From Wooldridge, *Introductory Econometrics*.

Chapter 10 (pp. 370–371). Problem 10.8

The exercises make use of the EViews data files BARIUM.WF1, EARNW.WF1, CONSUMP.WF1.

In problem 10.8, you need to create a linear time trend and seasonal dummies. To create a linear time trend, use the EViews command @trend. (When you estimate an equation, just add the variable “@trend”.) To create a dummy for the first month (January), the command is @seas(1). (Include the variable “@seas(1)”.) For the second month (February), use @seas(2). In general, @seas(j) gives a seasonal dummy for the jth month.

Additional Problem, using the EViews dataset MONTHLY.WF1. The data are monthly observations for the U.S. from 1947.01 (January, 1947) through 2000.01 (January, 2000).

1. The series “ur_w” is the unemployment rate for adult women.

   (a) Plot the series over time.

   (b) Estimate an AR(1) model: $y_t = \mu + \rho y_{t-1} + \epsilon_t$. Report your parameter estimates and standard errors. Give a point forecast for ur_w for February, 2000. (Note: The values for 1999:12 and 2000:01 are 3.6 and 3.7, respectively).

   (c) Estimate an AR(2) model: $y_t = \mu + \rho_1 y_{t-1} + \rho_2 y_{t-2} + \epsilon_t$. Report your parameter estimates and standard errors. Report your parameter estimates and standard errors. Give a point forecast for ur_w for February, 2000.

   (d) Estimate AR(k) models for $k = 1$ through 6. Report the value of the Schwarz criterion for the six models (do not report the parameter estimates). According to the Schwarz criterion, which is the best-fitting model?