

PS207 Homework #6: Heteroskedasticity and Serial Correlation in TSCS Data

There is a Stata dataset on my website called ps207hw6. This is the data from the Alvarez, Garrett, and Lange paper linked on my website. The variables in this dataset are:

year: The year of the observation.

growth: GDP growth.

opengdp: Economic vulnerability of the economy to economic conditions in other countries.

openex: Economic vulnerability of the economy to exports.

openimp: Economic vulnerability of the economy to imports.

leftc: Percentage of cabinet positions held by leftist parties.

udif: Strength of labor organizations (an index with higher numbers meaning stronger).

inter: The interaction between *leftc* and *udif*.

ctrynum: Country.

Download this dataset and do the following three problems. Turn in your writeups for these problems as well as the log files.

Download this dataset, declare it to be TSCS data with the `xtset` command, and do the following 3 problems:

Problem 1

Start by running a regression with GDP growth as the dependent variable, and all other variables (except the year and country variables) as independent variables. Briefly describe the results.

Now we will control for contemporaneously correlated errors across units – that is, for unobserved influences that might lead GDP growth to rise or fall in all countries at one point in time. We start with the Parks method. Don't forget to declare your data to be TSCS data!

Type `xtgls growth opengdp openex openimp leftc udif inter, panels(c)` to get a GLS model with contemporaneously correlated errors (the Parks method). Describe the results of this estimation. How do these results differ from the standard OLS results?

Problem 2

Estimate the same model using the Parks method again, but this time only use data from before 1978. What does the note at the bottom of the estimates tell us, and why did we get this warning?

Problem 3

Now try panel-corrected standard errors (PCSEs). Type `xtpcse growth opengdp openex openimp leftc udif inter`. How do these results compare to the Parks results?

Now estimate the same model for panel-corrected standard errors only using data from before 1978. Again, compare these results to the equivalent results using the Parks method.