

University of Pennsylvania
The Wharton School

Professor Stambaugh
Finance 921

Spring 2007
Course Syllabus

Introduction to Empirical Methods in Finance

Course Description

This course provides an introduction to empirical research in finance and is intended for Ph.D. students. Empirical issues and methods are explored primarily in the context of published academic studies. It is anticipated that students preparing to consume or produce state-of-the-art research in finance will also take Finance 934.

Course Materials

Course packet of readings available from Wharton Reprographics

The Econometrics of Financial Markets, by John Y. Campbell, Andrew W. Lo, and A. Craig MacKinlay, Princeton University Press, 1997.

Asset Pricing, by John H. Cochrane, Princeton University Press, 2005 (revised edition).

Course Requirements

The prerequisites for this course are Finance 911 and the econometrics sequence, Economics 705 and 706. (Economics 706 may be taken concurrently with this course).

The course grade is based on a midterm exam (35%), final exam (40%), written assignments and class participation (25%). Preparedness for class discussions of assigned homework problems and readings is especially important.

The **midterm** exam will be given during the **regular class time** on **March 1**, and the **final exam** is scheduled for Friday **May 4, 9:00–11:00**, the two-hour period designated by the university as a function of our regular meeting time (room to be announced).

Miscellaneous

Lectures: Tuesday and Thursday, 1:30-3:00, SH-DH 211

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Office hours: Friday 11:00-12:00 or by appointment

COURSE OUTLINE AND READING ASSIGNMENTS
(Order of Readings Differs Slightly from Course Pack)

- 1. Return Moments and Temporal Dependence**
 - a. Campbell, Lo, and MacKinlay, chapter 1
 - b. Campbell, Lo, and MacKinlay, chapter 2 (exclude 2.6)

- 2. The market model; nonsynchronous trading**
 - a. Scholes and Williams. “Estimating Betas from Nonsynchronous Data.”
 - b. Dimson. “Risk Measurement When Shares Are Subject to Infrequent Trading,” and Fowler and Rorke, “Comment.”
 - c. Campbell, Lo, and MacKinlay, section 3.1 and subsection 3.4.1.

- 3. Bid-Ask Effects**
 - a. Blume and Stambaugh. “Biases in Computed Returns: An Application to the Size Effect.”
 - b. Roll. “A Simple Implicit Measure of the Effective Bid-Ask Spread in an Efficient Market.”
 - c. Campbell, Lo, and MacKinlay, section 3.2 and subsection 3.4.2.

- 4. Event Studies**
 - a. Brown and Warner. “Using Daily Stock Returns: The Case of Event Studies.”
 - b. Campbell, Lo, and MacKinlay, chapter 4.

- 5. Cross-Sectional Tests of Pricing Models**
 - a. Fama and MacBeth, “Risk, Return, and Equilibrium: Empirical Tests.”
 - b. Fama and French. “The Cross-Section of Expected Stock Returns.”

- 6. Multivariate Time-Series Tests**
 - a. Gibbons, Ross, and Shanken, “A Test of the Efficiency of a Given Portfolio.”
 - b. Campbell, Lo, and MacKinlay, chapter 5.
 - c. Kandel and Stambaugh. “On Correlations and Inferences about Mean-Variance Efficiency.”
 - d. Cochrane, chapters 10 through 16.

- 7. Multifactor Models**
 - a. Huberman, Kandel, and Stambaugh. “Mimicking Portfolios and Exact Arbitrage Pricing.”
 - b. Fama and French, “Common Risk Factors in the Returns on Stocks and Bonds.”
 - c. Pástor and Stambaugh, “Liquidity Risk and Expected Stock Returns”
 - d. Campbell, Lo, and MacKinlay, chapter 6.
 - e. Connor and Korajczyk. “Risk and Return in an Equilibrium APT: Application of a New Test Methodology.”
 - f. Jones, “Extracting Factors from Heteroskedastic Asset Returns.”

8. Momentum

- a. Jegadeesh and Titman, “Returns to Buying Winners and Selling Losers: Implications for Stock Market Efficiency.”
- b. Fama and French, “Multifactor Explanations of Asset Pricing Anomalies.”
- c. Korajczyk and Sadka, “Are Momentum Profits Robust to Trading Costs.”

9. Risk versus Mispricing

- a. Daniel and Titman, “Evidence on the Characteristics of Cross Sectional Variation in Stock Returns”
- b. Davis, Fama and French, “Characteristics, Covariances, and Average Returns: 1929–1997.”

10. Bayesian Approaches

- a. Zellner, *An Introduction to Bayesian Inference in Econometrics*, chapters 2, 3, and 8 and Appendixes A and B
- b. Pástor and Stambaugh, “Comparing Asset Pricing Models.”
- c. Pástor and Stambaugh, “Mutual Fund Performance and Seemingly Unrelated Assets.”
- d. Pástor and Stambaugh, “Investing in Equity Mutual Funds.”
- e. Jones and Shanken, “Mutual Fund Performance with Learning Across Funds”

11. Predicting Returns

- a. Fama and French. “Business Conditions and Expected Returns on Stocks and Bonds.”
- b. Stambaugh, “Predictive Regressions.”
- c. Lewellen, “Predicting Returns with Financial Ratios”

12. Return Variance with Time-Varying Expected Returns

- a. Campbell, “A Variance Decomposition for Stock Returns.”
- b. Campbell and Vuolteenaho, “Bad Beta, Good Beta.”
- c. Campbell, Lo, and MacKinlay, chapter 7.