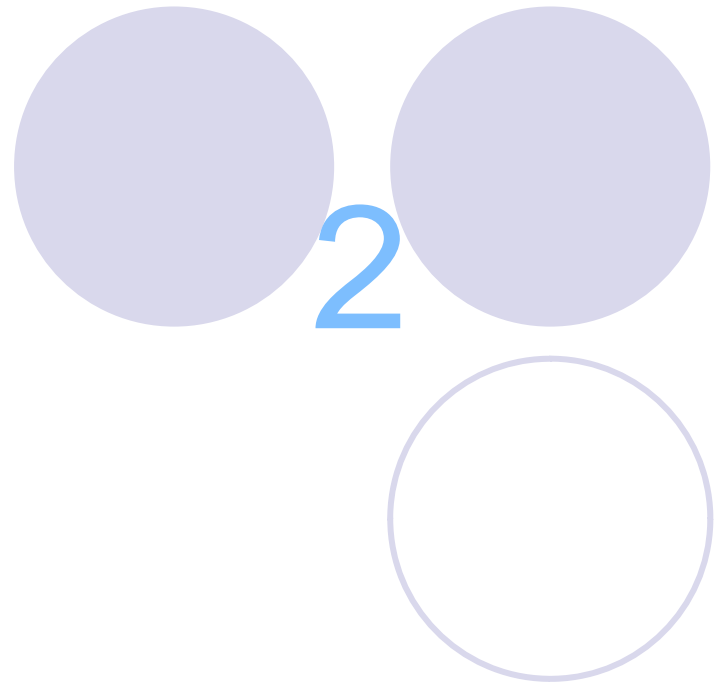


The Financial Environment: Concepts and Principles



Corporate Financial Management 3e
Emery Finnerty Stowe

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Learning Objectives

- Understand the Principles of Finance.
- Apply the Principles of Finance to real world situations.
- Understand the characteristics of the most common financial securities.
- Describe the role of brokers, dealers, investment bankers and financial intermediaries.
- Describe the term structure of interest rates.



Chapter Outline

- 2.1 Principles of Finance: The Competitive Economic Environment
- 2.2 Principles of Finance: Value
- 2.3 Principles of Finance: Financial Transactions
- 2.4 Capital Markets
- 2.5 The Term Structure of Interest Rates
- 2.6 Business Ethics

The Principle of Self-Interested Behavior



“People Act in Their Own
Financial Self-Interest”

- With all else equal, people choose the action that is financially most advantageous to themselves.
- Does not imply that making money is the most important criteria.
 - Consider charitable contributions.

The Principle of Self-Interested Behavior

- Taking the most advantageous course of action requires us to forego other possible actions.
- Every action has an **Opportunity Cost**:
 - The difference in value of the chosen action and the next best alternative.
 - For example, you give up your part-time job to concentrate on your education.

The Principle of Self-Interested Behavior

- Self-Interested behavior can lead to conflicts of interest in **Principal-Agent** relationships.
- **Agent:**
 - a person who makes a decision that affects the principal.
 - Managers are agents, stockholders are principals.
 - Managers are self-interested: may want an expensive car for business use; stockholders want managers to use an economy model, and pay off a bank loan with the money saved
 - Stockholders are agents, bondholders are principals.
 - Stockholders seek risk, bondholders want the firm to make low risk investments.

The Principle of Self-Interested Behavior

- The agent can take unseen actions that are costly to the principal.
 - The manager might make personal long distance calls using the office telephone.
- The principal thus faces a **Moral Hazard** problem.
- The principal can reduce the severity of this problem through more effective contract provisions.

