

ECON0048 Economics of Finance

Lecturer: Dr Wei Cui

The course gives a basic description of markets for financial assets (capital markets) as a first introduction to Finance for undergraduates. The goal is to understand how asset markets work using basic concepts from economics such as supply, demand, and rational choice.

We will combine descriptions and empirical observations of actual markets with models that have been designed to explain the data. The models entertained will be based on investors taking decisions under uncertainty, where issues of risk and saving for the future play a key role.

The course should be useful on its own to students who wish to acquire a basic understanding of capital markets. The course is also background for Advanced Economics of Finance (ECON0113). It is intended for undergraduate students with a good understanding of microeconomics, macroeconomics, and the mathematics that are taught in the standard economics curriculum at UCL.

The main textbook will be by Zvi Bodie, Alex Kane, and Alan I. Marcus, *Investments*, 11th ed. 2018, McGraw-Hill Erwin. Optional reading will be the book by Jonathan Berk and Peter De-Marzo *Corporate Finance*, Pearson Education and the book by Franklin Allen, Stewart Myers and Richard Brealey, *Principles of Corporate Finance*, McGraw-Hill. More advanced are the graduate textbooks of John Cochrane and John Campbell on asset pricing. See Moodle page for precise editorial references.

Some journal articles will be used as assigned readings for specific topics, the references will be provided during the lectures.

The textbook is less analytical than the lectures. The technical content of the course is summarized in the lecture notes and other class notes, which will be handed out during the semester. Textbooks and journal articles are meant to help understand the material delivered in the lectures.

The assessment is typically a 100% on a 24-hour exam in Term 3, which is subject to change. You will be given advance notice about the assessment.

There will be a series of homework (between four and six) that will have to be handed in and the tutors will give feedback. Furthermore, there will be answer keys to the homework, sample exam, and the live lectures.

The following is a list of topics that will be covered.

1. Introduction

Course administration. Introduction to Capital Markets. Types of asset markets in the real world and in the world of finance. Arrow-Debreu securities.

2. Basic Concepts in Finance.

Discrete states, complete markets, payoff matrix, arbitrage.

3. The Bond and Equity Markets.

Measuring return; the money market; leverage and short sales in practice; limits to arbitrage, dual shares. The bond and equity markets; portfolios and indexes; completing markets with asset trading.

4. Decision under uncertainty: Expected utility and risk aversion.

Expected utility as a criterion to guide decision under uncertainty. A statistical view of financial history; measuring risk aversion; optimality and equilibrium; introduction to the stochastic discount factor. Arithmetic and geometric averages; mean-variance analysis, optimal choice with one risky and one risk-free asset.

5. Diversification.

Mean-variance analysis for multiple risky assets; the mutual fund theorem. The beta representation theorem.

6. The Capital Asset Pricing Model

Describing and solving the CAPM. Empirical research on the CAPM; the low reward for beta; the size and value effects. Short selling constraints: Black CAPM.

7. Stochastic Discount Factor (SDF)

SDF, a modern approach to finance. Relation to CAPM and Arrow-Debreu securities.

8. Stock Market

Market efficiency, definition, and tests. Momentum effect. Active portfolio management. Stock price volatility and bubbles. Dividend discount model, Gordon model of stock prices. Stock earnings.

9. Bond Market

Different types of bonds and bond pricing. Yield curve, term structure of interest rates. Holding period returns. Volatility of interest rates. Forward rates, the expectations hypothesis. Corporate bonds. Fisher hypothesis, TFPS.

10. Topics (to be determined)

A list of potential topics. The foundations for asset trading: sharing risks and heterogeneity due to different preferences and different beliefs. Dynamic/Intertemporal CAPM, the interaction between labor income and demand for stocks. Changing the investment horizon. The role of beliefs about asset prices.