

Political Science 406: Lab 5: Instrumental Variables and RDD

Due on May 10, 2024

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Problem 1

Rainfall, Economic Shocks, and Civil Conflict

We are going to replicate an instrumental variables analysis of civil conflict in Africa, using rainfall as an instrument for economic growth. The article we are working from is located [here](#). The data as well as variable definitions are located [here](#).

Please replicate model 5 of table 4. Do you get the same coefficient estimates? How about standard errors? If there is a difference, can you explain why?

How strong is the instrument? Are there any obvious difficulties with the estimate?

Assume that the instrument is unproblematic. What is the causal meaning of the estimate?

Problem 2

Making a Change

Change the instrument in the Miguel et al. data by adding the 0.2 times the outcome variable to the instrument. How do the coefficient estimates change, and what does this mean?

Problem 3

LATE to PATE

Reestimate the Miguel et al. model, reweighting to get the PATE instead of the LATE. Describe your steps, and explain whether we learn anything new from this procedure.

Problem 4

Regression Discontinuity and Partisan Sheriffs

Read this article:

<https://doi.org/10.1017/S0003055419000613>

Replicate one of the key RDD analyses from the article as closely as you can, using the data [here](#):

<https://dataverse.harvard.edu/dataset.xhtml?persistentId=doi:10.7910/DVN/CFASH6>

Taking advantage of the things you learned in class about RDD, are there ways you would have changed or improved the statistical analysis? Make those changes, and report the result, emphasizing any effects this would have on the substantive conclusions to be drawn.