Homework Assignment #3

Due Date: April 16 (campus) & April 18 (evening)

1. Revisit the file “d-hwp3dx8099.dat”. Consider the additional file “wkdays8099.dat” which contains indicator variables (Monday, Tuesday, Wednesday and Thursday) and calendar time of all trading days from 1980 to 1999.

   - You may download the indicator variables for weekdays into SCA by the command (assuming that you have copied the file into your GSBMBA directory).
     input mon, tue, wed, thr. file ’wkdays8099.dat’.
   - Is the sample mean of daily log returns of HWP stock different from zero at the 5% level?
   - Is there a Monday effect on the daily log returns of HWP stock? You may specify a regression model with Monday indicator variable in SCA as follows:
     tsm m1. model hwp = d0 + (d1)mon(binary) + noise.
     Estimate the model and check the residual ACF. The Q(12) of the residuals will confirm that the residuals have no significant serial correlations.
     Use the 5% level to test the null hypothesis $h_0 : d_1 = 0$ vs $H_a : d_1 \neq 0$ and draw your conclusion.

2. Use the same data as Problem 1. Is there a Monday effect on the daily log returns of value-weighted index? Build a regression model with time series errors to answer this question. Test the Monday effect at the 5% significance level.

3. Problem 9 of Chapter 2. [Multiply $y_t$ and $x_t$ series by 100 to obtain percentages. Use EACF to identify the time series model for the residual series of the simple linear regression $y_t = \beta x_t + e_t$.]

Reading assignments: Review Chapter 2 of the textbook.