

Assignment 13

1. Derive multistep-ahead forecasts for a GARCH(1,2) model at the forecast origin h .
2. Consider the monthly simple returns of Intel stock from January 1973 to December 2008 in m-intc7308.txt. Transform the returns into log returns. Build a GARCH model for the transformed series and compute 1-step- to 5-step-ahead volatility forecasts at the forecast origin December 2008.
3. Consider the daily simple returns of the S&P composite index in the file d-gmsp9908.txt.
 - (a) Is there any ARCH effect in the simple return series? Use 10 lags of the squared returns and 5% significance level to perform the test.
 - (b) Build an adequate GARCH model for the simple return series.
 - (c) Compute 1-step- to 4-step-ahead forecasts of the simple return and its volatility based on the fitted model.