Agency Theory

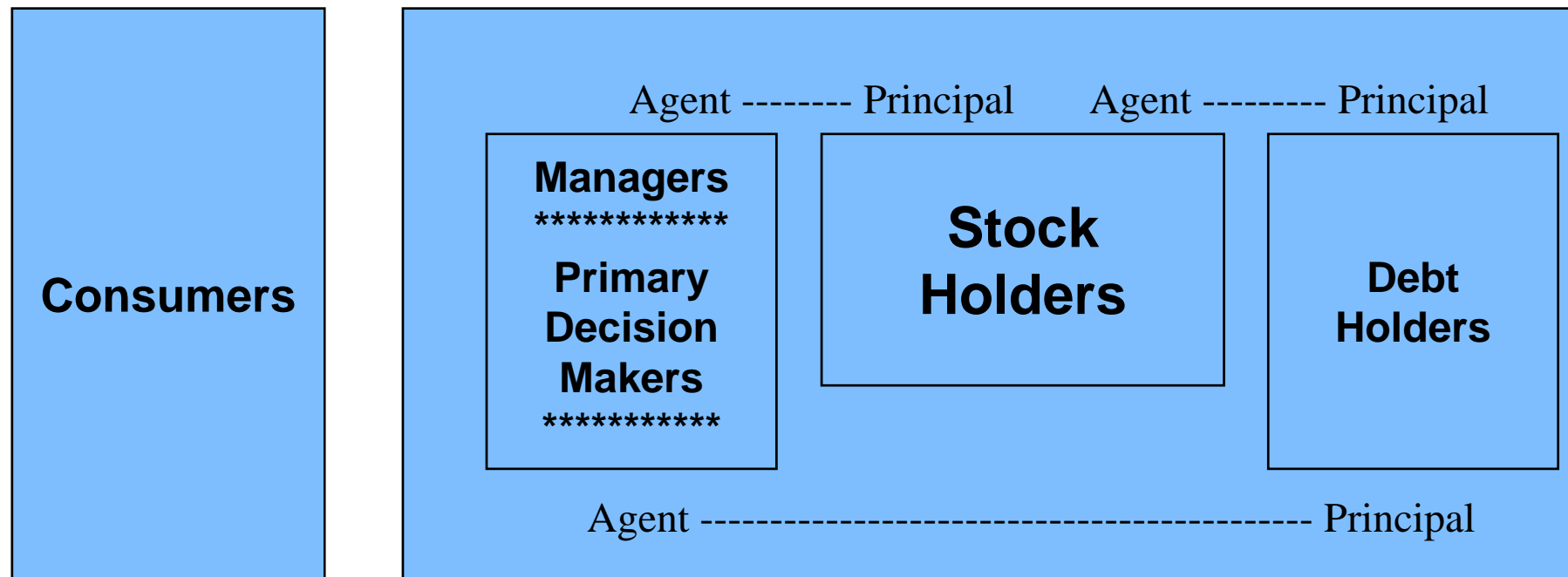


- There are costs connected with controlling conflicts of interest
 - Monitoring (audits)
 - Incentives (stock options and bonuses)
 - Missing a good investment
 - Loss due to misbehavior
 - Excessive expense account, personal time, wasted resources
- The principal can reduce the total cost by balancing monitoring and incentive costs against other costs.
- Primary goal is to control such problems by using good contracts.

Principal-Agent Relationships

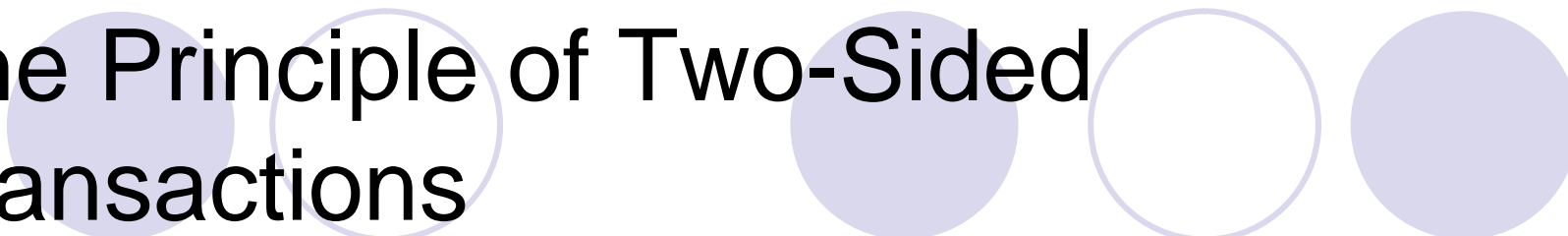
Service/guarantee Problem
Principal ----- Agent

