

FM 431: Econometrics of Financial Markets

Fall 2009

PROBLEM SHEET # 7

Problem: This is another practical exercise involving GARCH models.

- a) Download a series of historical daily DJI closing quotations from <http://finance.yahoo.com>, save it on your computer in a suitable location and under a suitable file name..
- b) Prepare the “Adjusted Close” series for analysis.
- c) Compute the series of daily returns.
- d) Convert the series of returns into a time series object. (Use `frequency = 251`.) Plot the series of returns.
- e) Fit a GARCH model of order (1,1) to the (mean-corrected) DJI return series. Which problem occurs with this model?
- f) Plot the series of conditional standard deviations.
- g) Is a GARCH of order (2,1) or (1,2) better? (Hint: Also use `AIC(my.garch)` in your evaluation.)