Financial and Time Series Econometrics

Module Code: ECO00029H  Credits: 20  Year: 3  Terms: 1-3
Contact Hours: 9+6 two-hour Lectures, 3 one hour computer sessions, 5+4 one-hour Seminars (42 contact hours)
Module Organiser: Professor Y Shin

Overview:
We introduce econometric techniques for the empirical analysis of economic and financial models and for the treatment of financial data. Students are to analyse real financial data in seminars using an econometric software package, Eviews.

Techniques will include: ARMA models for scalar time series, unit root testing and cointegration, ARCH models.
Topics will include: the theoretical and empirical investigation of market returns; the use of (G)ARCH models for the evaluation of the Value at Risk of a portfolio; the evaluation of the information content in the term structure of interest rates for the purpose of forecasting future short term rates; Capital Asset Pricing Model (CAPM) and its estimation; limitation of CAPM and important extensions, such as multifactor arbitrage pricing theory and consumption CAPM.

Aims:
- To introduce advanced econometric techniques that are used both in the applied literature and in the professional analysis of economic and financial data
- To provide critical empirical discussion of some important financial models

Objectives:
On completing the module a student will be able to:
- Have a working knowledge of the main models for analysing a stationary or nonstationary time series
- Read empirical macro and financial literature
- Apply econometric methods for time series using standard software (EViews)
- Use the information in the term structure of interest rates to forecast future rates
- Evaluate market efficiency and the scope for higher than market profits, and estimate the Value at Risk of a portfolio.
- Understand CAPM theory and be able to interpret the estimation of beta
- Understand the limitation of CAPM and be able to use other alternative models

Assessment:
A 2-hour unseen examination scheduled for the Summer Term.

The examination will consist of eight questions: four short questions and four long questions, students will be asked to answer all of the short questions and two of the long questions. These questions may include computer output for the students to comment on.
Problem sheets for discussion in seminars will be distributed. They do not count towards the final mark but are designed to help you assimilate the material and prepare for the examination. An introduction to the EViews econometric software is also given. The use of such software is required for some tutorial exercises.

**Pre-requisites:**
Econometric Theory I (ECO00019I)
Or
LG11/GL11

**Main References:**
The course material will be based (selectively) on the following texts:

Additional learning material will be made available as the course progress. (This too will be part of the syllabus.)

Other important texts include: