

What role do financial markets play in the US economy?

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Chapter 1

An Overview of Financial Management

I. Significance:

We begin the chapter by describing how finance is related to the overall business and by discussing the different forms of business organization. For corporations, management's goal should be to maximize shareholder wealth, which means maximizing the value of the stock. When we say "maximizing the value of the stock," we mean the "true, long-run value," which may be different from the current stock price. Good managers understand the importance of ethics, and they recognize that maximizing long-run value is consistent with being socially responsible. We conclude the chapter by discussing how firms must provide the right incentives if they are to get managers to focus on long-run value maximization.

II. Highlight:

- Explain the role of finance and the different types of jobs in finance.
- Identify the advantages and disadvantages of different forms of business organization.
- Explain the links between stock price, intrinsic value, and executive compensation.
- Discuss the importance of business ethics and the consequences of unethical behavior.
- Identify the potential conflicts that arise within the firm between stockholders and managers and between stockholders and bondholders and discuss the techniques that firms can use to mitigate these potential conflicts.

III. Key Terms:

1. Sarbanes-Oxley Act: A law passed by Congress that requires the CEO and CFO to certify that their firm's financial statements are accurate.
2. Proprietorship: An unincorporated business owned by one individual.
3. Partnership: An unincorporated business owned by two or more persons.
4. Corporation: A legal entity created by a state, separate and distinct from its owners and managers, having unlimited life, easy transferability of ownership, and limited liability.
5. S Corporation: A special designation that allows small businesses that meet qualifications to be taxed as if they were a proprietorship or a partnership rather than a corporation.
6. Limited Liability Partnership (LLP): Similar to an LLC but used for professional firms in the fields of accounting, law, and architecture, it has limited liability like corporations but is taxed like partnerships.
7. Limited Liability Company (LLC): A relatively new type of organization that is a hybrid between a partnership and corporation.
8. Shareholder wealth maximization: The primary goal for managers of publicly owned companies implies that decisions should be made to maximize the long-run value of the firm's common stock
9. Intrinsic value: An estimate of a stock's "true" value based on accurate risk and return data. The intrinsic value can be estimated but not measured precisely.
10. Market price: The stock value based on perceived but possibly incorrect information as seen by the marginal investor.

IV. Certain questions and answers:

- What companies are doing with business ethics?

As a result of the Enron scandal and other recent scandals, there has been a strong push to improve business ethics. This is occurring on several fronts—actions begun by former New York attorney general and former governor Elliot Spitzer and others who sued companies for improper acts; Congress' passing of the Sarbanes Oxley bill to impose sanctions on executives who sign financial statements later found to be false; and business schools trying to inform students about proper versus improper business actions.

As noted earlier, companies benefit from having good reputations and are penalized by having bad ones; the same is true for individuals. Reputations reflect the extent to which firms and people are ethical. Ethics is defined in Webster's Dictionary as "standards of conduct or moral behavior." Business ethics can be thought of as a company's attitude and conduct toward its employees, customers, community, and stockholders. A firm's commitment to business ethics can be measured by the tendency of its employees, from the top down, to adhere to laws, regulations, and moral standards relating to product safety and quality, fair employment practices, fair marketing and selling practices, the use of confidential information for personal gain, community involvement, and illegal payments to obtain business.

- How Should Employees Deal with Unethical Behavior?

Far too often the desire for stock options, bonuses, and promotions drives managers to take unethical actions such as fudging the books to make profits in the manager's division look good, holding back information about bad products that would depress sales, and failing to take costly but needed measures to protect the environment. Generally, these acts don't rise to the level of an Enron or a World-Com, but they are still bad. If questionable things are going on, who should take action and what should that action be? Obviously, in situations such as Enron and WorldCom, where fraud was being perpetrated at or close to the top, senior managers knew about the illegal activities. In other cases, the problem is caused by a mid-level manager trying to boost his or her unit's profits and thus his or her bonus. In all cases, though, at least some lower-level employees are aware of what's happening; they may even be ordered to take fraudulent actions. Should the lower-level employees obey their boss's orders; refuse to obey those orders; or report the situation to a higher authority, such as the company's board of directors, the company's auditors, or a federal prosecutor?

In the WorldCom and Enron cases, it was clear to a number of employees that unethical and illegal acts were being committed; but in cases such as Merck's Vioxx product, the situation was less clear. Because early evidence that Vioxx led to heart attacks was weak and evidence of its pain reduction was strong, it was probably not appropriate to sound an alarm early on. However, as evidence accumulated, at some point the public needed to be given a strong warning or the product should have been taken off the market. But judgment comes into play when deciding on what action to take and when to take it. If a lower-level employee thinks that a product should be pulled but the boss disagrees, what should the employee do? If an employee decides to report the problem, trouble may ensue regardless of the merits of the case. If the alarm is false, the company will have been harmed and nothing will have been gained. In that case, the employee will probably be fired. Even if the employee is right, his or her career may still be ruined because many companies (or at least bosses) don't like "disloyal, troublemaking" employees.

Such situations arise fairly often in contexts ranging from accounting fraud to product liability and environmental cases. Employees jeopardize their jobs if they come forward over their bosses' objections. However, if they don't speak up, they may suffer emotional problems and contribute to the downfall of their companies and the accompanying loss of jobs and savings. Moreover, if employees obey orders regarding actions they know are illegal, they may end up going to jail. Indeed, in most of the scandals that have gone to trial, the lower-level people who physically entered the bad data received longer jail

sentences than the bosses who presumably gave the directives. So employees can be "stuck between a rock and a hard place," that is, doing what they should do and possibly losing their jobs versus going along with the boss and possibly ending up in jail.

- What's the difference between finance, economics and accounting?

Finance as we know it today grew out of economics and accounting. Economists developed the notion that an asset's value is based on the future cash flows the asset will provide, and accountants provided information regarding the likely size of those cash flows. Finance then grew out of and lies between economics and accounting, so people who work in finance need knowledge of those two fields. Also, as discussed next, in the modern corporation, the accounting department falls under the control of the chief financial officer (CFO).

Chapter 2

Financial Markets and Institutions

I. Significance:

Stock prices are determined in the financial markets; so if financial managers are to make good decisions, they must understand how these markets operate. In addition, individuals make personal investment decisions; so they too need to know something about financial markets and the institutions that operate in those markets. Therefore, in this chapter, we describe the markets where capital is raised, securities are traded, and stock prices are established and the institutions that operate in these markets.

II. Highlight:

- Identify the different types of financial markets and financial institutions and explain how these markets and institutions enhance capital allocation.
- Explain how the stock market operates and list the distinctions between the different types of stock markets.
- Explain how the stock market has performed in recent years.
- Discuss the importance of market efficiency and explain why some markets are more efficient than others.

III. Key Terms:

1. Spot markets: The markets in which assets are bought or sold for "on-the-spot" delivery.
2. Futures markets: The markets in which participants agree today to buy or sell an asset at some future date.
3. Money markets: The financial markets in which funds are borrowed or loaned for short periods (less than one year).
4. Capital markets: The financial markets for stocks and for intermediate- or Long-term debt (one year or longer).
5. Primary markets: Markets in which corporations raise capital by issuing new securities
6. Secondary markets: Markets in which securities and other financial assets are traded among investors

- after they have been issued by corporations.
7. Private markets: Markets in which transactions are worked out directly between two parties.
 8. Public markets: Markets in which standardized contracts are traded on organized exchanges.
 9. Derivative: Any financial asset whose value is derived from the value of some other "underlying" asset.
 10. Investment banks: Organizations that underwrites and distributes new investment securities and helps businesses obtain financing.

IV. Certain questions and answers:

● What is the capital allocation process?

1. Direct transfers of money and securities, as shown in the top section, occur when a business sells its stocks or bonds directly to savers, without going through any type of financial institution. The business delivers its securities to savers, who, in turn, give the firm the money it needs. This procedure is used mainly by small firms, and relatively little capital is raised by direct transfers.

2. As shown in the middle section, transfers may also go through an investment bank (iBank) such as Merrill Lynch or Citigroup, which underwrites the issue. An underwriter serves as a middleman and facilitates the issuance of securities. The company sells its stocks or bonds to the investment bank, which then sells these same securities to savers. The businesses' securities and the savers' money merely "pass through" the investment bank. However, because the investment bank buys and holds the securities for a period of time, it is taking a risk-it may not be able to resell the securities to savers for as much as it paid. Because new securities are involved and the corporation receives the proceeds of the sale, this transaction is called a primary market transaction.

3. Transfers can also be made through a financial intermediary such as a bank, an insurance company, or a mutual fund. Here the intermediary obtains funds from savers in exchange for its securities. The intermediary uses this money to buy and hold businesses' securities, while the savers hold the intermediary's securities. For example, saver deposits dollars in a bank, receiving a certificate of deposit; then the bank lends the money to a business in the form of a mortgage loan. Thus, intermediaries literally create new forms of capital-in this case, certificates of deposit, which are safer and more liquid than mortgages and thus are better for most savers to hold. The existence of intermediaries greatly increases the efficiency of money and capital markets.

● What are the types of markets?

1. Physical asset markets versus financial asset markets. Physical asset markets (also called "tangible" or "real" asset markets) are for products such as wheat, autos, real estate, computers, and machinery. Financial asset markets, on the other hand, deal with stocks, bonds, notes, and mortgages. Financial markets also deal with derivative securities whose values are derived from changes in the prices of other assets. A share of Ford stock is a "pure financial asset," while an option to buy Ford shares is a derivative security whose value depends on the price of Ford stock. The bonds backed by subprime mortgages discussed at the beginning of this chapter are another type of derivative, as the values of these bonds are derived from the values of the underlying mortgages.

