

## F500 – Empirical Finance

**Course Description:** This course is an introduction to some major topics in empirical Finance. It aims to endow the student with an understanding of the current issues, methods, and conclusions of empirical research on financial markets. The focus is primarily on equity markets. There will be an emphasis on models and methods as well as on empirical results and their interpretation. The course will draw heavily on the Campbell, Lo and MacKinlay text, and my own notes, which will be provided online. The course will be intermediated through Moodle, where extra problems, and their solutions will be disseminated. There will be three problem sets, some questions of which will require the use of a software package such as Eviews or Matlab. Solutions will be provided.

The main text used is my book, which was published at the end of January 2019

Linton, O. *The Models and Methods of Financial Econometrics*. Cambridge University Press. January 2019. ISBN 97811071177154 (hardback), 9781316630334 (paperback), 9781316819302 (ebook)

It is closely related to the book

J. Campbell, A. Lo, and C. MacKinlay *The Econometrics of Financial Markets* Princeton University Press

Also useful books include:

Hasbrouck, J. (2007). *Empirical Market Microstructure*. Oxford University Press.

Taylor, S.J. (2005). *Asset Price Dynamics, Volatility, and Prediction*. Princeton University Press.

### Outline:

There are nine lectures of two hours each. The topics covered include:

1. The Predictability of Asset Returns:
  - (a) Efficient Markets Hypothesis and Random Walk
  - (b) Autocorrelation based methods; Variance ratio statistics
  - (c) Nonlinear methods such as Cowles-Jones, sign tests
  - (d) Empirical results
2. Empirical Market Microstructure
  - (a) Non trading model
  - (b) Roll model
  - (c) Glosten models for bid ask spread
  - (d) Empirical results

3. Event Study Analysis
  - (a) Testing the EMH
  - (b) Standard Methodology
  - (c) Stock Splits
4. The Capital Asset Pricing Model
  - (a) Testable implications
  - (b) Testing intercept hypotheses
  - (c) Two step method
  - (d) Empirical results
5. Multifactor Pricing Models
  - (a) Diversification and pervasiveness
  - (b) Testing APT with observable factors
  - (c) Identifying and estimating statistical factors
  - (d) Empirical results
6. Present Value Relations
  - (a) Fundamental model of stock prices
  - (b) Bubbles: Rational and other
  - (c) Time varying risk premium
  - (d) Testing: excess volatility tests and predictive regression
  - (e) Empirical results
7. Intertemporal Equilibrium Pricing
  - (a) Consumption CAPM
  - (b) Risk premium puzzle
  - (c) Other approaches
  - (d) Empirical results
8. Models of Changing Volatility
  - (a) Implied volatility
  - (b) Realized Volatility
  - (c) Discrete time GARCH models
  - (d) Empirical results