1. In the U.S. financial system, funds flow from net savers (such as households) to net investors (such as businesses) through financial middlemen and financial intermediaries.
   a. Financial middlemen include securities brokers and investment bankers.
   b. Financial intermediaries include commercial banks, thrift institutions, investment companies, and finance companies.

2. Financial markets are classified as money or capital markets and primary or secondary markets.
   a. Short-term securities with maturities of one year or less are traded in money markets. Long-term securities have maturities of more than one year and are traded in capital markets.
   b. New securities are traded in the primary markets. Existing securities are traded in the secondary markets, such as the New York Stock Exchange, the American Stock Exchange, and the over-the-counter market.

3. Companies engaged in international financial transactions face such problems as political and exchange rate risk in addition to those risks encountered in domestic transactions.

4. The exchange rate is the rate at which a currency can be converted into another currency.
   a. The spot rate is the present exchange rate for immediate delivery.
   b. The forward rate is the present exchange rate for deliveries of currencies in the future.

5. The Eurocurrency market is an important alternative to domestic sources of financing for multinational firms. LIBOR, the London InterBank Offer Rate, is the basic interest rate against which Eurocurrency loans are priced.

6. In efficient capital markets, security prices represent an unbiased estimate of the true economic value of the cash flows expected to be generated for the benefit of that security holder.

7. Holding period returns measure the actual or expected return from holding a security, including price changes and distributions, such as dividends or interest.
Long-Term Capital Management, L.P.

Until August 1991, John Merriweather was a vice chairman of Salomon Brothers. He was a huge moneymaker for the firm. His primary responsibilities covered fixed income trading and trading on the firm’s own account. In April 1991, Paul Mozer, one of Merriweather’s senior staff members, reported to Merriweather that he had been falsifying bids for Treasury bonds. Merriweather immediately reported this to his bosses, but they did not bother to report it to the Federal Reserve Bank. In August 1991, the Salomon Brothers Treasury bond scandal broke, and many of the senior managers at Salomon were asked to resign. Merriweather, however, had acted appropriately when he learned of the trading improprieties and was not dismissed.

Shortly after the scandal, Merriweather voluntarily resigned and took a number of his former employees with him to form a new venture—Long-Term Capital Management. Long-Term Capital Management (LTCM) employed a number of distinguished economists who helped devise investment strategies designed to earn very high returns with low risk. The trading strategies they proposed were expected to take time (between six months and two years) to deliver the anticipated profits. Hence investors were required to commit to leaving their funds with the firm until the end of 1997. The fund planned to make very few trades that carried significant directional risk—that is, it did not make investments predicated on a belief that interest rates, stock prices, or currency exchange rates would move in any particular direction. Rather, it made so-called hedged-risk investments, especially in the fixed income marketplace.

LTCM’s strategy was to identify sectors of the capital marketplace where yields had gotten out of line with the yields in other sectors. For example, if the yield spread between 10-year maturity A-rated corporate bonds and 10-year maturity U.S. Treasury bonds increased outside of traditional ranges, LTCM would buy the “cheap” security, in this case the A-rated bonds, and sell the “expensive” security—the Treasury bonds. It would then wait until the spreads narrowed back to more normal levels and close out its position at a profit. This strategy did not earn LTCM large profits per dollar invested. Some estimates are that it earned only 0.67 percent per annum on the funds invested. However, because LTCM believed that its fundamental investment strategy was so low in risk, it used tremendous amounts of borrowed capital to “leverage” the returns to equity investors in the fund. In 1996, the fund had $30 in debt for each $1 in capital. By the fall of 1997, the capital invested in the fund had grown to about $7 billion. But the fund also had invested over $125 billion that was financed with debt.

Early returns were impressive: 20 percent in 1994 (for the 10 months the fund was in operation), 43 percent in 1995, 41 percent in 1996, and 17 percent in 1997. The year 1998 was a different story. The fund lost 6 percent of its capital value in May and 10 percent in June. Another 40 percent was lost in August as investors flocked to the highest quality bonds and away from higher risk securities. The yield spread had increased between these two types of securities, a move exactly opposite than expected by LTCM. Ultimately, the Federal Reserve Bank had to arrange a private bailout of the fund in the amount of $3.6 billion from a consortium of 14 banks and brokerage firms.

Other so-called hedge funds have also run into difficulty in the late 1990s and early 2000s, including Julian Robertson’s once-mighty Tiger Fund.
Introduction

This chapter provides a look at the domestic and international marketplaces within which firms operate. These financial marketplaces serve the role of allocating scarce resources from saving units (such as individuals) to investing units (such as firms). One important element of the financial marketplace is the structure of corporate and personal taxation. The existence of corporate and personal income taxes has important implications for financial managers. Because so many financial decisions are based on after-tax cash flows, finance and business professionals must have a basic understanding of tax matters. (Appendix 2A at the end of this chapter contains an overview of important elements of U.S. tax laws.) We provide an overview of the operation of the U.S. and international financial systems, distinguishing between the money and capital markets. The major financial intermediaries are discussed, and the operation and structure of secondary security markets are presented. The concept of an efficient market is developed. This chapter also illustrates how to calculate holding period returns for any investment.

Income Taxes and Financial Management

A knowledge of tax laws and regulations is essential in making a wide variety of business decisions that affect shareholder wealth, such as what form of business organization to select, what types of securities to issue, and what investment projects to undertake.

Specific provisions of the federal tax laws applicable to corporations are discussed in Appendix 2A at the end of the chapter.

Implications of Income Taxes for Financial Managers

Although the effect of income taxes on financial decisions is discussed in detail where appropriate throughout the book, a brief review of some of the critical areas of concern is provided in this section.

Capital Structure Policy. Taxes have important implications for capital structure policy because the interest payments associated with debt financing are deductible from earnings when computing a company’s income tax liability, whereas common stock dividends and preferred stock dividends are not deductible. In other words, for a company with positive pretax earnings and a 40 percent income tax rate, a new debt
issue that increases interest expenses by $1,000,000 per year would cost the company (i.e., reduce after-tax income) only $600,000—$1,000,000 interest expense less $400,000 tax savings ($ = .40 × $1,000,000). This tax advantage of debt is a prime reason for leveraged buyouts and financial restructurings.

**Dividend Policy.** A firm’s dividend policy may be influenced by personal income taxes. When dividends are paid to common stockholders, these dividends are taxed immediately as income to the shareholder. If, instead of paying dividends, a firm retains and reinvests its earnings, the price of the stock can be expected to increase. Personal taxes owed on common stock appreciation are deferred until the stock is sold. The ability to defer personal taxes on retained earnings causes some investors (e.g., those in high marginal tax brackets) to prefer retention and reinvestment and ultimately capital gains rather than immediate dividend payments. This investor preference can have an impact on corporate dividend policy, particularly in small, closely held companies.

**Capital Budgeting.** Capital expenditure decisions are also influenced by corporate income taxes. Capital expenditures require an outlay of after-tax dollars in order to acquire the needed assets. The assets are expected to generate a stream of operating income that is subject to tax. A tax-deductible expense associated with many capital expenditures is depreciation. Depreciation provides a tax deduction equal to a part of the original cost of a depreciable asset, such as machinery or buildings. The tax code details the methods that may be used to depreciate assets. Because depreciation is a noncash expense (the cash outlay was made when the asset was purchased), it simply reduces taxable income and hence reduces the amount of taxes that must be paid. Changes in the tax code that speed up (slow down) the depreciation rate increase (decrease) the present value of the cash flows from the investment project and make the project a more (less) desirable investment. Therefore, financial managers must pay close attention to expected tax law changes.

**Leasing.** The decision to lease or buy an asset is often motivated by its tax effects. If the lessee (asset user) is losing money or not subject to taxation (a nonprofit enterprise), leasing may be advantageous because the lessor (asset owner) can reflect the tax benefits of ownership in the lease rate charged to the lessee.

These and other tax effects of financial decisions will be encountered throughout the text and in the practice of financial management.

**Tax Rate Used in the Text**
U.S. tax laws impose progressive tax rates on corporate income—the larger the income, the higher the tax rate. As discussed in Appendix 2A, during 2001, the largest corporations pay a marginal tax rate (i.e., tax rate on the next dollar of income) of 35 percent. Throughout the text, however, we use an assumed marginal tax rate of 40 percent rather than the actual corporate marginal tax rate of 35 percent. There are two reasons for following this convention. First, it simplifies many of the calculations. Second, most firms are also subject to state-imposed income taxes. A 40 percent rate is an excellent approximation of the combined federal and state income tax rates facing most firms.

**An Overview of the U.S. Financial System**
The U.S. financial system serves an important function in the efficient operation of the economy. The financial system is the vehicle that channels funds from saving units (savers) to investing units. The rates of return that investing units must pay for the capital supplied by savers are determined competitively in financial markets. As we shall see
later in the book, investment activity undertaken by firms is influenced by the rate of return (cost of capital) the firms must pay to attract resources from savers. Accordingly, it is important for financial managers to understand the elements and functioning of the financial marketplace so that capital costs can be minimized for any set of investments a firm undertakes.

In considering any economy as a whole, the actual savings for a given period of time must equal the actual investments. This phenomenon is called the saving-investment cycle.

Table 2.1 presents a summary of the saving-investment cycle in the United States for 2000. Total gross savings for that year equaled $1,825.0 billion—$8.5 billion from personal savings by individuals, $1,305.5 billion from business, and $528 billion from government. (This last figure is a combination of federal, state, and local surpluses.) Gross investment also totaled $1,825.0 billion—$1,832.7 billion in gross private domestic investment, $336.6 billion in government investment less $427.9 billion in net foreign investments. This latter figure indicates that investments of foreign entities in the United States exceeded the investments of U.S. entities abroad by $427.9 billion. (Because of estimation errors, there is a statistical discrepancy of $83.6 billion.)

The saving-investment cycle depends on net savers, or surplus spending units, and net investors, or deficit spending units. The cycle is completed when the surplus spending units transfer funds to the deficit spending units. The main purpose of the U.S. financial system—including the financial markets and all financial institutions—is to facilitate this transfer of funds. Figure 2.1 graphically depicts this continual flow.

Funds flow from surplus spending units, such as households, to deficit spending units, such as businesses, through financial middlemen and financial intermediaries. Financial middlemen include brokers, who bring together buyers and sellers of securities; dealers, who sell securities to investors out of an inventory they carry; and investment bankers, who assist corporations in selling their securities. These securities are called primary claims, because they are sold directly by the borrower and bought directly by the saver (lender).

Financial intermediaries include commercial banks, thrift institutions, investment companies, pension funds, insurance companies, and finance companies. They differ from financial middlemen in that they issue secondary claims to the ultimate lender instead of primary claims. (A bank savings account is an example of a secondary claim.) A financial intermediary may lend money to a corporation, even though there is a small

TABLE 2.1 U.S. Gross Savings and Investment, 2000 (in Billions of Dollars)

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<tr>
<td>Gross business savings</td>
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<tr>
<td>Undistributed profits</td>
<td>$ 265.0</td>
</tr>
<tr>
<td>Depreciation allowances</td>
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<tr>
<td>1,305.5</td>
<td></td>
</tr>
<tr>
<td>Gross government savings</td>
<td>528.0</td>
</tr>
<tr>
<td>Gross savings</td>
<td>$1,825.0</td>
</tr>
<tr>
<td>Gross private domestic investment</td>
<td>1,832.7</td>
</tr>
<tr>
<td>Gross government investment</td>
<td>336.6</td>
</tr>
<tr>
<td>Net foreign investment</td>
<td>-427.9</td>
</tr>
<tr>
<td>Statistical discrepancy</td>
<td>83.6</td>
</tr>
<tr>
<td>Gross investment</td>
<td>$1,825.0</td>
</tr>
</tbody>
</table>


1 The role of investment bankers in corporate finance is discussed in greater detail in Chapter 8.
chance that the corporation will default on its loan. In general, individuals or house-
holds are unwilling to lend funds to a corporation under these circumstances, but they
will allow a commercial bank to use their funds, because the bank can guarantee them
both liquidity and safety.

Thus, financial intermediaries facilitate the transfer of funds. They are compensated
for their services by an interest rate spread. For example, a bank might loan money to a
business at an average of 8 percent interest, pay depositors an average of 4 percent in-
terest, and use the 4 percent difference to pay employee salaries and other expenses, as
well as to provide a return to their stockholders. The various financial intermediaries
are examined in greater detail later in this section.

**Financial Assets**

Although money is the most obvious financial asset, there are others as well, including
debt securities and equity securities. Both debt and equity securities represent claims
against the assets and future earnings of the corporation. Debt and equity securities are
financial assets of the investors who own them, and, at the same time, these securities ap-
pear on the liabilities and stockholder’s equity side of the issuing company’s balance sheet.

**Financial Markets**

Financial markets are the vehicles through which financial assets are bought, sold, and
traded. Financial markets are generally classified as money or capital markets and pri-
mary or secondary markets.

**Money and Capital Markets.** Money markets deal in short-term securities having matur-
ities of one year or less. Capital markets deal in long-term securities having maturities
greater than one year. (In both cases, the one-year break point is somewhat arbitrary.)

Most large corporations participate in the money markets, especially when they
have more cash on hand than needed to run their businesses. For example, Merck &
Company had over $4 billion in cash and short-term investments at the end of (fiscal
year) 2000—approximately 30 percent of its current assets and 10 percent of its total
assets. By investing in money market securities, the company earned interest rather than leaving its funds in non-interest-bearing commercial bank checking accounts.

Corporations enter the capital markets to obtain long-term funds, either debt or equity. Many corporations are unable to generate enough funds internally to satisfy their needs, so they raise additional funds externally in the capital markets. For example, during 2001, Cisco Systems, Inc. made capital expenditures and other investments of about $7 billion and paid no dividends. During the same year, Cisco generated $6.4 billion of operating cash flow internally. As a result, Cisco sold a substantial amount of new common stock ($1.2 billion).

**Primary and Secondary Markets.** An investor who purchases new securities is participating in a primary financial market. Net proceeds from the sale of new securities go directly to the issuing company. On virtually any given business day, The Wall Street Journal contains announcements about the issuance of new debt and equity securities. (These are called tombstones because of their resemblance to epitaphs.) Figure 2.2 shows a tombstone announcement for the sale of new shares of common stock by ARIBA Corporation. On June 29, 1999, the company issued 5.75 million shares of common stock through an underwriting syndicate of investment bankers for $23 per share. Note that part of the offering was sold via the Internet. There is a rapidly growing trend toward Internet stock trading and distribution of new offerings.

An investor who resells existing securities is participating in a secondary financial market. Secondary markets are well established in the United States, where stocks can be traded on the “floor” of a security exchange, such as the New York Stock Exchange (NYSE) or the American Stock Exchange (ASE or AMEX) or in the over-the-counter market (OTC). The structure and operation of the secondary markets is discussed in greater detail in the following sections. The operation of the primary markets is examined in Chapter 7.

**Financial Intermediaries**

A variety of different financial intermediaries exists to facilitate the flow of funds between surplus spending units and deficit spending units. These different financial intermediaries specialize in the types of deposits they accept (sources of funds) and the types of investments they make (uses of funds).

**Commercial Banks.** Commercial banks accept both demand deposits (in the form of checking accounts) and time deposits (in the form of savings accounts and certificates of deposit). These funds are loaned to individuals, businesses, and governments. Commercial banks are an important source of short-term loans. Seasonal businesses, such as retailers, certain manufacturers (for example, those who deal in leisure products), some food processors, and builders often require short-term financing to help them through peak periods. Many other types of businesses have a more or less continuing need for short-term financing and make prior arrangements with their banks to borrow on short notice. For example, in 2001, Darden Restaurants had a $300 million revolving credit agreement with its banks. This established revolving credit agreement gives Darden quick access to substantial funds as they are needed in the operation of the firm. As this example illustrates, banks provide significant amounts of both temporary and more “permanent” short-term financing for businesses.2

Banks are also a major source of term loans, which have initial maturities between 1 and 10 years and are usually repaid in installments over the life of the loan.3 The proceeds from term loans can be used to finance current assets, such as inventory or

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2 Short-term bank credit is discussed further in Chapter 18.

3 Term loans are examined in Chapter 18.
Part 1 Introduction

This announcement is neither an offer to sell nor a solicitation of an offer to buy any of these Securities. The offer is made only by the Prospectus.

5,750,000 Shares

ARIBA®

Common Stock

Price $23 a Share

Copies of the Prospectus may be obtained in any State from only such of the undersigned as may legally offer these Securities in compliance with the securities laws of such State.

MORGAN STANLEY DEAN WITTER

DAIN RAUSCHER WESSELS

a division of Dain Rauscher Incorporated

DEUTSCHE BANC ALEX. BROWN

MERRILL LYNCH & CO.

Internet Distribution Offered By

DISCOVER BROKERAGE DIRECT E-TRADE SECURITIES

ING BARING FURM SELZ LLC

EDWARD D. JONES & CO., L.P.

SG COWEN

SOUNDVIEW TECHNOLOGY GROUP

ADAMS, HARKNESS & HILL, INC.

FIRST UNION CAPITAL MARKETS CORP.

NEEDHAM & COMPANY, INC.

C.E. UNTERBERG, TOWBIN

June 29, 1999

Figure 2.2

Tombstone Announcement for ARIBA Common Stock Sale
accounts receivable, and to finance the purchase of fixed plant facilities and equipment, as well as to repay other debts.

**Thrift Institutions.** Thrift institutions include savings and loan associations, mutual savings banks, and credit unions. These institutions accept both demand and time deposits. Savings and loan associations and mutual savings banks invest most of their funds in home mortgages, whereas credit unions are engaged primarily in consumer loans. Many thrift institutions have been acquired by commercial banks in recent years. The role of thrifts in financing has declined greatly.

**Investment Companies.** Investment companies, such as mutual funds and real estate investment trusts (REITs), pool the funds of many savers and invest these funds in various types of assets. Mutual funds invest in specific financial assets—such as debt and equity securities of corporations or money market instruments—according to the objectives of the fund. Mutual funds attempt to achieve superior performance through diversification and professional investment management. REITs, as the name suggests, invest their pool of funds in real estate.

