Lecture 0: Overview

I. Reading
   A. BKM Chapter 1.
   B. Skim BKM Chapters 2 and 4.

II. Asset Classes
   A. Real Assets
      1. natural resources.
      2. physical capital.
      3. human capital.
   B. Financial Assets (referred to as securities)
      1. Money (as a medium of exchange)
         a. is held to allow the completion of transactions.
      2. Debt
         a. a claim to a predetermined payment stream secured on a set of real or financial assets.
         b. maturity is time from issue to expiration.
      3. Equity
         a. residual claim to a set of real or financial assets (usually of a corporation) usually coupled with corporate control.
      4. Derivatives
         a. payoff is dependant on the value of some other (usually financial) asset.

C. Illustration: Debt vs Equity.

1. Suppose XYZ Co's assets pay off a random amount CF in 1 year's time and XYZ has issued debt with a promised payment of $100 in 1 year's time, and equity.

CF	<100	60	80	100	>100	120	140	160	180	
Debt	CF	60	80	100	100	100	100	100	100	min{CF,100}
Equity	0	0	0	0	CF-100	20	40	60	80	max{0,CF-100}
Firm	CF	60	80	100	CF	120	140	160	180	CF

2. If CF is uncertain, XYZ's equity is riskier than XYZ's debt.

D. Example: IBM Corporation.

1. Real Assets: plant used to build Thinkpads.
2. Claims on the Real Assets:
   a. Equity: IBM stock.
   b. Debt: IBM bonds.
   c. IBM stock is much more volatile than IBM bonds.
3. Derivatives: Claims on IBM stock.
   a. A call option on IBM stock gives the holder the right (but not the obligation) to buy the stock at a given exercise price.

III. Financial System: refers to the collection of institutions by which financial assets are created and traded.

A. Purposes (which allow the financial system to create wealth)

1. transfer capital from savers (investors) to capital users (usually corporations).
2. discipline investment decisions by firms.

Example: A firm may want to expand by going public; i.e., by issuing equity to the public in return for cash. Since the public knows that the firm is going to use cash to expand, an investor will only subscribe to the IPO if she thinks expansion is a value enhancing strategy.

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3. allow investors to smooth consumption intertemporally.

Example: An MBA student has low income now but high future income. A student loan allows the student to smooth her consumption through time relative to her income through time.

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4. facilitate the reduction of riskbearing by repackaging risks.
5. disseminate information.

B. Institutions

1. Government
2. Financial Markets: institutions which trade financial assets.
3. Financial Intermediaries: entities which operate within or outside financial markets to facilitate the trading of financial assets.

IV. Financial Markets

A. Primary vs Secondary Markets

1. Primary Market: new issues of a security are sold to initial buyers.

Example: An IPO is an initial public offering of equity by a privately-held firm. The $-value of this market has been steadily growing in the last few years.

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2. Secondary Market: previously issued securities are traded in a secondary market.

B. Exchange vs Over-the-Counter Market

1. Exchange: Buyers and sellers of securities meet in one central location to conduct trades.

Examples: 1) NYSE (stocks); 2) Chicago Board of Trade (futures).

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2. Over-the Counter Market: Dealers at different locations stand ready to buy and sell securities "over the counter" to anyone that accepts their prices.

Examples: 1) government bonds are traded over the counter through primary and secondary dealers; 2) the National Association of Securities Dealers Automated Quotation System (NASDAQ) is an example of a trading network for stocks.

C. Money vs Capital Markets

1. Money: short term debt instruments (<1 year maturity).
2. Capital: long term debt instruments (>1 year maturity) and equity..

