CF4103 Financial Time Series

Syllabus

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Course homepage:
http://www.math.nus.edu.sg/~ma2222/cf4103.html

Timetable & Venue:
Tuesday: 19:00 – 22:00 at LT20

Office hours:
By appointment

Reference books:


Grading:
30% Project + 70% Final Examination

Course Overview:
We provide both the relevant time series concepts and their financial applications. Potential application of financial time series models include modeling equity returns, forecasting of asset price, volatility estimations, and so forth.

The prerequisites for this course are Probability and Statistics, and computer software Matlab and/or SAS.

Objective of the Course:
- To learn some basic Knowledge of financial time series.
- To study some statistical tools and econometric models useful for analyzing financial time series.
- To understand proper use and limits of econometric methods in finance.
- To gain empirical experience in analyzing financial time series.
Contents:

This course is devoted to the study of analyzing financial time series.

• Introduction: Returns and their characteristics.

• Review of some basic concepts and results in Probability and Statistics.

• Linear time series analysis and its applications: (1) Simple autoregressive model; (2) Simple moving-average model; (3) Mixed autoregressive moving-average model.

• Modeling the volatility of an asset return.

• Derivative pricing models.