POLI 666: Assignment 3

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Assignment: Difference-in-Differences (D-I-D)

To perform the required estimates, use the dataset "Dataset_Russia_Stata", which was saved as Stata 11. Some background information is available in

Baccini, Li, and Mirkina. (2014). "Corporate Tax Cuts and Foreign Direct Investment." *Journal of Policy Analysis and Management*, vol. 32(4): 977-1006.

However, the analysis that you are asked to implement is substantively different in terms of both model specifications and econometric techniques.

Goal of the assignment: you want to assess if regions that cut corporate taxes grow faster than regions that do not cut taxes. The logic is that lowering corporate taxes increases investment, which are part of the GRP (i.e. GRP=Consumption + Investment + Government Spending + (Exports-Imports)). There are a couple of important points to remember in relation to Russian fiscal policy. First, regions implemented two types of tax cuts: discriminatory tax cuts (i.e. tax cuts in specific industries and project) and non-discriminatory tax cuts (i.e. tax cuts in every industry). Second, regions could cut taxes only after 2003, since fiscal policy was implemented at the federal level in Russia before 2003.

Research design: the dependent variable is GRP growth. The main independent variables are dummies that score one if regions implement discriminatory (targeted) and non-discriminatory (universal) tax cuts. Another important variable is the dummy period, which scores one after 2003. It is also important to control for some confounding factors. When you do so, you should provide a sound justification for their inclusions. Moreover, when (if) necessary, you should use the logarithm of variables to reduce the impact of outliers.

You should then perform the following tests:

1. perform basic descriptive statistics;
2. implement a standard D-I-D estimation, using a simple OLS and the interaction between targeted and period as well as universal and period and including the relevant controls. Discuss the results;

3. include region and year fixed effects and re-estimate the model in point 2 using OLS regression. Discuss the results;
4. include leads for both targeted and universal regions. Discuss the results;
5. include region-specific trends to test the parallel trend assumption. Discuss the results;
6. Optional: try a D-I-D with treatment intensity with or without region and year fixed effects. Note that the intensity variable must be chosen in a theoretically informed way. Provide the graphical interpretation of the results of the interaction term.

Note 1: you can complete the assignment using any statistical software with which you are familiar, e.g. Stata, R, SPSS.