**Pension Funds.** Private pension funds pool the contributions of employees (and/or employers) and invest these funds in various types of financial assets, such as corporate securities, or real assets, such as real estate. Pension funds are often managed by bank trust departments and life insurance companies.

**Insurance Companies.** Insurance companies receive periodic or lump-sum premium payments from individuals or organizations in exchange for agreeing to make certain future contractual payments. Life insurance companies make payments to a beneficiary based on certain events, such as the death or disability of the insured party. Property and casualty insurance companies make payments when a financial loss occurs due to such events as fire, theft, accident, and illness. The premiums received are used to build reserves to pay future claims. These reserves are invested in various types of assets, such as corporate securities.

**Finance Companies.** Finance companies obtain funds by issuing their own debt securities and through loans from commercial banks. These funds are used to make loans to individuals and businesses. Some finance companies are formed to finance the sale of the parent company’s products. Well-known examples include General Motors Acceptance Corporation (GMAC) and Ford Motor Credit.

### The Structure and Operation of U.S. Security Markets

As discussed above, capital markets are usually classified as either primary or secondary markets. New securities are issued in the primary markets, and the firms issuing these securities receive the proceeds from their sale, thus raising new capital. Outstanding securities are traded in the secondary markets, where owners of these securities may sell them to other investors. The corporations whose securities are traded in the secondary markets do not share in the proceeds from these sales.

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4 *Diversification* is the act of investing in a set of securities having different risk-return characteristics. The topic is covered in Chapter 5.
Although primary and secondary markets are separate, they are closely related. Smoothly functioning secondary markets aid the primary markets, because investors tend to be more willing to purchase new securities when they know they can sell them in the secondary market. In fact, the potential liquidity available in the secondary markets may make investors more willing to accept slightly lower returns on their investments, thereby lowering the cost companies have to pay for their funds.

Security Exchanges and Stock Market Indexes
Secondary markets can be classified as either listed security exchanges or over-the-counter (OTC) markets. Listed security exchanges operate at designated places of business and have requirements governing the types of securities they can list and trade. The OTC security markets do not have centralized places of business but rather exist as networks of security dealers connected by a communications system of telephones and computer terminals that allow the dealers to post the prices at which they are willing to buy and sell various securities.

Listed Security Exchanges. The New York Stock Exchange, sometimes called the Big Board, was founded in 1792 and is the largest stock exchange in the United States. Over 2,000 common and preferred stocks and over 800 bonds are listed on the NYSE. For a company’s stock to be listed and traded on the NYSE, the company must meet certain minimum requirements with regard to the number of shares of stock outstanding, the number of shareholders, the geographical distribution of shareholders, the value of assets, the market value of shares, and the net income level. As a result, the NYSE tends to list the stock of larger firms.

The NYSE is composed largely of security firms that purchase memberships, or seats. The cost of these seats varies, depending on the securities industry outlook. The other major organized national exchange is the American Stock Exchange, which, like the NYSE, is located in New York City. The companies listed on the AMEX are smaller on average than those listed on the NYSE.

In addition to the national exchanges, there are a number of regional exchanges located around the country. The largest are the Chicago Exchange, the Pacific Exchange, and the Philadelphia, Boston, and Cincinnati exchanges. In general, regional exchanges list stocks of companies located in their geographical areas. Many large companies are listed on both the NYSE and one or more regional exchanges.

Trading activities on the NYSE and the major regional exchanges are listed together and reported in the financial press as the NYSE Composite Transactions.

Over-the-Counter Markets. Securities not listed on exchanges are said to be traded “over the counter.” In general, these include stocks of small and relatively unknown companies, although a growing number of large companies, such as Microsoft, many bank and insurance company stocks, a majority of corporate bonds and preferred stocks, and most U.S. Treasury and municipal bonds are traded in OTC markets. Security firms that deal in OTC securities and actually carry inventories in certain stocks play an important role in the smooth functioning of OTC markets, and they are said to “make a market” in the securities they inventory.

On each business day, The Wall Street Journal contains price quotations on OTC stocks having some national interest. These quotations are from NASDAQ, the automated quotation system of the National Association of Security Dealers. This system has helped to integrate more fully the OTC market at the national level.

Stock Market Indexes. Stock market indexes give a broad indication of how the stock market or a segment of it performed during a particular day. The most frequently quoted stock market index is the Dow Jones Industrial Average (DJIA), which is based
on the stock prices of 30 large, well-established industrial corporations. The DJIA is calculated by adding the prices of the 30 stocks and dividing by a number that reflects prior stock dividends and splits. When a radio announcer says “The market was up five points today,” the announcer means the DJIA was up five points.

The Dow Jones Transportation Average is based on 20 major railroad, airline, and trucking stocks, and the Dow Jones Utility Average is derived from 15 major utility stocks. The DJIA is combined with the transportation and the utility averages to form the Dow Jones Composite Average.

The Standard & Poor’s 500 Stock Price Index (S&P 500), another frequently quoted stock market index, is significantly broader than the DJIA. It is compiled from the stock prices of 400 leading industrial firms, 20 transportation firms, 40 utilities, and 40 financial institutions. The S&P 500 is a market value–weighted index. This means, for example, that a stock whose total market value is $2 billion influences the index twice as much as a stock whose total market value is $1 billion.

Figure 2.3 provides a listing and data on major stock market indexes.

Regulation of the Security Markets

Both the individual states and the federal government regulate the securities business. Beginning with Kansas in 1911, each of the 50 states (with the exception of Delaware) has passed so-called blue sky laws. The term blue sky came about when some risky securities were called nothing more than “pieces of blue sky.” In spite of these state laws, many investors received incomplete and even fraudulent security information during the 1920s. This fact, combined with the 1929 stock market crash and the general reform spirit of the 1930s, led to the enactment of two principal pieces of security legislation—the Securities Act of 1933 and the Securities Exchange Act of 1934—and the establishment of the Securities and Exchange Commission (SEC). This federal legislation has been aimed primarily at ensuring full disclosure of security information.

In addition to regulating the disclosure of information in new security offerings and setting disclosure requirements for nearly all firms whose shares trade publicly, the SEC also regulates “insider” trading. Any time a director, officer, or major stockholder—that is, an “insider”—of a large corporation trades in that corporation’s securities, the trade must be reported to the SEC. This information is available to the public and is used by some investors in deciding which stocks to buy or sell. This reporting requirement attempts to prevent insiders from trading securities secretly on the basis of private information.

The Global Economy and Multinational Enterprises

The importance of understanding the global economy can be seen in the volume of exports and imports in the United States. In 2000, U.S. merchandise exports totaled over $1,102 billion and merchandise imports totaled over $1,466 billion. The difference between merchandise exports and imports is the merchandise trade balance. In 2000, the United States had a merchandise trade deficit of approximately $364 billion, representing a substantial increase from the deficit in 1991 of $74 billion. A strong U.S. dollar during 2000 made exports of U.S. goods relatively expensive and imports of foreign goods relatively cheap.

Business enterprises participate in the global marketplace in a wide variety of ways. Some firms simply export finished goods for sale in another country and/or import raw

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5 Dow Jones and Company is a financial company that publishes The Wall Street Journal. Each Monday, The Wall Street Journal lists the companies that make up the Dow Jones averages. Every day, the values of all the major stock market indexes are listed in The Wall Street Journal and in the financial section of most major newspapers.
materials or products from another country for use in their domestic operations. At the other end of the spectrum are multinational enterprises. A multinational corporation has direct investments in manufacturing and/or distribution facilities in more than one country. Often, these foreign operations are structured as more or less freestanding subsidiaries. Among the largest multinational firms are such U.S. firms as General Motors, Ford, IBM, ExxonMobil, General Electric, and Philip Morris. Large multinational Japanese firms include Toyota, Hitachi, Matsushita, Nissan, and Toshiba. Major European multinationals include Royal Dutch/Shell, Daimler-Chrysler, British Petroleum, Siemens, Volkswagen, Fiat, Unilever, and Nestlé.

The rise of the multinational firm has drastically changed the way business is done around the world. The multinational organization makes it relatively easy for firms to transfer the key factors of production—land, labor, and capital—to the location where they can be most productive, which represents a dramatic change from the time when the factors of production were thought to be immobile and only goods and services could be moved easily across borders. As a result, the process of resource allocation and business decision making has become more complex. At the same time, multinational firms have the opportunity to benefit from imperfections that arise in various national markets for capital and other factors of production. Furthermore, whether or not a firm

![Figure 2.3](https://example.com/figure23.png)

**Stock Market Index Data**

**STOCK MARKET DATA BANK 3/12/02**

**MAJOR INDEXES**

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**DOW JONES AVERAGES**

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**STANDARD & POOR’S INDEXES**

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**NASDAQ STOCK MARKET**

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**NEW YORK STOCK EXCHANGE**

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*Based on comparable trading day in preceding year.*

ETHICAL ISSUES

Insider Trading

In 1942, a young lawyer at the Securities and Exchange Commission, reacting to a complaint that a company president had purchased stock after telling shareholders that earnings had declined when he knew earnings were strong, wrote an initially obscure rule, Rule 10b-5. Rule 10b-5 and subsequent SEC rules have since been broadly interpreted and used as the justification for prosecuting insider trading. Insider trading is defined as an individual (the insider) buying or selling securities on the basis of material, nonpublic information.

