

ECO 313, Fall 2019, Required Homework Assignment #3
Due by 5 PM on October 18

Oh people can come up with statistics to prove anything Kent. Forty percent of all people know that.

-Homer Simpson

Instructions: Answer all questions. Provide charts or tables as appropriate.

1. Collect data on NBER recession dates. Construct two variables: 1) a binary variable that equals 1 if a recession begins anytime within the next 12 months and 0 otherwise, and 2) another binary variable indicating whether one begins within the next 24 months.
2. Propose a variable that indicates the state of the U.S. housing market and explain why it could potentially be a useful leading economic indicator. Collect data on this variable and merge it with the binary variables from #1.
3. Explain the difference between the probit estimator, a logit estimator, and a linear probability model (LPM). Which one do you believe is most appropriate for your model?
4. Using the model from #3, provide past and current estimates of the probability of a U.S. recession within the next 12 and 24 months. What were these figures in 2008? What are they today? Would you say it is a good time to panic?
5. Add a variable from financial markets to your dataset. Explain why it may also act as a leading economic indicator.
6. Repeat the estimation from #4 and explain how your results change.
7. Add another macroeconomic variable to your model (unrelated to housing) and repeat #5 and #6.
8. Having run three different versions of the model, what is your best guess for the probabilities of a U.S. recession starting within one and two years?
9. Pick one of your independent variables. If this variable equaled its sample mean, how would that affect your estimated recession risk?
10. Suppose I argue that housing has lost its predictive value because it has declined as a share of GDP since 2008. Accepting this for argument's sake, how does this affect the interpretation of your results?