The Firm



Agent ----- Principal
Free-Rider Problem

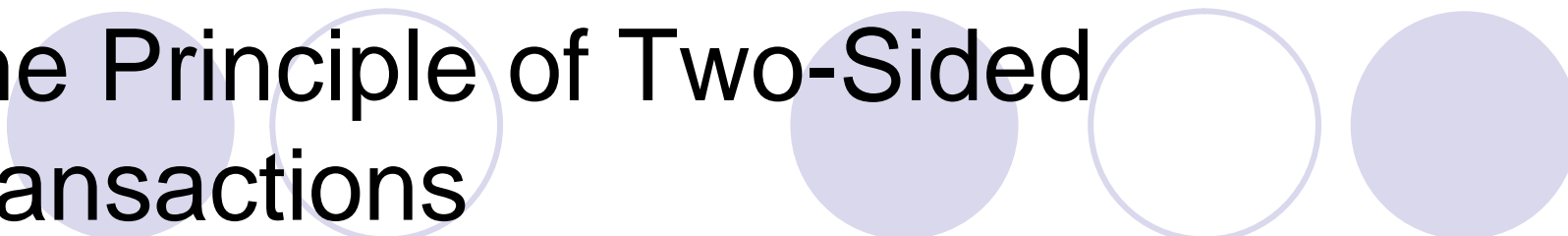
The Principle of Two-Sided Transactions



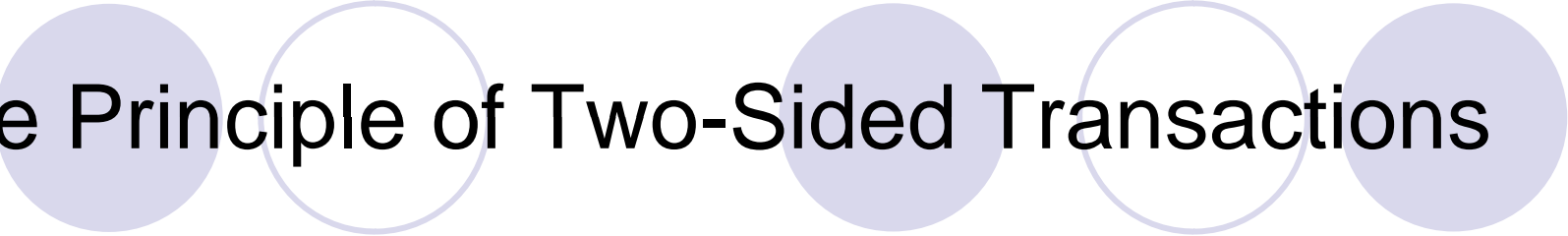
“Every Financial Transaction has at
Least Two Sides”

- While we act in our best interest, there is at least one other person in this transaction who is acting in his/her best interest.
- Underestimating the counterparty can lead to sub-optimal decisions.
 - Corporate executives often suffer from *hubris*.

The Principle of Two-Sided Transactions



- Most financial transactions are **Zero-Sum**.
 - One party gains only at the expense of another.
- Non-zero-sum transactions often result from provisions in the tax code.
 - A transaction may be structured so that both parties pay less in taxes to the government.
 - When we add the government as a party, we're back to a zero-sum game.



The Principle of Two-Sided Transactions

- Media reports of stock market transactions sometimes refer to “profit takers *selling off* their holdings” and thereby causing a drop in stock prices.
- There can’t be more selling than buying.
- The same news story could have instead spoke of investors making a huge mistake buying into a dropping stock.

The Signaling Principle



“Actions Convey Information”

- When a firm increases its dividend, it is generally signaling a more optimistic future for the firm.
- When actions conflict with words, pay attention to the actions.
 - The CEO announces optimistic future for the firm, but at the same time top executives are selling large amounts of stock they own in the firm.
 - For example, Enron.

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The Signaling Principle



- If one party has information not known to the other party, there is **asymmetric information**.
- Asymmetric information can lead to the problem of **adverse selection**.
 - For example, flip-flops, the case of the “upward-sloping demand curve.”
 - “I wouldn’t belong to any club that would have me as a member!”



The Behavioral Principle

“When All Else Fails, Look at What Others Are Doing for Guidance”

- Analyzing complex transactions can be very difficult and/or expensive.
 - In such cases, look at what others are doing.
- But be aware of the ‘blind leading the blind’!



