Economics 245C  
Applied Econometrics  
Part I: Causal Inference with Non-Experimental Data

Course Overview and Objectives:

This two-part course in applied econometrics is part of the econometrics graduate sequence. The emphasis of the course is on topics in microeconometrics and empirical modeling tools used in current research. The objective is to familiarize the students with the econometric theory, data sets, and empirical methodologies used in applied microeconomics. A key focus of the course is the credible identification of economic parameters from non-experimental data. Structural methods are covered in the second part of the course (taught by Paulina Oliva).

The evaluation for the course will be based on two components. First, students are expected to complete a series of 2 applied problem sets (one for the part of 245c taught by Olivier Deschenes and one for the part of 245c taught by Paulina Oliva). Students must work individually on the problem sets. All problem sets must be handed in typed including a short write up of your answers to the questions, as well as clearly labeled “do” and “log” files for your programs. Late problem sets will not be graded.

Second, students will present original research proposals, with focus on the significance of the economic question, the research design and methods, and the possible data sources. Presentations will be held in the last 2-3 lectures, and last 20 minutes, depending on the number of participants. I will post guidelines on how to form a good proposal later in the quarter. Final grades will reflect the two assignments (70%) and the proposal presentation (30%).

Class Time:  
Tuesday and Thursday, 3:30-4:45, NH 2212

Home Page:  

Office Hours:  
Friday 1:30 - 3:00, North Hall 2050  
(or by appointment)
Textbooks used for the lecture notes. These are optional.


Colin Cameron and Pravin K. Trivedi, Microeconometrics: Methods and Applications, 2005, Cambridge University Press (also a companion volume, Microeconometrics Using Stata is available from Stata Press)

Jeffrey Wooldridge, Econometric Analysis of Cross Section and Panel Data, MIT Press, 2010 (older edition also fine)

Survey articles (from the class webpage). These cover most of the course materials:


TENTATIVE READING LIST AND COURSE OUTLINE

I. Causality and estimation of causal parameters

Potential outcomes: Rubin’s model of causal inference
Definitions of treatment effects
Analysis of experimental data

Angrist and Pischke, Chapter 2

Imbens and Wooldridge (2009), pp. 9-23

Blundell and Costa Dias (2009), pp. 565-578

Wooldridge, Chapter 21

Applications:


II. Selection on Observables

*Regression methods*

*Multivariate matching and propensity score matching*

Angrist and Pischke, Chapter 3

Imbens and Wooldridge (2009), pp. 23-51


Blundell and Costa Dias (2009), pp. 593-605

Wooldridge, Chapter 21

**Applications:**


III. Selection on Unobservables

*IV and TSLS*

*Heterogeneous treatment effects, selection bias corrections and LATE*

Angrist and Pischke, Chapter 4

Imbens and Wooldridge (2009), pp. 56-61

Blundell and Costa Dias (2009), pp. 605-617

Wooldridge, Chapter 21

**Applications:**


IV. Panel Data Methods

Angrist and Pischke, Chapter 5

Imbens and Wooldridge (2009), pp. 67-72

Blundell and Costa Dias (2009), pp. 578-593

Applications:
To come

V. Regression Discontinuity Methods (if time permits)


Angrist and Pischke, Chapter 6

Imbens and Wooldridge (2009), pp. 61-66

Blundell and Costa Dias (2009), pp. 617-624

Wooldridge, Chapter 21

Applications:


