

Homework 7

Ma641 Time Series I

due by class time 6:15pm, Monday August 4, 2008

Please try to submit a hardcopy of the report in class. If you chose the elearn submission option please convert the report to pdf format before submitting.

In this assignment we will test the output of the *garchOxFit* function we made functional last week. For this purpose we will use the attached daily Intel data we saw in class that exhibits ARCH effects. Do not center the data (i.e. apply the function directly to the vector of returns).

1. Construct a GARCH(1,1) for this model (use option *formula.var= garch(1,1)* in the function). Use each of the three options for the error distribution (gaussian, student-t, and generalized error distribution). Put the estimated coefficients from each model in a table and comment on the differences.
2. Calculate using the normal errors formula an iterative equation for predicting the variances
3. Figure a way to obtain the last a_h and the last σ_h from the output.
4. Using the numbers from the previous part and the iterative formula found earlier calculate the next 15 predicted volatility values.
5. Write a paragraph comparing the values you get with the outputted forecast from the *garchOxFit* function.