FIN525
Financial Economics II
Module 4, 2021-2022

Course Information

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Office Hour: 15:30-16:30 on Mondays and Thursdays, or by appointment. Please send an email appointment in advance.

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Classes:
Lectures: Mondays and Thursdays, 13:30-15:20
Venue: TBA

1. Course Description

1.1 Context

Course overview:

The objective of this sequential two-module course of **Financial Economics I and II** is to provide a rigorous study of the theoretical foundations of modern financial economics. These two consecutive courses are designed to follow an integrated logical flow and sequence to lead students to study foundations of modern financial economics, the classical asset pricing approach, as well as advanced general equilibrium asset pricing models in both the static and dynamic settings.

This course **Financial Economics II** is a continuation of **Financial Economics I**[1], and can be considered as a course on "Advanced Asset Pricing Theory". It extends the asset pricing theories from a static setting, which is acquired in Financial Economics I, into a dynamic

[1] As a refreshment of what have been taught in **Financial Economics I,** it is a course on "Foundations for Financial Economics", covers the central themes of modern finance including individual investment decisions under uncertainty, stochastic dominance, mean-variance theory, capital market equilibrium and asset valuation, arbitrage pricing theory, and general equilibrium asset pricing model in a static setting (i.e. a two-period model), and the potential applications of these themes.

multiple-period setting, and extensively cover dynamic asset pricing models, with their cutting-edging applications in the frontier asset pricing research. This course will also serve as a bridge to facilitate students to switch on their research mode through paper presentations and research projects.

This course has **three main objectives**:

The first objective is to introduce students to the fundamental works and the frontier of research in dynamic asset pricing. We will cover recent models that have been proposed to shed light on intriguing and important empirical patterns in the cross section and in the time series. Topics include non-separable utilities, consumption and production-based dynamic general equilibrium asset pricing models, market incompleteness, learning, uncertainty, dynamic asset pricing models with heterogeneous firms and financial market frictions, and some cutting edge special topics (for instance, equity term structure, term structure of interest rates, macro announcement premium, and so on).

The second objective is to teach students how to think of asset pricing research under a bigger or richer framework. We shall focus on the interactions between asset pricing and other fields such as macroeconomics, corporate finance, financial institutions, and international finance. The goal of investigating the joint dynamics is not only to better understand how asset prices are determined, but also (maybe more importantly) how would asset pricing dynamics affect other important economic variables such as investment, corporate payout and financing, unemployment, risk sharing, and international capital flows. The students will learn production-based asset pricing models, particularly the asset pricing models with productivity shocks, financial shocks, uncertainty shocks, risk shocks, financial frictions, and information frictions. Of course, the advanced solution methods will be offered too.

The third objective is to introduce advanced empirical methods to analyse the data and the quantitative dynamic models. It includes how to estimate structural dynamic models, how to evaluate structural models beyond goodness-of-fit tests, how to confront the models' predictions with empirical data by simulations and resampling techniques, and how to efficiently test models and explore new patterns using asset pricing and macro data.

Target Audience:

Primary: Ph.D. students of Finance or Economics who are interested in developing future dissertation research in the field of asset pricing, in conjuncture with macroeconomics and finance.
Secondary: Advanced MA students who have successfully taken and met the requirement of the pre-requisite course--Financial Economics I, and are seriously considering to choose asset pricing as their future research area.

Prerequisites:

Financial Economic I, the first course in the Finance Economics sequence, is required as a pre-requisite. For the rare case in which a student has received a similar class at the same/similar level, he/she needs to discuss with me and ask for approval for the enrolment.

Other prerequisite courses: Advanced microeconomics (level of Varian's "Microeconomic Analysis"); graduate level calculus, matrix algebra, and statistics. Advanced macroeconomics is not a must, but will be very helpful for this course if already taken or taken in conjunction.

1.2 Textbooks and Reading Materials

We will not follow any particular books closely in this class, but the following textbooks will be useful references. While they are not required, most of them belong on the shelf of every Ph.D. student in finance.

Main reference books:

1. Principles of Financial Economics, Second Edition, Stephen F. Leroy and Jan Werner, Cambridge University Press, 2014. [LW]
2. Huang, Chi-fu and Robert H. Litzenberger, Foundations for Financial Economics, North-Holland, 1988. [HL]
3. Cochrane, John, Asset Pricing, Revised Edition, Princeton University Press, 2005. [C]
4. John Campbell, Financial Decisions and Markets: A Course in Asset Pricing, Princeton University Press, 2018. [CN]

Other reference books:

5. Altug, Sumru and Pamela Labadie, Asset Pricing for Dynamic Economies, Cambridge University Press, 2008. [AL]
6. Ljungqvist, Lars and Thomas J. Sargent, Recursive Macroeconomic Theory, 2nd Edition, MIT Press, 2004. [LS]
7. Back, Kerry, Asset Pricing and Portfolio Theory, Oxford University Press, 2010. [B]
8. Duffie, Darrel, Dynamic Asset Pricing Theory, Princeton University Press, 2001. [D]
9. Pennacchi, George, Theory of Asset Pricing, Pearson, 2008. [P]

Course website: CMS course system

All course materials, including lecture slides, homework assignments, solutions, and references, will be posted there.