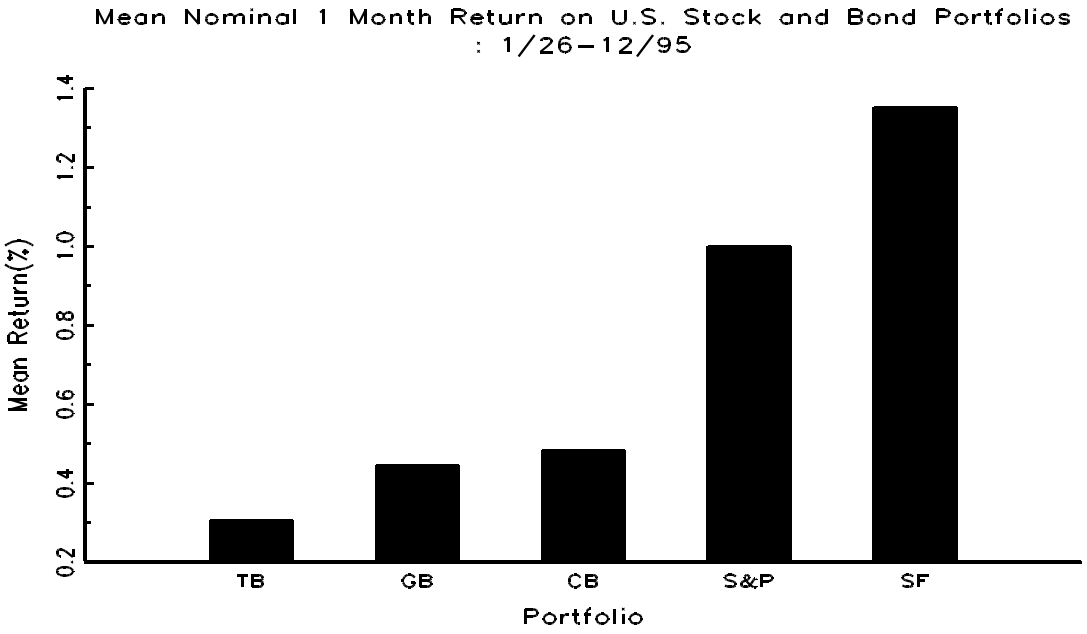
V. Financial Intermediaries
  A. Services Provided
    1. reduce search costs associated with finding saving or investment opportunities.
    2. generate information needed by investors.
    3. provide risk and portfolio management services.
    4. issue financial assets that repackage risks.
    5. take advantage of the economies of scale associated with buying and selling financial assets.
  B. Types
    1. Depository Institutions
      a. Commercial Banks.
      b. Savings and Loan Associations, Mutual Savings Banks.
      c. Credit Unions.
    2. Contractual Savings Institutions
      a. Life Insurance Companies.
      b. Fire and Casualty Insurance Companies.
      c. Pension Funds.
    3. Investment Intermediaries
      a. Brokers.
      b. Mutual Funds.
      c. Money Market Mutual Funds.
      d. Finance Companies.

C. Growth of Mutual Funds. A mutual fund is a firm that manages a pool of money that has been placed with the fund by other people. Money placed with the fund is invested in certain specified types of assets. People buy shares in the fund and their value changes over time with changes in the value of the fund's assets.

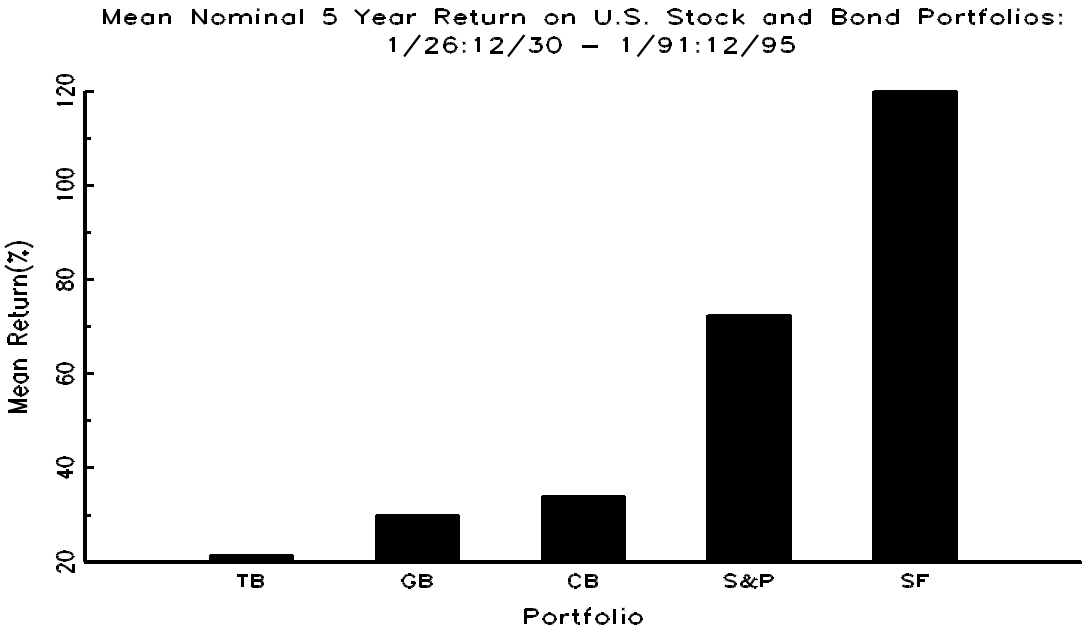
1. Over the last 20 years, there has been tremendous growth in:
   a. number of funds.
   b. types of funds.
   c. dollars invested in funds.
2. Index Funds: Particularly high growth has occurred for a type of mutual fund known as an index fund.
   a. An index fund is a mutual fund whose investment goal is to track the return on a particular stock index (for example, the S&P 500 index).
   b. A stock index is a portfolio of stocks formed according to a predetermined rule. For example, the S&P 500 index is a portfolio of 500 stocks chosen so that the index mirrors the U.S. stock market. A stock is chosen (according to the S&P Corporation) for inclusion in the index if its performance is representative of the performance of its industry. The S&P 500 index invests more in a large stock contained in the index than a small stock: it is a value-weighted index.

