

Research Methods in Political Science I, Homework Assignment 7

Due: 9pm on 25 November 2015

How to submit: Send as email attachments

Email subject: Research Methods 1, Assignment 7

File names: hw07-YourName.pdf

1. Run simulations of multiple regression to answer the following questions. You do not have to submit your R codes.
 - (1) Show that the estimates obtained by linear regression is “unbiased” by simulation. Examine if the sample size affects unbiasedness.
 - (2) Run simulation of multiple regression with several different sample sizes and several different parameter values. When do we need a large sample and why? Similarly, when is it fine to analyze a small sample and why?
 - (3) Explore more about the omitted variable bias by simulation. What factors affect the severeness of the bias? In what situation, omitting variables that partly generate the data (the response) is practically acceptable? (Hint: Try to use several different parameter values and omit different predictors in each setting.)
2. Run multiple regression using the dataset you collected for Assignment 6 and report the result(s). Remember to provide substantive interpretation of the result(s). At this point, you do not have to show theoretically meaningful results. Just show that you understand how you should interpret linear regression results.