

SS 4521G/FM 9521B - Advanced Financial Modelling

Outline of Lectures: 10–14 March 2014

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

1. GARCH (p, q) models (continued)
We shall focus on GARCH (1,1) model.
2. Maximum likelihood method in the estimation of GARCH parameters
3. Using GARCH (1,1) to forecast future volatility
4. Estimation of correlations within the GARCH and EWMA frameworks
5. Intro to Exotic derivatives
 - Options with American-type features
 - Packages
 - Non-standard American options
 - Forward start options
 - Compound options
 - Chooser options
 - Barrier options
 - Binary options
 - Lookback options
 - Shout options
 - Asian options
 - Options to exchange one asset for another
 - Other exotics may be added to this list and a copy of the slide presentation will be provided.