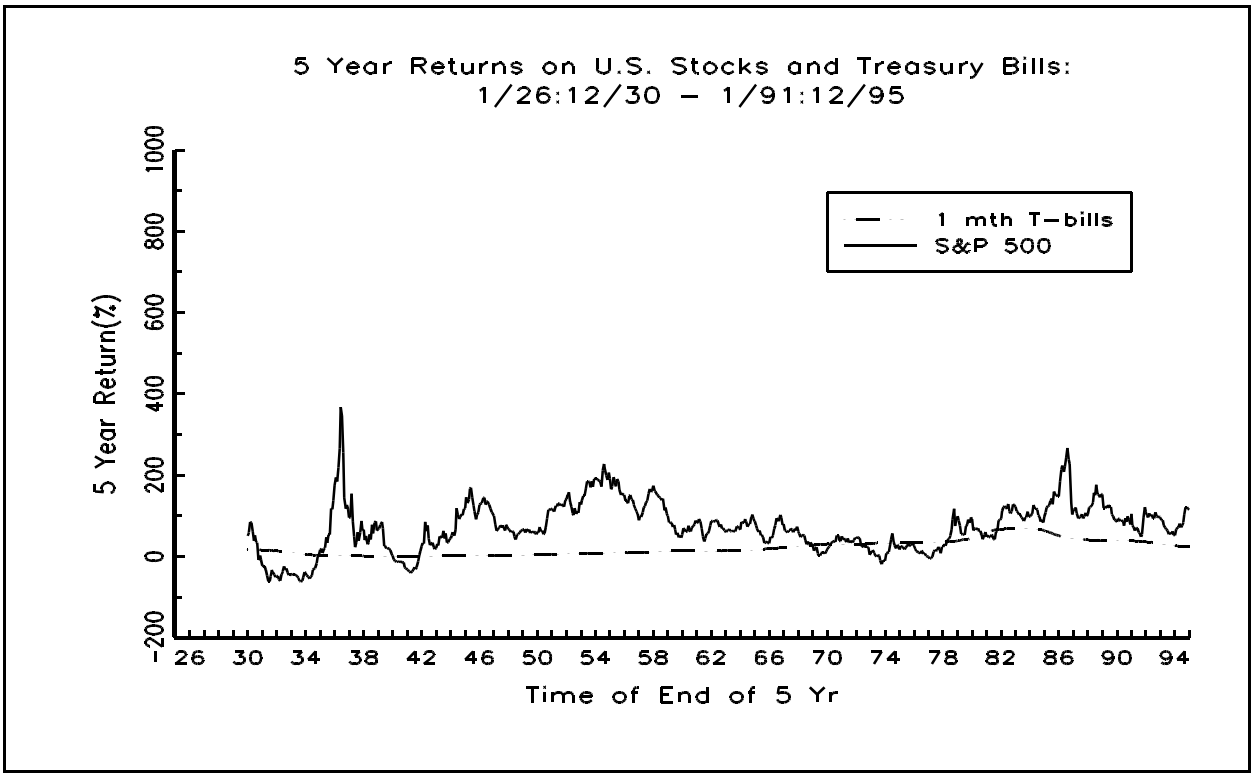
VI. Issues addressed by Finance Theory
- A. Financial decision-making by corporations. How do corporations decide whether to undertake an investment project? (Corporate Finance)
- B. Financial decision-making by individuals. How do individuals invest their savings?
- C. Valuation of assets both real and financial. Why do expected returns vary across assets?

