

SS 4521G/FM 9521B - Advanced Financial Modelling

Outline of Lectures: 03-07 March 2014

For this week, we aim to cover the following theories/concepts:

1. Recovering risk-neutral probabilities from option prices
2. Volatility surfaces
3. Intro to estimating volatilities and correlations
4. Exponential Weighted Moving Average (EWMA) models
5. Generalised Autoregressive Conditional Heteroscedastic (GARCH) (p , q) models. We shall focus on GARCH (1,1) model
6. Maximum likelihood method in the estimation of GARCH parameters
7. Using GARCH (1,1) to forecast future volatility
8. Estimation of correlations within the GARCH and EWMA frameworks