The Behavioral Principle

- In a competitive environment, this principle can lead to the **free-rider** problem:
 - The “leader” expends resources to determine the best course of action.
 - The “followers” imitate the leader and reap the benefits without expending the resources.



The Behavioral Principle

- McDonald's does extensive research and analysis concerning the placement of its restaurants.
- Other fast-food chains have at times chosen their new restaurant locations simply by building near a McDonalds restaurant.

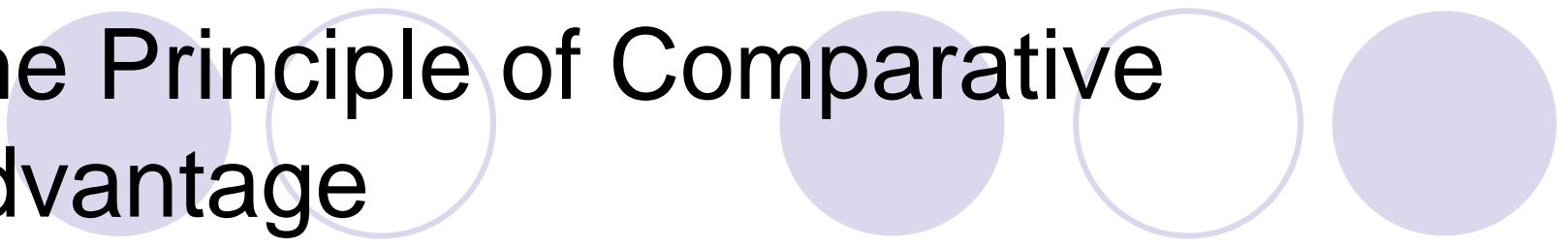


The Principle of Valuable Ideas

“Extraordinary Returns Are Achievable
with New Ideas”

- Over time, the value of merely imitating others is driven out by competition from others doing the same thing.
- Truly successful people / businesses have used at least one new idea.
- Every new idea not automatically valuable: Consider the dot-com craze.

The Principle of Comparative Advantage



“Expertise Can Create Value”

- This is the basis for our economic system.
- Economic efficiency results from everyone doing what they do best.

The Options Principle

“Options Are Valuable”

- An option is the *right* (without the obligation) to take some action.
- Depending on circumstances, the optionholder may decide to:
 - take the action (exercise the option) or
 - forego the action (let the option expire).

The Options Principle

- Explicit Option Contracts:

Call Option:

- Gives the holder the right to **buy** the specified asset at a pre-specified price (within a specified time period).

Put Option:

- Gives the holder the right to **sell** the specified asset at a pre-specified price (within a specified time period).

The Options Principle

- Hidden or Embedded Options:
 - These options may be a part of another financial contract.:
 - Bankruptcy laws provide debtors legal protection from creditors - the limited liability provision.
 - Debtors have the option to not fully repay the debt *IF* they declare bankruptcy.
 - Privately negotiated options
 - Corporate options: expand, shrink, delay, abandon, etc.
 - Real options: hotel reservations, rain checks, tickets, etc.
 - The most common option is insurance, which is a form of put option.



The Principle of Incremental Benefits

“Financial Decisions Are Based on Incremental Benefits”

- Incremental costs and benefits are those that occur with a particular action, minus those that occur without the action.
- Sunk costs (costs that have already been incurred) are irrelevant to financial decision making.

The Principle of Incremental Benefits

Advertising Budget	Status	Total Annual Sales
\$1.0 million	Current	\$12.0 million
\$1.5 million	Proposed	\$12.6 million

- Incremental cost of proposed advertising budget = \$0.5 million.
- Incremental annual sales = \$0.6 million

The Principle of Risk-Return Trade-Off

“There is a trade-off between
Risk and Return”

- In order to earn higher returns, you must be willing to bear higher risk.
 - You can sleep well or you can eat well, but you can't do both at the same time.
- High risk brings with it a greater chance of a really good outcome **as well as** a greater chance of a really bad outcome.



Risk Averse Behavior

- When all else is equal, people prefer higher returns and lower risk.
- People will choose the high-risk alternative only if they expect to earn a sufficiently high return.
- Individuals would accept a lower return in exchange for lower risk.