The story of Dennis Levine, the Drexel Burnham investment banker who spent over two years in federal prison after his conviction on insider trading charges, provides insights into the ethical dilemmas facing young managers. In 1978, the 25-year-old Levine began trading on insider information while working as a trainee at Citibank and earning a salary of $19,000. He began with seemingly innocent trades based on “hot stock tips” from another Citibank employee about pending mergers. His first insider trade earned him no return at all because the rumored merger did not materialize. But in seven years, Levine built his personal wealth from $39,750 to $11.5 million based on insider trades. As his profits grew, his greed grew as well. He stated, “I was confident that the elaborate veils of secrecy I had created ... would protect me. And Wall Street was crazy in those days. These were the 1980s, remember, the decade of excess, greed, and materialism. ... In this unbelievable world of billions and billions of dollars, the millions I made trading on nonpublic information seemed almost insignificant.”

Levine rationalized his actions with the belief (which is true, at least in part) that insider trading is a victimless crime. Henry Manne, one of the leading legal experts on insider trading, states, “The insiders’ gain is not made at the expense of anyone. The occasionally voiced objection to insider trading—that someone must be losing the specific money the insiders make—is not true in any relevant sense.” Furthermore, the first criminal prosecution of insider trading did not occur until 1978, the year when Levine first began to use inside information for his private gain.

There is considerable controversy about the criminal status of insider trading. Criminal prosecutions under Rule 10b-5 have been rare. Some of those are under appeal on the grounds that Rule 10b-5 does not permit criminal prosecution of this practice. More general agreement exists regarding the ethics of insider trading for personal gain by individuals who have been entrusted with confidential information. The Levine story illustrates how easy it is for aggressive young managers to step over the bounds of ethical behavior early in their careers.

Do you agree with Manne that insider trading is a victimless crime? Who should be considered an insider for purposes of enforcing the rule? Can you think of any reasons why insider trading should be permitted?

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6 There is considerable controversy whether Rule 10b-5 was ever intended for the purpose of criminally prosecuting insider trading. Indeed, in passing the 1934 Securities Act, Congress considered making insider trading illegal but rejected the idea. It was not until 1961 that the SEC claimed it could use Rule 10b-5 to bring a civil case. Only in 1978 did SEC and federal prosecutors use this rule to bring a criminal case. Only eight insider trading cases had gone to trial by the end of 1990. For a more complete discussion of the evolution and application of Rule 10b-5, see Gordon Crovitz, “The SEC Overstepped When It Made Insider Trading a Crime,” The Wall Street Journal (December 19, 1990): A17.


is engaged in international transactions, the decline of trade barriers and the increasing ease of moving assets to those countries where they will be the most productive adds a new element of competition for all firms. It is no longer possible for a U.S. manufacturer, such as Ford Motor Company, to worry just about its domestic competitors. Over the past decade, Japanese and German auto companies have built plants in the United States that directly compete with U.S.-based companies.

All firms engaged in international business transactions face unique problems and risks not encountered by firms that operate in only one country. First, there are difficulties associated with doing business in different currencies. Financial transactions between U.S. firms and firms (or individuals) in foreign countries normally involve foreign currency that ultimately has to be converted into U.S. dollars. Therefore, firms that do business internationally are concerned with the exchange rate between U.S. dollars and foreign currencies. Second, problems arise because of different government regulations, tax laws, business practices, and political environments in foreign countries.

**Foreign Currency Markets and Exchange Rates**

Whenever a U.S. firm purchases goods or services from a firm in another country, two currencies normally are involved. For example, when a U.S. company purchases materials from a British supplier, the British firm usually prefers payment in British pounds, whereas the U.S. company prefers to make payment in U.S. dollars. If the sales agreement requires that payment be made in pounds, the U.S. company will have to exchange (that is, sell) dollars to obtain the required number of pounds. The exact amount of dollars the U.S. company will have to sell depends on the exchange rate between the two currencies.

Suppose, for example, that the exchange rate at the time of the transaction is $1.48 per pound, £. Furthermore, assume that the British supplier and the U.S. firm have agreed on a price of £2 million for the materials. Therefore, the U.S. firm will have to exchange $2.96 million (that is, £2,000,000 × $1.48/pound) to obtain the British currency to pay for the purchase.

Foreign currency needed for international financial transactions can be exchanged for domestic currency in most countries either at large commercial banks or at a central bank operated by the government. The volume of foreign currency transactions is very large. For example, the Bank for International Settlements estimates that daily, worldwide foreign currency trading exceeds $1.5 trillion. Of this amount, nearly 60 percent is between international banks; about 25 percent is between banks within a country; and the balance is with foreign currency dealers and other banking customers. The most important foreign currency trading centers are in New York, Tokyo, Hong Kong, Singapore, Bahrain, Frankfurt, Zurich, London, San Francisco, and Los Angeles.

**The Eurocurrency Market**

A Eurocurrency is a currency that is deposited in a bank located outside the country of origin. Eurocurrencies are created when, for example, a U.S. firm transfers dollars from a bank in the United States to a bank outside the United States. Also, someone outside the United States may receive dollars in connection with a business transaction or because of a purchase in the foreign exchange market. When these dollars are deposited in a bank outside the United States they become Eurodollars. The bank may either be a foreign bank, such as Deutsche Bank, or a foreign branch of a U.S. bank, such as Chase Manhattan, located in Frankfurt. Other important Eurocurrencies include Euroyen and Eurosterling (Japanese yen and British pounds), deposited outside their country of origin. The gross size of the Eurocurrency market is in excess of $8 trillion. About two-thirds of the Eurocurrencies outstanding are U.S. dollar-denominated.
As an illustration, consider the following example. BMW sells a car to an American dealer for $60,000. The American dealer pays BMW with a check for $60,000 drawn on Chase Manhattan Bank. BMW must then decide what to do with this check. BMW could immediately sell the dollars (buy euros). However, BMW wants to retain the dollars for use later on (perhaps to pay for goods purchased from U.S. firms), so it buys a Eurodollar deposit by depositing the check in Deutsche Bank in Germany. The typical Eurocurrency deposit is a nonnegotiable time deposit with a fixed term to maturity. Maturities range from overnight to as long as five years.

The Eurocurrency market provides an important alternative to domestic sources of funds for multinational firms. For example, in the United States, large, well-established multinational corporations can borrow funds either in the domestic financial market or in the international financial marketplace, such as the Eurocurrency market. If General Motors chooses to borrow in the Eurodollar market it would receive a Eurodollar loan from a foreign bank, such as Barclays Bank in London or Deutsche Bank in Frankfurt. The interest rate in the Eurodollar market is usually related to the London InterBank Offer Rate, or LIBOR. LIBOR is the interest rate at which banks in the Eurocurrency market lend to each other. The cost to borrow in the Eurocurrency market is usually stated as a margin above LIBOR. Typically, Eurodollar borrowing rates are between 0.5 percent and 3 percent over LIBOR, with a median of about 1.5 percent. Eurocurrency loans range in maturity up to 10 years for the best quality borrowers.

The Euro: A Common European Currency
On January 4, 1999, 11 countries of the European Union (EU) turned over control of their monetary policies to a new European Central Bank and the single European currency, the euro, was born. During a transition period, the euro was being used only for paperless transactions. But on January 1, 2002, euro bills and coins began circulation and six months later, the national currencies of these 11 countries ceased to exist. This move toward a single European currency is the logical outgrowth of the development of a single European market, where goods, services, and people flow freely across national borders. The use of a common currency eliminates exchange costs associated with converting from one currency to another and also eliminates the uncertainty of exchange rate fluctuations among these countries. The euro initially traded in the foreign currency marketplace at a rate of about $1.17 per euro. By late 2001, however, the value of the euro declined to about $0.88 because of a number of factors, including the relative strength of the U.S. and European economies. Regardless of its short-term performance, the euro is sure to become a major international currency, rivaling the dollar in importance.

Direct and Indirect Quotes
Exchange rates can be expressed as either direct quotes or indirect quotes. A direct quote is the home currency price of one unit of foreign currency. For example, from the perspective of a U.S. firm, a quote of $0.88 per euro would be a direct quote. An indirect quote is the foreign currency price of one unit of the home currency. A quote of 1.1364 euro/$ would be an indirect quote from the perspective of a U.S. firm. Direct quotes and indirect quotes have a reciprocal relationship. Accordingly, the indirect quote was derived by taking the reciprocal (1 ÷ $0.88/euro) of the direct quote.

Spot Rates
Exchange rates between U.S. dollars and the currencies of most countries are reported daily in The Wall Street Journal. Table 2.2 lists the (direct quote) exchange rates between U.S. dollars and various currencies as of July 2, 1999 and November 15, 2001. These quotes are for trades made among banks in amounts of $1 million or more.
Smaller, retail transactions usually result in fewer units of a foreign currency per dollar. The quotes in Table 2.2 are known as **spot rates**. **Spot rates** represent the rate of exchange for currencies being bought and sold for immediate delivery.\(^9\)

Banks profit from their foreign currency transactions by buying currencies at one rate (bid) and selling them at another, higher rate (ask or offer). For example, a bank may quote the euro at $0.8808 bid, and $0.8817 offer. This quote is often written simply as 0.8808\(\text{−}\)17.

