Lecture Notes 1: Overview

This lecture introduces much of the terminology we will use in the course, and we will describe it in more detail later. For now, to set the stage, we will review it very briefly in class, but make sure to get the supplemental details from the textbook.

I. Readings

II. Asset Classes

III. Characteristics of an Asset

IV. The Financial System

V. Financial Markets

VI. Financial Intermediaries

VII. Trends

VIII. Additional Readings

Buzz Words*:** ***(No) Arbitrage, Present Value,
Risk, Risk Aversion, Risk Adjustment,
Portfolios, Diversification,
Option Value, Equilibrium, Liquidity

I. Readings

A. BKM Chapter 1.
B. Skim BKM Chapter 2.
C. Articles distributed in class

Insert Figure 1-1:

II. Asset Classes

A. Real Assets

1. *natural resources.*

2. *physical capital.*

3. *human capital.*

4. *"Cultural" Capital*

5. *Intellectual Property*

B. Financial Assets (referred to as securities)

Specify level, timing and conditions for payment of cash, goods or other financial assets.

1. Money

a medium of exchange (a paper claim backed by the government), is held to allow the completion of transactions.

2. Debt

a claim to a predetermined payment stream, usually secured on a set of real or financial assets (maturity is time from issue to expiration).

3. Equity

residual claim to a set of real or financial assets (usually of a corporation) usually coupled with corporate control.

4. Derivatives

payoff is dependant on the value of some other (usually financial) asset.

5. Combinations of the above

Example: Callable Bond

C. Illustration: Debt vs. Equity.

Suppose XYZ Co's assets pay off a random amount of *Cash Flow* (*CF*) in 1 year's time and XYZ has issued debt with a promised payment of $100 in 1 year's time, and equity.   The value of the Debt, Equity, and Firm Assets will depend on the realization of *CF*.

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***

Equity = 0, means that the Debtholders take over what's left of the assets.

Example: The retailer Kmart Corp was not generating enough *CF*. In May 2003, after a period of reorganization under bankruptcy (so called chapter 11 reorganization), the Equity (also referred to as "shares," "stocks") of Kmart lost all their value, and ownership of the company was transferred to its creditors.

D. Example: IBM Corporation.

1. ***Real Assets*:**
   plant used to build computers.

2. ***Claims to the income generated by Real Assets*:**
   a) Equity: IBM *stock*.
   b) Debt: IBM *bonds*.

3. ***Derivatives*:**
   Claims on IBM stock.
   A *call option* on IBM stock gives the holder the right (but not the obligation) to buy the stock at a given exercise price.

Insert IBM Data on pages 5-8

Foundations of Finance: Overview

III. Characteristics of an Asset

A. Divisibility:

extent to which fractional amounts of an asset can be sold/bought.

1. Physical assets are often indivisible (cars) but not always (gas).
2. Financial assets often are divisible (equity of a corporation).

   In this course we will treat all financial assets as divisible.

B. Liquidity:

refers to the speed (and price impact) with which the asset can be sold.

1. Money is the most liquid asset.
2. Large firm equity tends to be more liquid than small firm equity.

   In this course we will treat all assets as equally liquid.

C. Standardization:

extent to which units of the asset are the same.

1. New cars are standardized assets but used cars are not.
2. Stock of a company is standardized.

   In this course we will treat assets as standardized (being the same) if they pay the same cash flow in the future.

IV. The 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. ***Improve allocation of capital:*** transfer capital from savers (investors) to capital users (usually corporations).

Example: A person allocates pension savings to a new issue of stock, and company management uses proceeds of new issue to expand.

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2. ***Improve allocation of risk:*** Risk transfer, sharing, and management. Reduction of riskbearing by repackaging risks.

Example: Firm uses financial futures to hedge (reduce) foreign currency risk

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3. ***Consumption timing:*** 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. *Separation of Ownership and Management*

5. *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.

B. Institutions

1. *Government*

a) Protects property rights, regulates markets and market participants.

Problems: Reliability of Accounting statements. Fraud! Investment Professionals subject to undisclosed conflicts of interest. (Analysts who supposedly advice investors, may be interested in the investment banking business their recommendation may generate; Corporate executive authorizing investment banking business for their companies in return for direct/indirect personal benefits, like share in "hot" public offerings granted by the investment bank).

b) controls (via a central bank) money supply and so affects the real value of money.

c) affects incentives via taxation policy and imposition of subsidies and tariffs.

