Summer Course
Advanced Time Series and Forecasting
Assignment 4

See "rates.doc" for a description of the data file.

For all questions, use 1962:1 through 2012:6 as the sample period. Use the first 24 observations (1960:1 through 1961:12) for initial conditions and differencing transformations.

You are to calculate the following. You should write your own code (recommendation: use R), but can borrow from pre-existing code where you feel comfortable doing so.

You may or may not be able to complete all parts of each assignment each day. Get done what you can!

1. If you did not complete your fan chart yesterday, complete that first.
2. Construct a nonlinear model to forecast the unemployment rate. Use either a threshold model or a nonparametric model. Use appropriate methods to select the model and variables.
3. Make a one-step forecast.
4. If you have time, use simulation to create 1 through 12 step forecast distributions. Use the forecast distributions to calculate point forecasts and forecast intervals. Use this information to create a fan chart.