MFE230K – Dynamic Asset Management
Hayne Leland

Time, Site: M-W 11:00 am – 1 pm, Room S480, Services Wing

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Readings: Most readings available on Study.net (password required)
Course website on Catalyst; lectures will be posted there before class

Readings with an asterisk (*) are optional, but provide interesting background and
formalisms for the results discussed in the lectures.

I. Introduction: Institutional Setting of Asset Management

a. Institutional Asset Management: Vehicles, Constraints, Objectives

1. Mutual Funds: Investment Companies
   Index Funds
   Active Management and Benchmarks
   Regulation: 1940 Act, enforced by SEC

2. Exchange-Traded Funds (ETFs): A New Variant

3. Pension Fund Accounts:
   Defined Benefit vs. Defined Contribution (401(k)) Plans
   Corporate vs. Individual Contributions
   Tax Rules
   ERISA and “Prudent Investor” Rule;
   PBGC

4. “Alternative” Investment Funds
   Hedge Funds
   Private Equity
   Real Estate
   Venture Capital
   Vulture Funds

Background Sources

General/Banking/Insurance:  http://www.financialservicefacts.org/
Mutual funds:  http://www.ici.org/
Exchange Traded Funds:  http://www.ici.org/aboutfunds/etf_faqs.htm
Hedge Funds:  http://faculty.fuqua.duke.edu/~charvey/Teaching/BA453_2001/SAM/SAM.htm
ERISA/PBGC:  http://benefitslink.com/erisa/crossreference.html
2. Portfolio Choice in Static Models: Mean-Variance Analysis

a. Introduction: Static vs. Dynamic Portfolio Choice

Is myopic behavior optimal?

b. Portfolio Choice in a Mean-Variance World: A Review

Assets and asset returns
Mean-Variance preferences
   Rationales
   Limitations
Portfolio Optimization
   Two fund separation
   The Sharpe ratio
   Certainty equivalence
   Portfolio constraints: short sales, etc.
Asset-Liability Management

Readings: Class Notes

c. The Role of the Market Portfolio and the CAPM

The M-V efficient frontier
Equilibrium rates of return in the CAPM: the Security Market Line
Benefits of globalization and hedging

Readings: Class Notes

S. Andrade handout on M-V frontier

* Denotes optional readings
d. Active Asset Management

- Impounding “alpha” into portfolio choice
- Benchmarks and Tracking Error in portfolio delegation
- The “Information Ratio” and its uses
- “Portable alpha”
- Tactical Asset Allocation

Readings: Class Notes


e. Performance Measurement and the CAPM

- Alpha and the Sharpe Ratio
- Performance attribution: Market timing vs. security selection
- Style Analysis

Readings: Class Notes

a. A General Description of Uncertainty

States of nature
State-contingent claims
Complete markets
General state preferences

Readings: Class Notes

b. Expected Utility Theory

Measures of Risk Aversion
Linear Risk Tolerance (or “HARA”) utility
Optimal Portfolio Selection

Readings: Class Notes

c. The Representative Investor and Asset Pricing

The Representative Investor: conditions for existence
Complete Markets
Incomplete Markets
The Representative Investor and state prices:
Pricing Implications of optimally holding the market portfolio
Special Cases: HARA, CAPM
Formulas for state prices

Readings: Class Notes

d. Performance Measures: Beyond Mean-Variance

Readings: Class Notes
4. Dynamic Portfolio Choice In Discrete and Continuous Time

a. Paths and State Prices in a Multi-Period World
   Pricing kernels
   Binomial prices
   Log random walk prices

   Readings: Class Notes
   *D. Breeden and R. Litzenberger, “Prices of State-Contingent Claims

b. Utility Maximization and Martingale Methods for Optimal Portfolio and Consumption Choice
   Myopic vs. strategic behavior
   Hedging the opportunity set

   Readings: Class Notes
   *R. Merton, “Optimum Consumption and Portfolio Rules in a
     Continuous Time Model,” *Journal of Economic Theory*, 1971,
     373-413.

c. General Characteristics of Optimal Strategies
   Path Independence
   Improving on path-dependent strategies

   Readings: Class Notes based on
   *Cox, J. and Leland, H.  “On Dynamic Investment Strategies,” *Journal of
   *P. Dybvig, “Inefficient Dynamic Portfolio Strategies, or How to
     Throw Away a Million Dollars in the Stock Market,” *Review of

d. Alternatives to Expected Utility Theory
   Choosing from payoff functions
   From payoffs to strategies—optimal portfolio choice
   From strategies to payoffs—the inverse function
e. Active Management: Convex and Concave Payoffs

Portfolio insurance and convexity of payoffs
Who Should Buy Portfolio Insurance? Who Should Sell?
Momentum vs. Value strategies
Some empirical evidence

Readings: Class Notes based on

**5. Optimal Portfolio Choice with Transactions Costs

Readings: Class Notes based on
Also,

** If time permits