Lab #19 - Differences-in-Differences

Econ 224

November 13th, 2018

Introduction

The exercises in this lab are adapted from a problem set by Steve Pischke. In the first part, you'll look at a conceptual example to improve your understanding of how and when diff-in-diff works and its relation to other methods of causal inference. In the second part, you'll work through an extended empirical example about the effect of raising the minimum wage. My expectation is that you will need to work on this lab on both Tuesday and Thursday. Please submit it as your final problem set, just as we did with the RD labs last week.

Exercise I: Conceptual

Suppose we observe a dataset with information on a sample of $i = 1, ..., N$ farms over $t = 1, ..., T$ years:

Name	Description
yield	yield of wheat (bushels/acre) on farm i in year t
capital	value of machinery (in constant dollars) used on farm i in year t
labor	number of workers employed on farm i in year t
rain	rainfall (inches) on farm i in year t
fertilizer	amount of fertilizer (1000 of pounds) used on farm i in year t
size	size in acres of farm i

Solutions

Exercise II: Applied

Introductory paragraph and data description.

1. Preliminaries:
   (a) Blah
   (b) Blah
   (c) Blah
2. Next step:
   (a) Blah
   (b) Blah
   (c) Blah

Solutions