**Forward Rates**

In addition to spot transactions, currencies can also be bought and sold today for delivery at some future time, usually 30, 90, or 180 days from today. In these cases, **forward rates** are used, rather than spot rates. Forward exchange rates between U.S. dollars and the currencies of several of the major industrial countries are also reported daily in *The Wall Street Journal*. Table 2.3 lists some forward exchange rates as of November 15, 2001.

A comparison of the spot and forward rates in Tables 2.2 and 2.3 shows that the 30-, 90-, and 180-day forward rates for each of these currencies is below its spot rate, with the exception of the Japanese yen, indicating a market expectation that they will lose value relative to the dollar over these time horizons.

The premium or discount between the spot rate, \(S_0\), and a forward rate, \(F\), for a currency (relative to the dollar, for example) can be expressed on an annualized percentage basis (using direct quotes) as follows:

\[
\text{Annualized forward premium or discount} = \left( \frac{F - S_0}{S_0} \right) \left( \frac{12}{n} \right) \times 100\%
\]  

where \(n\) is the number of months in the forward contract. A positive value calculated using Equation 2.1 indicates that a currency is trading at a forward premium relative to the dollar, whereas a negative value indicates a forward discount.

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\(^9\) The date at which money must be exchanged among the parties in a spot foreign currency transaction is known as the value date. It is customarily set as the second working day after the date on which the transaction is concluded. For example, a spot transaction entered into in Frankfurt on Monday will not normally be settled until the following Wednesday.
Using the exchange rates from Tables 2.2 and 2.3, the following annualized premium for the 180-day forward quote on the Canadian dollar can be calculated:

\[
\text{Annualized discount} = \left( \frac{0.6304 - 0.6302}{0.6302} \right) \frac{12}{6} (100%) = -0.254\%
\]

The determination of a forward discount or premium on a currency can also be done with the aid of a financial calculator. Consider the calculation of the forward discount on the Canadian dollar as computed above:

<table>
<thead>
<tr>
<th>Currency</th>
<th>30-Day Forward</th>
<th>90-Day Forward</th>
<th>180-Day Forward</th>
</tr>
</thead>
<tbody>
<tr>
<td>British pound</td>
<td>$1.4300</td>
<td>$1.4256</td>
<td>$1.4193</td>
</tr>
<tr>
<td>Canadian dollar</td>
<td>0.6300</td>
<td>0.6297</td>
<td>0.6294</td>
</tr>
<tr>
<td>French franc</td>
<td>0.1343</td>
<td>0.1340</td>
<td>0.1336</td>
</tr>
<tr>
<td>Japanese yen</td>
<td>0.008187</td>
<td>0.008217</td>
<td>0.008260</td>
</tr>
<tr>
<td>Swiss franc</td>
<td>0.8019</td>
<td>0.8018</td>
<td>0.8018</td>
</tr>
<tr>
<td>German mark</td>
<td>0.4504</td>
<td>0.4494</td>
<td>0.4462</td>
</tr>
</tbody>
</table>


Thus we can say that the Canadian dollar is trading at a forward discount relative to the U.S. dollar (i.e., the U.S. dollar is expected to strengthen relative to the Canadian dollar).

As shown later in the book (Chapter 21), firms engaged in international transactions can use the forward foreign exchange market to hedge against the risk of adverse fluctuations in exchange rates.

**Foreign Currency Futures**

A foreign currency futures contract is similar to a forward contract. Both call for the delivery of a specified amount of some item, such as a foreign currency, at a future point in time at a price set at the present time. A forward contract is normally a contract between two individuals who are known to each other, such as an importer and a commercial bank. Performance on the contract by the seller and the buyer depends on the character and capacity of the two parties. Because these contracts are negotiated between two individuals, forward contracts can be established for any future time period and for any quantity of any item that is agreeable to the parties. Forward contracts are not liquid; that is, it is difficult or impossible for either party to transfer their interest in the contract to another party once the contract has been agreed upon. The seller of the

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Futures magazine will tell you why coffee prices are surging to record highs while cattle prices are plummeting.

http://www.futuresmag.com
contract must deliver the promised item at the time agreed to in the contract, and the buyer must pay for it and accept delivery.

In contrast to a forward contract, a futures contract is an exchange traded agreement that calls for the delivery of a standardized amount of an item (such as 125,000 euros) at a standardized maturity date. The most important foreign currency futures market in the United States is the Chicago Mercantile Exchange (CME). Contracts traded on the CME mature on the third Wednesday of the contract month, with the last trading day being two days prior to that. Unlike forward contracts, there is virtually no performance risk in a futures contract. Rather than the buyer and seller of the contract dealing directly with each other, the exchange clearinghouse acts as the buyer and seller of all contracts. Buyers and sellers of futures contracts must post collateral (as their performance bond). Each day the value of the contract is "marked to market," with all gains and losses being paid between the parties in cash. If payment is not made, the contract is sold by the clearinghouse and the performance bond of the defaulting party is charged for any losses. In essence, one can think of a futures contract as a series of forward contracts that are settled each day. Only about 5 percent of foreign currency futures contracts are settled by means of delivery of the underlying currency from the seller to the buyer. More commonly, the parties will offset their position prior to expiration by making a transaction opposite to the original one. For example, a buyer of a contract for 125,000 euros with delivery in March usually sells an identical contract prior to expiration. The sale of an identical contract by an initial buyer of the same contract fully offsets the position from the perspective of the clearinghouse.

Table 2.4 shows foreign currency futures contract quotations for the euro as of November 15, 2001. The first line under the headings indicates that the contract is for euros, that the contract is traded on the Chicago Mercantile Exchange (CME), that the contract is for 125,000 euros, and that the prices are direct quotes ("$ per euro"). The next three lines provide quotes for the contracts maturing on the third Wednesday of December 2001, March 2002, and June 2002. The column numbers indicate that the opening price of the December 2001 contract was $0.8817/euro, the high price for the day was $0.8844, the low price for the day was $0.8796, and the closing price (settle) was $0.8805. This was a decrease of $0.0017 from the previous day. Over the lifetime of this contract, it traded from a high of $0.9632 to a low of $0.8337. Currently, there are 111,093 contracts (open interest) such as this one in existence. As the last trading date approaches, the open interest declines dramatically and only a small minority of the contracts will actually be in existence (and therefore require delivery of euros from the seller to the buyer) at expiration. Also, this table indicates much more trading interest in the near-term contract (Dec.) than in the longer-term contract (June). Finally, the last line in Table 2.4 indicates that 14,814 contracts traded on November 15, compared
with 31,261 contracts on the previous day. The number of contracts outstanding increased by 4,224 on November 15 to a total of 113,031.

**Foreign Currency Options**

Whereas forward and future currency contracts reflect an obligation to either buy or sell a currency at a future date, options are contracts that give the option buyer the right, but not the obligation, to either buy or sell a fixed amount of a foreign currency at a fixed price at a time up to, or at, the expiration date of the option. There are two fundamental types of options. A call option is an option to buy something, such as foreign currency, and a put option is an option to sell (foreign currency). An American option gives the holder the right to buy (call options) or sell (put options) the underlying currency at any time prior to expiration. In contrast, a European option gives the holder the right to buy or sell the underlying currency only at expiration. Large commercial banks offer customized options for all major currencies with exercise periods of up to a year. In addition, foreign currency options are traded on the Philadelphia Stock Exchange and the Chicago Mercantile Exchange. Foreign currency options provide an alternative to forward and futures contracts for firms seeking to control their foreign exchange risk. Chapter 19 develops the principles of option valuation and illustrates the use of options to hedge foreign currency risk.

**Market Efficiency**

A central theme of much of the academic finance and financial economics research since the 1960s has been the efficiency of the capital markets. The more efficient capital markets are, the more likely it is that resources will find their highest (risk-adjusted) return uses. Capital market efficiency is an implicit assumption in many decision models widely used in finance. Consequently, this concept is important to a full understanding of these decision models.

In an efficient capital market, stock prices provide an unbiased estimate of the true value of an enterprise. Stock prices reflect a present value estimate of the firm’s expected cash flows, evaluated at an appropriate required rate of return. The required rate of return is determined by conditions in the financial markets, including the supply of funds from savers, the investment demand for funds, and expectations regarding future inflation rates. The required rate of return on a security also depends on the seniority of the security, the maturity of that security, the business and financial risk of the firm issuing the security, the risk of default, and the marketability of the security. The efficiency of the capital markets is the important “glue” that bonds the present value of a firm’s net cash flows—discounted at the appropriate risk-adjusted required rate of return—to shareholder wealth as measured by the market value of a company’s common stock. Hence, in this section of the chapter, the concept of market efficiency is defined, the evidence regarding the extent of capital market efficiency is reviewed briefly, and some important implications of market efficiency are identified.

