

Financial Markets and Instruments
ECON 83000

Last offered: Fall 2018

Fri 3-5 pm Graduate Center Room 4422

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Overview

Asset Pricing is, probably, the most important area of financial economics. It tries to develop an understanding of the prices of claims to uncertain payments. But as prices are directly related to returns it can also be thought of as a theory related to the returns of assets.

Hence, Financial Markets and Instruments is an introduction to the quantitative analysis of the risk and return of risky assets. This analysis of asset pricing lies at the heart of virtually all of financial economics. There are currently two approaches towards pricing: absolute (like CAPM and APT) and relative (like Black-Scholes). The first approach is more ambitious since it tries to relate prices to fundamentals. This course will seek to provide a thorough overview of the current state of the art approaches towards asset pricing and will cover theoretical and some empirical work by leading experts in the field.

But the course intends also to provide PhD students with a modest overview of Finance as an academic discipline, so it might include some topics in corporate finance and possibly market microstructure.

The development of the material is mathematical, but the main objective is to develop intuition, discover empirical predictions and ultimately develop some original research ideas that can, eventually, lead to writing a thesis and publish papers.

Learning Goals and Outcomes

- Students will learn basic issues, results and methodologies in financial economics.
- Students will be familiarized with use of mathematics to prove basic propositions in financial economics.
- Students will become familiar with the underlying assumptions related to results and propositions. They will also understand the extend of the support that these assumptions enjoy as well as their problems and issues so that they can be helped to ultimately develop their own ideas by possibly relaxing or reformulating those assumptions.

References

Textbooks:

Required:

- *Theory of Asset Pricing* by George Pennacchi, Pearson / Addison Wesley, 2008
- *Asset Pricing and Portfolio Choice Theory* by Kerry E. Back, Oxford University Press, 2017

Other related books:

- *Financial Asset Pricing Theory* by Claus Munk, Oxford, 2015
- *Economic and Financial Decisions under Risk* by Louis Eeckhoudt, Christian Gollier and Harris Schlesinger, Princeton University Press, 2005
- *Theory of Financial Decision Making* by Jonathan Ingersholl, Rowman & Littlefield, 1987
- *Principles of Financial Economics* by Le Bow and Werner, Cambridge University Press, 2001
- *Foundations for Financial Economics* by Huang and Litzenberger, Prentice-Hall, 1988
- *Financial Economics* by Jurgen Eichberger and Ian Harper, Oxford, 1997
- *Introduction to Mathematical Finance* by Stanley Pliska, Blackwell, 1997
- *Asset Pricing* by John H. Cochrane, Princeton University Press, 2001

Papers:

- Bernoulli. 1954. Exposition of a new theory on the measurement of risk. *Econometrica* 22:23-36.
- Kihlstrom, Romer and Williams. 1981. Risk aversion with random initial wealth. *Econometrica* 49: 911-920.
- Pratt. 1964. Risk aversion in the small and in the large. *Econometrica* 32: 122-136.
- Yaari. 1987. The dual theory of choice under risk. *Econometrica* 55: 95-115.
- Geiss, Menezes and Tressler. 1980. Increasing downside risk. *American Economic Review* 70(5):921-931.
- Rothschild and Stiglitz. 1970. Increasing risk. I. A definition. *Journal of Economic Theory* 2: 225-243.
- Rothschild and Stiglitz. 1971. Increasing risk. II. Its economic consequences. *Journal of Economic Theory* 3: 66-84.
- Samuelson. 1967. General proof that diversification pays. *Journal of Financial and Quantitative Analysis* 2(2):1-13.
- Markowitz. 1952. Portfolio selection. *Journal of Finance* 7: 77-91.
- Eeckhoudt, Gollier and Schlesinger. Changes in background risk and risk taking behavior. *Econometrica* 64:683-690.
- Mehra and Prescott. 1985. The equity premium: a puzzle. *Journal of Monetary Economics* 10:335-339.
- Kimball. 1993. Standard risk aversion. *Econometrica* 61:589-611.
- Gollier. 1995. The comparative changes in risk revisited. *Journal of Economic Theory* 66:522-536.

