Statistical Modeling and Causal Inference with R

Week 8: DiD and Synthetic Controls

Manuel Bosancianu

November 2, 2020

Hertie School of Governance

Max Schaub

- ✓ Open Q&A
- ✓ Friedrichstraße
- ✓ Abadie and Gardeazabal (2003)

Friedrichstrasse: Galeries Lafayette complains about loss of customers M+

Car-free Friedrichstrasse: Galeries Lafayette has up to 30 percent fewer customers

Those present were particularly shocked by the first assessment by Étienne Galvani from Galeries Lafayette. "We are actually seeing a decrease in customer frequency of 25-30 percent,"

Note: Car traffic was banned from parts of Friedrichstraße from 29 August onwards

1. What is problematic about the claim by the Lafayette spokesperson?
2. How would you go about evaluating the claim that the road closure led to a reduction in consumer traffic?
3. What data would you collect (DV, IV, covariates)?
4. How would the data need to look like to make the claim credible?

Abadie and Gardeazabal (2003)

1. What is the research question?
2. How credible is their claim?
3. What would be an alternative approach to using the synthetic control method?

Abadie and Gardeazabal (2003): Credibility

Diverging trends in control units: "During 1990-1997 Catalonia outperformed the synthetic control by around 4 percent in per capita GDP." (p119)

Parallel process in treatment group: "In fact, the industrial share of GDP declined 17 percentage points (from 45 percent to 28 percent) for the Basque Country during the 1964-1993 period. The industrial share of the GDP decreased 15 percentage points (from 38 percent to 23 percent) for the synthetic control during the same period." (p121)

Abadie and Gardeazabal (2003): Credibility

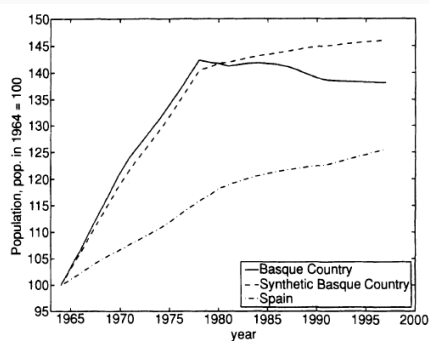But: Out-of-sample example plausibility probe

FIGURE 5. POPULATION

Abadie and Gardeazabal (2003)

Possible alternative strategies

Move down to province or municipality level to enlarge sample size, then

1. DiD
2. Matching
3. Matching + DiD
4. other ideas?

Thank you for watching, and see you next Monday!

Abadie, A., & Gardeazabal, J. (2003, March). The Economic Costs of Conflict: A Case Study of the Basque Country. *The American Economic Review*, *93*(1), 113–132.