I. OBJECTIVES

This course is designed to provide students with foundational knowledge of empirical methods in finance. The course will cover time-series and cross sectional properties of asset returns and tests of asset pricing models. The course will introduce and examine various empirical/econometric methods by focusing on classical and relevant recent papers. First-year PhD students in finance: please note that the material from this class will be included in the prelims!

II. Recommended Prerequisite

FNCE 911 and Econometrics 705 or Stats 520.

III. Lectures

Lectures: Thursdays SHDH 2401 or SHDH 116 3:30-6:30 PM

IV. Communication

The official information source for FNCE 921 is the class canvas. It will hold all lecture notes and assignments, and I will use it to make announcements.

V. Grading

The following components make up your course grade:

- Assignments (25pts):

I will assign approximately 4 assignments. These assignments can be worked in groups of no more than 2 students. Group assignments should be submitted as a single submission. Assignments should be handed in before before the beginning of class on the day they are due. You should start working on the assignments as soon as possible. Some of the assignments could take several days to complete. Under no circumstances will I accept late homework.

The assignments are designed to help you understand the material, digest the assigned papers that I do not cover in class, and familiarize yourself with empirical research.
Many/most problems will require the use of computers. You must know or quickly learn a statistical programming language. I recommend that you use Matlab, R, Gauss, although other software packages like SAS, STATA, EVIEWS may work. Of course, you may be a hard-core programmer and use C, C++, Fortran, or the more user friendly Fortran90; Python is particularly popular these days and might be a good choice if you or are interested in learning a new language (and you are welcome to use it if you already know it). I will only use Matlab for my solutions, however.

- **Presentation & Participation (20pts):**

  Each student will be required to provide an in class presentation of a paper from a subset of the papers listed on the reading list (the ones marked without a star). These presentation will be during class and most will be toward the end of the semester. Further details regarding what a presentation constitute will be given later in the course. However, students should present the questions, summarize the model/findings, and then provide critique and link to the literature. Allocations will be on a first come first serve basis–so the earlier you approach me the higher the likelihood you’ll present the paper you want.

- **Quiz (15pts):**

  There will be a quiz examination of one hour. It will constitute one or two questions regarding the class material. I will announce the exact date later in the semester.

- **Paper/Final Project (40pts):**

  I’d like you to make use of the tools you acquired throughout the class or commit to acquire more tools. This should be done by either proposing and executing your own research project or taking an existing paper and essentially replicating it and possibly extending its analysis in someway (data/question/methodology). All papers/projects should be discussed with me ahead of time. The paper/project proposal which will outline the question, theory/methodology, and data utilized should be submitted by April 15th. The completed paper/project can be part of or constitute all of your first year paper but can not serve as a topic/project for another class and should be submitted by August 15th–that gives you time to work on and complete the project after the prelims.

VI. Class Participation

Finally, to make this class work everyone has to work through every assigned reading before class. I expect that you become an active participant in the class. You should ask questions, raise issues, contribute your knowledge, and challenge the opinions of others, including mine. This class will be a lot more enjoyable for everyone if you participate. I will use participation as a way to increase your grade in cases in which your grade is at the borderline.
VII. Texts & Readings

You should have access to the following books:


In addition, I will ask you to watch some of the videos from John Cochrane’s Asset Pricing course on YouTube, they are a great way to review some of the “background” material or get a brief introduction into some of the topics that we will discuss in depth, or from a somewhat different perspective.

This course will evolve throughout the semester. Here is a preliminary reading list for the semester. I realize this is a long list that provides you with an extensive (albeit still partial) exposure to the literature. Note, however, that I designated a ⚫ around a small subset of the list for the papers that are required reading. Some of the more recent topics will be updated as we go on as the literature evolves.
1 Introduction

1. * CLM (chapters 1-2)


Recommended


2 Return Properties

2.1 Basics

1. CLM Chapter 1-2


2.2 Return Predictability

1. * CLM Chapter 7


More recent contributions to this debate


2.3 Volatility Models


Recommended


2.4 Conditional Means and Variances


Recommended


3 Asset Pricing Models: Euler Equations, Consumption Based Models

3.1 Preferences & Equilibrium Endowment


3.2 Habits


3.3 Long Run Risks


3.4 Disasters


5. Bansal Ravi, Dana Kiku, Amir Yaron, 2010, Long-Run Risks, the Macroeconomy, and Asset Prices,” American Economic Review

3.5 Heterogeneity and Incomplete Markets


4 Financial Econometric Methods


2. Hamilton, James, Time Series Analysis


5 Cross-section of Returns: ICAPM, Beta Representation, and SDF Methods

5.1 Cross section of returns: Facts

1. * CLM – Chapters 5,6

2. * Cochrane Chapters 14-16.


5.2 Methods: SDF & Cross sectional Regressions

1. ⋆ Cochrane –Chapter 9.1, 8.3-8.4, 12.2-12.3


Examining Cashflows


Recommended


5.3 Cross Section: Arbitrage, Multifactor Models

1. CLM —Chapter 6

2. Cochrane Chapter 9.4, 12-16


10. Asness Cliff, Frazzini Andrea, and Lasse Pedersen, 2015, ”Quality Minus Junk”, SSRN


5.4 New methods for big data: nonparametrics, machine learning, etc.


6. Lopez Lira, Alejandro, and Nikolai Roussanov, 2022. ”Do Common Factors Really Explain the Cross Section of Stock Returns?”


12. More recent papers to be added later!

6 Other Asset Classes

6.1 Bonds and Term Structure of Interest Rates

1. * Singleton book — Chapters 12 and 13


6.2 Currencies and commodity futures


12.  

6.3 Options


6.4 Credit - this and subsequent topics covered only if time remains


6.5 Mortgages and Housing


6.6 Managed Portfolios and Performance Evaluation


6.7 Private Equity, Venture Capital, and Other Illiquid Assets


7 Price phenomena across asset classes and other recent topics

7.1 Momentum and other “Factors”


7.2 Idiosyncratic Volatility


7.3 Volatility


7.4 Incomplete Information & Learning


7.5 Intermediary Asset Pricing


7.6 Announcements


4. Cieslak Anna, Adair Morse, and Annette Vissing Jorgensen, 2016, Stock Returns over the FOMC Cycle, working paper, Haas.


8 Firms, Asset Pricing, and Macro-Finance

Heterogeneous Firm Models and Asset Pricing:


Asset Pricing in a General Equilibrium with Production


9 Other Applications in Finance

1. Time permitting

2. TBD — topics targeted are use of instrumental variables, identifications schemes, uses of Probit & Logit, regression discontinuity.