Syllabus

CEMFI Short Course

Econometric Analysis of Social Networks

Course Description

This mini course provides a brief overview of selected methods for the econometric analysis of social and economic networks.

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Course Outline

1. Introduction to social networks and interactions
   (a) Overview and examples: Angrist (2013), Jackson (2013), De Weerdt (2004), Banerjee et al. (2013), Apicella et al. (2012)
   (b) Survey of statistics literature: Goldenberg, Zheng, Fienberg and Airoldi (2009)
   (c) Discrete math references: Bollobas (2013), Rosen (2006)
2. Describing networks:
   (a) Readings: Newman (2003, Sections 1-III), Jackson (2008, Chapter 2), Kolaczyk (2009, Chapters 1 - 4)
   (b) Topics: dyads, triads, degree distribution, transitivity, distance, centrality
3. Identification of peer effects
   (a) Readings: Manski (1993), Bramoulle, Djebbari and Fortin (2009), Blume, Brock, Durlauf, Jayaraman (2013).
   (b) Topics: network structure and the identification of peer spillovers
4. Identification of neighborhood effects
   (a) Readings: Benabou (1996), Card and Rothstein (2007)
   (b) Topics: cross-city research designs
5. Estimation and fit evaluation of very simple models of network formation

(a) Readings: Chatterjee, Diaconis and Sly (2011), Blitzstein and Diaconis (2011)

(b) Topics: MLE of the β-model, importance sampling from networks with fixed degree

6. Economic models of network formation

   (a) Readings: Bresnahan and Reiss (1991), Christakis, Fowler, Imbens and Kalyanaraman (2010)

References

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