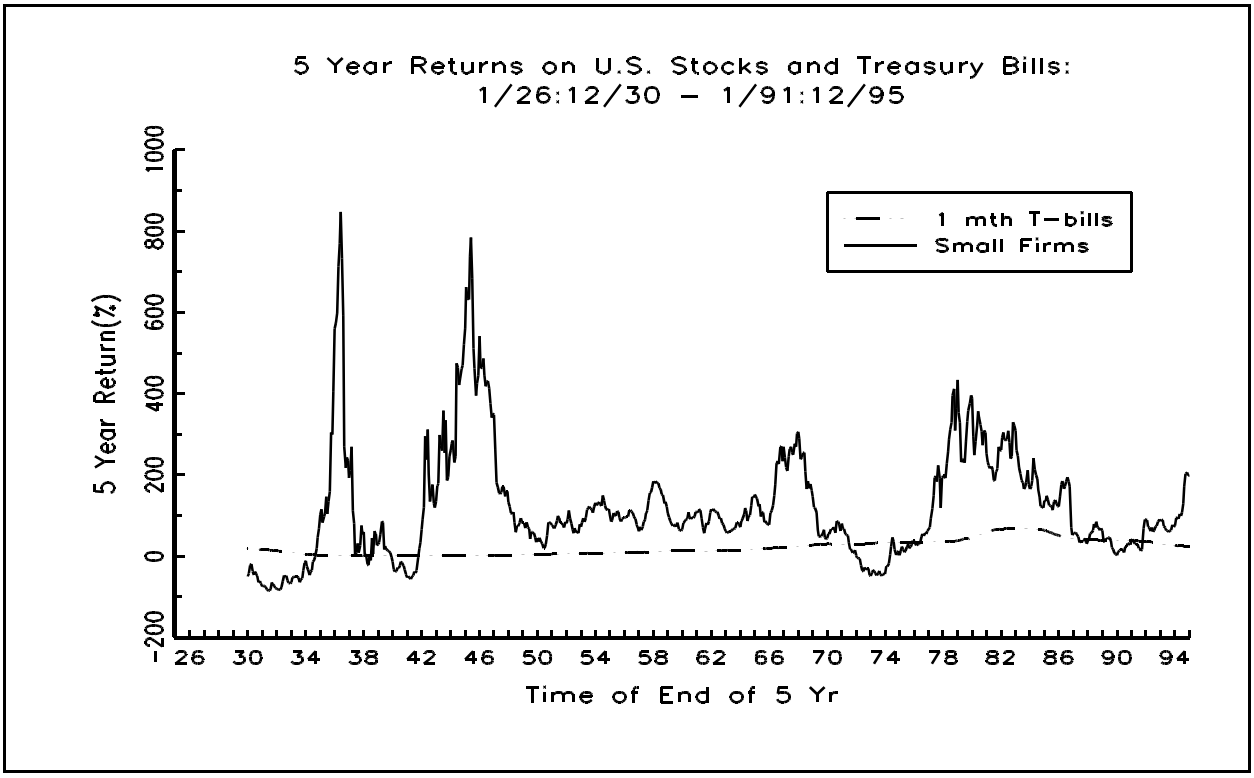
Examples: 1) CAPM is a asset pricing model; 2) Black-Scholes model values call options; 3) Cox Ingersoll Ross model values fixed income assets.



TB - 1 mth Treasury Bills
GB - Long-term U.S. Government Bonds
CB - Corporate Bonds
S&P - S&P 500 Index
SF - Small Firm Equity




5 Year Returns on U.S. Stocks and Treasury Bills:
1/26:12/30 – 1/91:12/95
1 mth T-bills
S&P 500
5 Year Return(%)
1000
800
600
400
200
0
-200
26 30 34 38 42 46 50 54 58 62 66 70 74 78 82 86 90 94
Time of End of 5 Yr


5 Year Returns on U.S. Stocks and Treasury Bills:
1/26:12/30 – 1/91:12/95
1 mth T–bills
Small Firms
5 Year Return(%)
1000
800
600
400
200
0
-200
26 30 34 38 42 46 50 54 58 62 66 70 74 78 82 86 90 94
Time of End of 5 Yr