Application of Risk-Averse Behavior

Consider the following Alternatives:

<u>Choice</u>	<u>Expected Return</u>	<u>Risk Units</u>
A	10%	20
B	10%	25
C	16%	25

Comparing A & B, which would you choose?

Comparing B & C, which would you choose?

Comparing A & C, which would you choose?




The Principle of Diversification

“Diversification Is Beneficial”

- “Don’t put all your eggs in one basket!”
- Spreading your investments (diversifying) can reduce risk without decreasing the return.
- A prudent investor will not invest her entire wealth in a single asset (for example, one firm).

The Principle of Capital Market Efficiency



“The Capital Markets Reflect
All Information Quickly”

- Capital markets are markets in which financial securities like stocks and bonds are bought and sold (traded).
 - NYSE and NASDAQ
- Market prices of financial assets that are traded regularly in the capital markets:
 - Reflect all available information, and
 - Adjust quickly to new information.

The Principle of Capital Market Efficiency

- New information is information that was not previously known. Note that information may be thought possible, expected, or even anticipated.
 - Markets don't wait for the supply to be interrupted; prices fall or rise as soon as a change in supply is possible, the greater the chance, the greater the price change. For example, orange juice and the weather.
- Prices are made on expectations.
- Trading by astute investors in response to new information causes prices to change



Capital Market Efficiency

Some reasons for capital market efficiency:

- competition among a large number of participants
- the information revolution
- trading convenience
- low cost of trading
- rapid execution of trades

Capital Market Efficiency



If capital markets are efficient, then:

- The price of an asset is the same everywhere in the market.
- The “**law of one price**” holds.
 - Equivalent securities must sell at the same price.
- Arbitrage opportunities cannot exist.
 - Arbitrage allows you to earn riskless profits without any capital commitments.



The Time Value of Money Principle

“Money Has Time Value”

- A dollar today is worth more than a dollar tomorrow.
- The time value of money derives from the opportunity to earn interest on it.



The Time Value of Money Principle

The jackpot in your state's lotto is \$20 million, to be paid out in 20 equal annual installments of \$1 million each.

- Is the jackpot worth \$20 million to the winner?

A Simple Example

Suppose you deposit \$1,000 today in a bank account that pays 10% interest per year.

- How much will you have one year from today?

$$\begin{aligned} FV_1 &= PV + \text{Accrued Interest} \\ &= 1,000 + (0.10)1,000 = \$1,100 \end{aligned}$$

- $FV_1 = PV + r(PV) = PV(1+r)$

A Simple Example

- How much will you have two years from today?
- $$FV_2 = FV_1 + \text{Accrued Interest}$$
$$= 1,100 + (0.10)1,100 = \$1,210$$
- Note the **compounding**: the first year's \$100 interest earns interest in the second year.
- $$FV_2 = FV_1(1 + r) = [PV(1 + r)][1 + r]$$

$$\text{So: } FV_2 = PV(1 + r)^2$$



The Time Value of Money

Future-value formula:

$$FV = PV(1 + r)^n$$

Present-value formula:

$$PV = \frac{FV}{(1 + r)^n}$$

Security Markets



- Money versus Capital Markets
- Primary versus Secondary Markets

Money Markets



- Market for short-term claims with original maturity of one year or less.
- High-grade securities with little or no risk of default.
- Examples:
 - U.S. Treasury Bills (T-Bills)
 - Commercial Paper
 - Certificates of Deposit
 - Banker's Acceptances

U.S. Treasury Bills

- Issued by the U.S. Treasury.
- Original maturities of 13, 26 and 52 weeks.
- Generally sold in \$10,000 denominations.
- Sold on a discount basis - at a discount from their face value.
- Difference between the face value and the purchase price represents interest earned by the investor.

Implicit Interest on T-Bills.

Suppose you purchase a 52-week \$10,000 face value T-Bill for \$9,363. What interest rate would you earn by holding this T-Bill to maturity?

$$\$10,000 = \$9,363 \times (1 + r)^1$$

$$r = \frac{\$10,000}{\$9,363} - 1$$

$$r = 6.8\%$$

Commercial Paper



- A promissory note sold by very large, creditworthy corporations.
- Original maturity up to 270 days.
- Face value is generally \$100,000.
- Backed by a “standby letter of credit” from a bank.



