University of Toronto
Rotman School of Management

RSM3030, Financial Theory
Winter SEMESTER, 2015

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Class Meetings:
Thursdays, 2:00-4:30pm
Location: Room 470
Office Hours: By e-mail appointment

COURSE DESCRIPTION
This course is an introductory PhD level course on the basic theories of asset pricing. It consists of four parts. The first part deals with individual choices under uncertainty, including expected utility theory, risk aversion, stochastic dominance, and two-period consumption portfolio problems. The second part deals with equilibrium pricing theories, including implications of no arbitrage and stochastic discount factor, risk sharing, aggregation, and consumption-based pricing in complete markets, mean-variance efficiency and the Capital Asset Pricing Model, and the Arbitrage Pricing Theory. We also explore the relation between these various pricing theories and extend the treatment of individual consumption/portfolio problems and equilibrium pricing to a multi-period setting. In the third part, we review recent developments in asset pricing by introducing some stylized facts and new theories. The fourth part provides a brief introduction to asymmetric information in financial markets and/or to behavioral finance.

PREREQUISITES
Although there is no prerequisite for this course, a good background in economics and mathematics can be very helpful.

COURSE GRADES
Course grades are based on four problem sets (40%) and a final exam (60%). Assignments are handed out approximately every two weeks and are due at the start of the class. Late assignments are not accepted.

TEXTBOOK AND SUPPLEMENTARY READINGS

The required textbook:

1. [JC] John H. Cochrane, Asset Pricing, Princeton University Press, February 2005.

This book provides a nice, intuitive, and up-to-date treatment of some of the central ideas in asset pricing.

Recommended reference books:

2. [H&L] Chi-Fu Huang, Robert H. Litzenberger, Foundations for Financial Economics, Prentice Hall, February 1988.

Although standard text for this course for many years, this book has become somewhat obsolete. While it has reasonable coverage of many of the topics that we discuss in the early part of the course, it does not cover much of recent developments in asset pricing.

3. [JI] John Ingersoll, Theory of Financial Decision Making, Rowman and Littlefield, 1987.

Another classic introductory text, but like Huang and Litzenberger, this book is also somewhat outdated in its perspective. However, its well-organized and detailed treatment of the covered topics makes it a useful reference.

4. John Y. Campbell, Andrew W. Lo, and A. Craig MacKinlay, The Econometrics of Financial Markets, Princeton University Press, New Edition, December 1996.

A great book for an empirical course, and includes summaries of several theoretical topics as well.

The following three books are useful for continuous-time models:

5. Darrell Duffie, Dynamic Asset Pricing Theory, Princeton University Press, second edition, 1999.

6. Robert C. Merton, Continuous-Time Finance, Wiley, John & Sons, Incorporated, 1992.

7. Steven E. Shreve, Stochastic Calculus Models for Finance II: Continuous-Time Models (Springer Finance Series), Springer-Verlag New York, LLC, 2004.

A great, up-to-date book for asymmetric information in financial markets is:

8. Vives, Xavier, Information and Learning in Markets: The Impact of Market Microstructure. Princeton University Press, Princeton and Oxford, 2008.

TOPICS AND READING LIST:

Below is a rough outline of topics covered in the course, as well as some of the relevant readings from the various texts. (Readings that are labeled with "*" are recommended but not required.)

Introduction

A. JC, Preface

I. Choice under Uncertainty: Expected Utility, Risk Aversion, and Stochastic Dominance

A. H&L, Chapters 1-2
B*. JI, 1 and 5

II. Two-Period Consumption/Portfolio Problems

JC, Chapter 1: Sections 1.1-1.3
B*. JI, Chapter 3: pages 65-71

III. Law of One Price, No Arbitrage, and Stochastic Discount Factor (SDF)

A. JC, Chapter 4

IV. Equilibrium in a Complete Market: Pareto Optimality, Aggregation, and Consumption-Based Pricing Models

A. JC, Chapters 2, 3
B. H&L, Sections 5.1-5.11, 5.12-5.15*, 5.21-5.26

V. Mean-Variance Efficiency and the Capital Asset Pricing Model (CAPM)

A. JC, Chapter 5
B. H&L, Chapter 3, 4.1-4.17

VI. The Arbitrage Pricing Theory (APT)

A. JC, Section 9.4
B. H&L, Sections 4.18-4.25

VII. Relation between Consumption-Based Pricing Models, Stochastic Discount Factors, Betas, and Mean-Variance Frontiers

A. JC, Chapters 6, 7, 9.0-9.1 (stop at page 155)

VIII. Asset Pricing in Multi-Period Securities Markets: Intertemporal Consumption/Portfolio Problems and the Intertemporal Capital Asset Pricing Model (ICAPM)

A. JC, Chapters 6, 7, 9.1 (page 155)-9.3, 9.5
B. JI, Chapter 11
C*. H&L, Chapters 7, 8

IX. Asymmetric Information in Financial Markets: An Introduction

A. Xavier Vives, *Information and Learning in Markets: The Impact of Market Microstructure*. Princeton University Press, Princeton and Oxford, 2008.

B*. Markus Brunnermeier, *Asset Pricing Under Asymmetric Information: Bubbles, Crashes, Technical Analysis, and Herding*, Oxford University Press, 2001.

C. Sanford J. Grossman and Joseph E. Stiglitz (1980), "On the Impossibility of Informationally Efficient Markets," *American Economic Review* 70, 393-408.

D. Martin F. Hellwig (1980), "On the Aggregation of Information in Competitive Markets," *Journal of Economic Theory* 22, 477-498.

E*. Albert S. Kyle (1985), "Continuous Auctions and Insider Trading," *Econometrica* 53, 1315-1335.

F*. Anat R. Admati and Paul Pfleiderer (1986), "A Monopolistic Market for Information," *Journal of Economic Theory* 39, 400- 438.

G*. Michael J. Fishman and Kathleen M. Hagerty (1992), "Insider Trading and the Efficiency of Stock Prices," *The RAND Journal of Economics* 23, 106-122.