2. Spot markets versus futures markets. Spot markets are markets in which assets are bought or sold for "on-the-spot" delivery (literally, within a few days). Futures markets are markets in which participants agree today to buy or sell an asset at some future date. For example, a farmer may enter into a futures contract in which he agrees today to sell 5,000 bushels of soybeans 6 months from now at a price of \$5 a bushel. To continue that example, a food processor that needs soybeans in the future may enter into a futures contract in which it agrees to buy soybeans 6 months from now. Such a transaction can reduce, or

hedge, the risks faced by both the farmer and the food processor.

3. Money markets versus capital markets. Money markets are the markets for short-term, highly liquid debt securities. The New York, London, and Tokyo money markets are among the worlds largest. Capital markets are the markets for intermediate- or long-term debt and corporate stocks. The New York Stock Exchange, where the stocks of the largest U.S. corporations are traded, is a prime example of a capital market. There is no hard-and-fast rule, but in a description of debt markets, short-term generally means less than 1 year, intermediate-term means 1 to 10 years, and long-term means more than 10 years.

4. Primary markets versus secondary markets. Primary markets are the markets in which corporations raise new capital. If GE were to sell a new issue of common stock to raise capital, a primary market transaction would take place. The corporation selling the newly created stock, GE, receives the proceeds from the sale in a primary market transaction. Secondary markets are markets in which existing, already outstanding securities are traded among investors. Thus, if Jane Doe decided to buy 1,000 shares of GE stock, the purchase would occur in the secondary market. The New York Stock Exchange is a secondary market because it deals in outstanding, as opposed to newly issued, stocks and bonds. Secondary markets also exist for mortgages, other types of loans, and other financial assets. The corporation whose securities are being traded is not involved in a secondary market transaction and thus does not receive funds from such a sale.

5. Private markets versus public markets. Private markets, where transactions are negotiated directly between two parties, are differentiated from public markets, where standardized contracts are traded on organized exchanges. Bank loans and private debt placements with insurance companies are examples of private market transactions. Because these transactions are private, they may be structured in any manner to which the two parties agree. By contrast, securities that are traded in public markets (for example, common stock and corporate bonds) are held by a large number of individuals. These securities must have fairly standardized contractual features because public investors do not generally have the time and expertise to negotiate unique, nonstandardized contracts. Broad ownership and standardization result in publicly traded securities being more liquid than tailor-made, uniquely negotiated securities.

- How many types of stock market transactions?

1. Outstanding shares of established publicly owned companies that are traded: the secondary market. Allied Food Products has 50 million shares of stock outstanding. If the owner of 100 shares sells his or her stock, the trade is said to have occurred in the secondary market. Thus, the market for outstanding shares, or used shares, is the secondary market. The company receives no new money when sales occur in this market.

2. Additional shares sold by established publicly owned companies: the primary market. If Allied Food decides to sell (or issue) an additional 1 million shares to raise new equity capital, this transaction is said to occur in the primary market.

3. Initial public offerings made by privately held firms: the IPO market. In the summer of 2004, Google sold shares to the public for the first time at \$85 per share. By February 2008, the stock was selling for 9495, so it had increased by over 480%. In 2006, McDonald's owned Chipotle Mexican Grill. McDonald's then sold its shares to the public for about \$47.50 to raise capital to support its core business; and by February 2008, Chipotle's stock price was \$117. Making these types of offerings is called going public. Whenever stock in a closely held corporation is offered to the public for the first time, the company is said to be going public. The market for stock that is just being offered to the public is called the initial public

Chapter 3

Financial Statements, Cash Flow, and Taxes

I. Significance:

A manager's primary goal is to maximize the value of his or her firm's stock, and value is based on the firm's future cash flows. But how do managers decide which actions are most likely to increase those flows, and how do investors estimate future cash flows? The answers to both questions lie in a study of financial statements that publicly traded firms must provide to investors. Here investors include both institutions (banks, insurance companies, pension funds, and the like) and individuals like you.

Much of the material in this chapter deals with concepts you covered in a basic accounting course. However, the information is important enough to warrant a review. Also, in accounting, you probably focused on how accounting statements are made; the focus here is on how investors and managers interpret and use them. Accounting is the basic language of business, so everyone engaged in business needs a good working knowledge of it. It is used to "keep score"; and if investors and managers do not know the score, they won't know whether their actions are appropriate. If you took midterm exams but were not told your scores, you would have a difficult time knowing whether you needed to improve. The same idea holds in business. If a firm's managers whether they are in marketing, personnel, production, or finance-do not understand financial statements, they will not be able to judge the effects of their actions, which will make it hard for the firm to survive, much less to have a maximum value.

II. Highlight:

- List each of the key financial statements and identify the kinds of information they provide to corporate managers and investors.
- Estimate a firm's free cash flow and explain why free cash flow has such an important effect on firm value.
- Discuss the major features of the federal income tax system.

III. Key Terms:

1. Annual report: A report issued annually by a corporation to its stockholders. It contains basic financial statements as well as management's analysis of the firm's past operations and future prospects.
2. Balance sheet: A statement of a firm's financial position at a specific point in time.
3. Net working capital: Current assets minus accounts payable and accruals.
4. Income statements: A report summarizing a firm's revenues, expenses, and profits during a reporting period, generally a quarter or a year
5. Operating income: Earnings from operations before interest and taxes (i.e., EB|T).
6. Depreciation: The charge to reflect the cost of assets used up in the production process. Depreciation is not a cash outlay.
7. Amortization: A noncash charge similar to depreciation except that it is used to write off the costs of intangible assets.
8. Statement of Cash Flows: A report that shows how things that affect the balance sheet and income statement affect the firm's cash flows.

9. Statement of Stockholders' Equity: A statement that shows by how much a firm's equity changed during the year and why this change occurred.
10. Free cash flow (FCF): The amount of cash that could be withdrawn from a firm without harming its ability to operate and to produce future cash flows.

IV. Certain questions and answers:

- What is the annual report, and what two types of information does it provide?

The annual report is the most important report that corporations issue to stockholders, and it contains two types of information. First, there is a verbal section, often presented as a letter from the chairperson, which describes the firm's operating results during the past year and discusses new developments that will affect future operations. Second, the report provides these four basic financial statements: balance sheet, income statement, statement of cash flows, and statement of stockholders' equity.

- What four financial statements are typically included in the annual report?

1. The balance sheet, which shows what assets the company owns and who has claims on those assets as of a given date-for example, December 31, 2008.

2. The income statement, which shows the firm's sales and costs (and thus profits) during some past period-for example, 2008.

3. The statement of cash flows, which shows how much cash the firm began the year with, how much cash it ended up with, and what it did to increase or decrease its cash.

4. The statement of stockholders' equity, which shows the amount of equity the stockholders had at the start of the year, the items that increased or decreased equity, and the equity at the end of the year.

- What is the balance sheet, and what information does it provide?

The balance sheet is a "snapshot" of a firm's position at a specific point in time. The left side of the statement shows the assets that the company owns, while the right side shows the firm's liabilities and stockholders' equity, which are claims against the firm's assets.

Assets are divided into two major categories: current assets and fixed, or long-term, assets. Current assets consist of assets that should be converted to cash within one year; and they include cash and cash equivalents, accounts receivable, and inventory.³ Long-term assets are assets expected to be used for more than one year; they include plant and equipment in addition to intellectual property such as patents and copyrights. Plant and equipment is generally reported net of accumulated depreciation. Allied's long-term assets consist entirely of net plant and equipment, and we often refer to them as "net fixed assets."

Chapter 4

Analysis of Financial Statements

I. Significance:

The primary goal of financial management is to maximize shareholders' wealth, not accounting measures such as net income or EPS. However, accounting data influence stock prices, and this data can be used to see why a company is performing the way it is and where it is heading. In Chapter 4, we show how the statements are used by managers to improve the firm's stock price; by lenders to evaluate the likelihood that borrowers will be able to pay off loans; and by security analysts to forecast earnings, dividends, and stock prices.

If management is to maximize a firm's value, it must take advantage of the firm's strengths and correct its weaknesses. Financial analysis involves (1) comparing the firm's performance to that of other firms in the same industry and (2) evaluating trends in the firm's financial position over time. These studies help managers identify deficiencies and then take corrective actions. In this chapter, we focus on how managers and investors evaluate a firm's financial position. Then, in later chapters, we examine the types of actions managers can take to improve future performance and thus increase the firm's stock price.

The most important ratio is the ROE, or return on equity, which tells us how much stockholders are earning on the funds they provide to the firm. When ROE is high, the stock price also tends to be high; so actions that increase ROE generally increase the stock price. Other ratios provide information about how well assets such as inventory, accounts receivable, and fixed assets are managed and about the firm's capital structure.

Managers use ratios related to these factors to help develop plans to improve ROE.

II. Highlight:

- Explain what ratio analysis is. . List the 5 groups of ratios and identify, calculate, and interpret the key ratios in each group. In addition, discuss each ratio's relationship to the balance sheet and income statement.
- Discuss why ROE is the key ratio under management's control, how the other ratios affect ROE, and explain how to use the DuPont equation to see how the ROE can be improved. . Compare a firm's ratios with those of other firms (benchmarking) and analyze a given firm's ratios over time (trend analysis).
- Discuss the tendency of ratios to fluctuate over time, which may or may not be problematic. Explain how they can be influenced by accounting practices and other factors and why they must be used with care.

