

Department of Economics 2009/10

ECO 358H1 F
Financial Economics I
Section L0101
Fall Term 2009/10
(UC161 Tuesdays 2-4)

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Course Description

The course provides an introduction to the concepts and methods used in asset pricing. Topics to be covered include valuation of fixed income securities, expected utility and portfolio choice, the major models of asset pricing (CAPM, APT, State Preference Theory, CCAPM), contingent claim securities, Martingale methods, option pricing theory, and efficient capital markets.

Marking

A mid-term test will be given during classroom hours on Tuesday, October 20. The mid-term will count for 40% of the final mark. A final exam to be held during the Faculty of Arts & Science's December Examination Period will count for the remaining 60% of the final mark. The final exam will be common with the evening section of ECO358H. A student who misses the mid-term test for valid reason will have the final exam re-weighted to 100%.

Textbooks & Other Reading Materials

The textbook for the course is *Investments, 6th Canadian Edition* by Bodie, Kane, Marcus, Perrakis, and Ryan. (2008, McGraw-Hill Ryerson ISBN-10: 0-07-096545-5). In what follows this textbook will be referred to simply as "Bodie". Students who purchase this book will have access to an on-line learning centre maintained to supplement it. Students who wish a somewhat more rigorous presentation of materials may wish to consult the textbook which was used in this course during previous years. That book is *Financial Theory and Corporate Policy, 4th Edition* by Copeland, Weston, and Shastri. (2005, Pearson Addison Wesley, ISBN 0-321-12721-8) – hereafter referred to as CWS. A copy of CWS has been placed on short-term reserve at the Robarts Library. In addition to assigned readings from the textbooks, students will be assigned a number of web-based supplementary readings. These are to be found on the course web site.

Problem Sets

Problems aimed at supplementing and reinforcing readings and classroom materials will be assigned on a regular basis. The problems consist of end-of-chapter problems from Bodie and additional problems appearing on the course web site. Solutions to some (but not all) of the problems appearing in Bodie are obtainable at the on-line learning centre for this textbook. Solutions to the web-based problems will be posted on a periodic basis. Students will not be asked to submit their solutions for marking. But the payoff to students who conscientiously work through them is that a number of the questions to appear on the mid-term test and the final examination will be derivatives of the assigned problems.

Course Outline

1. Introduction to Financial Economics and Asset Pricing Theory

a. Institutional Details Regarding Various Securities Markets Practices and Instruments

Background Readings: Bodie, Chs. 1-4.

(Note: Students are expected to familiarize themselves with the materials and concepts in these readings but will not be directly tested on them.)

b. Review of Statistical Concepts and Methods

Assignment: Students should complete the problems appearing in the web-based supplement titled "Problems for Statistics Review".

2. The Time Dimension in Isolation: Asset Pricing in a World of Complete Certainty with Applications to Fixed Income Securities

Readings: Bodie, Ch.5, Sections 5.1 – 5.2; Ch. 13, Sections 13.1 – 13.4; Ch. 14, Sections 14.1-14.2; Ch. 15, Section 15.1 and the web-based supplement titled "Asset Pricing Under Complete Certainty".

Assignment: Bodie problems 13.1-13.5, 13.13, 14.6. Problems 1.- 4. from the web-based list of "Assigned Problems".

3. The Risk Dimension in Isolation: Asset Pricing in a Timeless World

a. Utility and Risk Aversion

Readings: Bodie, Ch. 6, Section 6.1 and Appendix 6A; CWS, Ch. 3. [Note: Bodie is weak on this topic; CWS has a better presentation.]

[Suggested, but not required, supplemental readings for very ambitious students are the web-based supplements titled "The Lognormal Distribution" and "Risk Aversion and Portfolio Choice".]

Assignment: Bodie problems 6.1, 6.2, problem 1, 2 in Appendix 6A; problems 5 – 7 from the web-based list of "Assigned Problems".

b. Mean–Variance Analysis and Efficient Portfolios

Readings: Bodie, Ch. 7, Sections 7.1-7.4 & Appendices 7A, 7B.

Assignment: Bodie problems, 7.1-7.13

c. The Capital Asset Pricing Model (CAPM)

Readings: Bodie, Ch 8, Sections 8.1-8.4

Assignment: Bodie problems 8.5-8.15, 8.28-8.29

d. Factor Models and Arbitrage Pricing Theory (APT)

Readings: Bodie, Ch. 9

[Curious students may wish to look at an alternative explanation of APT which appears as the web-based supplement titled "Hedge Portfolios, the No Arbitrage Condition, and Arbitrage Pricing Theory". This supplement was prepared in prior years when the course textbook was not as clear about APT as is our current Bodie text.]

Assignment: Bodie problems 9.1-9.2, 9.5-9.9, 9.17-9.20

e. Empirical Evidence Regarding CAPM and APT

Readings: Bodie, Ch. 12, Sections 12.1– 2.3.

Assignment: Bodie problems, 12-1-12.7

4. Combining the Time and Risk Dimensions: Asset Pricing in a Multi-period, Risky World

a. State Preference Theory and Arrow-Debreu Pricing

Readings: The web-based supplement titled "State Preference Theory"

Assignment: Problems 8 – 13 from the web-based list of "Assigned Problems".

b. The Consumption Based Capital Asset Pricing Model (CCAPM)

Readings: The web-based supplements titled "A Very Brief Introduction to CAPM" and "Summary Comparison of Alternative Asset Pricing Theories".

Assignment: Problems 14-16 from the web-based list of "Assigned Problems".

5. Options and Option Pricing

Readings: Bodie, Ch. 18, Sections 18.1-18.2; Ch. 19, Sections 19.1-19.5 [A suggested, but not required, supplemental reading for extremely ambitious students is the web-based supplement titled "Continuous Time Processes".]

Assignment: Bodie problems 19.5-19.9

_____ Time permitting _____

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6. Market Efficiency

Readings: Bodie, Ch. 10

Assignment: Bodie problems 10.1, 10.14-10.17, 10.26