**Information and Capital Market Efficiency**

Capital markets are efficient if security prices instantaneously reflect in an unbiased manner all economically relevant information about a security’s prospective returns and the risk of those returns. What is meant by “all economically relevant information”? Information is a message about future events that may occur. Relevant information can be used by an individual to take actions that will change the welfare of that individual. Messages that an individual cannot act upon to change his or her welfare have little value. For example, a cotton farmer who grows cotton on irrigated land might be willing to pay for accurate weekly rainfall forecasts, because these forecasts
can be used to establish the most efficient irrigation schedule. In contrast, once a
dry-land cotton farmer has planted his fields, weekly rainfall forecasts are of little
use, because there are no actions the farmer can take on a day-to-day basis using this
information.

In addition to being able to act upon the information in a manner that will affect
one's welfare, one must be able to correlate the information with the future events when
they occur. For example, if your broker always told you that a stock you had identified
looked like a "good buy," this message would have little value to you, because you know
that some of these stocks will perform well and others will not. In contrast, if your bro-
ker recommends stocks to buy and stocks to sell based upon his or her estimate of each
security's return prospects and is right more often than he or she is wrong, then this
message constitutes economically relevant information.

In security markets, some messages are economically relevant to investors and
others are not. If a message has no impact on the future return or risk prospects of a
security, it is not relevant to investors and should not be correlated with security
performance; that is, it does not constitute information. For example, the news that a
company has changed the format of the presentation of its financial reports is not in-
formation because this cosmetic change has no impact on the return or risk of that
company's securities. In contrast, if the company announces that it has adopted a new
accounting convention that will result in significant tax savings, this news is informa-
tion because it affects the return stream from that company's securities.

**Degrees of Market Efficiency**

Three levels of market efficiency have been identified based on the information set
under consideration: weak-form efficiency, semistrong-form efficiency, and strong-
form efficiency.

**Weak-Form Efficiency.** With weak-form market efficiency, no investor can ex-
pect to earn excess returns\(^\text{10}\) based on an investment strategy using such infor-
mation as historical price or return information. All stock market information,
including the record of past stock price changes and stock trading volume, is
fully reflected in the current price of a stock.

Tests of the weak-form market efficiency hypothesis have included statistical tests of
independence of stock price changes from various day-to-day periods.\(^\text{11}\) These studies
have concluded that stock price changes over time essentially are statistically independent
and that a knowledge of past price changes cannot be used to predict future changes.
Other tests have looked for the existence of longer-term cycles in stock prices, such as
monthly or seasonal cycles.\(^\text{12}\) In addition, numerous trading rules based solely on past
market price and volume information have been tested. Pinches, in a review of much of
this research, has concluded that "with some exceptions, the studies of mechanical trading
rules do not indicate that profits can be generated by these rules."\(^\text{13}\) In conclusion, the evi-
dence indicates that U.S. capital markets are efficient in a weak-form context.

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\(^\text{10}\) Excess returns are returns that exceed those that can be expected considering the risk assumed by
the investor. In Chapter 5 we formally develop models of the relationship between returns and appro-
priate measures of risk.

\(^\text{11}\) See, for example, Sidney S. Alexander, "Price Movements in Speculative Markets: Trends or Random
Walks?" *Industrial Management Review* (May 1961): 7–26; Eugene F. Fama, "The Behavior of Stock Mar-
ket Prices," *Journal of Business* (January 1965): 34–105; and Eugene F. Fama and James MacBeth,"Risk,


Semistrong-Form Efficiency. With semistrong-form market efficiency, no investor can expect to earn excess returns based on an investment strategy using any publicly available information. Announcements of earnings changes, stock splits, dividend changes, interest rate changes, money supply levels, changes in accounting practices that affect a firm’s cash flows, takeover announcements, and so on, are quickly and unbiasedly incorporated in the price of a security. A finding of semistrong-form market efficiency implies that the market is also weakly efficient because the information set considered in the weak-form case is also publicly available. Once information is made public in a semistrong-form efficient capital market, it is impossible for investors to earn excess returns (after considering trading costs) from transactions based upon this information because the security price will already reflect the value of this information. Studies of stock splits, new issues, stock listing announcements, earnings and dividend announcements, stock acquisition announcements, and announcements of analyst recommendations support the notion of semistrong-form market efficiency, at least after the cost of commissions on transactions is considered.¹⁴ There have been a few apparent observed violations of semistrong-form market efficiency, but in many cases, alternative explanations for these exceptions have been found. Overall, the evidence on semistrong-form market efficiency tends to support this level of market efficiency.

Strong-Form Efficiency. With strong-form market efficiency, security prices fully reflect all information, both public and private. Thus, in a strong-form efficient capital market, no individual or group of individuals should be able to consistently earn above-normal profits, including insiders possessing information about the economic prospects of a firm. The existence of individuals, such as Ivan Boesky, who have traded illegally on the basis of inside information and have earned phenomenal profits until they were caught and prosecuted by the Securities and Exchange Commission, provides graphic evidence that strong-form efficiency does not hold.

Implications of Market Efficiency for Financial Managers

In general, we can conclude that capital markets are quite efficient, both in an informational and an operational sense. The observed efficiency of capital markets has some very important implications for financial managers.

Timing or Gambling. In a weak-form efficient capital market, we know there are no detectable patterns in the movement of stock and bond prices. Companies often indicate that they have delayed a stock or bond offering in anticipation of more favorable capital market conditions; that is, a higher stock price or lower interest rates. Since there are no predictable patterns of stock price and interest rate movements over time, financing decisions based upon improved market timing are not likely to be productive, on average. If a stock has traded as high as $30 per share recently but is now trading only at $28, management may delay a proposed new stock issue in anticipation of a higher future price. If this delay is based upon a market timing argument—such as “the

market is now temporarily depressed”—rather than on some inside information known only to management that suggests that the stock is currently undervalued, then the strategy is not likely to be successful. In some instances, the stock price will increase in the direction of the target, while in others, it will decline even further. In weak-form efficient capital markets, financial decisions based on timing market cycles are not able to consistently lead to higher returns than are available to managers who do not attempt to time their financial decisions to take advantage of market cycles.

An Expected NPV of Zero. In an efficient capital market, all securities are perfect substitutes for one another, in the sense that each security is priced such that its purchase represents a zero net present value investment. This is another way of saying that required returns equal expected returns in efficient capital markets. For example, if you buy one share of Apple Computer stock for $25, the present value of the market expectation of its cash flows is equal to $25. Hence, this purchase has a net present value of zero. If you buy for $35 one share of stock in Duke Energy, a diversified energy firm with considerably less risk and lower earnings growth prospects than Apple Computer, the present value of the market expectation of its cash flows is equal to $35. The difference between the risk and expected returns of the two companies’ stocks is reflected in their market prices and the discount rate used by the market to evaluate the expected future cash flows. Only if an investor possesses information that is not known to the marketplace—for example, insider knowledge of a major new oil strike by an oil firm or of a pending takeover attempt—will the investment in a stock or bond have a positive net present value.

Expensive and Unnecessary Corporate Diversification. If capital markets are efficient and all securities are fairly priced, on average, investors can accomplish much on their own without the help of a firm’s financial managers. For example, consider Eastman Kodak’s acquisition of Sterling Drug. In 1988, Eastman Kodak paid $89.50 per share to acquire Sterling Drug. During the previous year, Sterling traded for as little as $35.25 per share. As a stockholder of Eastman Kodak, you could have achieved the same diversification in your portfolio simply by buying shares of Sterling Drug in the open market. In spite of this, financial managers of many firms continue to make acquisitions of other companies in order to achieve “the benefits of diversification.” In efficient capital markets, this type of activity is better left to individual investors.

Security Price Adjustments. In efficient capital markets, security prices reflect expected cash flows and the risk of those cash flows. If a transaction, such as an accounting change, does not impact the firm’s expected cash flows or the risk of those cash flows, then the transaction should have no impact on security prices. Investors are not fooled by cosmetic accounting or other nonmaterial transactions.

Efficient capital markets research has shown that accounting format changes having no impact on a firm’s cash flows do not result in changes in the firm’s value. Actions such as including the capitalized value of financial leases on a firm’s balance sheet, providing an inflation-adjusted income statement and balance sheet, company name changes, stock splits, and stock dividends unaccompanied by a rise in earnings and/or dividends have no significant impact on stock prices. In contrast, any event impacting actual cash flows—such as a change in inventory valuation designed to reduce tax obligations—or the risk of these cash flows—such as an announcement by Arizona Public Service Company that it will sell all of its nuclear power plants—will be reflected quickly in the stock price.

15Eastman Kodak ultimately divested itself of its ownership of Sterling Drug, taking a considerable loss, when it failed to realize the expected benefits from the acquisition.
Prices in efficient capital markets have a story to tell. For example, on December 17, 1986, Republic Bank Corporation of Dallas announced plans to acquire InterFirst Corporation. InterFirst was suffering from severe loan portfolio quality problems at that time due to the energy sector downturn and a real estate glut in its major market areas. On the day following the announcement, the stock price of InterFirst declined from $5 to $4.875 per share. The stock price of Republic declined from $21.75 to $19 per share. The market’s assessment of this acquisition was not positive. Indeed, the market’s early assessment appears to have been correct. In early 1988, First Republic’s stock traded for $1.75 per share. The bank failed shortly thereafter. The response of the market to the proposed acquisition of Compaq Computer by Hewlett-Packard in 2001 also suggests that this combination might not be value enhancing.

