic network formation. Structural approaches.

Lecture 2: Peer effects in networks and binary outcomes.

Basic facts on the econometrics of binary outcomes. Binary outcomes and interactions: classical approaches under complete and incomplete information. Models of linear interactions and binary outcomes: statistical and microeconomic foundations.

Lecture 3: Networks and experimental manipulation 1/2

Peer group manipulation (experimental and quasi-experimental).

Lecture 4: Networks and experimental manipulation 2/2

Policy and exogenous shocks (experimental and quasi-experimental).

Course materials

Lectures' notes and other materials are available on AMeTICE.

References

Lecture 1.

Bramoullé, Y., Djebbari, H. and B. Fortin. "Peer effects in networks: a survey", *Annual Review of Economics,* 2020, 12: 603-629

Graham, B. "Network data", Chapter 2 in *Handbook of Econometrics* 7A (S. Durlauf, L. Hansen, J. Heckman & R. Matzkin, Eds.), 2020, 111-218.

Lecture 2.

De Paula, A. "Econometric analysis of games with multiple equilibria", *Annual Review of Economics,* 2013, 5(1): 107-131.

Bramoullé, Y. and V. Boucher. "Binary outcomes and linear interactions", *AMSE working paper*, 2021.

Lecture 3

Sacerdote B. 2001. Peer effects with random assignment: results for Dartmouth roommates. Q. J. Econ. 116:681–704.

Duflo E, Saez E. 2002. Participation and investment decisions in a retirement plan: the influence of colleagues'choices. J. Public Econ. 85:121–48.

Hanushek EA, Kain JF, Markman JM, Rivkin SG. 2003. Does peer ability affect student achievement? J. Appl. Econom. 18:527–44.

Carrell SE, Sacerdote BI,West JE. 2013. From natural variation to optimal policy? The importance of endogenous peer group formation. Econometrica 81:855–82.

Algan, Y., Dalvit, N., Do, Q. A., Le Chapelain, A., & Zenou, Y. (2019). "Friendship Networks and Political Opinions: A Natural Experiment among Future French Politicians". CEPR Discussion Papers 13771, C.E.P.R. Discussion Papers.

Breza E, Chandrasekhar AG. 2019. Social networks, reputation, and commitment: evidence from a savings monitors experiment. Econometrica 87:175–216.

Lecture 4

Duflo E, Saez E. 2002. Participation and investment decisions in a retirement plan: the influence of colleagues'choices. J. Public Econ. 85:121–48.

Dieye, Rokhaya and Djebbari, Habiba and Barrera-Osorio, Felipe, Accounting for Peer Effects in Treatment Response. IZA Discussion Paper No. 8340.

De Giorgi G, Frederiksen A, Pistaferri L. 2020. Consumption network effects. Rev. Econ. Stud. 87:130–63.

Nicoletti C, Salvanes KG, Tominey E. 2018. The family peer effect on mothers' labor supply. Am. Econ. J. Appl. Econ. 10:206–34.

Athey S, Eckles D, Imbens GW. 2018. Exact p-values for network interference. J. Am. Stat. Assoc. 113:230–40.

Grading

Students will be graded on the basis of a critical report they have to write on a paper of the literature.