

London School of Economics and Political Science

Financial Econometrics FM437, Lent Term 2010 Last updated Jan 10, 2010

Instructor

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Meeting time: 14:00 – 16:00 through week 1 to week 5

Place: D502 in week 1 and D202 from week 2 to week 5

Office hours: To be announced on department webpage

Objectives

This course explores the techniques of empirical investigation in economics and finance. Students are introduced to recent empirical findings based on asset pricing models. **The focus is the empirical methods of finance and their application, rather than the detailed derivation and mathematical proof of econometric theory.**

The course includes a selection of the following topics: time-series modeling, predictability of asset returns, event study analysis, econometric tests of the CAPM and multifactor models, and investment-based asset pricing models.

Pre-requisites

Mathematical background to the level of the course taught in September in the Economics Department is assumed.

Communications

Email is my primary mode of communication. I will use email to send administrative notices to all registered students. The course website in Moodle holds all lecture notes and assignments (that we will have covered to date) as well as some readings.

Homework Assignments

Weekly homework will be assigned in Moodle. Each student is expected to present one homework assignment in the Lent term. The homework assignment allocation is random. Each presentation should be no longer than 10 slides, which can be completed within 20-25 minutes in a formal presentation. The assignment allocation will be announced in Moodle in week one.

You are expected to start working on the assignment as soon as possible, since some of them could take days to complete. Note that it is important that everyone works on homework to keep up with the course materials.

Assessment

There will be a three-hour written examination in the Summer Term.

Professional Etiquette

The purpose of etiquette rules is to ensure that no one interferes with the learning of others. I do understand that recruiting sometimes interfere with class. Thus,

- I plan to start promptly and I expect you to be on time.
- If, because of some unusual circumstance you come in late, please enter as surreptitiously as possible.
- If it is necessary for you to leave early, please sit next to a door. Please ask someone to switch seats with you before class starts if this is necessary.
- You may leave the room briefly if it is an emergency: if you doubt whether it is an emergency, it's not.
- As a general rule, you may not use other handheld communication devices in class. I allow the use of laptops for specific limited purposes such as note-taking. At no time are you permitted to perform any email related activities or e-texting in class.

Textbooks

Required: Campbell, Y John; Andrew W. Lo and A. Craig MacKinlay (**CLM hereafter**), 1997, *The Econometrics of Financial Markets*, Princeton University Press.

Optional: Cochrane, John, 2002, *Asset Pricing*, Princeton University Press, NJ

Optional: Greene, William, 2008, *Econometric Analysis*, 6th Edition, Prentice Hall.

Tentative Course Outline

I structure the entire course into Moodle. I reserve the right to adjust the course content and delivery method as the course unfolds to better serve the audience needs.

Lecture 1: Predictability of Asset Returns

- Prices and Returns
- ARMA processes
- Tests of the Random Walk Hypothesis
- Empirical Evidence on Return Predictability

Readings: CLM, Chapter 1 and 2

Lecture 2: Event Study Analysis

- Basic structure of an event study
- Measuring normal and abnormal return
- Long-horizon event studies
- Characteristic-based approach and calendar time approach

Readings: CLM, Chapter 4

Lecture 3: Tests of the Capital Asset Pricing Model

- The Capital Asset Pricing Model
- Maximum Likelihood Estimation and Testing
- Cross-Sectional Regression Tests
- Empirical Studies

Readings:

- CLM, Chapter 5
- Fama, Eugene F. and James D. MacBeth, 1973, Risk, Return, and Equilibrium: Empirical Tests, *Journal of Political Economy* 81, 607-636.
- Fama, Eugene F., and Kenneth R. French, 1992, The Cross-Section of Expected Stock Returns, *Journal of Finance* 47, 427-466

Lecture 4: Tests of Multifactor Pricing Models

- Multi-beta Pricing Model
- Multifactor Model Tests
- Empirical Findings

Readings:

- CLM, Chapter 6
- Chen, Nai-Fu, Richard Roll, and Stephen Ross, 1986, Economic Forces and the Stock Market, *Journal of Business*, 59 (3) 383–403.
- Fama, Eugene F., and Kenneth R. French, 1993, Common risk factors in the returns on stocks and bonds, *Journal of Financial Economics* 33,3-56
- Liew, Jimmy, and Maria Vassalou, 2000, Can Book-to-Market, Size, and Momentum Be Risk Factors That Predict Economic Growth? *Journal of Financial Economics*, 57, 221–245.

Lecture 5: Investment-based Asset Pricing

- Facts
- Investment-Based Factors
- New Issue Puzzle
- Accrual Anomaly

Readings:

- Chen, Long and Lu Zhang, A better three-factor model that explains more anomalies, 2010, *Journal of Finance* 65 (2), 563-594

Review Lecture in Summer Term: Time and place to be determined