

Econometrics of Program Evaluation

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Objectives

The objective of this course is to provide a working knowledge of econometrics of program evaluation. The course consists of three parts:

1. Experimental and quasi-experimental methods;
2. Overview of sufficient statistics approach to program evaluation and mover designs (which have recently become very prominent in public finance and labor economics);
3. Introduction to discrete choice models and dynamic discrete choice models (or other topic involving structural models subject to research interests of students).

In the first part of the course students will learn traditional program evaluation methods.

For each method we will first cover basic theory, then follow up with recent developments and then read a selection of papers using these methods. Finally, during seminars we will implement these estimators using statistical packages (either STATA or R, basic introduction to programming will be provided at the beginning of the course).

In the second part of the course we will study bunching estimators and mover designs.

Similarly, as in the first part of the course we will first cover theoretical properties of these estimators and then dissect a selection of papers which have recently employed these methods to evaluate various public policies.

Finally in the last part of the course we will cover (subject to time constraints) discrete choice models which are useful to analyze various policies when a researcher does not have an exogenous variation at hand.

Course Outline (subject to change):

First Part:

1. Review of basic econometrics;
2. Randomized control trials;
3. Matching (including matching on high dimensional controls);

4. Instrumental variables;
5. Difference in differences (and more differences) and friends (including synthetic controls and interactive fixed effects);
6. Regression discontinuity;

Second Part:

1. Bunching estimators;
2. Mover designs;

Third Part:

1. Discrete choice models;
2. Dynamic discrete choice models.

Prerequisites

Very good understanding of undergraduate econometrics. Some programming would be useful although introduction to R and STATA will be provided during seminars.

Evaluation

Presentation of the paper and empirical project.

References

Angrist, Joshua D. and Jörn-Steffen Pischke, *Mostly Harmless Econometrics: An Empiricist's Companion*, Princeton University Press, December 2008. Google-Books-ID: ztXL21Xd8v8C.

and , *Mastering 'Metrics: The Path from Cause to Effect*, Princeton University Press, December 2014.

Imbens, Guido W. and Donald B. Rubin, *Causal Inference for Statistics, Social, and Biomedical Sciences: An Introduction*, Cambridge University Press, April 2015. Google-Books-ID: FYeSBwAAQBAJ.

Train, Kenneth E., *Discrete Choice Methods with Simulation*, Cambridge University Press, June 2009. Google-Books-ID: 4yHaAgAAQBAJ.