Investments and Portfolio Management (Econ-180.367)
Fall 2011

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This is an introductory course in investments. The course is broken into four parts. The first part covers the fundamental concepts of asset returns, risk, and risk-aversion, and then studies how investors should optimally choose their portfolios given the observed patterns of risk and return. The second part of the course studies the reverse question: given how investors choose their portfolios, what are the equilibrium patterns of risk and expected return in financial markets: in other words, what is the expected return that various types of assets must earn to compensate investors for bearing their risk. The second question is studied in the context of two theories of returns: the capital asset pricing model (CAPM) and arbitrage pricing theory (APT). The third part of the course studies the empirical evidence for and against the equilibrium theories of asset returns, with an emphasis on the evidence in support and against the efficient markets hypothesis. The fourth and final part of the course studies four classes of assets in more detail. The topics that are covered include models of equity valuation, bond valuation and hedging, futures markets, and option valuation.

Homeworks and class will include empirical work, to be done in Excel.

PREREQUISITES: Statistics 111-112 and Microeconomic Theory 301.

Textbook: The textbook for the course is "Investments" by Bodie, Kane and Marcus, 9th Edition.

Homework: I expect to assign around 6 homeworks during the semester. Late homeworks will not be accepted. The grade on the lowest homework will be dropped.

Course materials: Slides for projection in class and other course materials are available on the course webpage: http://www.econ.jhu.edu/courses/367

Class Attendance: Class attendance is compulsory. Students registered for the course who do not regularly come to class will receive a grade of ND.

Grades:
● Homework: 20 percent
● Midterm: 30 percent
● Final: 50 percent

Exam Times:
● Midterm: Friday November 17, in class time.
● Final: Monday December 12, 9am-12 noon.

Course Outline:

1. Introduction. Types of assets. Financial math. Real and nominal interest rates. Present value calculations. Risk and return, utility functions and risk aversion. Concept of a risk premium. (Chapters 2, 5 and 6).

2. Optimal portfolio choice and risk sharing. (Chapter 7).

3. The Capital Asset Pricing Model and single index models, including solving for the efficient frontier in Excel. The security market line. (Chapters 8 and 9).

4. Multi-Factor Models of Returns and Arbitrage Pricing Theory. Factor-mimicking portfolios, market price of factor risk. (Chapter 10).

5. The Efficient Markets Hypothesis. Weak, semi-strong and strong efficiency. Behavioral Anomalies (Chapters 11 and 12).

6. Empirical Evidence on Stock Market Returns. Predictability of returns. Dividend discount model (Chapters 13 and 18).

7. Bond Valuation Models. The term structure of interest rates. Zero-coupon and forward rates. Compounding. Duration and convexity. Managing bond portfolios. Types of bonds and default risk. Interest rate swaps. (Chapters 14-16 and 23.4).

8. Options. Types of Options (American v. European, Put v. Call, Strike Price). Options payoffs. Put-Call Parity. Binomial Option Pricing. Implementation in Excel. Black Scholes. (Chapters 20 and 21).

9. Futures Markets. Spot-Futures Arbitrage. Models of Backwardation and Contango. (Chapter 22).