III. Key Terms:

1. Liquid Asset: An asset that can be converted to cash quickly without having to reduce the asset's price very much.
2. Liquidity Ratios: Ratios that show the relationship of a firm's cash and other current assets to its current liabilities.
3. Current Ratio: This ratio is calculated by dividing current assets by current liabilities. It indicates the extent to which current liabilities are covered by those assets expected to be converted to cash in the near future.
4. Quick {Acid Test} Ratio: This ratio is calculated by deducting inventories from current assets and then dividing the remainder by current liabilities.

5. Asset Management Ratios: A set of ratios that measure how effectively a firm is managing its assets.
6. Inventory turnover ratio: This ratio is calculated by dividing sales by inventories.
7. Days Sales Outstanding (DSO): This ratio is calculated by dividing accounts receivable by average sales per day; it indicates the average length of time the firm must wait after making a sale before it receives cash.
8. Fixed assets turnover ratio: The ratio of sales to net fixed assets.
9. Total assets turnover ratio: This ratio is calculated by dividing sales by total assets.
10. Debt Management Ratios: A set of ratios that measure how effectively a firm manages its debt.

IV. Certain questions and answers:

- What question are the two liquidity ratios designed to answer?
The liquidity ratios help answers this question: Will the firm be able to pay off its debts as they come due and thus remain a viable organization? If the answer is no, liquidity must be the first order of business.
- What is Benchmarking?
Ratio analysis involves comparisons with industry average figures; many other firms also compare themselves with the top firms in their industry. This is called benchmarking, and the companies used for the comparison are called benchmark companies.
- Who are the users of ratio analysis?
Ratio analysis is used by three main groups: (1) managers, who use ratios to help analyze, control, and thus improve their firms' operations; (2) credit analysts, including bank loan officers and bond rating analysts, who analyze ratios to help judge a company's ability to repay its debts; and (3) stock analysts, who are interested in a company's efficiency, risk, and growth prospects.

Chapter 5

Time Value of Money

I. Significance:

Time value analysis has many applications, including planning for retirement, valuing stocks and bonds, setting up loan payment schedules, and making corporate decisions regarding investing in new plant and equipment. In fact, of all financial concepts, time value of money is the single most important concept. Indeed, time value analysis is used throughout the book; so it is vital that you understand this chapter before continuing. You need to understand basic time value concepts, but conceptual knowledge will do you little good if you can't do the required calculations. Therefore, this chapter is heavy on calculations. Most students studying finance have a financial or scientific calculator; some also own or have access to a computer. Moreover, one of these tools is necessary to work many finance problems in a reasonable length of time. However, when students start on this chapter, many of them don't know how to use the time value functions on their calculator or computer. If you are in that situation, you will find yourself simultaneously studying concepts and trying to learn to use your calculator and you will need more time to cover this chapter than you might expect.

II. Highlight:

- Explain how the time value of money works and discuss why it is such an important concept in finance.
- Calculate the present value and future value of lump sums.
- Identify the different types of annuities and calculate the present value and future value of both an ordinary annuity and an annuity due. You should also be able to calculate relevant annuity payments.
- Calculate the present value and future value of an uneven cash flow stream. You will use this knowledge in later chapters that show how to value common stocks and corporate projects.
- Explain the difference between nominal, periodic, and effective interest rates.
- Discuss the basics of loan amortization.

III. Key Terms:

1. Future values (FVs): The amount to which a cash flow or series of cash flows will grow over a given period of time when compounded at a given interest rate.
2. Compounding: The arithmetic process of determining the final value of a cash flow or series of cash flows when compound interest is applied.
3. Compound Interest: Occurs when interest is earned on prior periods' interest.
4. Opportunity cost: The rate of return you could earn on an alternative investment of similar risk.
5. Discounting: The process of finding the present value of a cash flow or a series of cash flows; discounting is the reverse of compounding.
6. Annuity: A series of equal payments at fixed intervals for a specified number of periods.
7. Annuity Due: An annuity whose payments occur at the beginning of each period.
8. Consol: A perpetual bond issued by the British government to consolidate post debts; in general, any perpetual bond.
9. Perpetuity: A stream of equal payments at fixed intervals expected to continue forever.
10. Payment (PMT): This term designates equal cash flows coming at regular intervals.

IV. Certain questions and answers:

- Do time lines deal only with years, or can other periods be used?

The intervals from 0 to 1, 1 to 2, and 2 to 3 are time periods such as years or months. Time 0 is today, and it is the beginning of Period 1; Time 1 is one period from today, and it is both the end of Period 1 and the beginning of Period 2; and so forth. Although the periods are often years, periods can also be quarters or months or even days. Note that each tick mark corresponds to both the end of one period and the beginning of the next one. Thus, if the periods are years, the tick mark at Time 2 represents the end of Year 2 and the beginning of Year 3.

- What is discounting, and how is it related to compounding?

In general, the present value of a cash flow due N years in the future is the amount which, if it were on hand today, would grow to equal the given future amount. Because \$100 would grow to \$775.76 in 3 years at a 5% interest rate, \$100 is the present value of \$775.76 due in 3 years at a 5% rate. Finding present values is called discounting; and as noted above, it is the reverse of compounding if you know the PV, you can compound to find the FV, while if you know the FV, you can discount to find the PV.

- What's the difference between an ordinary annuity and an annuity due?

Many assets provide a series of cash inflows over time; and many obligations, such as auto, student, and mortgage loans, require a series of payments. When the payments are equal and are made at fixed intervals, the series is an annuity. For example, \$100 paid at the end of each of the next 3 years is a 3-year annuity. If the payments occur at the end of each year, the annuity is an ordinary (or deferred) annuity. If

the payments are made at the beginning of each year, the annuity is an annuity due. Ordinary annuities are more common in finance.

Chapter 6

Interest Rates

I. Significance:

Companies raise capital in two main forms: debt and equity. In a free economy, capital, like other items, is allocated through a market system, where funds are transferred and prices are established. The interest rate is the price that lenders receive and borrowers pay for debt capital. Similarly, equity investors expect to receive dividends and capital gains, the sum of which represents the cost of equity. We will take up the cost of equity in a later chapter, but our focus in this chapter is on the cost of debt. We begin by examining the factors that affect the supply of and demand for capital, which, in turn, affects the cost of money. We will see that there is no single interest rate-interest rates on different types of debt vary depending on the borrower's risk, the use of the funds borrowed, the type of collateral used to back the loan, and the length of time the money is needed. In this chapter, we concentrate mainly on how these various factors affect the cost of debt for individuals; but in later chapters, we delve into cost of debt for a business and its role in investment decisions.

II. Highlight:

- List the various factors that influence the cost of money.
- Discuss how market interest rates are affected by borrowers' need for capital, expected inflation, different securities' risks, and securities' liquidity.
- Explain what the yield curve is, what determines its shape, and how you can use the yield curve to help forecast future interest rates.

III. Key Terms:

1. Production Opportunities: The investment opportunities in productive (cash-generating) assets.
2. Time Preferences for Consumption: The preferences of consumers for current consumption as opposed to saving for future consumption.
3. Risk: In a financial market context, the chance that an investment will provide a low or negative return.
4. Inflation: The amount by which prices increase over time.
5. Real Risk-Free Rate of Interest, r^* : The rate of interest that would exist on default-free U.S. Treasury securities if no inflation were expected.
6. Nominal (Quoted) Risk-Free Rate, r_{RF} : The rate of interest on a security that is free of all risk; r_{RF} is proxied by the T-bill rate or the T-bond rate. r_{RF} includes an inflation premium.
7. Inflation Premium: (IP): A premium equal to expected inflation that investors add to the real risk free rate of return.
8. Default risk premium (DRP): The difference between the interest rate on a U.S. Treasury bond and a

corporate bond of equal maturity and marketability.

9. Liquidity Premium (IP): A premium added to the equilibrium interest rate on a security if that security cannot be converted to cash on short notice and at close to its "fair market value."
10. Interest Rate Risk: The risk of capital losses to which investors are exposed because of changing interest rates.

IV. Certain questions and answers:

- What role do interest rates play in allocating capital to different potential borrowers?

Borrowers bid for the available supply of debt capital using interest rates: The firms with the most profitable investment opportunities are willing and able to pay the most for capital, so they tend to attract it away from inefficient firms and firms whose products are not in demand. Of course, the economy is not completely free in the sense of being influenced only by market forces. For example, the federal government has agencies that help designated individuals or groups obtain credit on favorable terms. Among those eligible for this kind of assistance are small businesses, certain minorities, and firms willing to build plants in areas with high unemployment. Still, most capital in the United States is allocated through the price system, where the interest rate is the price.

- How does the price of capital tend to change during a boom?

There is a price for each type of capital, and these prices change over time as supply and demand conditions change. Short-term interest rates are especially volatile, rising rapidly during booms and falling equally rapidly during recessions. (The shaded areas of the chart indicate recessions.) When the economy is expanding, firms need capital; and this demand pushes rates up. Also, inflationary pressures are strongest during business booms, also exerting upward pressure on rates. Conditions are reversed during recessions: Slack business reduces the demand for credit, inflation falls, and the Federal Reserve increases the supply of funds to help stimulate the economy. The result is a decline in interest rates.

- How do investors deal with inflation when they determine interest rates in the financial markets?

