

12F003

6 ECTS

Asset Pricing

Overview and Objectives

This course is an introduction to the foundations of Asset Pricing. The course starts with a brief overview of the institutions, markets and financial instruments that constitute the Financial System. It then deals with arbitrage and equilibrium theories of the pricing of risky financial instruments, as well as with the implications of these theories for financial decision-making.

Required Activities

Students are expected to have a minimum preparation in mathematics, statistics and econometrics. More specific requirements include: function differentiation; constrained optimization; linear algebra; discrete and continuous probability distributions; statistical inference; and multivariate regression. Microeconomics as taught in this Master is also required. Previous knowledge of Finance is not assumed.

Problem sets consisting of both exercises and empirical analysis of real data will be handed out to students during the course. Students must work in groups of 3 people, but they must be ready to defend their answers individually in class.

Course contents

Chapter One. HISTORICAL AND INSTITUTIONAL BACKGROUND

1. Introduction
2. Historical Background
3. Modern Institutions
4. APPENDIX
5. Present Value and the Net Present Value Rule

CHAPTER TWO. ASSET PRICING: ARBITRAGE

1. The Law of One Price
2. Pricing of Coupon Bonds
3. The Arbitrage Pricing Theory
4. Pricing of Forwards, Futures and Swaps
5. Option pricing
6. The Fundamental Theorem of Asset Pricing

Chapter Three. DECISION MAKING UNDER UNCERTAINTY

1. Expected Utility and Risk Aversion
2. Expected Utility and Optimal Portfolio Choice
3. Comparative Statics Results
4. Commonly used Utility Functions
5. Mean-Variance Analysis

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Chapter Four. ASSET PRICING: EQUILIBRIUM

1. Introduction
2. The expected return on a portfolio
3. Measurement of Risk and Diversification
4. Two-fund separation theorem and optimal portfolio when only risky assets are available
5. Asset pricing under mean-variance preferences: the Capital Asset Pricing Model (CAPM)
6. Applications of the CAPM
7. Empirical Tests of the CAPM
8. Extensions of the CAPM
9. The Consumption CAPM
10. Behavioral Finance

Evaluation

The exam will contain both exercises and theoretical questions. Questions may be related to any material that is part of the program. Class participation involves active participation through questions, answers and comments.

Grading

- Exam: 60%
- Problem sets: 40%

Materials

Reading Materials

- Lecture notes
- Campbell, J, Lo, A. and A.C. Mackinley, The Econometrics of Financial Markets, Princeton University Press, 1997.
- Huang, C. and R. Litzenberger, Foundations for Financial Economics, North-Holland, New York, 1988.
- Hull, J., Options, Futures and Other Derivatives, Prentice Hall, 2000.
- Ingersoll J.E., Theory of Financial Decision Making, Rowman & Littlefield Pub. Inc., 1987.
- Marín, J. and G. Rubio, Economía Financiera, Antoni Bosch Editors, 2001, (in Spanish).

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Popular undergraduate textbooks (for students who have not taken any finance course before):

- Brealey, R., S. Myers, and F. Allen. Principles of Corporate Finance, McGraw-Hill, 2005.
- Grinblatt, M. and S. Titman, Financial Markets and Corporate Strategy, McGraw-Hill, 2002.