Homework 1

Ma641 Time Series I

due by class time 6:15pm, Monday June 2, 2008.

You can hand in the assignments either in class at the beginning of the lecture or using the elearn page. If you chose elearn please convert the report to pdf format before submitting.

1. Use the yahoo finance webpage and download a 3 year daily series of data for a stock of your choice. Make sure that the stock you choose has a 3 year history.

2. Use R and calculate the vector of simple returns. Calculate the mean std. deviation, skewness, excess kurtosis min and max. Express these numbers as percentages. If you express the return vector as percentages first then calculate the above numerical measures will the result change? Why or why not?

3. Transform the vector of simple returns in the vector of logreturns. Write down the transformation used. Calculate the above measures for this vector as well.

4. Check the normality of the logreturns using graphical means. Test the normality of returns. Perform 3 separate tests. Use 5% significance level.

5. Assume that the logreturns are in fact normally distributed. Test the null hypothesis that the skeweness measure of the returns has mean zero (is zero). Then test the null hypothesis that the excess kurtosis of the return has mean zero (is zero).