When investors lend money, they build an inflation premium (IP) equal to the average expected inflation rate over the life of the security into the rate they charge. The actual interest rate on a short-term default-free U.S. Treasury bill, $r_{T\text{-bill}}$, would be the real risk-free rate, r^* , plus the inflation premium (IP): $r_{T\text{-bill}} = r_{RF} = r^* + IP$

Therefore, if the real risk-free rate was $r^* = 1.7\%$ and if inflation was expected to be 1.5% (and hence $IP = 1.5\%$) during the next year, the quoted rate of interest on one-year T-bills would be $1.7\% + 1.5\% = 3.2\%$.

It is important to note that the inflation rate built into interest rates is the inflation rate expected in the future, not the rate experienced in the past. Thus, the latest reported figures might show an annual inflation rate of 3% over the past 12 months, but that is for the past year. If people, on average, expect a 4% inflation rate in the future, 4% would be built into the current interest rate. Note also that the inflation rate reflected in the quoted interest rate on any security is the average inflation rate expected over the security's life. Thus, the inflation rate built into a 1-year bond is the expected inflation rate for the next year, but the inflation rate built into a 30-year bond is the average inflation rate expected over the next 30 years.

Chapter 7

Bonds and Their Valuation

I. Significance:

In this chapter, we examine the characteristics of bonds and discuss the various factors that influence bond prices.

If you skim through The Wall Street Journal, you will see references to a wide variety of bonds. This variety may seem confusing; but in actuality, only a few characteristics distinguish the various types of bonds.

II. Highlight:

- Identify the different features of corporate and government bonds.
- Discuss how bond prices are determined in the market, what the relationship is between interest rates and bond prices, and how a bond's price changes over time as it approaches maturity.
- Calculate a bond's yield to maturity and its yield to call if it is callable and determine the "true" yield.
- Explain the different types of risk that bond investors and issuers face and the way a bond's terms and collateral can be changed to affect its interest rate.

III. Key Terms:

1. Treasury Bonds: Bonds issued by the federal government, sometimes referred to as government bonds.
2. Corporate Bonds: Bonds issued by corporations.
3. Municipal Bonds: Bonds issued by state and local governments.
4. Foreign Bonds: Bonds issued by foreign governments or by foreign corporations.
5. Coupon Payment: The specified number of dollars of interest paid each year.
6. Floating-Rate Bond: A bond whose interest rate fluctuates with shifts in the general level of interest rates.
7. Zero Coupon Bond: A bond that pays no annual interest but is sold at a discount below par, thus compensating investors in the form of capital appreciation.
8. Maturity Date: A specified date on which the par value of a bond must be repaid.
9. Call Provision: A provision in a bond contract that gives the issuer the right to redeem the bonds under specified terms prior to the normal maturity date.
10. Puttable Bond: A bond with a provision that allows its investors to sell it back to the company prior to maturity at a prearranged price.

IV. Certain questions and answers:

- What are the four main issuers of bonds?

Bonds are grouped in several ways. One grouping is based on the issuer: the U.S. Treasury, corporations, state and local governments, and foreigners. Each bond differs with respect to risk and consequently its expected return.

- What are the four main bonds based on difference issuers?

Treasury bonds, generally called Treasuries and sometimes referred to as government bonds, are

issued by the federal government. It is reasonable to assume that the U.S. government will make good on its promised payments, so Treasuries have no default risk. However, these bonds' prices do decline when interest rates rise; so they are not completely riskless.

Corporate bonds are issued by business firms. Unlike Treasuries, corporate are exposed to default risk- if the issuing company gets into trouble, it may be unable to make the promised interest and principal payments and bondholders may suffer losses. Different corporate bonds have different levels of default risk depending on the issuing company's characteristics and the terms of the specific bond. Default risk is often referred to as "credit risk"; the larger this risk, the higher the interest rate investors demand.

Municipal bonds, or munis, are the term given to bonds issued by state and local governments. Like corporate, munis are exposed to some default risk; but they have one major advantage over all other bonds: the interest earned on most munis is exempt from federal taxes and from state taxes if the holder is a resident of the issuing state. Consequently, the market interest rate on a muni is considerably lower than on a corporate of equivalent risk.

Foreign bonds are issued by a foreign government or a foreign corporation. All foreign corporate bonds are exposed to default risk, as are some foreign government bonds. An additional risk exists when the bonds are denominated in a currency other than that of the investor's home currency. Consider, for example, a U.S. investor who purchases a corporate bond denominated in Japanese yen. At some point, the investor will want to close out his investment and convert the yen back to U.S. dollars. If the Japanese yen unexpectedly falls relative to the dollar, the investor will have fewer dollars than he originally expected to receive. Consequently, the investor could still lose money even if the bond does not default.

- What is meant by the terms new issue and seasoned issue?

A bond that has just been issued is known as a new issue. Once it has been issued, it is an outstanding bond, also called a seasoned issue. Newly issued bonds generally sell at prices very close to par, but the prices of outstanding bonds can vary widely from par. Except for floating-rate bonds, coupon payments are constant; so when economic conditions change, a bond with a \$100 coupon that sold at its \$1,000 par value when it was issued will sell for more or less than \$1,000 thereafter.

Chapter 8

Risk and Rates of Return

I. Significance:

We start this chapter from the basic premise that investors like returns and dislike risk; hence, they will invest in risky assets only if those assets offer higher expected returns. We define what risk means as it relates to investments, examine procedures that are used to measure risk, and discuss the relationship between risk and return. Investors should understand these concepts, as should corporate managers as they develop the plans that will shape their firms' futures.

Risk can be measured in different ways, and different conclusions about an asset's riskiness can be reached depending on the measure used. Risk analysis can be confusing, but it will help if you keep the following points in mind:

1. All business assets are expected to produce cash flows, and the riskiness of an asset is based on the riskiness of its cash flows. The riskier the cash flows, the riskier the asset.
2. Assets can be categorized as financial assets, especially stocks and bonds, and as real assets, such as trucks, machines, and whole businesses. In theory, risk analysis for all types of assets is similar and the same fundamental concepts apply to all assets. However, in practice, differences in the types of available data lead to different procedures for stocks, bonds, and real assets. Our focus in this chapter is on financial assets, especially stocks.
3. A stock's risk can be considered in two ways: (a) on a stand-alone, or single-stock, basis, or (b) in a portfolio context, where a number of stocks are combined and their consolidated cash flows are analyzed. There is an important difference between stand-alone and portfolio risk and a stock that has a great deal of risk held by it may be much less risky when held as part of a larger portfolio.
4. In a portfolio context, a stock's risk can be divided into two components: (a) diversifiable risk, which can be diversified away and is thus of little concern to diversified investors, and (b) market risk, which reflects the risk of a general stock market decline and cannot be eliminated by diversification (hence, does concern investors). Only market risk is relevant to rational investors because diversifiable risk can and will be eliminated.
5. A stock with high market risk must offer a relatively high expected rate of return to attract investors. Investors in general are averse to risk, so they will not buy risky assets unless they are compensated with high expected returns.
6. If investors, on average, think a stock's expected return is too low to compensate for its risk, they will start selling it, driving down its price and boosting its expected return. Conversely, if the expected return on a stock is more than enough to compensate for the risky people will start buying it, raising its price and thus lowering its expected return. The stock will be in equilibrium, with neither buying nor selling pressure, when its expected return is exactly sufficient to compensate for its risk.
7. Stand-alone risk, the topic of Section 8-2, is important in stock analysis primarily as a lead-in to portfolio risk analysis. However, stand-alone risk is extremely important when analyzing real assets such as capital budgeting projects.

II. Highlight:

- Explain the difference between stand-alone risk and risk in a portfolio context.
- Explain how risk aversion affects a stock's required rate of return.
- Discuss the difference between diversifiable risk and market risk and explain how each type of risk affects well-diversified investors.
- Explain what the CAPM is and how it can be used to estimate a stock's required rate of return.
- Discuss how changes in the general stock and the bond markets could lead to changes in the required rate of return on a firm's stock. . Discuss how changes in a firm's operations might lead to changes in the required rate of return on the firm's stock.

III. Key Terms:

1. Stand-Alone Risk: The risk an investor would face if he or she held only one asset.
2. Probability Distribution: A listing of possible outcomes or events with a probability (chance of occurrence) assigned to each outcome.
3. Expected Rate of Return, r : The rate of return expected to be realized from an investment; the weighted average of the probability distribution of possible results.
4. Standard Deviation: A statistical measure of the variability of a set of observations.
5. Coefficient of Variation (CV): The standardized measures of the risk per unit of return; calculated as the standard deviation divided by the expected return.
6. Risk Aversion: Risk-averse investors dislike risk and require higher rates of return as an inducement to buy riskier securities.
7. Risk Premium (RP): The difference between the expected rate of return on a given risky asset and that on a less risky asset.
8. Capital Asset Pricing Model (CAPM): A model based on the proposition that any stock's required rate of return is equal to the risk-free rate of return plus a risk premium that reflects only the risk remaining after diversification.
9. Correlation: The tendency of two variables to move together.
10. Market Risk: The risk that remains in a portfolio after diversification has eliminated all company-specific risk. This risk is also known as non-diversifiable or systematic or beta risk.

IV. Certain questions and answers:

- What does investment risk mean?

Investment risk can be defined as the probability or likelihood of occurrence of losses relative to the expected return on any particular investment. Stating simply, it is a measure of the level of uncertainty of achieving the returns as per the expectations of the investor. It is the extent of unexpected results to be realized.

Risk is an important component in assessment of the prospects of an investment. Most investors while making an investment consider less risk as favorable. The lesser the investment risk, more lucrative is the investment. However, the thumb rule is the higher the risk, the better the return.

- What is meant by perfect positive correlation, perfect negative correlation, and zero correlation?