Kocherlakota. 1996. The equity premium: it's still a puzzle. *Journal of Economic Literature* 34:42-71.

Doherty and Schlesinger. 1983. Optimal insurance in incomplete markets. *Journal of Political Economy* 91: 1045-1054.

Arrow. 1971. *Essays in the theory of risk bearing*. Chicago: Markham Publishing Co.

Arrow. 1964. The role of securities in the optimal allocation of risk-bearing. *Review of Economic Studies* 31: 91-96.

Debreu. 1959. *Theory of value*. Wiley.

Epstein and Zin. 1991. Substitution, risk aversion and the temporal behavior of consumption and asset returns: an empirical framework. *Journal of Political Economy* 99: 263-286.

Kimball. 1990. Precautionary savings in the small and in the large. *Econometrica* 58:53-73.

Deaton. 1991. Saving and liquidity constraints. *Econometrica* 59: 1221-1248.

Dreze and Modigliani. 1972. Consumption decisions under uncertainty. *Journal of Economic Theory* 5:308-335.

Samuelson. 1969. Lifetime portfolio selection by dynamic stochastic programming . *Review of Economics and Statistics* 51: 239-246.

Barberis. 2000. Investing for the long run when returns are predictable. *Journal of Finance* 55: 225-264.

Detemple. 1986. Asset pricing in an economy with incomplete information. *Journal of Finance* 61:383-392.

Mossin. 1968. Optimal multiperiod portfolio policies. *Journal of Business* 41:215-229.

Lucas. 1978. Asset prices in an exchange economy. *Econometrica* 46:1429-1446.

Weil. 1989. The equity premium puzzle and the risk free rate puzzle. *Journal of Monetary Economics* 24:401-421

Cox, Ross and Rubinstein. 1979. Option pricing: a simplified approach. *Journal of Financial Economics* 7: 229-264.

Black and Scholes. 1973. The pricing of options and corporate liabilities. *Journal of Political Economy* 81: 637-659.

Merton. 1973. Theory of rational option pricing. *Bell Journal of Economics and Management Science* 4: 141-183.

Prerequisites

This is an elective course and as such assumes that students have taken the basic microeconomics and econometrics course offered by the program. Students are also expected to have a good training in basic math topics: elementary set theory and real analysis, multivariate calculus, optimization and linear algebra.

Grading Policy

The course grade will be based on a final (50%) and an in-class midterm (40%), and my evaluation (10%) of their class participation in class discussions and possibly presentations. Students are expected to come to all classes and actively participate in class discussion.

Approximate Time Schedule and Topics Covered

Week1	Introduction to securities markets and investors
Week2	Expected Utility and Risk Aversion
Week3	Stochastic Dominance
Week4	Mean-Variance Analysis, Portfolio Frontier & Two-Fund separation
Week5	CAPM, Arbitrage, and Linear Factor Models
Week6	Consumption-Savings Decisions and State Pricing
Week7	Multiperiod Discrete-Time Model of Consumption and Portfolio Choice
Week8	Midterm Exam
Week9	Multiperiod Market Equilibrium
Week10	Basics of Derivative Pricing
Week11	Asset Pricing with Differential Information
Week12	Other Topics
Week13	Other Topics
Week 14	Final Exam

CUNY Policy on Academic Integrity

As stated in the CUNY Policy on Academic Integrity: Plagiarism is the act of presenting another person's ideas, research or writings as your own. The following are some examples of plagiarism:

- 'Copying another person's actual words without the use of quotation marks and foot- notes attributing the words to their source;
- 'Presenting another person's ideas or theories in your own words without acknowledging the source;
- 'Using information that is not common knowledge without acknowledging the source;
- 'Failing to acknowledge collaborators on homework and laboratory assignments.
- 'Internet plagiarism includes submitting downloaded term papers or parts of term papers, paraphrasing or copying information from the internet without citing the source, and "cutting & pasting" from various sources without proper attribution.'
- A student who plagiarizes may incur academic and disciplinary penalties, including failing grades, suspensions, and expulsion.
- A complete copy of the CUNY Policy on Academic Integrity may be downloaded from the Graduate Center's home page.