# **Empirical Finance**

Spring 2014 (3<sup>rd</sup> module) – Syllabus

Instructor:	SungBin Sohn
<b>Class Time:</b>	Mondays & Thursdays 8:30-10:20am in Room 319
<b>Office Hours:</b>	Wednesdays 10-11:30am in Room 748, or by appointment
Email:	sungbin.sohn@phbs.pku.edu.cn
<b>Teaching Assistant:</b>	TBA

## **Course Description:**

This course is designed to help students learn how to apply basic finance theories to real data. The topics this course focuses on include several important and controversial issues in finance. Because good empirical work is always guided by theory, we will begin by reviewing some basic portfolio theory and asset pricing theory. Then we move on to discuss the empirical application of those theories. Topics will include optimal investment decision; predictability of equity index returns; transitory variation in asset values; testing and evaluating classic models of finance in the cross-section (e.g., CAPM, Fama-French model, etc.). See the course outline for details.

The following books are useful but you are not required to buy them. All necessary learning materials will be provided in class in the form of lecture notes and other supplementary handouts.

Zvi Bodie, Alex Kane and Alan J. Marcus (2010), *Investment*, McGraw-Hill.
John H. Cochrane (2001), *Asset Pricing*, Princeton University Press.
John Y. Campbell, Andrew Lo and Craig MacKinley (1997), *The Econometrics of Financial Market*, Princeton University Press.
John H. Cochrane, "Time Series for Macroeconomics and Finance," lecture notes.

#### **Requirements and Grading**

Requirements for the course include attending lectures, several problem sets, a group presentation, a midterm exam and a final exam. Since the course is cumulative in the sense that each lecture builds on previous ones, full attendance is required. I take roll randomly throughout a module. If you're absent without my pre-approval, your score will be downgraded. There will be several homework assignments, some of which will ask you to implement empirical work using a computer. You can use any software package that you know, but my instruction will be mostly based on Matlab, MS Excel, or Stata. You are encouraged to work in groups but you must turn in an individual solution. Late submission is unacceptable and will not be graded. As for the presentation, you should form a group and present a paper from the list I will distribute later. All members in the group should read the paper and understand its contents. Each presentation is 25-minute long (including Q&A's) and should contain the summary of the paper and some critical assessment. Throughout the class, knowledge of master-level microeconomics and econometrics is assumed (Advanced Econometrics, Applied Econometrics, and Financial Economics are the prerequisite courses). Plagiarism or any dishonesty is strictly punished.

The grading of the course is broken down to the following components:

Attendance and paper presentation	20%
Homework assignments	20%
Midterm	30%
Final exam	30%

# **Email policies:**

I strongly encourage you to ask questions during lectures and office hours. If you have special needs to reach me outside the lectures or office hours, however, you may email me. I will try to respond to your email in two business days. If you don't get my response within two business days, please send me a reminder email. When you email me, please prefix the subject header [EF] in order to make your email distinct from others. Send a self-introductory email to me (no longer than 3 lines but with your photo).

## **Course Outline and References**

Please note that the schedule of topics are likely to be updated as the course evolves.

Lecture 1 - Course introduction

#### Lecture 2-4

- Portfolio Theory and Practice: Risk aversion and capital allocation, Optimal risky portfolio, Single-factor model

Bodie, Kane and Markus, Chapter 6-8.

## Lecture 5-7

#### - Essential background for asset pricing theories and time series econometrics

Cochrane (lecture note) Chapter 1-7, 10-11. Cochrane, Chapter 1-7, 10. Cochrane, John H. (2007), Financial Markets and the Real Economy.

Lecture 8

## - Midterm

# Lecture 9-10

# - Return predictability; Log-linear approximation

Campbell, Lo and MacKinley, Chapter 2, 7.

Cochrane, Chapter 20.1.

Campbell, John Y. (2003), "Consumption Based Asset Pricing," in George Constantinides, Milton Harris and Rene Stulz eds., *Handbook of the Economics of Finance*, North-Holland, Amsterdam.

#### Lecture 11-12

#### - Volatility tests, long horizon regressions

Campbell, John Y. (1991), "A Variance Decomposition for Stock Returns," *Economic Journal* 101.

# Lecture 13-14

## - VAR models, Cointegration, permanent-transitory decomposition

Cochrane (lecture note) Chapter 15-18.

Cochrane, John H. (1994), "Permanent and Transitory Components of GDP and Stock Prices," *Quarterly Journal of Economics* 109.

# Lecture 15-16

- Cross-section of stock returns: CAPM, CCAPM, conditional vs. unconditional models Cochrane, Chapter 8, 9.

Campbell, John Y. (1993), "Intertemporal Asset Pricing Without Consumption Data," *American Economic Review* 83.

Campblee, John Y. (1996), "Understanding Risk and Return," Journal of Political Economy 104.

Lecture 17-18

- Group presentation; Course review