Behavioral Finance Perspectives on the Financial Marketplace

In spite of an extensive body of literature that indicates that capital markets in the United States and other financially sophisticated economies are highly efficient, these markets are not perfectly efficient. We continue to find anomalous events that are inconsistent with fully efficient markets. Some of these anomalies suggest that trading behavior may not be consistent with fully rational investors.

These anomalies have led to the development of new financial models suggesting that investors sometimes behave irrationally. Behavioral finance seeks to explain how departures from totally rational decision making by investors and other market participants can help to explain otherwise curious market occurrences. There is growing evidence that these behavioral approaches to understanding market behavior have some merit.\(^{16}\)

Holding Period Returns

The return from holding an investment is called the holding period return, holding period yield, or realized rate of return. The holding period return can be defined by the following equation.

\[
\text{Holding period return (\%)} = \frac{\text{Ending price} - \text{Beginning price} + \text{Distributions received}}{\text{Beginning price}} \times (100\%) 
\]

Distributions include the interest on debt or the dividends on stock. To illustrate, suppose you purchased one share of Hershey Foods Corporation common stock for $31 a year ago. During the year, you received $0.80 in dividends, and you now sell the share for $46. Your holding period return would be calculated as

\[
\text{Holding period return (\%)} = \frac{\$46 - \$31 + \$0.80}{\$31} \times 100\% = 50.97\%
\]

Returns are expressed as a percentage or fraction and are frequently quoted on an annual basis. However, holding period returns can be calculated for any time period. But, in order for a calculated holding period return to be a meaningful number, it must be compared to other returns computed using equal time periods.

The return just computed is called a realized, or ex post (after the fact), return. Realized returns differ from expected or ex ante (before the fact), returns. Although ex ante

returns are calculated in the same manner as ex post returns, ending prices and distributions for expected returns are estimated values, whereas ending prices and distributions for realized returns are actual values.

Summary

- The main purpose of an economy’s financial system is to facilitate the transfer of funds from surplus spending units to deficit spending units. Financial middlemen, such as investment bankers, bring together the surplus and deficit spending units in the capital markets so that funds can be transferred. Financial intermediaries, such as commercial banks, receive primary claims from their borrowers and issue secondary claims to their lenders. Secondary claims have different risk and liquidity characteristics than primary claims.
- Financial assets consist of money, debt securities, and equity securities.
- Financial markets are the vehicles through which financial assets are bought and sold. They include money or capital markets and primary or secondary markets. Money markets deal in securities with maturities of approximately one year or less, while capital markets deal in securities with maturities greater than one year.
Even if the capital markets of the major industrialized countries are relatively efficient, it may still be true that international capital markets, in general, are not efficient. For example, to the extent that there are barriers to the free flow of capital among the major world capital markets, it is possible that a multinational firm can use these barriers to reduce the overall cost of raising capital. Some of the barriers that have been identified include

1. **Legal restrictions** limit the amount of foreign investment by some institutional investors. Some countries limit the amount of foreign ownership of domestic industries in an attempt to prevent a loss of local control.
2. High **transactions costs** may also make the free flow of capital across country borders difficult. These high costs include the cost of gathering information, trading costs, fees for managing international investments, and security custodial service fees.
3. **Taxation policies** between nations sometimes discourage the flow of capital across borders.
4. International investments are subject to greater **political risks** than are domestic investments. These political risks range from expropriation to limits on the repatriation of profits and assets.
5. **Foreign exchange risks**, that is, the risks of unfavorable movements in the value of foreign currencies, also act as a deterrent to the flow of capital across national borders.

These factors may lead to somewhat segmented international capital markets. To the extent that international capital markets are not fully integrated, opportunities may exist for multinational firms that are willing to aggressively manage their investment and capital-raising functions to gain some advantage over less internationally integrated firms.

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**Chapter 2 The Domestic and International Financial Marketplace**
Questions and Topics for Discussion

1. Describe and discuss the saving-investment cycle.
2. What roles do financial middlemen and financial intermediaries play in the operation of the U.S. financial system? How do the two differ?
3. How do money and capital markets differ?
4. Describe the various types of financial intermediaries, including the sources of their funds and the types of investments they make.
5. What factors need to be considered when determining the optimal form of organization for a business enterprise?
6. How do primary and secondary financial markets differ?
7. What is the primary distinction between the trading process on the New York Stock Exchange and the over-the-counter markets?
8. Describe the concept of market efficiency. In what sense is this concept an important part of the shareholder wealth maximization objective?
9. If a capital market is not efficient, what is the impact on a firm seeking to raise capital in that market? Why?
10. Define the following terms:
   a. Multinational corporation
   b. Spot exchange rate
   c. Forward exchange rate
   d. Direct quote versus indirect quote
   e. Letter of credit
   f. LIBOR
   g. Euro

Self-Test Problems

ST1. Three months ago, you purchased 100 shares of TCBY Enterprises for $11 per share. The stock has just paid a 10-cent-per-share dividend, and the current price per share is $8.75. What has been your holding period return on this stock?

ST2. What is the premium or discount between the spot rate and the 90-day forward rate for the Swiss franc on November 15, 2001? What does this imply about the future spot rate for Swiss francs? (See Tables 2.2 and 2.3.)

ST3. What does the evidence in Table 2.4 indicate about the expected future value of the Euro relative to the dollar?

Problems*

1. Using the data contained in Figure 2.3, what 12-month rate of return, excluding dividend yields, would an investor have received by purchasing the following portfolios of stocks?
   a. The stocks in the Dow Jones 30 Industrial Average
   b. The stocks in the New York Stock Exchange Industrial Average

*Color numbers denote problems that have “check” answers provided at the end of the book.
c. The stocks in the NASDAQ Computer Industry Average

d. The stocks in the Russell 2000 Index

Assume that you purchased the stocks in the various averages in the same proportions that they are in the averages.

**BASIC**

2. An investor bought 100 shares of Venus Corporation common stock one year ago for $40 per share. She just sold the shares for $44 each, and during the year, she received four quarterly dividend checks for $40 each. She expects the price of the Venus shares to fall to about $38 over the next year. Calculate the investor’s realized percentage holding period return.

**BASIC**

3. An investor bought 10 Ellis Industries, Inc. long-term bonds one year ago, when they were first issued by the company. In addition, he bought 200 shares of the company’s common stock at the same time for $30 per share. He paid $1,000 each for the bonds, and today, the bonds are selling at $950 each (long-term interest rates have increased slightly over the past year). The bonds have a stated interest rate of 12 percent per year. The investor received an interest payment equaling $60 per bond six months ago and has just received another $60 per bond interest payment. Calculate the investor’s percentage holding period return for the one year he has held the bonds.

**BASIC**

4. Suppose a U.S. Treasury bill, maturing in 30 days, can be purchased today for $99,500. Assuming that the security is held until maturity, the investor will receive $100,000 (face amount). Determine the percentage holding period return on this investment.

**BASIC**

5. Suppose a Midwest Telephone and Telegraph (MTT) Company bond, maturing in one year, can be purchased today for $975. Assuming that the bond is held until maturity, the investor will receive $1,000 (principal) plus 6 percent interest (that is, $0.06 \times 1000 = 60$). Determine the percentage holding period return on this investment.

**INTERMEDIATE**

6. a. National Telephone and Telegraph (NTT) Company common stock currently sells for $60 per share. NTT is expected to pay a $4 dividend during the coming year, and the price of the stock is expected to increase to $65 a year from now. Determine the expected (ex ante) percentage holding period return on NTT common stock.

b. Suppose that one year later, NTT’s common stock is selling for $75 per share. During the one-year period, NTT paid a $4 common stock dividend. Determine the realized (ex post) percentage holding period return on NTT common stock.

c. Repeat Part b given that NTT’s common stock is selling for $58 one year later.

d. Repeat Part b given that NTT’s common stock is selling for $50 one year later.

**INTERMEDIATE**

7. One year ago, you purchased a rare Indian-head penny for $14,000. Because of the recession and the need to generate current income, you plan to sell the coin and invest in Treasury bills. The Treasury bill yield now stands at 8 percent, although it was 7 percent one year ago. A coin dealer has offered to pay you $12,800 for the coin. Compute the holding period return on this investment.

**INTERMEDIATE**

8. Six months ago, you purchased a tract of land in an area where a new industrial park was rumored to be planned. This land cost you $110,000, and the seller offered you an interest-free loan for 70 percent of the land cost. Today, the industrial park project was formally announced, and an attorney for the developer has just offered you $190,000 for your land. If you accept this offer, what will be your holding period return on this investment?

**CHALLENGE**

9. The stock of Tips, Inc., a new firm operating a chain of sports betting parlors, has just been sold in an initial public offering at a price of $25 per share. One week after this offering, the stock has risen in value to $35. You believe the stock will rise
to $45 over the coming year. You do not expect Tips to pay any dividends over the year. If you require a rate of return on this stock of 18 percent, do you believe this is a good investment at the current price of $35?

