

Microeconometrics II

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Due: December, 12.

Part I

1. (10 points) Describe the conditions in which the differences-in-differences (DID) and the synthetic control (SC) estimators are valid. What are the main conditions in which these estimators are consistent/unbiased/asymptotically unbiased?
2. (10 points) Describe settings in which the conditions above would be invalid.
3. (10 points) Describe the different alternative inference methods that are available for these two estimators. Be specific about the conditions in which each inference method would be reliable.

Part II

Choose a published paper the uses a DID or SC estimator in which the dataset is available online. You can also consider a paper that uses shift-share designs, but in this case there is a risk that we will not cover that in class. Once you decide on your paper, sign up at this link. It must be a different paper for each student.

1. (10 points) Briefly summarize the research question in the paper, and why it is interesting. What is the main parameter of interest?
2. (10 points) Briefly describe the empirical setting.
3. (10 points) Discuss whether the conditions for validity of the empirical method are reasonable.
4. (10 points) Describe how the authors conducted inference. Discuss whether the conditions for validity of the inference method are reasonable.
5. (30 points) Use the data from the paper to re-analyze the results of the paper. You can, for example, check whether the results are robust to alternative specifications or alternative approaches for inference, you can provide some evidence that the assumptions the authors rely on are reasonable or unreasonable, you can check whether the inference method the authors are using is reliable, and so on. Be creative!