Overview
This course is an introduction to empirical asset pricing. We will cover evidence on the
time-series and cross-sectional behavior of asset prices and the methodologies used to
uncover that evidence statistically. Topics will include: review of empirical methods and
databases, CAPM and APT tests, Panel data estimation, return decomposition, and event
study/long horizon analysis. We will also cover a number of recent topics.

Prerequisites
The prerequisites for this course are graduate level asset pricing theory (Econ830),
microeconomics, matrix algebra, calculus, and econometrics.

Course Material
Class notes and assigned papers.

Optional:
Princeton University Press.


Course Work and Grading
Requirements for credit include a series of presentations of papers in the literature and a
research paper. The number of presentations will depend on the class size. The
presentations and the class participation will count for 35%, the homework assignments
will account for 40%, and the term paper will account for 25%. Because class participation
is important, attendance is mandatory and you may miss only one class without
consequence to your grade.

You can choose one of the following options for the research paper:
1. Write an original paper with empirical asset pricing content.
2. A major extension of an important published research paper.

Three homework projects. 10% comes from your submitted code. You also need to read
the code from a classmate and give your criticism. This will account for 5%:
0. Simulate and demonstrate central limit theorem.
1. Replicate momentum (portfolio and Fama-MacBeth approaches).
2. Test standard errors using simulated panel data.
3. You can choose between
   a. Event study: replicate the PEAD.
   b. Time-series predictability: Stambaugh-bias correction

**Tentative Course Outline**

1. Review / Time-series CAPM test:
   a. CAPM
   b. Central limit theorem
   c. Properties of the OLS estimator/standard errors
   d. Testing CAPM

2. Testing CAPM / Multifactor Models

3. Conditional CAPM / Characteristic models:

4. Panel Data standard errors / simulation

5. Time-series predictability

6. Return Decomposition

7. Event study, Long horizon returns

8. Mutual funds/hedge funds (Presentation Only)


9. Portfolio Allocation (Presentation Only)
   d. Giglio, Maggiori, Stroebel, and Utkus, Five facts about beliefs and portfolios (working paper)

10. Learning and Bayesian Inference

11. New Topics (Presentation, Possible Guest Lecture by Johannes Stroebel)
    f. Giglio, Maggiori, Stroebel, Rao, Weber, Climate change and long-run discount rates: evidence from real-estate (working paper).

12. Anomalies, Cross-sectional Patterns, and the Econometric Issues (Presentation only)

13. Textual analyses and Machine Learning (Presentation only)
   c. Ke, Kelly, and Xiu, Predicting Returns with Text Data, Working paper
   d. Athey and Imbens, Machine learning methods economists should know about (working paper)