

Political Science 239

Problem Set 9

Due date: Wednesday, November 8th, 2006

Exercise 1 *This question refers to the following two papers*

- “*Evaluating UN Peacekeeping with Matching to Improve Causal Inference.*”, by Gilligan, Michael J. and Ernest J. Sergenti. 2006. (Available at http://sekhon.berkeley.edu/causalinf/papers/gilligan_sergenti_06.pdf).
- “*The Constraining Power of International Treaties: Theory and Methods*”, by Simmons, Beth A. and Daniel J. Hopkin, 2005, *American Political Science Review*, 99 (4), 623–631. (Available at <http://sekhon.berkeley.edu/causalinf/papers/treaties.pdf>)

For each paper, write two pages addressing the following questions (and, of course, any other issues that you find relevant):

1. *Describe and discuss the identification strategy of the paper. Do you find any weaknesses? What parts do you find convincing?*
2. *What exactly is the role of matching in the paper?*
3. *What are your thoughts about the way in which the treatment is constructed?*
4. *Perform the following thought experiment. Holding the estimation procedure constant and assuming that you have unlimited access to data, what data would you add to increase our*

confidence in the results? Now do the reverse. Holding the data constant, discuss what things you would change and/or add to the estimation procedure.

- 5. What arguments are presented to convince the reader that the estimated effect is causal? Are they enough? Would you have given different arguments? Which ones?*
- 6. In sum, are you convinced that these estimates are capturing a causal effect? Why?/Why not?*

Exercise 2 *This question will help you check whether your bootstrapping code for Exercise 2 in Problem Set 8 actually works. First, using the bootstrapping code that you did for Exercise 2 in Problem Set 8, bootstrap a hypothesis test to test the null hypothesis that $\rho = 0$. Do you reject the null hypothesis? What is your bootstrapped p-value? Now generate data from the model in that exercise and use Monte Carlo simulations to show that you can recover the correct test level for your bootstrapped tests. You should use the file `bs1mc1.R` as a reference.*