

POLI706: Advanced Methods of Political Analysis

Problem set 9

Exercise 1

Read Brambor, Clark, and Golder (2006), and take notes. Lots of them.

Exercise 2

Read King, Tomz, and Wittenberg (2000), and take notes. Lots of them.

Exercise 3

Some scholars have posited the “More Murder in the Middle” (MMM) effect, suggesting that as democracy develops, the level of human rights repression initially increases, but after surpassing a certain threshold, it begins to decrease. To verify the MMM hypothesis, perform a regression analysis and create a graph that includes the confidence intervals to illustrate the estimated levels of human rights based on different levels of democracy. Clearly identify the turning point in your analysis.

1. Run the following R codes and load necessary packages to use.
2. Load sample data for the assignment: `data_assignment9.csv`
3. Use base R functions to answer the questions.

Table 1: Variables in the sample data

Variables	Description	Source
<code>country_name</code>	Name of country	V-Dem
<code>COWcode</code>	Country code of Correlates of War	V-Dem
<code>year</code>	Year	V-Dem
<code>hrs</code>	Human Rights Scores	See Fariss (2014)
<code>v2x_polyarchy</code>	Electoral Democracy Index	V-Dem
<code>e_gdppc</code>	Estimated GDP per capita	V-Dem
<code>e_pop</code>	Estimated population	V-Dem
<code>wdi_trade</code>	Trade openness measured by (imports + exports)/GDP (%)	World Development Indicators
<code>ucdp_type3</code>	Number of interstate armed conflicts	UCDP Dyadic Dataset

- a. Take the natural logarithm of GDP per capita and population, and store the new variables in your sample. Then, make a binary variable of civil war experience indicating if a country experiences internal conflict once, code 1 otherwise code 0.
- b. Estimate a model to test the MMM effect using the sample data, which takes the form of $Y = \beta_0 + \beta_1 X + \beta_2 X^2 + \beta_3 \text{Controls} + \epsilon$. Provide the results in a table with appropriate labels and format. Explain how the model can test the MMM effect.
- b. Re-read Brambor, Clark, and Golder (2006) and King, Tomz, and Wittenberg (2000). From the Question 2a, visualize the results to illustrate the marginal effect of democracy on human rights. Clearly identify the turning point in your analysis.
- c. Re-read Brambor, Clark, and Golder (2006) and King, Tomz, and Wittenberg (2000). From the Question 2a, visualize the results to illustrate the estimated levels of human rights based on different levels of democracy. Clearly identify the turning point in your analysis. **Hint!** You can estimate the levels of human rights based on different levels of democracy holding other covariates constant.

Exercise 4

According to Hainmueller, Mummolo, and Xu (2019), what should you do next?

References

- Brambor, Thomas, William Roberts Clark, and Matt Golder. 2006. "Understanding Interaction Models: Improving Empirical Analyses." *Political Analysis* 14 (1): 63–82. <https://doi.org/10.1093/pan/mpi014>.
- Fariss, Christopher J. 2014. "Respect for Human Rights Has Improved Over Time: Modeling the Changing Standard of Accountability." *American Political Science Review* 108 (2): 297–318. <https://doi.org/10.1017/S0003055414000070>.
- Hainmueller, Jens, Jonathan Mummolo, and Yiqing Xu. 2019. "How Much Should We Trust Estimates from Multiplicative Interaction Models? Simple Tools to Improve Empirical Practice." *Political Analysis* 27 (2): 163–92. <https://doi.org/10.1017/pan.2018.46>.
- King, Gary, Michael Tomz, and Jason Wittenberg. 2000. "Making the Most of Statistical Analyses: Improving Interpretation and Presentation." *American Journal of Political Science* 44: 341–55.