Certificates of Deposit (CDs)

- Written by commercial banks.
- Issuing bank promises to pay the face value plus a fixed interest rate.
- Negotiable CDs have denominations of \$100,000 or more and can be traded in the market.



Banker's Acceptances

- Short-term loans made by banks to importers and exporters.
- Bank promises to pay the face amount when the acceptance is presented to it.
- Bank's customer uses this acceptance to finance the purchase of goods and services.
- Holder of the acceptance (seller of goods) can hold the acceptance to maturity or sell it at a discount from its face value.

Capital Markets



- Market for long-term securities with original maturity of more than one year.
- Securities may be of considerable risk.
- Examples:
 - Stocks
 - Corporate bonds
 - Government bonds

Stocks



- Shares of a stock represent equity (or ownership) in a corporation.
- Stockholders have the right to vote and the right to dividends.
- Common stock shares represent residual ownership in the firm.
- Dividends on preferred stock shares are usually fixed, and generally must be paid before dividends are paid to common stockholders.

Bonds



- Represent long-term debt securities - a promise to pay interest and repay the borrowed money (principal) on prespecified terms..
- Issued by corporations as well as governments.
- Notes are like bonds, but have a maturity between 1 and 10 years.
- Bonds are also referred to as fixed income securities.

Derivative Securities



- These derive their value from another security.
- Examples:
 - Options
 - Futures
 - Forward contracts

Options

- Grants the holder the right to buy (or sell) the underlying security at a fixed price, within a fixed time period.
- There is no obligation on the part of the option holder.
- There is obligation on the part of the option seller.
- A **call** option gives the holder the right to **buy** the underlying security.
- A **put** option gives the holder the right to **sell** the underlying security.



Forward and Futures Contracts

- An agreement to buy (or sell) something at a fixed price at a fixed point in the future.
- Unlike options, this entails an obligation - **both** parties to the transaction **must** fulfill their obligations.
- You can lock in a buying (selling) price for the underlying asset.
- **Futures** contracts are similar to forward contracts, but are usually standardized and are traded in the markets.



Primary Markets

- A primary market is a market for newly created securities.
- The proceeds from the sale of securities in primary markets go to the issuing entity.
- A security can trade only once in the primary market.

Secondary Markets



- A secondary market is a market for previously issued securities.
- The issuing firm is not directly affected by transactions in the secondary markets.
- A security can trade an unlimited number of times in secondary markets.
- The volume of trade in secondary markets is much higher than in primary markets.

Investment Bankers



- An investment banker specializes in marketing new securities in the primary market.
- Examples of investment bankers:
 - Merrill Lynch
 - First Boston

Brokers and Dealers



- These generally participate in the secondary markets.
- A broker helps investors in buying or selling securities.
- A broker charges commissions, but never takes title to the security.
- A dealer buys securities from sellers, and sells them to buyers (hopefully at a higher price!)



Financial Intermediaries

- These are institutions that assist in the financing of firms.
- Examples include: commercial banks and pension funds.
- These institutions invest in securities of other firms, but they are themselves financed by other financial claims.