Stocks W and M can be combined to form a riskless portfolio because their returns move counter cyclically to each other-when W's fall, M's rise, and vice versa. The tendency of two variables to move together is called correlation, and the correlation coefficient, ρ (pronounced "rho"), measures this tendency. In statistical terms, we say that the returns on Stocks W and M are perfectly negatively correlated, with $\rho = -1.0$. The opposite of perfect negative correlation is perfect positive correlation, with

$\rho = +1.0$. If returns are not related to one another at all, they are said to be independent and $\rho = 0$.

- What happens to the SML graph when risk aversion increases or decreases?

The slope of the SML reflects the extent to which investors are averse to risk—the steeper the slope of the line, the more the average investor requires as compensation for bearing risk. Suppose investors were indifferent to risk; that is, they were not at all risk-averse. If r_{RF} was 6%, risky assets would also have a required return of 6% because if there were no risk aversion, there would be no risk premium. In that case, the SML would plot as a horizontal line. However, because investors are risk-averse, there is a risk premium; and the greater the risk aversion, the steeper the slope of the SML.

An increase in risk aversion: the market risk premium rises, causing r_M rises. The returns on other risky assets also rise, and the effect of this shift in risk aversion is more pronounced on riskier securities.

Chapter 9

Stocks and Their Valuation

I. Significance:

Since the cash flows provided by bonds are set by contract, it is generally easy to predict their cash flows. Preferred stock returns are also set by contract, which makes them similar to bonds; and they are valued in much the same way. However, common stock returns are not contractual—they depend on the firm's earnings, which in turn depend on many random factors, making their valuation more difficult. Two fairly straight forward models are used to estimate stocks' intrinsic (or "true") values: (1) the discounted dividend model and (2) the corporate valuation model. A stock should, of course, be bought if its price is less than its estimated intrinsic value and sold if its price exceeds its intrinsic value.

II. Highlight:

- Discuss the legal rights of stockholders.
- Explain the distinction between a stock's price and its intrinsic value.
- Identify the two models that can be used to estimate a stock's intrinsic value: the discounted dividend model and the corporate model.
- List the key characteristics of preferred stock and explain how to estimate the value of preferred stock.

III. Key Terms:

1. Equilibrium: The condition under which the expected return on a security is just equal to its required return, $r = r_M$. Also, $P = P_0$, and the price is stable.
2. Corporate Valuation Model: A valuation model used as an alternative to the discounted dividend model to determine a firm's value, especially one with no history of dividends, or the value of a division of a larger firm. The corporate model first calculates the firm's free cash flows, then finds their present values to determine the firm's value,

3. Terminal Date: The date when the growth rate becomes constant. At this date, it is no longer necessary to forecast the individual dividends.
4. Horizon Value: The value at the horizon date of all dividends expected thereafter.
5. Supernormal growth: The part of the firm's life cycle in which it grows much faster than the economy as a whole.
6. Zero Growth Stock: A common stock whose future dividends are not expected to grow at all; that is, $g=0$.
7. Constant Growth Model: Used to find the value of a constant growth stock.
8. Capital Gains Yield: The capital gain during a given year divided by the beginning price.
9. Expected Total Return: The sum of the expected dividend yield and the expected capital gains yield.
10. Dividend Yield: The expected dividend divided by the current price of a share of stock.

IV. Certain questions and answers:

- How many types of common stock?

Although most firms have only one type of common stock, in some instances, classified stock is used to meet special needs. Generally, when special classifications are used, one type is designated Class A, another Class B, and so forth. Small, new companies seeking funds from outside sources frequently use different types of common stock. For example, when Google went public, it sold Class A stock to the public while its Class B stock was retained by the company's insiders. The key difference is that the Class B stock has 10 votes per share while the Class A stock has 1 vote per share. Google's Class B shares are predominantly held by the company's two founders and its current CEO. The use of classified stock thus enables the company's founders to maintain control over the company without having to own a majority of the common stock. For this reason, Class B stock of this type is sometimes called founders' shares. Since dual-class share structures of this type give special voting privileges to key insiders, these structures are sometimes criticized because they may enable insiders to make decisions that are counter to the interests of the majority of stockholders.

- Which Is Better: Current Dividends or Growth?

In the preceding section that a firm can pay a higher current dividend by increasing its payout ratio, but that will lower its dividend growth rate. So the firm can provide a relatively high current dividend or a high growth rate but not both. This being the case, which would stockholders prefer? The answer is not clear. Some stockholders prefer current dividends while others prefer a lower payout ratio and future growth. Empirical studies have been unable to determine which strategy is optimal in the sense of maximizing a firm's stock price. So dividend policy is an issue that management must decide on the basis of its judgment, not a mathematical formula. Logically, shareholders should prefer for the company to retain more earnings (hence pay less current dividends) if the firm has exceptionally good investment opportunities; however, shareholders should prefer a high payout if investment opportunities are poor. In spite of this, taxes and other factors complicate the situation. We will discuss all this in detail in the dividend chapter; but for now, just assume that the firm's management has decided on a payout policy and uses that policy to determine the actual dividend.

- What is preferred stock?

Preferred stock is a hybrid-it is similar to a bond in some respects and to common stock in others. This hybrid nature becomes apparent when we try to classify preferred stock in relation to bonds and common stock. Like bonds, preferred stock has a par value and a fixed dividend that must be paid before dividends can be paid on the common stock. However, the directors can omit (or "pass") the preferred dividend without throwing the company into bankruptcy. So although preferred stock calls for a fixed payment like

bonds, skipping the payment will not lead to bankruptcy.

Chapter 10

The Cost of Capital

I. Significance:

A firm's primary objective is to maximize its shareholders' value. The principal way value is increased is by investing in projects that earn more than their cost of capital. In the next two chapters, we will see that a project's future cash flows can be forecasted and that those cash flows can be discounted to find their present value. Then if the PV of the future cash flows exceeds the project's cost, the firm's value will increase if the project is accepted. However, we need a discount rate to find the PV of the future cash flows, and that discount rate is the firm's cost of capital. Finding the cost of the capital required to take on new projects is the primary focus of this chapter.

Most formulas used in this chapter were developed earlier, when we examined the required rates of return on bonds and stocks. Indeed, the rates of return that investors require on bonds and stocks represent the costs of those securities to the firm. As we shall see, companies estimate the required returns on their securities, calculate a weighted average of the costs of their different types of capital, and use this average cost for capital budgeting purposes.

II. Highlight:

- Explain why the weighted average cost of capital (WACC) is used in capital budgeting.
- Estimate the costs of different capital components—debt, preferred stock, retained earnings, and common stock.
- Combine the different component costs to determine the firm's WACC.

III. Key Terms:

1. Retained Earnings Breakpoint: The amount of capital raised beyond which new common stock must be issued.
2. Flotation Cost Adjustment: The amount that must be added to r_s , to account for flotation costs to find r_e .
3. Flotation Cost: The percentage cost of issuing new common stock.
4. Cost of New Common Stock: The cost of external equity based on the cost of retained earnings but increased for flotation costs.
5. Cost of Preferred Stock: The rate of return investors require on the firm's preferred stock. r_p is calculated as the preferred dividend, D_p , divided by the current price, P_p .
6. Weighted Average Cost of Capital (WACC): A weighted average of the component costs of debt, preferred stock, and common equity.
7. Capital Components: One of the types of capital used by firms to raise funds.
8. Before-tax Cost of Debt, r_d : The interest rate the firm must pay on new debt.
9. After-tax Cost of Debt, $r_d(1 - T)$: The relevant cost of new debt, taking into account the tax deductibility of interest; used to calculate the WACC.

10. Cost of Retained Earnings: The rate of return required by stockholders on a firm's common stock.

IV. Certain questions and answers:

- What are the firm's three major capital structure components?

The investor-supplied items—debt, preferred stock, and common equity—are called capital components. Increases in assets must be financed by increases in these capital components. The cost of each component is called its component cost; for example, Allied can borrow money at 10%, so its component cost of debt is 10%. These costs are then combined to form a weighted average cost of capital, which is used in the capital budgeting process. We concentrate on the three major capital components.

The target proportions of debt (W_d), preferred stock (W_p), and common equity (W_c), along with the costs of those components, are used to calculate the firm's weighted average cost of capital, WACC.

- Why is the after-tax cost of debt rather than the before-tax cost used to calculate the WACC?

We use the after-tax cost of debt in calculating the WACC because we are interested in maximizing the value of the firm's stock, and the stock price depends on after-tax cash flows. Because we are concerned with after-tax cash flows and because cash flows and rates of return should be calculated on a comparable basis, we adjust the interest rate downward due to debt's preferential tax treatment.

- What are the two approaches that can be used to adjust for flotation costs?

Because of flotation costs, dollars raised by selling new stock must "work harder" than dollars raised by retaining earnings. Moreover, because no flotation costs are involved, retained earnings cost less than new stock. Therefore, firms should utilize retained earnings to the greatest extent possible. However, if a firm has more good investment opportunities than can be financed with retained earnings plus the debt and preferred stock supported by those retained earnings, it may need to issue new common stock. The total amount of capital that can be raised before new stock must be issued is defined as the retained earnings breakpoint.

V. Remarks:

Chapter 11

The Basics of Capital Budgeting

I. Significance:

In the last chapter, we discussed the cost of capital. Now we turn to investment decisions involving fixed assets, or capital budgeting. Here capital refers to long-term assets used in production, while a budget is a plan that outlines projected expenditures during some future period. Thus, the capital budget is a summary of planned investments in long-term assets, and capital budgeting is the whole process of analyzing projects and deciding which ones to include in the capital budget. Boeing, Airbus, and other companies use the techniques in this chapter when deciding to accept or reject proposed capital expenditures.

