Problem Set #5

ECON 815, Prof. Jason DeBacker
Due Tuesday, October 29, 1:15 p.m.

This problem set will have you apply the visualization and econometrics tools you've learned to data that is of interest to you.

PART A

Please use Python (or R) to create three visualizations of data related to a topic you would like to research further. These visualizations will be graded based on:

1. The information content communicated from the visualization.

2. The efficiency of the code used to generate the pictures (Did you read in data correctly and transform it with a minimal number of steps? Do you use functions/loops to save on redundant lines of code? Do you have proper documentation?)

3. The aesthetics of the visuals.

PART B

Please use R (or Python) to estimate a baseline econometric model as well as two variations of this model (e.g., a panel data model with and without fixed effects, an IV model with a different instrument set). You may use an estimator for which there is a package or you may write your own. Your grade will be based on:

1. The relevance of the models you estimate to the economic question you would like to address.

2. Your ability to interpret the results.

3. The accuracy, efficiency, and reproducibility of your code.

You will submit your problem set by pushing the files to your GitHub repository that you created from forking the repository for this class. You will place all files for the problem set in the path `/CompEcon_Fall2019/ProblemSets/ProblemSet5/`. These files will include:

1. At least one `*.py` or `*.R` script or Jupyter Notebook that creates your images

2. At least one `*.py` or `*.R` script or Jupyter Notebook that estimates your econometric model (*these should be separate than the scripts used above*)

3. PNG files of your figures

4. A pdf compiled from TeX that includes a description of the economic question of interest, a description of the data, the three images you produced for Part A, and a tabular or graphical presentation the results from your econometric model.

Please name your pdf "ProblemSet5_LastName.pdf".