

Finance Theory: Asset Pricing

Michael Shin

January 29th - February 2nd

Instructor Information

Instructor: Michael Shin

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Office Hours: H69, Room 529, 5 - 6 PM

General Information

Self-Introduction

I am a lecturer at The University of Sydney Business School, Discipline of Finance. I received my PhD at the University of California, Irvine in 2019. My research interests focus on asset pricing with recent emphasis on limited stock market participation. I also focus on learning models which are deviations from efficient markets-rational expectations with recent focus on learning-from-experience.

Course Overview

This course is the first in a sequence of PhD courses and seminars offered in finance and is designed to introduce students to the core of asset pricing. Asset pricing deals with understanding why different assets such as stocks, bonds, and options, have the prices they do in the market and why some assets pay more than others. In finance, the world is so complicated that we do not focus on just one model but rather different types of models depending on the problem at hand. Finance academics use a mixture of theoretical models and empirical methods to answer questions. The models, ideas, and techniques introduced in this course will provide the foundation for further topics in finance. There

are no course prerequisites but there will be an expectation that students are familiar with basic microeconomic theory, calculus, statistics, and matrix algebra.

Course Materials

Reference Texts

There are no required textbooks for this course, but the following are excellent asset pricing textbooks. I will reference course materials with corresponding chapters next to each topic below.

1. Asset Pricing: Revised Edition, 2005, John Cochrane, Princeton University Press
2. Financial Decisions and Markets: A Course in Asset Pricing, 2018, John Y. Campbell, Princeton University Press

Other References

Here are other textbooks I reference throughout the course:

1. Recursive Macroeconomic Theory, Fourth Edition, 2018, Lars Ljungqvist and Thomas Sargent, The MIT Press
2. Information and Learning in Markets: The Impact of Market Microstructure, 2010, Xavier Vives, Princeton University Press

Grading

Main Assessment

There will be a main assignment that will compose of problems that relate to the core material of this course. You are allowed to work as a pair on these problems. This will be assigned at the beginning of the course but do not expect to be able to complete them all until the end of the course.

FIRN Courses Grading Policy

A standardized grading system has been implemented across all FIRN endorsed PhD courses and applies to all PhD students undertaking the course. Final assessment grades are provided below and can be converted across the different metrics:

7	85%+	Pass with Distinction/H2 Honors
6	75% - 84%	Pass with Distinction/H2 Honors
5	65% - 74%	Pass with Credit/H3 Honors
4	50% - 64%	Weak Pass
3	< 50%	Did not Pass/Fail
2		Did not complete all assessments
1		Did not complete course

Course Schedule

Lecture 1

Monday, January 29th, 9 - 12 PM

Preliminaries and Asset Pricing Facts

Reference: Cochrane - Ch. 20, 21, Campbell - Ch. 6

Lecture 2

Monday, January 29th, 2 - 5 PM

Present Value Models, Fundamental Equation of Asset Pricing, Classic Finance Issues

Reference: Cochrane - Ch. 1, Campbell - Ch. 5

Lecture 3

Tuesday, January 30th, 9 - 12 PM

Stochastic Discount Factor, Introduction to Continuous-Time Math

Reference: Cochrane - Ch. 1, Appendix, Campbell - Ch. 4

Lecture 4

Tuesday, January 30th, 2 - 5 PM

Lucas Asset Pricing Model, Campbell-Shiller Decomposition

Reference: Cochrane - Ch. 2, 20, Campbell - Ch. 5, 6

Lecture 5

Thursday, February 1st, 9 - 12 PM

Asset Pricing Empirics, Factor Models

Reference: Ljungqvist and Sargent - Ch.14, Cochrane - Ch. 9, Campbell - Ch. 3

Lecture 6

Thursday, February 1st, 2 - 5 PM

Testing Asset Pricing Models, Generalized Method of Moments (GMM)

Reference: Cochrane - Ch. 10, 12, 13, Campbell - Ch. 4

Lecture 7

Friday, February 2nd, 9 - 12 PM

Macro-Finance Issues, Representative Agents, Dynamic Programming

Reference: Ljungqvist and Sargent - Ch. 3, 8, Cochrane - Ch. 3, Campbell - Ch. 6

Lecture 8

Friday, February 2nd, 2 - 5 PM

Incomplete Information, Noisy Rational Expectations Equilibrium (REE) Models

Reference: Vives - Ch. 5, Campbell - Ch. 11, 12

Additional Information and Resources

Supplementary Information

The following are excellent resources that provide a background in asset pricing. I will also provide supplementary notes regarding useful preliminaries for the course and also some technical extension material that we may not be able to cover in the interest of time throughout the course:

1. Capital Ideas: The Improbable Origins of Modern Wall Street, 1993, Peter L. Bernstein, Free Press
2. Short Review of Efficiency, John Cochrane, Article Link: https://www.johnhcochrane.com/s/Fama_AFA_introduction-cy4a.doc
3. Investment Notes, John Cochrane, Article Link: <https://www.johnhcochrane.com/s/>

notes.pdf