

# ECON 5350 Problem Set #2

Due: Thursday, October 4 at the beginning of class

## MATLAB PROBLEMS

1. Collect quarterly historical U.S. data to estimate a Taylor rule for monetary policy. Then complete the following tasks and type up your results. Include your Matlab code as an appendix at the end of the document.
  - (a) Provide a table of descriptive statistics that includes variable definitions and data sources.
  - (b) Provide a table of OLS estimates, standard errors, ANOVA table, and a goodness of fit measure. Discuss the results and interpret the coefficient estimates.
  - (c) Which classical assumptions are likely violated and why?
  - (d) Provide partial regression plots and confirm that the slopes of the best-fitting bivariate regression lines equal the multivariate regression coefficients.
  - (e) Use your model to predict the future direction of monetary policy for the rest of 2018 and 2019. Comment on the results and compare them to recent statements made by chairperson Powell.
  
2. Application #5.1 (a)-(c), Greene, 8th Edition.
  - In addition to (a)-(c), form hypotheses about the sign of the coefficients, perform individual  $t$  tests on each coefficient, find (and comment on) the  $R^2$ , do an  $F$  test for overall goodness-of-fit, show a partial regression plot of the schooling hypothesis, and make an earnings prediction about someone you know with a 95% confidence interval.