II. Highlight:

- Discuss capital budgeting.
- Calculate and use the major capital budgeting decision criteria, which are NPV, IRR, MIRR, and payback.
- Explain why NPV is the best criterion and how it overcomes problems inherent in the other methods.

III. Key Terms:

1. Discounted Payback: The length of time required for an investment's cash flows, discounted at the investment's cost of capital, to cover its cost.
2. Payback Period: The length of time required for an investment's net revenues to cover its cost.
3. Crossover Rate: The cost of capital at which the NPV profiles of two projects cross and, thus, at which the projects' NPVs are equal.
4. Net Present Value Profile: A graph showing the relationship between a project's NPV and the firm's cost of capital.
5. Modified IRR (MIRR): The discount rate at which the present value of a project's cost is equal to the present value of its terminal value, where the terminal value is found as the sum of the future values of the cash inflows, compounded at the firm's cost of capital.
6. Internal Rate of Return (IRR): The discount rate that forces a project's NPV to equal zero.
7. Independent Projects: Projects with cash flows that are not affected by the acceptance or nonacceptance of other projects.
8. Mutually Exclusive Projects: A set of projects where only one can be accepted
9. Net Present Value (NPV): A method of ranking investment proposals using the NPV, which is equal to the present value of future net cash flows, discounted at the cost of capital.
10. Strategic Business Plan: A long-run plan that outlines in broad terms the firm's basic strategy for the next 5 to 10 years.

IV. Certain questions and answers:

- How is capital budgeting similar to security valuation?

The same concepts used in security valuation are also used in capital budgeting, but there are two major differences. First, stocks and bonds exist in the security markets, and investors select from the available set; firms, however, create capital budgeting projects. Second, for most securities, investors have no influence on the cash flows produced by their investments, whereas corporations have a major

influence on projects' results. Still, in both security valuation and capital budgeting, we forecast a set of cash flows, find the present value of those flows, and make the investment only if the PV of the inflows exceeds the investment's cost.

- Why is the NPV the primary capital budgeting decision criterion?

The net present value (NPV) tells us how much a project contributes to shareholder wealth-the larger the NPV the more value the project adds; and added value means a higher stock price. Thus, NPV is the best selection criterion.

- What condition regarding cash flows would cause more than one IRR to exist?

A problem with the IRR is that under certain conditions, a project may have more than one IRR. First, note that a project is said to have normal cash flows if it has one or more cash outflows (costs) followed by a series of cash inflows. If, however, a cash outflow occurs sometime after the inflows have commenced, meaning that the signs of the cash flows change more than once, the project is said to have nonnormal cash flows.

Chapter 12

Cash Flow Estimation and Risk Analysis

I. Significance:

Given a project's expected cash flows, it is easy to calculate the primary decision criterion-the NPV-as well as the supplemental criteria, IRR, MIRR, payback, and discounted payback. However, in the real world, cash flows are not just handed to you-rather; they must be estimated based on information from various sources. Moreover, uncertainty surrounds the forecasted cash flows, and some projects are more uncertain and thus riskier than others. In this chapter, we review examples that illustrate how project cash flows are estimated, discuss techniques for measuring and then dealing with risk, and discuss how projects are evaluated once they go into operation.

II. Highlight:

- Identify "relevant" cash flows that should and should not be included in a capital budgeting analysis.
- Estimate a project's relevant cash flows and put them into a time line format that can be used to calculate a project's NPV, IRR, and other capital budgeting metrics.
- Explain how risk is measured and use this measure to adjust the firm's WACC to account for differential project riskiness.
- Discuss how some projects can be altered after they have been accepted and how these alterations can change a project's cash flows and thus its realized NPV.
- Describe the post-audit, which is an important part of the capital budgeting process, and discuss its relevance in capital budgeting decisions.

III. Key Terms:

1. Annual Depreciation Rates: The annual expense accountants charge against income for "wear and tear" of an asset. For tax purposes, the IRS provide that appropriate MACRS rates be used that are dependent on an asset's class life.
2. Half-year Convention: Assumes assets are used for half the first year and half the last year.
3. Post-audit: A comparison of actual versus expected results for a given capital project.
4. Capital Rationing: The situation in which a firm can raise only a specified, limited amount of capital regardless of how many good projects it has.
5. Optimal Capital Budget: The annual investment in long-term assets that maximizes the firm's value.
6. Option Value: The difference between the expected NPVs with and without the relevant option. It is the value that is not accounted for in a traditional NPV analysis. A positive option value expands the firm's opportunities.
7. Decision Tree: A diagram that lays out different branches that are the result of different decisions made or the result of different economic situations.
8. Abandonment Option: The option to abandon a project if operating cash flows turn out to be lower than expected. This option can raise expected profitability and lower project risk.
9. Scenario Analysis: A risk analysis technique in which "bad" and "good" sets of financial circumstances are

compared with a most likely, or base-case, situation.

10. Best-Case Scenario: An analysis in which all of the input variables are set at their best reasonably forecasted values.

IV. Certain questions and answers:

- What role do incremental cash flows play in a replacement analysis?

All of cash flows were incremental-they occurred only if the firm accepted the project. This is true for expansion projects; but for replacement projects, we must find cash flow differentials between the new and old projects and these differentials are the incremental flows that we analyze.

The key here is to find the incremental cash flows. As noted previously, we find the cash flows from the operation with the old machine, then find the cash flows with the new machine, then find the differences in the cash flows.

In some instances, replacements add capacity as well as lower operating costs. When this is the case, sales revenues in Part II would be increased; and if that led to a need for more working capital, that number would be shown as Time 0 expenditure along with a recovery at the end of the project's life.

- What are the three types of project risk?

1. Stand-alone risk, which is a project's risk assuming (a) that it is the only asset the firm has and (b) that the firm is the only stock in each investor's portfolio. Stand-alone risk is measured by the variability of the project's expected returns. Diversification is totally ignored.

2. Corporate, or within-firm, risk, which is a project's risk to the corporation as opposed to its investors. Within-firm risk takes account of the fact that the project is only one asset in the firm's portfolio of assets; hence, some of its risk will be eliminated by diversification within the firm. This type of risk is measured by the project's impact on uncertainty about the firm's future returns.

3. Market, or beta, risk, which is the riskiness of the project as seen by a well diversified stockholder who recognizes (a) that the project is only one of the firm's assets and (b) that the firm's stock is but one part of his or her stock portfolio. The project's market risk is measured by its effect on the firm's beta coefficient.

- How many types of real options?

There are several types of real options, including (1) abandonment, where the project can be shut down if its cash flows are low; (2) timing, where a project can be delayed until more information about demand and/or costs can be obtained; (3) expansion, where the project can be expanded if demand turns out to be stronger than expected; (4) output flexibility, where the output can be changed if market conditions change; and (5) input flexibility, where the inputs used in the production process (e.g., coal versus natural gas for generating electricity) can be changed if input prices and/or availability change.

V. Remarks:

Chapter 13

Capital Structure and Leverage

I. Significance:

We assumed that the firm had a specific target capital structure. However, target capital structures often change over time, such changes affect the risk and cost of each type of capital, and all this can change the WACC. Moreover, a change in the WACC will affect capital budgeting decisions and, ultimately, the stock price. Many factors influence capital structure decisions; and as we will see, determining the optimal capital structure is not an exact science. Therefore, even firms in the same industry often have dramatically different capital structures. In this chapter, we consider the effects of debt on risk and on the optimal capital structure.

II. Highlight:

- Identify the trade-offs that firms must consider when they determine their target capital structure.
- Distinguish between business risk and financial risk and explain the effects that debt financing has on the firm's expected return and risk.
- Discuss the analytical framework used when determining the optimal capital structure.
- Discuss capital structure theory and use it to explain why firms in different industries tend to have different capital structures.

III. Key Terms:

1. Reserve Borrowing Capacity: The ability to borrow money at a reasonable cost when good investment opportunities arise. Firms often use less debt than specified by the MM optimal capital structure in "normal" times to ensure that they can obtain debt capital later if necessary,
2. Signal: An action taken by a firm's management that provides clues to investors about how management views the firm's prospects.
3. Asymmetric Information: The situation where managers have different (better) information about firms' prospects than investors.
4. Symmetric information: The situation where investors and managers have identical information about firms' prospects.
5. Trade-off Theory: The capital structure theory that states that firms trade off the tax benefits of debt financing against problems caused by potential bankruptcy.
6. Financial Leverage: The extent to which fixed-income securities (debt and preferred stock) are used in a firm's capital structure,
7. Financial Risk: An increase in stockholders' risk, over and above the firm's basic business risk, resulting from the use of financial leverage.
8. Operating Leverage: The extent to which fixed costs are used in a firm's operations.
9. Business Risk: The riskiness inherent in the firm's operations if it uses no debt.
10. Optimal Capital Structure: The capital structure that maximizes a firm's stock price.

IV. Certain questions and answers:

- What are the four factors that influence a firm's target capital structure?

1. Business risk, or the riskiness inherent in the firm's operations if it used no debt. The greater the firm's business risk, the lower its optimal debt ratio.

2. The firm's tax position. A major reason for using debt is that interest is tax deductible, which lowers the effective cost of debt. However, if most of a firm's income is already sheltered from taxes by depreciation tax shields or interest on currently outstanding debt or tax loss carry-forwards, its tax rate will be low. In this case, additional debt would not be as advantageous as it would be to a firm with a higher effective tax rate.

