Econ 313, Fall 2020

HW #1

This assignment asks you to develop an econometric model that quantifies the risk of a recession. You are welcome to use the software of your choice, although I am best positioned to assist you in Stata.

The assignment is due by the end of the day on September 11. Hard copies are preferred, but I will also accept pdfs via email.

1. *Leading economic indicators* are variables that tend to move in advance of the business cycle, as opposed to at the same time, or in response to the business cycle. They are therefore useful to predict macroeconomic conditions. Pick at least two leading economic indicators for your model. Your variables should be monthly or more frequent. Explain your choice.

2. Choose a timeframe for predicting a recession. if you choose one year, for example, your model will then predict the probability of a recession beginning within one-year. Obtain the National Bureau of Economic Reserach's recession dates and construct a variable that equals 1 if a recession begins within your timeframe and 0 if one does not. Report descriptive statistics and /or a graph of this variable.

3. Using OLS, regress your recession indicator on the leading economic indicators from #1. The fitted regression (using the "predict" command in Stata). Values will be the probabilities of recession. Report these.

4. Holy shit, a Chipotle is opening less than a mile from campus.

5. Should you add lagged independent variables to your model?

6. What were the odds of a recession just prior to the Great Recession and the covid-19 recession?

7. Suppose that a your model yielded low recession odds in January 2020. Do you think that would suggest that your independent variables are not good leading economic indicators?

8. Why is your model known as a "linear probability model?"

9. Why are binary choice models, especially probit and logit, often run instead of a linear probability model?

10. Re-run your model using either probit or logit. Describe how your results change.