The Term Structure of Interest Rates

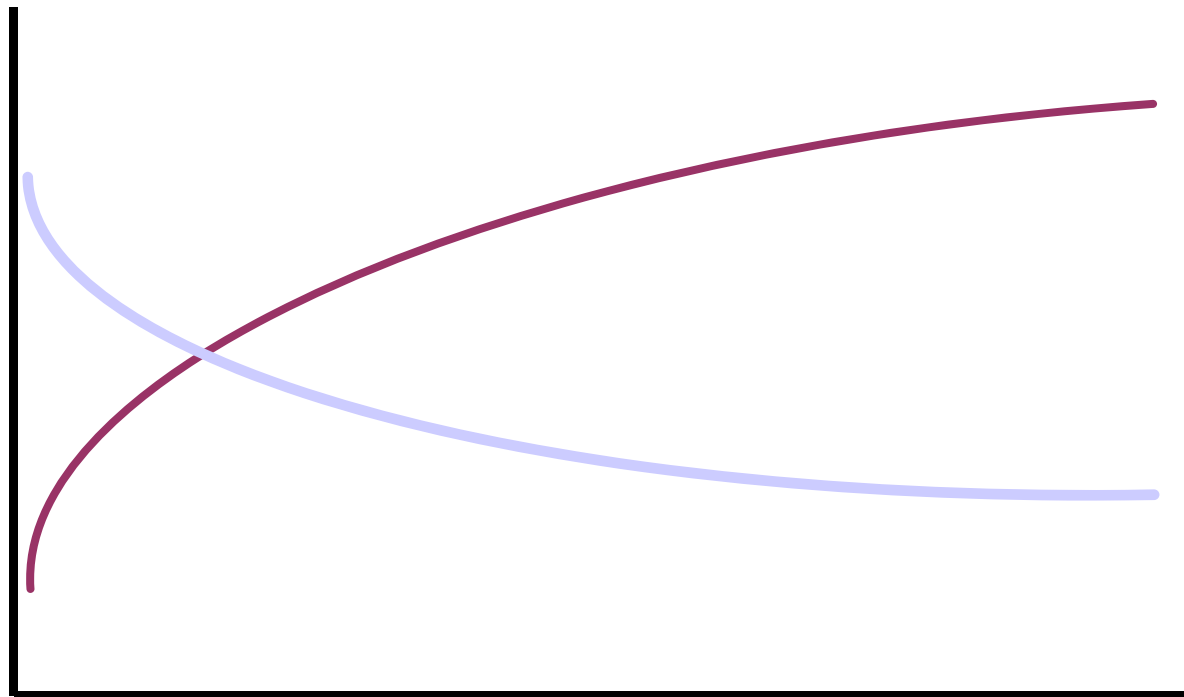
A listing of bond maturity dates and the interest rates that correspond with each date.

Yield Curve - Graph of the term structure (*i.e.*) a graph of the yields on bonds relative to the number of years to maturity.

- Usually Treasury Bonds
- **Must** be similar risk or other factors would be influencing yields

