



MASTER IN FINANCE

Asset Pricing and Portfolio Choice

Professor Massimo Guidolin

First Term 2008

Office: CERP, second floor, room 1
E-mail: Massimo.Guidolin@mbs.ac.uk
Class Hours: See the syllabus for the detailed calendar
Office Hours: By appointment

Course Description

This course gives an introduction to asset pricing in intertemporal equilibrium models and to modern dynamic asset allocation methods. The first half of the course develops some basic elements of modern, stochastic discount factor-based asset pricing theory. To provide a firm benchmark and make the dialogue with practitioners possible, I will also review classical asset pricing theory, essentially the CAPM and the APT. The second half of the course deals with open issues and methods in portfolio choice theory. We start from the classical, mean-variance, myopic benchmark and proceed to study the effects on optimal portfolio weights of predictability in means (i.e. in risk premia). The last part of the course deals with topics currently at the frontier of dynamic asset allocation theory, like the effects of non-linear predictability patterns, the choice of solution methods (i.e. simulation, quadrature, etc.), and the effects of parameter and model uncertainty. cursory remarks involving the effects of asset returns and predictability of optimal consumption/savings choices will be made, although they do not represent the main objective of the course.

Readings

Three published textbooks will be extensively used in this course:

- John Cochrane, *Asset Pricing*, Princeton University Press, 2001.
- Elton Edwin, Martin, Gruber, Stephen Brown, and William, Gotzmann, *Modern Portfolio Theory and Investment Analysis*, John Wiley & Sons, Sixth edition, 2003.
- John Campbell, and Luis, Viceira, *Strategic Asset Allocation*, Oxford University Press, 2002.

One copy of each of these books is available at the CORIPE library. Although these books will be useful references for most of the material covered by the lectures, some additional papers and occasionally chapters from other books will be assigned as required readings (see the list below).

Requirements

A two-hour closed-book, in class final. One set of sample questions (with answers) useful to prepare the exam will be distributed during the course.

Course Outline

A. Modern, Stochastic Discount Factor Based Asset Pricing Theory

Monday, November 17, 2008, 14:30 - 17:30

1. *Preliminaries and Definitions: Contingent Claims Markets.*

Cochrane, Chapters 1-3.

2. *The Stochastic Discount Factor.*

Cochrane, Chapter 4.

Tuesday, November 18, 2008, 9:00 - 12:00, 13:00-15:00

3. *Mean Variance Frontier and Beta Representations.*

Cochrane, Chapter 5.

4. *The Relationship Between the SDF, Betas, and Mean-Variance Frontiers.*

Cochrane, Chapter 6.

Monday, November 24, 2008, 14:30 - 17:30

B. Classical Asset Pricing Theory and Relationship with the SDF

1. *The Capital Asset Pricing Model (CAPM).*

Cochrane, Chapter 9.1.

Elton-Gruber-Brown-Goetzmann, Ch. 13.

2. *Extensions of the CAPM.*

Elton-Gruber-Brown-Goetzmann, Ch. 14.

Monday, November 25, 2008, 10:00 - 12:00, 13:00-16:00

3. *The Intertemporal and Consumption-Based CAPM.*

Cochrane, Chapter 9.2-9.3.

Elton-Gruber-Brown-Goetzmann, Ch. 14.

4. *The Arbitrage Pricing Theory (APT).*

Cochrane, Chapter 9.4-9.5.

Elton-Gruber-Brown-Goetzmann, Ch. 16.

Tuesday, December 16, 2008, 14:30 - 17:30

C. Simple, Static Portfolio Theory

1. *Mean-Variance Portfolio Theory.*

Elton-Gruber-Brown-Goetzmann, Ch. 4-6.

2. *Myopic Portfolio Theory*

Campbell & Viceira, Chapter 2.

Elton-Gruber-Brown-Goetzmann, Ch. 10-11.

Tuesday, December 18, 2008, 10:00 - 12:00

D. Dynamic Portfolio Choice Under Predictable, Time-Varying Investment Opportunities.

1. *Approximating First-Order Conditions and the Budget Constraint.*

Campbell & Viceira, Chapter 3-4.

Wednesday, December 19, 2008, 13:00 - 16:00

2. *The Effects of Nonlinearities on Optimal Consumption and Portfolio Decisions.*

Guidolin, M., and A., Timmermann, 2007, Strategic Asset Allocation and Consumption Decisions under Multivariate Regime Switching, *Journal of Economic Dynamics and Control*, 31, 3503-3544.

Guidolin, M., and A., Timmermann, 2005, Economic Implications of Bull and Bear Regimes in UK Stock and Bond Returns, *Economic Journal*, 115, 111-143.

Guidolin, M., and A., Timmermann, 2007, International Asset Allocation under Regime Switching, Skew and Kurtosis Preferences, forthcoming in *Review of Financial Studies*, (available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=676023).

3. *Parameter and Model Uncertainty and Optimal Asset Allocation.*

Barberis, N., 2000, Investing for the Long Run When Returns Are Predictable, *Journal of Finance*, 55, 225-264.

Pástor, L., 2000, Portfolio Selection and Asset Pricing Models, *Journal of Finance*, 55, 179-223.

If time permits

E. Investing Over the Life Cycle

Campbell & Viceira, Chapter 6-7.

January 7-30, 2009, (date to be defined), 10:00 - 12:00

FINAL EXAM