**INTERMEDIATE** 10. Japanese Motors exports cars and trucks to the U.S. market. On July 2, 1999, its most popular model was selling (wholesale) to U.S. dealers for $20,000. What price must Japanese Motors charge for the same model on November 15, 2001, to realize the same amount (of Japanese yen) as it did in 1999? (Refer to Table 2.2.)

**CHALLENGE** 11. Valley Stores, a U.S. department store chain, annually negotiates a contract with Alpine Watch Company, located in Switzerland, to purchase a large shipment of watches. On July 2, 1999, Valley purchased 10,000 watches for a total of 1.26 million Swiss francs. Refer to Table 2.2 and determine the following:
   a. The total cost and cost per watch in U.S. dollars
   b. The total cost and cost per watch in U.S. dollars of 12,000 watches purchased on November 15, 2001, assuming that Alpine’s price per watch (in Swiss francs) remains unchanged

**INTERMEDIATE** 12. Determine the percentage change in the value of the following currencies relative to the U.S. dollar between July 2, 1999 and November 15, 2001. (Refer to Table 2.2.)
   a. Rupee
   b. Pound
   c. Yen
   d. Euro
   e. Canadian dollar

**BASIC** 13. Compute the indirect quote for the rand, rupee, and yen as of July 2, 1999. (Refer to Table 2.2.)

**CHALLENGE** 14. Over the past 10 years, your $15,000 in gold coins has increased in value by 200 percent. You plan to sell these coins today. You have paid annual storage and insurance costs of $500 per year. Assay expenses at the time of sale are expected to total $400. What is your 10-year (not annualized) holding period return on this investment?

   a. Express the euro, the peso, and the yen rates in terms of the number of dollars required to buy one unit of each currency.
   b. Given the pound/dollar rate and the dollar/yen rate, find the pound/yen rate. Be sure to show all calculations.

**APPENDIX 2A: TAXES**

**Introduction**

Both individuals and businesses must pay taxes on their incomes. The type and rates of taxation that businesses must pay depends on how they are organized. Generally, when organized as a corporation, business income is taxed at corporate rates, whereas business income of sole proprietorships and partnerships is taxed at the rates of the individual owners or partners.\(^1\) Since corporations are the dominant form of business organization (in terms of sales), this appendix focuses on corporate income taxes.

Federal income tax laws were first enacted by the government in 1913 and have been changed numerous times since then. This appendix contains a brief introduction to

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\(^1\) One exception is the S corporation, which is discussed later in this appendix.
some tax law concepts and provides the background needed for understanding tax issues discussed in the book.

**Corporate Income Taxes**

In general, the taxable income of a corporation is calculated by subtracting business expenses from revenues. Tax-deductible business expenses normally include the cost of goods sold, selling and administrative expenses, depreciation allowances, and interest expenses. Federal income taxes are computed on the resulting taxable income. For tax years beginning on or after December 31, 1992, the tax rates imposed on corporations are shown in Table 2A.1.

The benefits of the 15 percent and 25 percent rates are phased out (or “recaptured”) by imposing an additional 5 percent tax (i.e., 39 percent instead of 34 percent) on taxable income between $100,001 and $335,000. The benefit of the 34 percent rate on taxable income between $335,000 and $10,000,000 is phased out by imposing an additional 3 percent tax (i.e., 38 percent instead of 35 percent) on taxable income between $15,000,001 and $18,333,333. The effect of these provisions is that corporations with taxable incomes in excess of $18,333,333 pay a flat rate of 35 percent on all taxable income.

The calculation of the total tax for various levels of taxable income is shown in Table 2A.2. The average tax rate of a corporation is calculated by dividing the total tax by taxable income. The marginal tax rate of a corporation is defined as the tax rate on the next dollar of taxable income. For large corporations with taxable incomes exceeding $18,333,333, the effective marginal and average tax rates will be equal to 35 percent.

In addition to paying taxes on operating or ordinary income, corporations must also pay taxes on capital gains income and dividend income.

**Capital Gains Income**

Corporate capital gains income is currently (2001) taxed at the same marginal tax rate as ordinary income. Corporate capital losses are deductible only against capital gains.

<table>
<thead>
<tr>
<th>TABLE 2A.1 2001 Corporate Tax Rates</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Taxable Income</strong></td>
</tr>
<tr>
<td>Up to $50,000</td>
</tr>
<tr>
<td>$50,001 – $75,000</td>
</tr>
<tr>
<td>$75,001 – $100,000</td>
</tr>
<tr>
<td>$100,001 – $335,000</td>
</tr>
<tr>
<td>$335,001 – $10,000,000</td>
</tr>
<tr>
<td>$10,000,001 – $15,000,000</td>
</tr>
<tr>
<td>$15,000,001 – $18,333,333</td>
</tr>
<tr>
<td>Over $18,333,333</td>
</tr>
</tbody>
</table>


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2 A tax deduction differs from a tax credit. A tax deduction is subtracted from a firm’s revenues in calculating taxable income, whereas a tax credit is a direct deduction from the firm’s tax liability.

3 A detailed discussion of depreciation methods is contained in Appendix 8A.
Net capital losses may be carried back and applied against net gains in the prior three years. Any remaining net capital loss may be carried forward for five years and applied against capital gains in those years.

**Dividend Income**

Dividends received by a corporation are normally entitled to a 70 percent exclusion from federal income taxes. To illustrate, suppose that the Hastings Corporation owns stock in the Fremont Corporation and that Fremont pays $100,000 in dividends to Hastings during 1999. Hastings has to pay taxes on only 30 percent of the $100,000, or $30,000. (The other 70 percent, or $70,000, is excluded, that is, received tax-free. However, Fremont has to pay taxes on its income before paying the $100,000 to Hastings, because *dividends paid by a firm are not considered tax-deductible expenses.*) The $30,000 of taxable dividend income is taxed at ordinary income tax rates. Assuming that Hastings is large enough to have a marginal tax rate of 35 percent, the tax on the dividends is $30,000 × 0.35 = $10,500. For corporations having a marginal tax rate of 35 percent, intercompany dividends are taxed at an effective rate of 10.5 percent; that is, \((1 - 0.7) \times 35\%\).

**Loss Carrybacks and Carryforwards**

Corporations that sustain net operating losses during a particular year are permitted by tax laws to apply the losses against any taxable income in other years, thereby lowering

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4 For corporate shareholders that own between 20 percent and 80 percent of the voting power and value of the stock of a dividend-paying corporation, there is an 80 percent dividends-received exclusion. There is a 100 percent dividends-received exclusion if a corporation owns more than 80 percent of the stock of a dividend-paying corporation.
the taxes owed in those years. If such a loss is applied against a previous year, it is called a
loss carryback; if it is applied against a succeeding year, it is called a loss carryforward.

The tax laws specify that a corporation’s net operating loss may be carried back 2
years and forward 20 years to offset taxable income in those years. For example, sup-
pose the NOL Corporation incurs a net operating loss totaling $200,000 in 20X6. This
loss may be carried back 2 years to 20X4. If the NOL Corporation had 20X4 taxable in-
come of $125,000, for example, it could receive a tax refund equal to the taxes it paid
for that year. The remaining $75,000 portion of the 20X6 net operating loss next could
be carried back to 20X5.

<table>
<thead>
<tr>
<th>Taxable Income</th>
<th>Marginal Tax Rate</th>
<th>Tax Calculation</th>
<th>Average Tax Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>$25,000</td>
<td>15%</td>
<td>$0 + (.15 × $25,000) = $3,750</td>
<td>15%</td>
</tr>
<tr>
<td>75,000</td>
<td>25</td>
<td>$7,500 + (.25 × $25,000) = $13,750</td>
<td>18.33</td>
</tr>
<tr>
<td>100,000</td>
<td>34</td>
<td>$13,750 + (.34 × $25,000) = $22,250</td>
<td>22.25</td>
</tr>
<tr>
<td>250,000</td>
<td>39</td>
<td>$22,250 + (.39 × $150,000) = $80,750</td>
<td>32.3</td>
</tr>
<tr>
<td>1,250,000</td>
<td>34</td>
<td>$113,900 + (.34 × $915,000) = $425,000</td>
<td>34.0</td>
</tr>
<tr>
<td>2,500,000</td>
<td>34</td>
<td>$113,900 + (.34 × $2,165,000) = $850,000</td>
<td>34.0</td>
</tr>
<tr>
<td>12,500,000</td>
<td>35</td>
<td>$3,400,000 + (.35 × $2,500,000) = $4,275,000</td>
<td>34.2</td>
</tr>
<tr>
<td>17,500,000</td>
<td>38</td>
<td>$5,150,000 + (.38 × $2,500,000) = $6,100,000</td>
<td>34.86</td>
</tr>
<tr>
<td>25,000,000</td>
<td>35</td>
<td>.35 × $25,000,000 = $8,750,000</td>
<td>35.0</td>
</tr>
<tr>
<td>$125,000,000</td>
<td>35</td>
<td>.35 × $125,000,000 = $43,750,000</td>
<td>35.0</td>
</tr>
</tbody>
</table>