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.

V. Financial Markets

A. Primary vs. Secondary Markets

1. ***Primary Market:*** new issues of a security are sold to initial buyers. (e.g., an initial public offering (IPO) of equity by a privately-held firm).

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

B. Types of markets: a hierarchy.

1. ***Direct search:*** Buyers and sellers find each other directly, without intermediaries (*e.g., used cars*).

2. ***Brokered markets:*** Buyers and sellers rely on intermediaries to find each other. Intermediaries generally do not act as principals (*e.g., residential real estate*).

3. ***Dealer markets:*** Buyers and sellers rely on intermediaries. Intermediaries often act as principals, maintaining inventories and standing ready to supply immediacy (i.e., they are willing to buy and sell when a customer demands it). In most cases, the final buyers and sellers do not have direct access to the market: they may buy and sell only by going through a dealer. Dealer markets are very common (*e.g., the National Association of Securities Dealers National Market System (NASD NMS) for equities; the market for U.S. Government debt*).

4. ***Auction markets:*** Centralized. Buyers and sellers interact directly with each other. Dealer presence is minimal (*e.g., New York Stock Exchange (NYSE), Electronic Communication Networks (ECNs)*).

As we move from direct search markets to brokered markets, dealer markets and auction markets: (i) Fixed costs (regulation, physical trading facilities) increase. (ii) Per trade costs decrease. (iii) Structure (rules and regimentation) increase.

C. Exchange vs. Over-the-Counter Market

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

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

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

D. Money vs. Capital Markets

1. ***Money Market***:
   short term debt instruments (<1 year maturity).

2. ***Capital Market***:
   long term debt (fixed income) instruments (>1 year maturity) and equity.

VI. Financial Intermediaries

A. Services Provided

1. reduce search costs associated with finding investment opportunities.
2. provide information needed by investors.
3. provide risk and portfolio management services.
4. issue financial assets that repackage risks.

B. Types

1. Depository Institutions (e.g., Commercial Banks, Savings and Loan Associations).

2. Contractual Savings Institutions (e.g., Life Insurance Companies, Fire and Casualty Insurance Companies, Pension Funds).

3. Investment Intermediaries (e.g., Brokers, Mutual Funds).

C. More on Mutual Funds.

A mutual fund is a firm that manages a pool of money that has been placed with the fund by investors (who buy shares in the fund). The Money is invested in specified types of assets. Fund shares' value changes over time with changes in value of the fund's assets.

1. Over the last 20 years, there has been tremendous growth in number of funds, types of funds, and dollars invested in funds.

2. Index Funds: Particularly high growth has occurred for a type of mutual fund known as an index fund -- a mutual fund whose investment goal is to track the return on a particular stock index (for example, the S&P 500 index). [*A <u>stock index</u> is a portfolio of stocks formed according to a predetermined rule. 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.*]

3. Problems: Funds allegedly providing preferential treatment & pricing to some clients at the expense of others.

VII. Trends

A. Securitization

1. Mortgage Backed Securities (MBS)

2. Real Estate Investment Trusts (REITs):
   Equity REITs (as opposed to mortgage REITs, which lend money to property owners) resemble mutual funds, but instead of buying stocks or bonds, they hold properties such as office and apartment buildings, shopping centers, hotels, hospitals, or warehouses.

3. Trading Syndicated Loans:
   Loans, extended by a group of banks, are traded by institutional investors, such as mutual funds.

B. Consolidation

Extensive Mergers Among Financial Institutions

C. Globalization

Security issuance and holdings is increasing across national borders

D. Transition to the Internet

1. Online Trading
2. Electronic Communication Networks (ECNs)

E. Growth of Hedge Funds

Became widespread recently; Unregulated. *Example*: LTCM

VIII. Additional Readings

To read or not to read?

Throughout the semester there will be articles distributed in class. These articles will be usually attached to the Additional Readings section, as in this lecture.

The additional-readings articles are related to the topics covered in class.

We will NOT discuss most of the additional readings in class, and you can go through the course without reading these.

HOWEVER, I may occasionally refer to arguments/events/trends covered in the additional readings, and students may refer to the additional articles in their comments or questions.

I strongly encourage you to read the attached articles so that you can gain further insight into the topics covered in class.

The financial literature (printed, and online) is vast. I welcome students to bring any additional articles to my attention, and whenever appropriate, I will distribute those in class as well, so that the entire class can benefit.