2. Learning Outcomes

2.1 Intended Learning Outcomes

Learning Goals	Objectives	Assessment
1. Our graduates will be effective communicators.	1.1. Our students will produce quality business and research-oriented documents.	YES, students will be asked to write a research project.
	1.2. Students are able to professionally present their ideas and also logically explain and defend their argument.	YES, there will plenty of in-class discussions.
2. Our graduates will be skilled in team work and leadership.	2.1. Students will be able to lead and participate in group for projects, discussion, and presentation.	YES
	2.2. Students will be able to apply leadership theories and related skills.	NO
3. Our graduates will be trained in ethics.	3.1. In a case setting, students will use appropriate techniques to analyze business problems and identify the ethical aspects, provide a solution and defend it.	NO
	3.2. Our students will practice ethics in the duration of the program.	NO
4. Our graduates will have a global perspective.	4.1. Students will have an international exposure.	NO
5. Our graduates will be skilled in problem-	5.1. Our students will have a good understanding of fundamental theories in	YES, evaluated by homework

solving and critical thinking.	their fields.	
	5.2. Our students will be prepared to face problems in various business settings and find solutions.	YES, evaluated by homework
	5.3. Our students will demonstrate competency in critical thinking.	YES, evaluated by homework

2.2 Course specific objectives

Upon completion of this course, students should acquire a clear understanding of the major theoretical results concerning individuals' consumption and portfolio decisions under uncertainty and their implications for the valuations of securities.

2.3 Assessment/Grading Details

Grading:
The course grade will be based on the following components. The relative weights are as follows:

In-class Quizzes:	20%
Assignments:	20%
Paper Presentation:	20%
Research Project:	40%

Class participation: will count for students on the margin between grades.

In Class Quizzes:

We will have two in-class quizzes. We will hold the quizzes for the first 50 minutes of class. Following the quiz, we will have a break for 10 minutes and then resume the lecture. The quizzes are designed to motivate students to closely follow the lectures and spend timely efforts to digest the course materials. Their performance in the quizzes will account for a significant component of the final grade.

Assignments:

There will be periodical assignments. Students are expected to follow the instructions and turn in their assignments in a timely manner.

Paper Presentations:

Towards the end of the course, I will assign a pool of papers for presentation at the conclusion. Every enrolled student is expected to present an assigned paper at his/her choice from the paper pool. **Alternatively, a student can choose to present his/her own research project related to the theme of our course.** In such a case, he/she is encouraged to discuss it with me in advance. The detailed presentation format and time allocation is to be announced after the number of enrolment is fixed.

Research Project:

There will be one research project. The project can be empirical exploration, theoretical development, or replication and extension of some paper related to the theme of our course.

Class participation:

It includes attendance, class discussions, after-class interactions, and so on. If one student's performance in this category is above/below my expectation, his/her grade will be adjusted upward/downward by one level, for instance, from A to A+ (adjusted upward), or from A to A- (adjusted downward).

There is no final exam.

2.4 Academic Honesty and Plagiarism

It is important for a student's effort and credit to be recognized through class assessment. Credits earned for a student work due to efforts done by others are clearly unfair. Deliberate dishonesty is considered academic misconducts, which include plagiarism; cheating on assignments or examinations; engaging in unauthorized collaboration on academic work; taking, acquiring, or using test materials without faculty permission; submitting false or incomplete records of academic achievement; acting alone or in cooperation with another to falsify records or to obtain dishonestly grades, honors, awards, or professional endorsement; or altering, forging, or misusing a University academic record; or fabricating or falsifying of data, research procedures, or data analysis.

All assessments are subject to academic misconduct check. Misconduct check may include reproducing the assessment, providing a copy to another member of faculty, and/or communicate a copy of this assignment to the PHBS Discipline Committee. A suspected plagiarized document/assignment submitted to a plagiarism checking service may be kept in its database for future reference purpose.

Where violation is suspected, penalties will be implemented. The penalties for academic misconduct may include: deduction of honour points, a mark of zero on the assessment, a fail grade for the whole course, and reference of the matter to the Peking University Registrar.

For more information of plagiarism, please refer to *PHBS Student Handbook*.

3. Topics, Teaching and Assessment Schedule

NOTE: Course outline is subject to minor changes along the progress of the course. Readings are to be added.

Topic 0: Introduction

Topic 1: Present Value Relations

Topic 2: Equilibrium in Multidate Security Markets

- Complete-event contingent claims equilibrium and intertemporal risk-sharing
- Dynamic securities market equilibrium
- Multidate arbitrage
- Dynamically completeness

Topic 3: Dynamic Consumption and Portfolio Choice：Dynamic Programming (self-study and self-review)

- Finite Horizon Models
- Markov property
- Infinite Horizon Case: Recursive Methods and Contraction Mapping
- Numerical Methods and Applications

Topic 4: Consumption Based Asset Pricing Models

- The Lucas model
- The consumption CAPM
- Intertemporal CAPM
- Alternative preferences (Habit, Recursive utility)
- Long-run risks model
- Habit model

- Rare disaster models

Topic 5: Production-based Asset Pricing Models
- SDF implied by production
- Aggregate asset prices in production models
- Models with heterogeneous firms and cross-sectional implications
- Numerical Methods

Topic 6: Asset Pricing Models with Financial Market Frictions

Topic 7: Financial Market Frictions and Capital Misallocation

Topic 8: Asset Pricing Models for Equity and Interest Rate Term Structures

Topic 9: **Asset Pricing Models with Information Frictions**

4. Miscellaneous