3. Financial flexibility, or the ability to raise capital on reasonable terms even under adverse market conditions. Corporate treasurers know that a steady supply of capital is necessary for stable operations, which is vital for long-run success. They also know that when money is tight in the economy or when a firm is experiencing operating difficulties, it is easier to raise debt than equity capital and lenders are more willing to accommodate companies with strong balance sheets. Therefore, the firm's potential future need for funds and the consequences of a funds shortage combine to influence its target capital structure-the greater the probability that capital will be needed and the worse the consequences of not being able to obtain it, the less debt the firm should have on its balance sheet.

4. Managerial conservatism or aggressiveness. Some managers are more aggressive than others; hence, they are more willing to use debt in an effort to boost profits. This factor does not affect the true optimal, or value-maximizing, capital structure; but it does influence the firm's target capital structure.

- What is business risk, and how can it be measured?

Business risk is the single most important determinant of capital structure, and it represents the amount of risk that is inherent in the firm's operations even if it uses no debt financing.

Business risk varies from industry to industry and among firms in a given industry. Further, business risk can change over time. For example, for many years, the electric utilities were regarded as having little business risk; but a combination of events in recent years altered the utilities' situation, producing sharp declines in their ROEs and greatly increasing the industry's risk. Today food processors and health care firms are examples of industries with low business risk, while cyclical manufacturing industries such as autos and steel, as well as many small start-up companies, and are regarded as having especially high business risks

- What are some determinants of business risk?

1. Demand variability. The more stable the demand for a firm's products, other things held constant, the lower its business risk.

2. Sales price variability. Firms whose products are sold in highly volatile markets are exposed to more business risk than similar firms whose output prices are more stable.

3. Input cost variability. Firms whose input costs are highly uncertain are exposed to a high degree of business risk.

4. Ability to adjust output prices for changes in input costs. Some firms are better able than others to raise their own output prices when input costs rise. The greater the ability to adjust output prices to reflect cost conditions, the lower the degree of business risk.

5. Ability to develop new products in a timely, cost-effective manner. Firms in high-tech industries such as drugs and computers depend on a constant stream of new products. The faster a firm's products become obsolete, the greater the firm's businesses risk.

6. Foreign risk exposure. Firms that generate a high percentage of their earnings overseas are subject to earnings declines due to exchange rate fluctuations. Also, if a firm operates in a politically unstable area, it may be subject to political risk.

7. The extent to which costs are fixed: operating leverage. If a high percentage of its costs are fixed (and hence do not decline when demand falls), the firm will be exposed to a relatively high degree of business risk. This factor is called operating leverage, and it is discussed at length in the next section.

Chapter 14

Distributions to Shareholders: Dividends and Share Repurchases

I. Significance:

Successful companies earn income. That income can be reinvested in operating assets, used to retire debt, or distributed to stockholders. If the decision is made to distribute income to stockholders, three key issues arise: (1) How much should be distributed? (2) Should the distribution be in the form of dividends, or should the cash be passed on to shareholders by buying back stock? (3) How stable should the distribution be? That is, should the funds paid out from year to year be stable and dependable, which stockholders like; or should they be varied depending on the firms' cash flows and investment requirements, which managers tend to like? Those three issues are the primary focus of this chapter.

II. Highlight:

- Explain why some investors like the firm to pay more dividends while other investors prefer reinvestment and the resulting capital gains.
- Discuss the various trade-offs that companies face when trying to establish their optimal dividend policy.
- Differentiate between stock splits and stock dividends.
- List the advantages and disadvantages of stock repurchases vis-à-vis dividends from both investors' and companies' perspectives.

III. Key Terms:

1. Stock Repurchases: A transaction in which a firm buys back shares of its own stock, thereby decreasing shares outstanding, increasing EPS, and often increasing the stock price.
2. Stock Dividends: A dividend paid in the form of additional shares of stock rather than in cash.
3. Stock Split: An action taken by a firm to increase the number of shares outstanding, such as doubling the number of shares outstanding by giving each stockholder two new shares for each one formerly held.
4. Dividend Reinvestment Plans (DRIPs): A plan that enables a stockholder to automatically reinvest dividends received back into the stock of the paying firm.
5. Payment Date: The date on which a firm actually mails dividend checks.
6. Ex-dividend Date: The date on which the right to the current dividend no longer accompanies a stock; it is usually two business days prior to the holder-of-record date.
7. Holder-of-Record Date: If the company lists the stockholder as an owner on this date; the stockholder will receive the dividend.
8. Declaration Date: The date on which a firm's directors issue a statement declaring a dividend.
9. Low-Regular-Dividend-Plus-Extras: The policy of announcing a low regular dividend that can be maintained no matter what and then when times are good, paying a designated "extra" dividend.

10. Residual Dividend Model: A model in which the dividend paid is set equal to net income minus the amount of retained earnings necessary to finance the firm's optimal capital budget.

IV. Certain questions and answers:

- How do taxes affect the target capital structure?
Interest is a deductible expense, and deductions are most valuable to firms with high tax rates. Therefore, the higher a firm's tax rate, the greater the advantage of debt.
- Why do some investors prefer high-dividend-paying stocks?
An increase in the dividend is often accompanied by an increase in the stock price, while a dividend cut generally leads to a stock price decline. This observation was used to refute MM's irrelevance theory-their opponents argued that stock price actions after changes in dividends payouts demonstrate that investors prefer dividends to capital gains. However, MM argued differently. They noted that corporations are reluctant to cut dividends and hence that corporations do not raise dividends unless they anticipate higher earnings in the future to support the higher dividends. Thus, MM argued that a higher-than-expected dividend increase is a signal to investors that management forecasts good future earnings.
- What is financial flexibility, and is it increased or decreased by a high debt ratio?
Putting all these factors when making capital structure decisions together gives rise to the goal of maintaining financial flexibility, which from an operational viewpoint means maintaining adequate "reserve borrowing capacity." Determining the "adequate" reserve is judgmental; but it clearly depends on the firm's forecasted need for funds, predicted capital market conditions, management's confidence in its forecasts, and the consequences of a capital shortage.

Chapter 15

Working Capital Management

I. Significance:

About 500/o of the typical industrial or retail firm's assets are held as working capital, and many students' first jobs focus on working capital management. This is particularly true in smaller businesses, where the majority of new jobs are being created.

II. Highlight:

- Explain how different amounts of current assets and current liabilities affect firms' profitability and thus their stock prices.
- Discuss how the cash conversion cycle is determined, how the cash budget is constructed, and how each is used in working capital management.
- Explain how companies decide on the proper amount of each current asset-cash, marketable securities, accounts receivable, and inventory.
- Discuss how companies set their credit policies and explain the effect of credit policy on sales and profits.
- Describe how the costs of trade credit, bank loans, and commercial paper are determined and how that information impacts decisions for financing working capital.
- Explain how companies use security to lower their costs of short-term credit.

III. Key Terms:

1. Secured Loans: A loan backed by collateral, often inventories or accounts receivable.
2. Spontaneous Funds: Funds that are generated spontaneously as the firm expands.
3. Accruals: Continually recurring short-term liabilities especially accrued wages and accrued taxes.
4. Commercial Paper: Unsecured, short-term promissory notes of large firms, usually issued in denominations of 5100,000 or more with an interest rate somewhat below the prime rate.
5. Add-On Interest: Interest that is calculated and added to funds received to determine the face amount of an installment loan.
6. Prime Rate: A published interest rate charged by commercial banks to large, strong borrowers.
7. Revolving Credit Agreement: A formal, com mitted line of credit extended by a bank or another lending institution.
8. Line Of Credit: An arrangement in which a bank agrees to lend up to a specified maximum amount of funds during a designated period.
9. Promissory Note: A document specifying the terms and conditions of a loan, including the amount, interest rate, and repayment schedule.
10. Costly Trade Credit: Credit taken in excess of free trade credit, whose cost is equal to the discount lost.

IV. Certain questions and answers:

- What are the three alternative current asset investment policies?

When receivables are high, the firm has a liberal credit policy, which results in a high level of accounts receivable. This is a relaxed policy. On the other hand, when a firm has a restricted (or tight or "lean-and-mean") policy, holdings of current assets are minimized. A moderate policy lies between the two extremes,

- How did the term working capital originate?

The term working capital originated with the old Yankee peddler who would load up his wagon and go off to peddle his wares. The merchandise was called "working capital" because it was what he actually sold, or "turned over," to produce his profits. The wagon and horse were his fixed assets. He generally owned the horse and wagon (so they were financed with "equity" capital), but he bought his merchandise on credit (that is, by borrowing from his supplier) or with money borrowed from a bank. Those loans were called working capital loans, and they had to be repaid after each trip to demonstrate that the peddler was solvent and worthy of a new loan. Banks that followed this procedure were said to be employing "sound banking practices." The more trips the peddler took per year, the faster his working capital turned over and the greater his profits.

- What two definitions of cash are commonly encountered?

When most of us use the term cash, we mean currency (paper money and coins) in addition to bank demand deposits. However, when corporate treasurers use the term, they often mean currency and demand deposits in addition to very safe, highly liquid marketable securities that can be sold quickly at a predictable price and thus be converted to bank deposits. Therefore, "cash" as reported on balance sheets generally includes short-term securities, which are also called "cash equivalents."

Chapter 16

Financial Planning and Forecasting

I. Significance:

Yogi Berra, the former player and manager for the New York Yankees, once said, "If you don't know where you're going, you probably won't get there." That's certainly true for a company-it needs a plan, one that starts with the firm's general goals and details the steps that will be taken to get there.

