1 Basic Information

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Schedule: Wednesday May 31 through Friday June 2, 2017 (3 days)  
9.00pm–12.00pm & 1.00pm–5.00pm

Website: https://www.icpsr.umich.edu/icpsrweb/sumprog/courses/0187

• Research and related work underlying this short course was generously supported by the National Science Foundation (USA) through grant SES-1357561.

2 Overview

The goal of this workshop is to give an introduction to standard and recent methodological developments in the analysis and interpretation of regression discontinuity (RD) designs. The course focuses on methodology and empirical practice, and will not discuss much of the statistical and econometric theory underlying the results. A brief description of the course, along with references to further readings, is given below.

It is assumed that participants have elementary working knowledge of statistics, econometrics and policy evaluation. It would be useful, but not required, if participants were familiar with basic results from the literature on program evaluation and treatment effects at the level of Wooldridge (2010). This course is nonetheless meant to be self-contained and hence most underlying statistics/econometrics concepts and results are introduced and explained in class.

3 Readings

The main textbook for the class is Cattaneo, Idrobo and Titiunik (2017):

Students will receive a pdf copy of this textbook a few weeks before the course begins.

In addition to this practical guide, there are several prior review articles on RD methodology and empirical practices. In particular, Imbens and Lemieux (2008) and Lee and Lemieux (2010) are very helpful references, although they do not cover many of the most recent methodological results available in the literature. In addition to the manuscript in preparation above, we are currently working on a up-to-date review on RD methodology (Cattaneo and Titiunik, 2017).

In addition to the these review pieces, we provide specific background references under each specific topic below.

4 Software

The workshop will employ several empirical illustrations, which will be analyzed using Stata. In addition, all functions and packages are also available in R, a free and open-source statistical software environment. The following Stata/R modules/commands will be used:

- **rdrobust**: RD inference employing local polynomial and partitioning methods. See Calonico, Cattaneo and Titiunik (2014a, 2015b) for introductions.
- **rddensity**: Manipulation testing for RD designs. See Cattaneo, Jansson and Ma (2017b) for an introduction.
- **rdlocrand**: RD inference employing randomization inference methods. See Cattaneo, Titiunik and Vazquez-Bare (2016) for an introduction.

Further details, including how to install the packages in both R and Stata may be found at:

https://sites.google.com/site/rdpackages

Please make sure you have Stata (or R) and the above modules/commands installed and fully functional in your personal computer before the course begins. Datasets, do-files and R files will be provided in advance.

5 Outline, Schedule & Background References

This section gives an overview of the topics covered. We also provide optional readings are (whenever possible only review papers are cited for brevity).


09.00pm – 12.00pm: Causal Inference and Policy Evaluation.
01.00pm – 04.00pm: Introduction to RD designs.
04.00pm – 05.00pm: Questions and answers, and general discussion.
**Assigned Readings:** Cattaneo, Idrobo and Titiunik (2017), Sections 1 and 2.


**Day 2 (Thursday June 1, 2017): Regression Discontinuity Designs**


- 09.00pm – 12.00pm: Graphical presentation and standard local polynomial methods.
- 01.00pm – 04.00pm: Bandwidth selection and robust local polynomial methods.
- 04.00pm – 05.00pm: Questions and answers, and general discussion.

**Assigned Readings:** Cattaneo, Idrobo and Titiunik (2017), Sections 3 and 4.

**Background references:** Calonico, Cattaneo and Titiunik (2015a, 2015b), Calonico, Cattaneo and Titiunik (2014a, 2015b), Calonico, Cattaneo, Farrell and Titiunik (2016), Cattaneo and Vazquez-Bare (2016), Gelman and Imbens (2014).

**Day 3 (Friday June 2, 2017): New Methods for Regression Discontinuity Designs**

Recent developments for RD designs: local randomized methods. Falsification methods: density and other manipulation tests. If time permits, the discussion will include geographic RD designs, and RD analysis using covariates. Examples and applications.

- 09.00am – 12.00pm: Local randomization methods.
- 01.00pm – 04.00pm: Falsification.
- 04.00pm – 05.00pm: Questions and answers, and general discussion.

**Assigned Readings:** Cattaneo, Idrobo and Titiunik (2017), Sections 5 and 6.

References