Yield Curves

Yields



**Upward
Sloping**

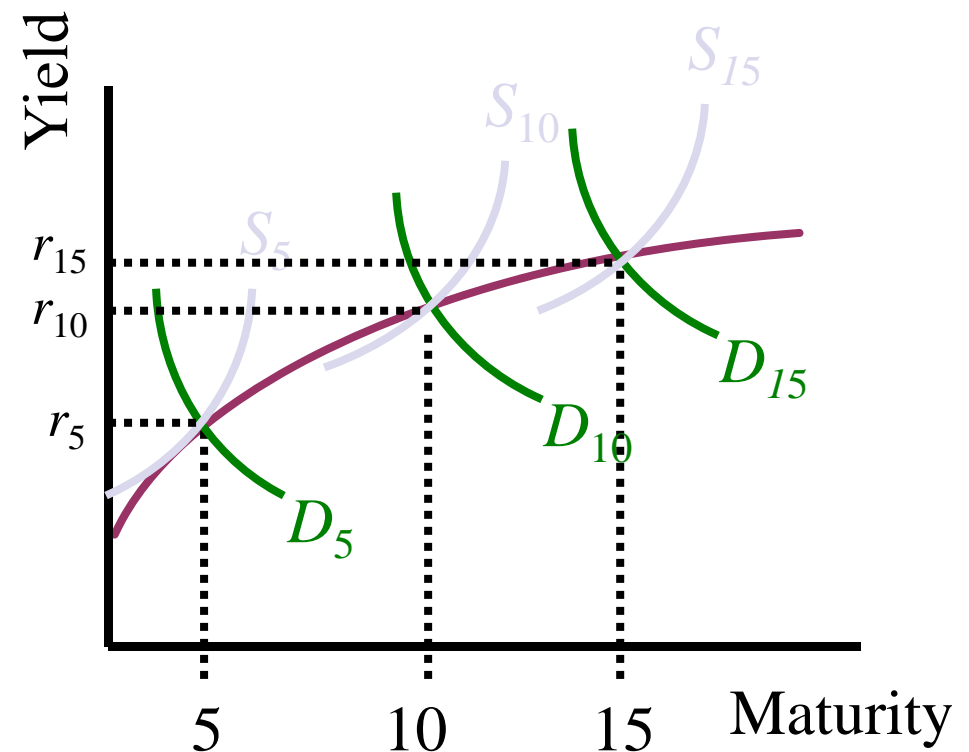
**Downward
Sloping**

Maturity

Theories of Term Structure

- Market Segmentation

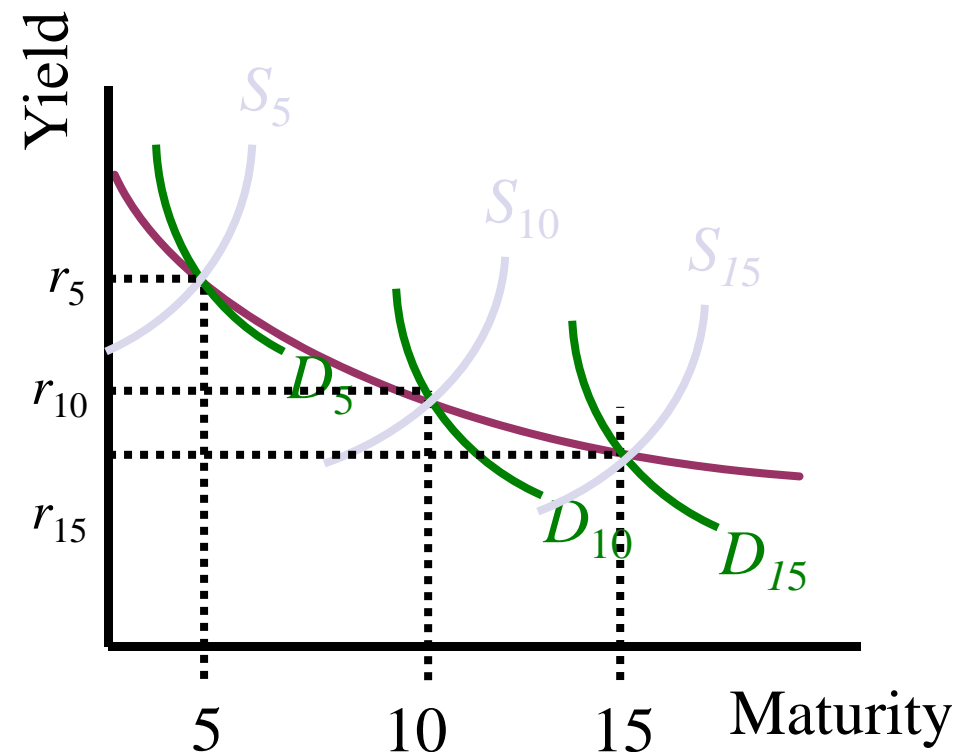
→ Explains *both* downward and upward sloping yield curves



Theories of Term Structure

- Market Segmentation

→ Explains *both* downward and upward sloping yield curves





Theories of Term Structure

- Liquidity Preference
 - Upward bias over expectations
 - Fails to explain downward sloping yield curve
- Expectations

Business Ethics



- Ethics consists of standards of conduct or moral judgment.
- High standards of ethical conduct require that each stakeholder deal, and be dealt with, in an honest and fair manner.
- Events at WorldCom, Enron, and Arthur Andersen have lent support for the view that business is inherently corrupt or immoral.
- However, many others assert that high ethical standards are essential to the profitability and survival of the firm and that ethics in business may be higher than in other segments of society.

Summary



- Financial markets, financial principles, and business ethics are all a foundation for the financial decisions that managers routinely make.
- The principles of finance describe typical behavior in financial transactions and provide guidance for decision making:
- Money markets are short-term.
- Capital markets are long-term.



Summary

- Derivative markets have options, futures, forwards, and swaps.
- Corporations raise capital by issuing securities in primary transactions.
- Previously issued securities trade in secondary transactions.



Summary

- Financial intermediaries buy and hold the securities of others while issuing claims against themselves.
- The term structure of interest rates represents the relationship between maturity and yield.
- Business ethics, standards of conduct, and moral judgment are central to the operations and profitability of business.