Financial planners begin with a set of assumptions; see what is likely to happen based on those assumptions, and then see if modifications can help the firm achieve better results. GE's critics suggest that the company should make forecasts based on its current structure and on an "if broken up" basis, then go forward with the breakup if that indicates the higher shareholder value.

Although we focus on forecasting from the corporation's standpoint, top security analysts go through the same process. Analysts with hedge and private equity funds are especially active as forecasters, and they are particularly interested in the iterative process of forecasting.

II. Highlight:

- Discuss the importance of strategic planning and the central role that financial forecasting plays in the overall planning process.
- Explain how firms forecast sales.
- Use the Additional Funds Needed (or AFN) equation and discuss the relationship between asset growth and the need for funds.
- Explain how spreadsheets are used in the forecasting process, starting with historical statements, ending with projected statements, and including a set of financial ratios based on those projected statements.
- Discuss how planning is an iterative process.

III. Key Terms:

1. Regression Analysis: A statistical technique that fits a line to observed data points so that the resulting equation can be used to forecast other data points.
2. Forecasted Financial Statements: Financial statements that project the company's financial position and performance over a period of years.
3. Excess Capacity Adjustments: Changes made to the existing asset forecast because the firm is not operating at full capacity.
4. Capital Intensity Ratio: The ratio of assets required per dollar of sales (A_0^*/S_0).
5. Sustainable Growth Rate: The maximum achievable growth rate without the firm having to raise external funds. In other words, it is the growth rate at which the firm's AFN equals zero.
6. AFN Equation: An equation that shows the relationship of external funds needed by a firm to its projected increase in assets, the spontaneous increase in liabilities, and its increase in retained earnings.
7. Additional Funds Needed (AFN): The amount of external capital (interest-bearing debt and preferred and common stock) needed to acquire the needed assets.
8. Spontaneously Generated Funds: Funds that arise out of normal business operations from its suppliers, employees, and the government (such as accounts payable and accrued wages and taxes) that reduce the firm's need for external financing.

9. Financial Plan: The document that includes assumptions, projected financial statements, and projected ratios and ties the entire planning process together.
10. Operating Plan: Provides management with detailed implementation guidance based on the corporate strategy to help meet the corporate objectives.

IV. Certain questions and answers:

- What are the key elements of a corporation's strategic plan?
 - Mission Statement. Many but not all firms articulate a mission statement.
 - Corporate Scope. Corporate scope defines the lines of business the firm plans to pursue and the geographic areas in which it will operate.
 - Statement of Corporate Objectives. A firm's statement of corporate objectives is that part of the corporate plan that sets forth the specific goals that operating managers are expected to meet.
 - Corporate Strategies. GE has several broad corporate strategies. One is to be highly diversified by both products and geographic scope in order to achieve earnings stability and financial strength.
 - Operating Plan. Each of GE's units must develop a detailed operating plan that is consistent with the corporate strategy to help it achieve the firm's objectives.
 - Financial Plan, Financial planning is a multi-step process.

- How is the financial plan related to the other parts of a firm's overall strategic plan?

Financial plan involves four steps. First, assumptions are made about the future levels of sales, costs, interest rates, and so forth, for use in the forecast. Second, a set of projected financial statements is developed. Third, projected ratios are calculated and analyzed. Fourth, the entire plan is reexamined, the assumptions are reviewed, and the management team considers how additional changes in operations might improve results. This last step requires reconsideration of all the earlier parts of the overall plan, from the mission statement to the operating plan. Thus, the financial plan ties the entire planning process together.

Financial planning as described previously is often called "value-based management," meaning that the effects of various decisions on the firm's financial position and value are studied by simulating their effects within the firm's financial model.

- Why is an accurate sales forecast critical for financial planning?

Financial plans generally begin with a sales forecast, which starts with a review of sales during the past 5 years. Of course, management likes higher sales growth, but not at any cost. For example, sales could be increased by cutting prices, spending more on advertising, granting easier credit, and the like. However, all of those actions would have a cost. Also, sales growth cannot occur without a concurrent increase in capacity, and that too is costly. So the sales growth must be balanced against the cost of achieving that growth.

If the sales forecast is off, the consequences can be serious. First, if the market expands it will not be able to meet demand, its customers will buy from competitors, and it will lose market share. On the other hand, if its projections are overly optimistic equipment, and inventory, leading to low turnover ratios, high costs for depreciation and storage, and write-offs of spoiled inventory. This would result in low profits and a depressed stock price.

Finally, note that the sales forecast is the most important input in the firm's forecast of financial statements, including the projected EPS. The importance of the sales forecast is highlighted when we forecast the financial statements.

Chapter 17

Multinational Financial Management

I. Significance:

Managers of multinational companies must deal with a wide range of issues that are not present when a company operates in a single country. In this chapter, we highlight the key differences between multinational and domestic corporations and we discuss the impact these differences have on the financial management of multinational businesses.

II. Highlight:

- Identify the primary reasons companies choose to go "global."
- Explain how exchange rates work and interpret different exchange rate quotations.
- Discuss the intuition behind interest rate parity and purchasing power parity.
- Explain the different opportunities and risks that investors face when they invest overseas.
- Identify some specific challenges that a multinational corporation faces and discuss how they influence its capital budgeting, capital structure, and working capital policies.

III. Key Terms:

1. Eurodollar: A U.S. dollar deposited in a bank outside the United States.
2. Eurocredits: Floating-rate bank loans that are available in most major trading currencies and that are tied to LIBOR.
3. Purchasing Power Parity (PPP): The relationship in which the same products cost roughly the same amount in different countries after the exchange rate is taken into account.
4. Interest Rate Parity: Specifies that investors should expect to earn the same return in all countries after adjusting for risk.
5. Premium on Forward Rate: The situation when the spot rate is greater than the forward rate.
6. Cross Rates: The exchange rate between any two currencies.
7. Currency Board Arrangement: Occurs when a country has its own currency but commits to exchange it for a specified foreign money unit at a fixed exchange rate and legislates domestic currency restrictions unless it has the foreign currency reserves to cover requested exchanges.
8. Managed-float Regime: Occurs when there is significant government intervention to control the exchange rate via manipulation of the currency's supply and demand.
9. International Monetary System: The framework within which exchange rates are determined. It is the blueprint for international trade and capital flows.
10. Vertically Integrated Investment: Occurs when a firm undertakes an investment to secure its input supply at stable prices.

IV. Certain questions and answers:

- What is a multinational corporation?

The term multinational, or global, corporation describes a firm that operates in an integrated fashion

in a number of countries. During the past 20 years, a new and fundamentally different form of international commercial activity has developed that has greatly increased worldwide economic and political interdependence.

Rather than merely buy resources from and sell goods to foreign nations, multinational firms now make direct investments in full, integrated operations—from extraction of raw materials through the manufacturing process and finally to the distribution of products to consumers throughout the world. Today multinational corporate networks control a large and growing share of the world's technological, marketing, and productive resources.

- Why do companies "go global"?

1. To seek production efficiency. As competition increases in their domestic marketplace and as demand increases in other markets, companies often conclude that they must produce their products overseas. Companies based in high-cost countries have strong incentives to shift production to lower-cost regions, assuming an adequate supply of labor with the requisite skills and an adequate transportation infrastructure.

2. To avoid political, trade, and regulatory hurdles. Governments sometimes impose tariffs, quotas, and other restrictions on imported goods and services. They often do so to raise revenues, to protect domestic industries, and to pursue various political and economic policy objectives. To circumvent government hurdles, firms often develop production facilities abroad.

3. To broaden their markets. After a company's home market matures, growth opportunities are often better in foreign markets. According to economic product life-cycle theory a firm first produces in its home market, where it can better develop its product and satisfy local customers. This attracts competitors; but when the home market is expanding rapidly, new customers provide the necessary sales growth. However, as the home market matures and the growth of total demand slows, competition becomes more intense. At the same time, demand for the product develops abroad, which creates conditions favoring production in foreign countries to satisfy foreign demand and to cut production and transportation costs so that the company can remain competitive.

4. To seek raw materials and new technology. Supplies of many essential raw materials are geographically dispersed; so companies must go where the materials are found, no matter how challenging it may be to operate in some of the locations.

5. To protect processes and products. Firms often possess special intangible assets such as brand names, technological and marketing know-how, managerial expertise, and superior research and development (R&D) capabilities. Unfortunately, property rights involving intangible assets are often difficult to protect, particularly in foreign markets. Firms sometimes invest abroad rather than license local foreign firms in order to protect the secrecy of their production processes, distribution systems, or the product itself. Once a firm's formula or production process is revealed to other local firms, those firms may more easily develop similar products or processes, which will hurt the original firm's sales.

6. To diversify. By establishing worldwide production facilities and markets, firms can cushion the effect of adverse economic conditions in any single country.

7. To retain customers. If a company goes abroad and establishes production or distribution operations, it will need inputs and services at the new locations. If it can obtain what it needs from a supplier that also operates in the same set of countries, managing the relationship will be much easier and economies of scale and other synergies will likely be obtained. Therefore, suppliers of inputs or services can better retain the business of their customers who are "going global" if they follow their customers abroad.

- What is interest rate parity?

Interest rate parity holds that investors should earn the same return on interest-bearing investments in all countries after adjusting for risk. It recognizes that when you invest in a country other than your home country, you are affected by two forces—returns on the investment itself and changes in the exchange rate. It follows that your overall return will be higher than the investment's stated return if the currency in which your investment is denominated appreciates relative to your home currency. Likewise, your overall return will be lower if the foreign currency you receive declines in value.

V. Remarks:

