

# Web Chapter

## Financial Markets and Institutions

### LEARNING GOALS

- LG1** Explain how financial institutions serve as intermediaries between investors and firms.
- LG2** Provide an overview of financial markets.
- LG3** Explain how firms and investors trade money market and capital market securities in the financial markets in order to satisfy their needs.
- LG4** Describe the major securities exchanges.
- LG5** Describe derivative securities and explain why firms and investors use them.
- LG6** Describe the foreign exchange market.





## Financial Institutions

### financial institution

An intermediary that channels the savings of individuals, businesses, and governments into loans or investments.

**Financial institutions** serve as intermediaries by channeling the savings of individuals, businesses, and governments into loans or investments. They are major players in the financial marketplace, with more than \$12 trillion of financial assets under their control. They often serve as the main source of funds for businesses and individuals. Some financial institutions accept customers' savings deposits and lend this money to other customers or to firms. In fact, many firms rely heavily on loans from institutions for their financial support. Financial institutions are required by the government to operate within established regulatory guidelines.

### Key Customers of Financial Institutions

The key suppliers of funds to financial institutions and the key demanders of funds from financial institutions are individuals, businesses, and governments. The savings that individual consumers place in financial institutions provide these institutions with a large portion of their funds. Individuals not only supply funds to financial institutions but also demand funds from them in the form of loans. However, individuals as a group are the *net suppliers* for financial institutions: They save more money than they borrow.

Firms also deposit some of their funds in financial institutions, primarily in checking accounts with various commercial banks. Like individuals, firms also borrow funds from these institutions, but firms are *net demanders* of funds. They borrow more money than they save.

Governments maintain deposits of temporarily idle funds, certain tax payments, and Social Security payments in commercial banks. They do not borrow funds directly from financial institutions, although by selling their debt securities to various institutions, governments indirectly borrow from them. The government, like business firms, is typically a net demander of funds. It typically borrows more than it saves.

The different types of financial institutions are described in Table 1. The most important financial institutions that facilitate the flow of funds from investors to firms are commercial banks, mutual funds, security firms, insurance companies, and pension funds. Each of these financial institutions is discussed in more detail below.

### Commercial Banks

### commercial banks

Financial institutions that accumulate deposits from savers and provide credit to firms, individuals, and government agencies.

**Commercial banks** accumulate deposits from savers and use the proceeds to provide credit to firms, individuals, and government agencies. Thus they serve investors who wish to “invest” funds in the form of deposits. Commercial banks use the deposited funds to provide commercial loans to firms and personal loans to individuals and to purchase debt securities issued by firms or government agencies. They serve as a key source of credit to support expansion by firms. Historically, commercial banks were the dominant direct lender to firms. In recent years, however, other types of financial institutions have begun to provide more loans to firms.

TABLE 1

## Major Financial Institutions

| Institutions        | Description   |
|---------------------|---|
| Commercial Bank     | Accepts both demand (checking) and time (savings) deposits. Offers interest-earning savings accounts (NOW accounts) against which checks can be written. Offers money market deposit accounts, which pay interest at rates competitive with other short-term investment vehicles. Makes loans directly to borrowers or through the financial markets.   |
| Mutual Fund         | Pools funds of savers and makes them available to business and government demanders. Obtains funds through sales of shares and uses proceeds to acquire bonds and stocks. Creates a diversified and professionally managed portfolio of securities to achieve a specified investment objective. Thousands of funds, with a variety of investment objectives, exist. Money market mutual funds provide competitive returns with very high liquidity. |
| Securities Firm     | Provides investment banking services by helping firms to obtain funds. Provides brokerage services to facilitate the sales of existing securities.  |
| Insurance Company   | The largest type of financial intermediary handling individual savings. Receives premium payments and places these funds in loans or investments to cover future benefit payments. Lends funds to individuals, businesses, and governments or channels them through the financial markets.  |
| Pension Fund        | Accumulates payments (contributions) from employees of firms or government units, and often from employers, in order to provide retirement income. Money is sometimes transferred directly to borrowers, but the majority is lent or invested via the financial markets.  |
| Savings Institution | Similar to a commercial bank except that it may not hold demand (checking) deposits. Obtains funds from savings, NOW, and money market deposits. Also raises capital through the sale of securities in the financial markets. Lends funds primarily to individuals and businesses or real estate mortgage loans. Channels some funds into investments in the financial markets.   |
| Savings Bank        | Similar to a savings institution in that it holds savings, NOW, and money market deposit accounts. Makes residential real estate loans to individuals.  |
| Finance Company     | Obtains funds by issuing securities and lends funds to individuals and small businesses.  |
| Credit Union        | Deals primarily in transfer of funds between consumers. Membership is generally based on some common bond, such as working for a given employer. Accepts members' savings deposits, NOW account deposits, and money market accounts.  |

Like most other types of firms, commercial banks are created to generate earnings for their owners. In general, commercial banks generate earnings by receiving a higher return on their use of funds than the cost they incur from obtaining deposited funds. For example, a bank may pay an average annual interest rate of 4 percent on the deposits it obtains and may earn a return of 9 percent on the funds that it uses as loans or as investments in securities. Such banks can charge a higher interest rate on riskier loans, but they are then more exposed to the possibility that these loans will default.

Although the traditional function of accepting deposits and using funds for loans or to purchase debt securities is still important, banks now perform many other functions as well. In particular, banks generate fees by providing services such as travelers checks, foreign exchange, personal financial advising, insurance, and brokerage services. Thus commercial banks are able to offer customers “one-stop shopping.”

### Sources and Uses of Funds at Commercial Banks

Commercial banks obtain most of their funds by accepting deposits from investors. These investors are usually individuals, but some are firms and government agencies that have excess cash. Some deposits are held at banks for very short periods, such as a month or less. Commercial banks also attract deposits for longer time periods by offering certificates of deposit, which specify a minimum deposit level (such as \$1,000) and a particular maturity (such as 1 year). Because most commercial banks offer certificates of deposit with many different maturities, they essentially diversify the times at which the deposits are withdrawn by investors.

Deposits at commercial banks are insured up to a maximum of \$100,000 per account by the Federal Deposit Insurance Corporation (FDIC). Deposit insurance tends to reduce the concern of depositors about the possibility of a bank failure, and therefore it reduces the possibility that all depositors will try to withdraw their deposits from banks simultaneously. Thus the U.S. banking system efficiently facilitates the flow of funds from savers to borrowers.

Commercial banks use most of their funds either to provide loans or to purchase debt securities. In both cases they serve as creditors, providing credit to those borrowers who need funds. They provide commercial loans to firms, make personal loans to individuals, and purchase debt securities issued by firms or government agencies. Most firms rely heavily on commercial banks as a source of funds.

Some of the more popular means by which commercial banks extend credit to firms are term loans, lines of credit, and investment in debt securities issued by firms. **Term loans** are provided by banks for a medium-term period to finance a firm’s investment in machinery or buildings. For example, consider a manufacturer of toys that plans to produce toys and sell them to retail stores. It will need funds to purchase the machinery for producing toys, to make lease payments on the manufacturing facilities, and to pay its employees. As time passes, it will generate cash flows that can be used to cover these expenses. However, there is a time lag between when it must cover these expenses (cash outflows) and when it receives revenue (cash inflows). The term loan can enable the firm to cover its expenses until a sufficient amount of revenue is generated.

The term loan typically lasts for a medium-term period, such as 4 to 8 years. The interest rate charged by the bank to the firm for this type of loan depends on the prevailing interest rates at the time the loan is provided. The interest rate changed on term loans is usually adjusted periodically (such as annually) to reflect movements in market interest rates.

Commercial banks can also provide credit to a firm by offering a **line of credit**, which allows the firm access to a specified amount of bank funds over a specified period of time. This form of bank credit is especially useful when the firm is not certain how much it will need to borrow over the period. For example, if the toy manufacturer in the previous example was not sure of what its expenses would be in the near future, it could obtain a line of credit and borrow only the

#### term loans

Funds provided by commercial banks for a medium-term period.

#### line of credit

Access to a specified amount of bank funds over a specified period of time.

amount that it needed. Once a line of credit is granted, it enables the firm to obtain funds quickly.

Commercial banks also invest in debt securities (bonds) that are issued by firms. When a commercial bank purchases securities, its arrangement with a firm is typically less personalized than when it extends a term loan or a line of credit. For example, it may be just one of thousands of investors who invest in a particular debt security the firm has issued. Nevertheless, recognize that a bank's credit provided to firms goes beyond the direct loans that it provides to firms, because it also includes all the securities purchased that were issued by firms.

### Role of Commercial Banks as Financial Intermediaries

Commercial banks play several roles as financial intermediaries. First, they *repackage the deposits* received from investors into loans that are provided to firms. In this way, small deposits by individual investors can be consolidated and channeled in the form of large loans to firms. Individual investors would have difficulty achieving this by themselves because they do not have adequate information about the firms that need funds.

Second, commercial banks employ credit analysts who have the ability to *assess the creditworthiness* of firms that wish to borrow funds. Investors who deposit funds in commercial banks are not normally capable of performing this task and would prefer that the bank play this role.

Third, commercial banks have so much money to lend that they can *diversify loans* across several borrowers. In this way, the commercial banks increase their ability to absorb individual defaulted loans by reducing the risk that a substantial portion of the loan portfolio will default. As the lenders, they accept the risk of default. Many individual investors would not be able to absorb the loss of their own deposited funds, so they prefer to let the bank serve in this capacity. Even if a commercial bank were to close because of an excessive amount of defaulted loans, the deposits of each investor are insured up to \$100,000 by the FDIC. Thus the commercial bank is a means by which funds can be channeled from small investors to firms without the investors having to play the role of lender.

Fourth, some commercial banks have recently been authorized (since the late 1980s) to *serve as financial intermediaries* by placing the securities that are issued by firms. Such banks may facilitate the flow of funds to firms by finding investors who are willing to purchase the debt securities issued by the firms. Thus they enable firms to obtain borrowed funds even though they do not provide the funds themselves.

### Regulation of Commercial Banks

The banking system is regulated by the Federal Reserve System (the Fed), which serves as the central bank of the United States. The Fed is responsible for controlling the amount of money in the financial system. It also imposes regulations on activities of banks, thereby influencing the operations that banks conduct. Some commercial banks are members of the Federal Reserve and are therefore subject to additional regulations.

Commercial banks are regulated by various regulatory agencies. First, they are regulated by the Federal Deposit Insurance Corporation, the insurer for depositors. Because the FDIC is responsible for covering deposits of banks, it wants to ensure that banks do not take excessive risk that could result in failure.

*In Practice* FOCUS ON PRACTICE

## CLINTON ENACTS GLASS–STEAGALL REPEAL

The repeal of the Glass–Steagall Act further deregulates the financial services industry. No longer will commercial banks be prohibited from engaging in investment banking and insurance activities, and vice versa.

The Glass–Steagall Act, the cornerstone of banking law for most of the 20th century, died Friday at the hands of marketplace changes and political compromise. It was 66 years old.

At 1:52 p.m. Eastern time, President William Jefferson Clinton carried out its death sentence, signing the Gramm–Leach–Bliley Act of 1999. In addition to eliminating the Depression-era law separating commercial and investment banking, it buried another key portion of banking law that had prevented banking organizations from underwriting insurance.

The demise of the longtime statutes that for years had dictated

who can own banks and what they could do is expected to give birth to a new wave of financial conglomerates.

“It is true that the Glass–Steagall law is no longer appropriate to the economy in which we live,” the President said. “It worked pretty well for the industrial economy... but the world is very different.”

He said technology and other forces had demanded policy changes so that American firms can stay nimble and retain their dominance.

“Over the past seven years, we’ve tried to modernize the economy,” the President said. “And today what we are doing is modernizing the financial services industry, tearing down these antiquated walls and granting banks significant new authority.... This is a very good day for the United States.”

The President also said the legislation would benefit average Americans by saving consumers “billions of dollars a year,” expanding the reach of the Community Reinvestment Act, and creating financial privacy protections “with teeth.”...

“The world changes, and Congress and the laws have to change with it,” Senate Banking Chairman Phil Gramm said. “When Glass–Steagall became law, it was believed that government was the answer. It was believed that stability and growth came from government overriding the functioning of free markets. We are here to repeal Glass–Steagall because we have learned government is not the answer. We have learned that freedom and competition are.”

*Source:* Dean Anason, “Clinton Enacts Glass–Steagall Repeal,” *American Banker*, November 15, 1999, p. 2.

If several large banks failed, the FDIC would not be able to cover the deposits of all the depositors, which could result in a major banking crisis.

Those commercial banks that apply for a federal charter are referred to as national banks and are subject to regulations of the Comptroller of the Currency. They are also subject to Federal Reserve regulations, because all national banks are required to be members of the Federal Reserve. Alternatively, banks can apply for a state charter.

The general philosophy of regulators who monitor the banking system today is to promote competition among banks so that customers will be charged reasonable prices for the services that they obtain from banks. Regulators also attempt to limit the risk of banks in order to maintain the stability of the financial system.

**mutual funds**

Financial institutions that sell shares to individuals, pool these funds, and use the proceeds to invest in securities.

**Mutual Funds**

**Mutual funds** sell shares to individuals, pool these funds, and use them to invest in securities.

Mutual funds are classified into three broad types. *Money market mutual funds* pool the proceeds received from individual investors to invest in money

market (short-term) securities issued by firms and other financial institutions. *Bond mutual funds* pool the proceeds received from individual investors to invest in bonds, and *stock mutual funds* pool the proceeds received from investors to invest in stocks. Mutual funds are owned by investment companies. Many of these companies (such as Fidelity) have created several types of money market mutual funds, bond mutual funds, and stock mutual funds so that they can satisfy many different preferences of investors.

### Role of Mutual Funds as Financial Intermediaries

When mutual funds use money from investors to invest in newly issued debt or equity securities, they finance new investment by firms. Conversely, when they invest in debt or equity securities already held by investors, they are transferring ownership of the securities among investors.

By pooling individual investors' small investments, mutual funds enable them to hold diversified portfolios (combinations) of debt securities and equity securities. They are also beneficial to individuals who prefer to let mutual funds make their investment decisions for them. The returns to investors who invest in mutual funds are tied to the returns earned by the mutual funds on their investments. Money market mutual funds and bond mutual funds determine which debt securities to purchase after conducting a credit analysis of the firms that have issued or will be issuing debt securities. Stock mutual funds invest in stocks that satisfy their specific investment objective (such as growth in value or high dividend income) and have potential for a high return, given the stock's level of risk.

Because mutual funds typically have billions of dollars to invest in securities, they use substantial resources to make their investment decisions. In particular, each mutual fund is managed by one or more portfolio managers, who purchase and sell securities in the fund's portfolio. These managers are armed with information about the firms that issue the securities in which they can invest.

After making an investment decision, mutual funds can always sell any securities that are not expected to perform well. However, if a mutual fund has made a large investment in a particular security, its portfolio managers may try to improve the performance of the security rather than sell it. For example, a given mutual fund may hold more than a million shares of a particular stock that has performed poorly. Rather than sell the stock, the mutual fund may attempt to influence the management of the firm that issued the security in order to boost the performance of the firm. These efforts should have a favorable effect on the firm's stock price.

## Securities Firms

### securities firms

Financial institutions such as investment banks, investment companies, and brokerage firms that help firms place securities and help investors buy and sell them.

**Securities firms** include investment banks, investment companies, and brokerage firms. They serve as financial intermediaries in various ways. First, they play an investment banking role by placing securities (stocks and debt securities) issued by firms or government agencies. That is, they find investors who want to purchase these securities. Second, securities firms serve as investment companies by creating, marketing, and managing investment portfolios. A mutual fund is an example of an investment company. Finally, securities firms play a brokerage role by helping investors purchase securities or sell securities that they previously purchased.

**insurance companies**  
Financial institutions that provide various types of insurance (life, property, health) for their customers.

## Insurance Companies

**Insurance companies** provide various types of insurance for their customers, including life insurance, property and liability insurance, and health insurance. They periodically receive payments (premiums) from their policyholders, pool the payments, and invest the proceeds until these funds are needed to pay off claims of policyholders. They commonly use the funds to invest in debt securities issued by firms or by government agencies. They also invest heavily in stocks issued by firms. Thus they help finance corporate expansion.

Insurance companies employ portfolio managers who invest the funds that result from pooling the premiums of their customers. An insurance company may have one or more bond portfolio managers to determine which bonds to purchase, and one or more stock portfolio managers to determine which stocks to purchase. The objective of the portfolio managers is to earn a relatively high return on the portfolios for a given level of risk. In this way, the return on the investments not only should cover future insurance payments to policyholders but also should generate a sufficient profit, which provides a return to the owners of insurance companies. The performance of insurance companies depends on the performance of their bond and stock portfolios.

Like mutual funds, insurance companies tend to purchase securities in large blocks, and they typically have a large stake in several firms. Thus they closely monitor the performance of these firms. They may attempt to influence the management of a firm to improve the firm's performance and therefore enhance the performance of the securities in which they have invested.

**pension funds**  
Financial institutions that receive payments from employees and invest the proceeds on their behalf.

## Pension Funds

**Pension funds** receive payments (called *contributions*) from employees, and/or their employers on behalf of the employees, and then invest the proceeds for the benefit of the employees. They typically invest in debt securities issued by firms or government agencies and in equity securities issued by firms.

Pension funds employ portfolio managers to invest funds that result from pooling the employee/employer contributions. They have bond portfolio managers who purchase bonds and stock portfolio managers who purchase stocks. Because of their large investments in debt securities or in stocks issued by firms, pension funds closely monitor the firms in which they invest. Like mutual funds and insurance companies, they may periodically attempt to influence the management of those firms to improve performance.

## Other Financial Institutions

Other financial institutions also serve as important intermediaries. *Savings institutions* (also called thrift institutions or savings and loan associations) accept deposits from individuals and use the majority of the deposited funds to provide mortgage loans to individuals. Their participation is crucial in financing the purchases of homes by individuals. They also serve as intermediaries between investors and firms by lending these funds to firms.



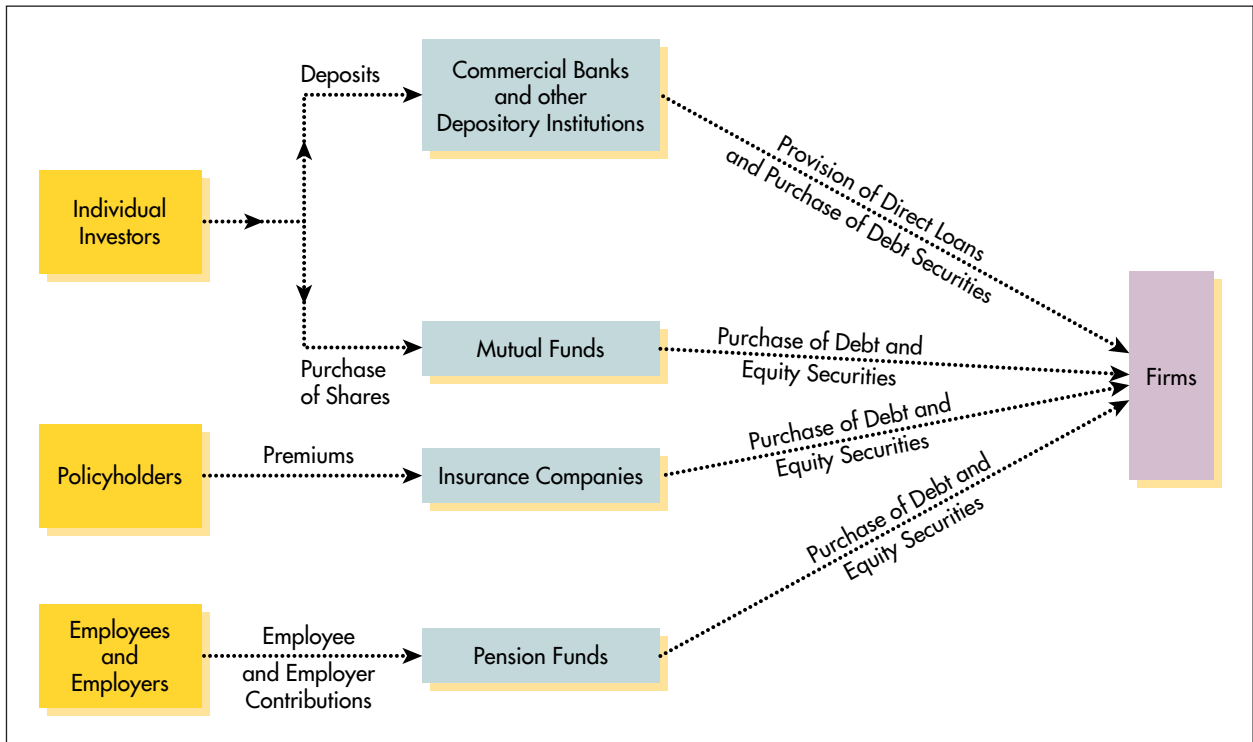
*Finance companies* issue debt securities and lend the proceeds to individuals or firms in need of funds. Their lending to firms is focused on small businesses. When extending these loans, they incur a higher risk that borrowers will default on (will not pay) their loans than is typical for loans provided by commercial banks. Thus they charge a relatively high interest rate.

### Comparison of the Key Financial Institutions

A comparison of the most important types of financial institutions that provide funding to firms appears in Figure 1. The financial institutions differ in the manner by which they obtain funds, but all provide credit to firms by purchasing debt securities the firms have issued. All of these financial institutions except commercial banks and savings institutions also provide equity investment by purchasing equity securities issued by firms.

Securities firms are not shown in Figure 1 because they are not as important in actually providing the funds needed by firms. Yet they play a crucial role in facilitating the flow of funds from financial institutions to firms. In fact, each arrow representing a flow of funds from financial institutions to firms may have been facilitated by a securities firm that was hired by the business firm to sell its debt or equity securities. A securities firm also sells the debt and equity securities

**FIGURE 1** How Financial Institutions Provide Financing for Firms



to individual investors, which results in some funds flowing directly from individuals to firms without first passing through a financial institution.

### Consolidation of Financial Institutions

There has recently been a great deal of consolidation among financial institutions, and a single financial conglomerate may own every type of financial institution. Many financial conglomerates offer commercial banking services, investment banking services, brokerage services, mutual funds, and insurance services. They also have a pension fund and manage the pension funds of other companies. The most notable example of a financial conglomerate is Citigroup Inc., which offers commercial banking services through its Citibank unit, insurance services through its Travelers' insurance unit, and investment banking and brokerage services through its Salomon Smith Barney unit.

In recent years, many commercial banks have attempted to expand their offerings of financial services by acquiring other financial intermediaries that offer other financial services. Some banks even serve in advisory roles for firms that are considering the acquisition of other firms. Thus, much of the bank expansion is focused on services that were traditionally offered by securities firms. In general, the expansion of banks into these services is expected to increase the competition among financial intermediaries and therefore lower the price that individuals or firms pay for these services.

### Globalization of Financial Institutions



Financial institutions not only have diversified their services in recent years but also have expanded internationally. This expansion was stimulated by various factors. First, the expansion of multinational corporations encouraged expansion of commercial banks to serve these foreign subsidiaries. Second, U.S. commercial banks had more flexibility to offer securities services and other financial services outside the United States, where fewer restrictions were imposed on commercial banks. Third, large commercial banks recognized that they could capitalize on their global image by establishing branches in foreign cities.

Financial institutions located in foreign countries facilitate the flow of funds between investors and the firms based in that country. During the 1997–1998 period, many Asian firms experienced poor performance and were cut off from funding by local banks and foreign banks. Before this time, some banks had been too willing to extend loans to Asian firms without determining whether the funding was really necessary and feasible. The crisis made some foreign banks realize that they should not extend credit to firms just because those firms had performed well during the mid-1990s. The crisis also caused Asian firms to realize how dependent they were on banks to run their businesses. As a result, Asian firms are expanding more cautiously, because they must now justify their request for additional funding from banks.

## REVIEW QUESTIONS

- RQ-1** Distinguish between the role of a commercial bank and that of a mutual fund.
- RQ-2** Which type of financial institution do you think is most critical for firms?

LG2

## Overview of Financial Markets

### primary market

A financial market in which securities are initially issued; the only market in which the issuer is directly involved in the transaction.

### initial public offering (IPO)

A firm's first offering of stock to the public.

### secondary offering

Any offering of stock subsequent to an initial public offering.

### secondary market

A financial market in which securities that are already owned (those that are not new issues) are traded.

Financial markets are crucial for firms and investors because they facilitate the transfer of funds between the investors who wish to invest and firms that need to obtain funds. Second, they can accommodate the needs of firms that temporarily have excess funds and wish to invest those funds. Third, they can accommodate the needs of investors who wish to liquidate their investments in order to spend the proceeds or invest them in alternative investments.

## Primary versus Secondary Markets

Debt and equity securities are issued by firms in the **primary market**, the market that facilitates the issuance of new securities. The first offering of stock to the public is referred to as an **initial public offering (IPO)**. Any offering of stock by the firm after that point is referred to as a **secondary offering**. Once securities have been issued, they can be sold by investors to other investors in the so-called **secondary market**, the market that facilitates the trading of existing securities. The distinction between the primary market and the secondary market is illustrated in the following example.

### EXAMPLE

Kenson Co. was established in Jacksonville, Florida, in July 1981. It enjoyed success as a privately held firm for more than 10 years, but it could not grow as much as desired because of a constraint on the amount of loans it could obtain from commercial banks. In order to expand its business throughout the southeastern United States, Kenson needed a large equity investment from other firms. On March 13, 1992, it engaged in an initial public offering. With the help of a securities firm, it was able to issue 2 million shares of stock on that day at an average price of \$20 per share. Thus the company raised a total of \$40 million. As investors in Kenson's stock later decided to sell it, they used the secondary market to sell the stock to other investors. The secondary market activity does not directly affect the amount of existing funds that Kenson has available to support its expansion. That is, Kenson gets no additional funds when investors sell their shares in the secondary market.

Kenson's expansion throughout the Southeast over the next several years was successful, and it decided to expand across the United States. By this time, its stock price was near \$60 per share. On June 7, 2000, Kenson engaged in a secondary stock offering by issuing another 1 million shares of stock. The new shares were sold at an average price of \$60, thereby generating \$60 million for Kenson to pursue its expansion plans. After that date, some of the new shares, as well as shares that resulted from the IPO, were traded in the secondary market. The evolution of Kenson's financing is shown in Figure 2. ■

## Public Offering versus Private Placement

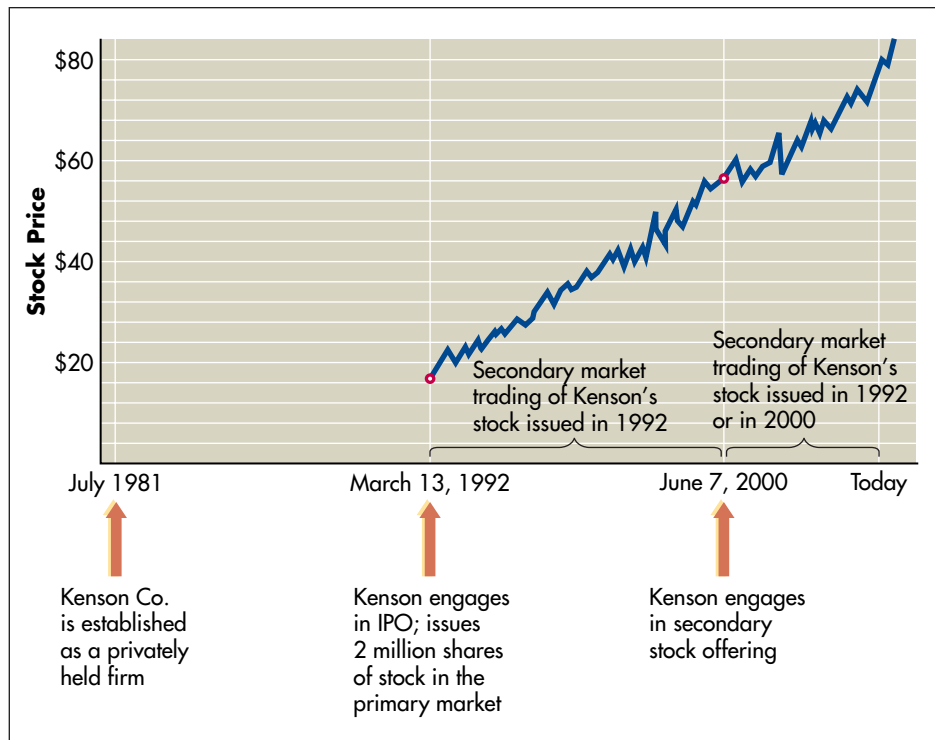
### public offering

The nonexclusive sale of securities to the general public.

Most firms raise funds in the primary market by issuing securities through a **public offering**, which is the nonexclusive sale of securities to the general public. The IPO and the secondary offering by Kenson Co. in the previous example were

**FIGURE 2**

**Comparison of Primary and Secondary Market Transactions**



**underwrite**

To guarantee the dollar amount to be received by the issuing firm from a public offering of securities.

**private placement**

The sale of new securities directly to investors, rather than to the general public.

public offerings. A public offering is normally conducted with the help of a securities firm that provides investment banking services. This firm may advise the issuing firm on the size of the offering and the price of the offering. It may also agree to place the offering with investors. It may even be willing to **underwrite** the offering, which means that it guarantees the dollar amount to be received by the issuing firm.

As an alternative to a public offering, firms may issue securities through a **private placement**, which is the sale of new securities directly to an investor or group of investors. Because a new offering of securities is often worth \$40 to \$100 million or more, only institutional investors (such as pension funds and insurance companies) can afford to invest in private placements. The advantage of a private placement is that it avoids fees charged by securities firms. However, some firms prefer to pay for the advising and underwriting services of a securities firm rather than conducting a private placement.

**Money Markets versus Capital Markets**

Financial markets that facilitate the flow of *short-term funds* (with maturities of 1 year or less) are referred to as **money markets**. The securities that are traded in money markets are called **money market securities**. Firms commonly issue money market securities for purchase by investors in order to obtain funds for a short period of time. Firms may also consider purchasing money market securities with cash that is available temporarily. Likewise, investors purchase money market securities with funds that they may soon need for other (more profitable) investments in the near future.

**money markets**

Financial markets that facilitate the flow of short-term funds (with maturities of 1 year or less).

**money market securities**

Securities traded in money markets.

**capital markets**

Financial markets that facilitate the flow of long-term funds (with maturities of more than 1 year).

**securities**

Financial instruments traded in capital markets; stock (equity securities) and bonds (debt securities).

**foreign bond**

A bond issued by a foreign corporation or government that is denominated in the investor's home currency and sold in the investor's home market.

In contrast, financial markets that facilitate the flow of *long-term funds* (funds with maturities of more than 1 year) are referred to as **capital markets**. The instruments that are traded in capital markets are called **securities**. Although stocks do not have maturities, they are classified as capital market securities because they provide long-term funding. Firms commonly issue stocks and bonds to finance their long-term investments in corporate operations. Institutional and individual investors purchase securities with funds that they wish to invest for a long time

## International Capital Markets

Although U.S. capital markets are by far the world's largest, there are important debt and equity markets outside the United States. In the Eurobond market, which is the oldest and largest international bond market, corporations and governments typically issue bonds (Eurobonds) denominated in dollars and sell them to investors located outside the United States. A U.S. corporation might, for example, issue dollar-denominated bonds that would be purchased by investors in Belgium, Germany, or Switzerland. Issuing firms and governments appreciate the Eurobond market because it allows them to tap a much larger pool of investors than would generally be available in the local market.

The foreign bond market is another international market for long-term debt securities. A **foreign bond** is a bond issued by a foreign corporation or government that is denominated in the investor's home currency and sold in the investor's home market. A bond issued by a U.S. company that is denominated in Swiss francs and sold in Switzerland is an example of a foreign bond. Although the foreign bond market is much smaller than the Eurobond market, many issuers have found this to be an attractive way of tapping debt markets in Germany, Japan, Switzerland, and the United States.

Finally, a vibrant international equity market has emerged in the past decade. Many corporations have discovered that they can sell blocks of shares to investors in a number of different countries simultaneously. This market has enabled corporations to raise far larger amounts of capital than they could have raised in any single national market. International equity sales have also proved indispensable to governments that have sold state-owned companies to private investors in recent years, because the companies being privatized are often extremely large.

### REVIEW QUESTIONS

- RQ-3 Distinguish between the roles of primary and secondary markets.  
 RQ-4 Distinguish between money and capital markets.  
 RQ-5 How can corporations use international capital markets to raise funds?



## Key Types of Securities

Securities are commonly classified as either money market securities or capital market securities.

## Key Money Market Securities

### liquidity

The ease with which securities can be converted into cash without a major loss in value.

Money market securities tend to have a high degree of **liquidity**, which means that they can be easily converted into cash without a major loss in their value. This is important to firms and investors who may need to sell the money market securities on a moment's notice in order to use their funds for other purposes. The money market securities most commonly used by firms and investors are Treasury bills, commercial paper, negotiable certificates of deposit, and foreign money market securities. These are described below.

### Treasury bills

Short-term debt securities issued by the U.S. Treasury.

#### Treasury Bills

**Treasury bills** are short-term debt securities issued by the U.S. Treasury. Every Monday, Treasury bills are issued in two maturities, 13 weeks and 26 weeks; 1-year Treasury bills are issued once a month. The Treasury uses an auction process when issuing the securities. Competitive bids are submitted by 1:00 p.m. eastern time on Monday. Noncompetitive bids can also be submitted by firms and investors who are willing to pay the average accepted price paid by all competitive bidders. The Treasury has a plan for how much money it would like to raise every Monday. It accepts the highest competitive bids first and continues accepting bids until it has obtained the amount of funds desired.

The *par value* (principal to be paid at maturity) on Treasury bills is a minimum of \$10,000, but those purchased by firms and institutional investors typically have a much higher par value. When Treasury bills are issued, they are sold at a discount from the par value; the par value is the amount received at maturity. The difference between the par value and the discount is the investor's return. Treasury bills do not pay coupon (interest) payments. Rather, they pay a yield equal to the percentage difference between the price at which they are sold and the price at which they were purchased.

Treasury bills are commonly purchased by firms and investors who wish to have quick access to funds if needed. They are very liquid because of an active secondary market in which previously issued Treasury bills are sold. Treasury bills are backed by the federal government and are therefore perceived as free from the risk of default. For this reason, the return that can be earned from investing in a Treasury bill (a risk-free security) and holding it until maturity is commonly referred to as a *risk-free rate*. Investors know the exact return they can earn by holding a Treasury bill until maturity.

#### EXAMPLE

San Marcos Co. purchased a 1-year Treasury bill with a par value of \$100,000 and paid \$94,000 for it. If it holds the Treasury bill until maturity, its return for the period will be

$$\begin{aligned} &= \frac{\$100,000 - \$94,000}{\$94,000} \\ &= 0.0638, \text{ or } 6.38\% \end{aligned}$$

If San Marcos plans to hold the Treasury bill for 2 months (60 days) and then sell it in the secondary market, the return over this period is uncertain. The return

will depend on the selling price of the Treasury bill in the secondary market 2 months from now. Assume that San Marcos expects to sell the Treasury bill for \$95,000. Thus its expected return over this time period would be

$$\begin{aligned} &= \frac{\$95,000 - \$94,000}{\$94,000} \\ &= 0.01064, \text{ or } 1.064\% \end{aligned}$$

Returns from investing in money market securities are commonly measured on an annualized basis by multiplying the return by 365 (days in a year) divided by the number of days the investment is held. In this example, the expected annualized return is

$$\begin{aligned} &= \frac{(\$95,000 - \$94,000)}{\$94,000} \times \frac{365}{60} \\ &= 0.0647, \text{ or } 6.47\% \end{aligned}$$

In this example there is uncertainty because the firm is not planning to hold the Treasury bill until maturity. If San Marcos wished to take a risk-free position for the 2-month period, it could purchase a Treasury bill in the secondary market that had 2 months remaining until maturity. For example, assume that San Marcos could purchase a Treasury bill that had 2 months until maturity and had a par value of \$100,000 and a price of \$99,000. The annualized yield that would be earned on this investment is

$$\begin{aligned} &= \frac{(\$100,000 - \$99,000)}{\$99,000} \times \frac{365}{60} \\ &= 0.0614, \text{ or } 6.14\% \end{aligned}$$

## Commercial Paper

**commercial paper**  
A short-term debt security issued by firms with a high credit standing.

**Commercial paper** is a short-term debt security issued by well-known, credit-worthy firms. It serves the firm as an alternative to a short-term loan from a bank. Some firms issue their commercial paper directly to investors; others rely on financial institutions to place the commercial paper with investors. The minimum denomination is \$100,000, although the more common denominations are in multiples of \$1 million. Maturities are typically between 20 and 45 days but can be as long as 270 days.

Commercial paper is not so liquid as Treasury bills, because it does not have an active secondary market. Thus investors who purchase commercial paper normally plan to hold it until maturity. Like Treasury bills, commercial paper does not pay coupon (interest) payments and is issued at a discount. The return to investors is based solely on the difference between the selling price and the buying price. Because it is possible that the firm that issued commercial paper will default on its payment at maturity, investors require a slightly higher return on commercial paper than what they would receive from risk-free (Treasury) securities with a similar maturity.

**negotiable certificates of deposit (NCD)**

Debt securities issued by financial institutions to obtain short-term funds.

## Negotiable Certificates of Deposit

A **negotiable certificate of deposit (NCD)** is a debt security issued by financial institutions to obtain short-term funds. The minimum denomination is typically \$100,000, but the \$1 million denomination is more common. Common maturities of NCDs are 10 days to 1 year. Unlike the other money market securities we have mentioned, NCDs do provide interest payments. There is a secondary market for NCDs, but it is not so active as the secondary market for Treasury bills. Because there is a slight risk that the financial institution issuing an NCD will default on its payment at maturity, investors require a return that is slightly above the return on Treasury bills with a similar maturity.

## Foreign Money Market Securities



Firms and investors can also use foreign money markets to borrow or invest funds for short-term periods. Firms can issue short-term securities such as commercial paper in foreign markets, assuming that they are perceived as creditworthy in those markets. They may even attempt to borrow short-term funds in other currencies by issuing short-term securities denominated in foreign currencies. The most common reason for a firm to borrow in foreign money markets is to obtain funds in a currency that matches its cash flows. For example, IBM's European subsidiary may borrow **euros** (the currency for 11 different European countries) either from a bank or by issuing commercial paper to support its European operations, and it will use future cash inflows in euros to pay off this debt at maturity.

**euro**

The currency for 11 different European countries.

Investors may invest in foreign short-term securities because they have future cash outflows in those currencies. For example, say a firm has excess funds that it can invest for three months. If it needs Canadian dollars to purchase exports in 3 months, it may invest in a 3-month Canadian money market security (such as Canadian Treasury bills) and then use the proceeds at maturity to pay for its exports.

Alternatively, an investor may purchase a foreign money market security to capitalize on a high interest rate. Interest rates vary among countries, which causes some foreign money market securities to have a much higher interest rate than others. However, investors are subject to exchange rate risk when investing in securities denominated in a different currency from what they need once the investment period ends. If the currency denominating the investment weakens over the investment period, then the actual return that investors earn may be less than what they could have earned from domestic money market securities.

## Key Capital Market Securities

The key capital market securities are bonds and stocks.

**bonds**

Long-term securities issued by firms and governments to raise large amounts of long-term funds.

## Bonds

**Bonds** are long-term debt securities issued by firms and governments to raise large amounts of long-term funds. Bonds are differentiated by the issuer and can be classified as Treasury bonds, municipal bonds, or corporate bonds.

**Treasury bonds**

Bonds issued by the U.S. Treasury to obtain long-term (10 to 30 years) funds.

*Treasury Bonds* **Treasury bonds** are issued by the U.S. Treasury as a means of obtaining funds for a long-term period. They normally have maturities from 10 years to 30 years. (As noted previously, the Treasury issues short-term debt



securities in the form of *Treasury bills*. It also issues medium-term debt securities in the form of *Treasury notes*, which have maturities between 1 and 10 years.) The minimum denomination of Treasury bonds is \$1,000, but much larger denominations are more common. The federal government borrows most of its funds by issuing Treasury securities. An active secondary market for Treasury bonds exists, so investors can sell Treasury bonds at any time.

Treasury bonds pay interest (in the form of coupon payments) on a semi-annual basis (every 6 months) to the investors who hold them. Investors earn a return from investing in Treasury bonds in the form of these coupon payments and also in the difference between the selling price and the purchase price of the bond.

A Treasury bond with a par value of \$1,000,000 and an 8 percent coupon rate pays \$80,000 per year, which is divided into \$40,000 after the first 6-month period of the year and another \$40,000 in the second 6-month period of the year. Interest payments on Treasury bonds received by investors are exempt from state and local income taxes.

Because Treasury bonds are backed by the federal government, the return to an investor who holds them until maturity is known with certainty. The coupon payments are known with certainty, and so is the payment at maturity (the par value). Accordingly, the return that could be earned on a Treasury bond is commonly referred to as a *long-term risk-free rate*. The annualized return promised on a 10-year bond today serves as the annualized risk-free rate of return over the next 10 years, and the annualized return that is promised on a 20-year Treasury bond serves as the annualized risk-free rate of return over the next 20 years. If investors want to earn a risk-free return over a period that is not available on newly issued Treasury bonds, they can purchase a Treasury bond in the secondary market with a time remaining until maturity that matches their desired investment period.

### **municipal bonds**

Bonds issued by municipalities to support their expenditures.

### **general obligation bonds**

Municipal bonds backed by the municipality's ability to tax.

### **revenue bonds**

Municipal bonds that will be repaid with the funds generated from the project financed with the proceeds of the bond issue.

### **corporate bonds**

A debt instrument indicating that a corporation has borrowed a certain amount of money and promises to repay it in the future under clearly defined terms.

*Municipal Bonds* **Municipal bonds** are bonds issued by municipalities to support their expenditures. They are typically classified into one of two categories. **General obligation bonds** provide investors with interest and principal payments that are backed by the municipality's ability to tax. Conversely, **revenue bonds** provide interest and principal payments to investors using funds generated from the project financed with the proceeds of the bond issue. For example, revenue bonds may be issued by a municipality to build a tollway. The proceeds received in the form of tolls would be used to make interest and principal payments to the investors who purchased these bonds. The minimum denomination is \$5,000, but larger denominations are more common.

Municipal bonds pay interest on a semiannual basis. The interest paid on municipal bonds is normally exempt from federal income taxes and may even be exempt from state and local income taxes. This very attractive feature of municipal bonds enables municipalities to obtain funds at a lower cost. In other words, investors are willing to accept a lower pre-tax return on municipal bonds, because they tend to be more concerned with the after-tax return.

Municipal bonds have a secondary market, although that market is less active than the secondary market for Treasury bonds. Therefore, municipal bonds are less liquid than Treasury bonds that have a similar term to maturity.

*Corporate Bonds* **Corporate bonds** are bonds issued by corporations to finance their investment in long-term assets, such as buildings and machinery. Their standard denomination is \$1,000, but other denominations are sometimes

issued. The secondary market for corporate bonds is more active for those bonds that were issued in high volume. Because there is less secondary market activity for corporate bonds than there is for Treasury bonds, corporate bonds are less liquid than Treasury bonds with a similar term to maturity. Maturities of corporate bonds typically range between 10 and 30 years, but some recent corporate bond issues have maturities of 50 years or more. For example, both the Coca-Cola Company and Disney recently issued bonds with maturities of 100 years.

**EXAMPLE**

MicroCircuit Industries, a major microprocessor manufacturer, has just issued a 20-year bond with 12% coupon interest rate and a \$1,000 par value that pays interest semiannually. Investors who buy this bond receive the contractual right to (1) \$120 annual interest (the 12% coupon interest rate  $\times$  \$1000 par value), distributed as \$60 at the end of each 6 months ( $1/2 \times \$120$ ) for 20 years, and (2) the \$1,000 par value at the end of year 20. ■



*International Bonds* Firms commonly issue bonds in the *Eurobond market*, which serves issuers and investors in bonds denominated in a variety of currencies. For example, General Motors may consider issuing a dollar-denominated bond to investors in the Eurobond market. Or it may consider issuing a bond denominated in Japanese yen to support its operations in Japan.

U.S. investors may use the Eurobond market to purchase bonds denominated in other currencies that are paying higher coupon rates than dollar-denominated bonds. However, they will be subject to exchange rate risk if they plan to convert the coupon and principal payments into dollars in the future.

## Stocks

**Stock** is an equity security which represents ownership interest in the issuing firm. Whereas bonds are issued by both governments and businesses, stock is issued only by business firms. The two forms of stock are common and preferred.

**stock**

An equity security that represents ownership interest in the issuing firm.

**common stock**

Collectively, units of ownership interest, or equity, in a corporation.

**preferred stock**

A special form of ownership having a fixed periodic dividend that must be paid prior to payment of any common stock dividends.

*Common and Preferred Stock* Shares of **common stock** are units of ownership interest, or equity, in a corporation. Common stockholders expect to earn a return by receiving dividends, by realizing gains through increases in share price, or both. **Preferred stock** is a special form of ownership that has features of both a bond and common stock. Preferred stockholders are promised a fixed periodic dividend that must be paid prior to payment of any dividends to the owners of common stock. In other words, preferred stock has priority over common stock when the firm's dividends are disbursed.



*International Stocks* Many large U.S. firms issue stock in international equity markets. They may be able to sell all of their stock offering more easily by placing some of the stock in foreign markets, if there is not sufficient demand in the United States. In addition, they may be able to increase their global name recognition in countries where they conduct business by selling some of their newly issued stock in those foreign markets.

Investors commonly invest in stocks issued by foreign firms. They may believe that a particular foreign stock's price is undervalued in the foreign market. Alternatively, they may believe that a foreign country has much greater potential economic growth than can be found at home. Investors may also invest in foreign stocks to achieve international diversification. To the extent that most U.S. stocks

**TABLE 2**

**Summary of Money and Capital Market Securities**

|                                  | Issuer                     | Common Maturities          | Secondary Market Activity |
|----------------------------------|----------------------------|----------------------------|---------------------------|
| <b>Money Market Securities</b>   |                            |                            |                           |
| Treasury bills                   | Federal government         | 13 weeks, 26 weeks, 1 year | High                      |
| Commercial paper                 | Firms                      | 1 day to 270 days          | Low                       |
| Negotiable CDs                   | Commercial banks           | 10 days to 1 year          | Low                       |
| <b>Capital Market Securities</b> |                            |                            |                           |
| Treasury bonds                   | Federal government         | 10 to 30 years             | High                      |
| Municipal bonds                  | State and local government | 10 to 30 years             | Moderate                  |
| Corporate bonds                  | Firms                      | 10 to 30 years             | Moderate                  |
| Stocks                           | Firms                      | No maturity                | Moderate to high          |

are highly influenced by the U.S. economy, U.S. investors can reduce their exposure to potential weakness in the U.S. economy by investing in stocks of foreign firms whose performance is insulated from U.S. economic conditions.

### Summary of Securities

A summary of the money market and capital market securities that we have described is provided in Table 2. All types of firms that need short-term funds issue commercial paper as a means of obtaining funds. They also invest in the other money market securities (such as Treasury bills) when they have temporary funds available.

Investors invest in all the kinds of securities disclosed in the table. In general, they tend to focus on the money market securities if they wish to invest their funds for a very short period of time and to choose capital market securities when they can invest their funds for long periods. The money market securities provide a relatively low expected return, but offer some liquidity and generate a positive return until the investor determines a better use of funds.

The capital market securities offer more potential for higher returns, but their expected returns are subject to a higher degree of uncertainty (risk). Because the capital markets facilitate the exchange of long-term securities, they help to finance the long-term growth of government agencies and firms. Institutional investors play a major role in supplying funds in the capital markets. In particular, institutional investors such as commercial banks, insurance companies, pension funds, and bond mutual funds are major investors in the primary and secondary markets for bonds. Insurance companies, pension funds, and stock mutual funds are major investors in the primary and secondary markets for stocks.

### REVIEW QUESTIONS

- RQ-6 What is the meaning of the term *risk-free rate*?
- RQ-7 Explain why firms that issue a corporate bond must promise investors a higher return than that available on a Treasury security that has the same maturity.
- RQ-8 How does stock differ from bonds in terms of ownership privileges?



## Major Securities Exchanges

### securities exchanges

Organizations that provide the marketplace in which firms can raise funds through the sale of new securities and in which purchasers can resell securities.

Securities exchanges provide the marketplace in which firms can raise funds through the sale of new securities and in which purchasers of securities can maintain liquidity by being able to resell them easily when necessary. Many people call securities exchanges “stock markets,” but this label is somewhat misleading because bonds, common stock, preferred stock, and a variety of other investment vehicles are all traded on these exchanges. The two key types of securities exchanges are the organized exchange and the over-the-counter market.

### organized securities exchanges

Tangible organizations that act as *secondary markets* where outstanding securities are resold.

## Organized Securities Exchanges

Organized securities exchanges are tangible organizations that act as secondary markets in which outstanding securities are resold. Organized exchanges account for about 59 percent of the *total dollar volume* of domestic shares traded. The dominant organized exchanges are the New York Stock Exchange and the American Stock Exchange, both headquartered in New York City. There are also regional exchanges, such as the Chicago Stock Exchange and the Pacific Stock Exchange (co-located in Los Angeles and San Francisco).

### The New York Stock Exchange

Most organized exchanges are modeled after the New York Stock Exchange (NYSE), which accounts for about 90 percent of the total annual dollar volume of shares traded on organized exchanges. To make transactions on the “floor” of the New York Stock Exchange, an individual or firm must own a “seat” on the exchange. There are a total of 1,366 seats on the NYSE, most of which are owned by brokerage firms. To be listed for trading on an organized exchange, a firm must file an application for listing and meet a number of requirements. For example, to be eligible for listing on the NYSE, a firm must have at least 2000 stockholders, each owning 100 or more shares, a minimum of 1.1 million shares of publicly held stock, a demonstrated earning power of \$2.5 million before taxes at the time of listing and \$2 million before taxes for each of the preceding 2 years, net tangible assets of \$18 million, and a total of \$18 million in market value of publicly traded shares. Clearly, only large, widely held firms are candidates for listing on the NYSE.

Trading is carried out on the floor of the exchange through an *auction process*. The goal of trading is to fill *buy orders* (orders to purchase securities) at the lowest price and to fill *sell orders* (orders to sell securities) at the highest price, thereby giving both purchasers and sellers the best possible deal. The general procedure for placing and executing an order can be described by a simple example.

### EXAMPLE

Meredith Blake, who has an account with Merrill Lynch, wishes to purchase 200 shares of the IBM Corporation at the prevailing market price. Meredith calls her account executive,\* Howard Kohn of Merrill Lynch, and places her order.

\*The title *account executive* or *financial consultant* is often used to refer to an individual who traditionally has been called a *stockbroker*. These titles are designed to change the image of the stockbroker from that of a salesperson to that of a personal financial manager who offers diversified financial services to clients.




## NYSE GETS OFF THE FLOOR

Electronic communications networks (ECNs) can now register with the SEC as securities exchanges. Because the Internet-based ECNs allow institutional traders and some individuals to make direct transactions, without using brokers, they pose a threat to both the NYSE and Nasdaq.

The Big Board finally figures out it needs to have an Internet strategy to compete with ECNs—and to keep up with Nasdaq. The New York Stock Exchange finally has taken steps toward joining the rush of financial institutions moving online.

Richard Grasso, chairman of the NYSE, announced recently that the exchange plans to create an Internet-based order book, to be fully operational by mid-2000. The system will allow exchange members to directly execute orders of 1000 shares or less without having to go through a floor broker, as

they do today. Also, members will have access to a “virtual” book, which will display all the orders as they are executed and will include data currently seen only by traders on the floor.

While the news from the NYSE may seem insignificant when compared to advancements others have made toward an electronic marketplace, it’s indicative that the Big Board doesn’t plan to miss the revolution.

“This is long overdue on the exchange’s part,” says Bernard Madoff, of market-making firm Bernard L. Madoff Investment Securities, which trades both NYSE and Nasdaq stocks.

“They should have done this a year ago. This past year was crucial in terms of investments, partnerships, and advancements in technology. They probably waited too long, but that doesn’t mean they can’t play catch-up.”

Indeed, it is difficult to imagine that at the turn of the century, the nation’s largest exchange still operates with 1366 traders screaming orders on a paper-strewn floor at Broad and Wall Streets. Unlike Nasdaq, the NYSE has resisted moving toward an electronic platform, and it still treats its exclusive member base like an old boys’ club.

Now that the Securities and Exchange Commission has given the green light to electronic communications networks to apply to become exchanges, the NYSE and Nasdaq need to open up access and improve execution practices, or risk losing market share to the upstarts....

*Source:* Megan Barnett, “NYSE Gets Off the Floor,” *The Industry Standard*, November 15, 1999, downloaded from <http://www.thestandard.com/article/display/0,1151,7607,00.html>

Howard immediately has the order transmitted to the New York headquarters of Merrill Lynch, which immediately forwards the order to the Merrill Lynch clerk on the floor of the exchange. The clerk dispatches the order to one of the firm’s seat holders, who goes to the appropriate trading post, executes the order at the best possible price, and returns to the clerk, who then wires the execution price and confirmation of the transaction back to the brokerage office. Howard is given the relevant information and passes it along to Meredith. Howard then does certain paperwork to complete the transaction. ■

Once placed, an order either to buy or to sell can be executed in seconds, thanks to sophisticated telecommunications devices. Information on the daily trading of securities is reported in various media, including financial publications such as the *Wall Street Journal*.

### The American Stock Exchange

The American Stock Exchange (AMEX), now owned by the Nasdaq market, is also based in New York, but is smaller than the New York Stock Exchange. Its trading is also conducted on a trading floor.

**over-the-counter (OTC) market**

An intangible market (not an organization) for the purchase and sale of securities not listed by the organized exchanges.

## The Over-the-Counter Exchange

The **over-the-counter (OTC) market** is not an organization but an intangible market for the purchase and sale of securities not listed by the organized exchanges. The market price of OTC securities results from a matching of the forces of supply and demand for securities by traders known as dealers. OTC dealers are linked with the purchasers and sellers of securities through the *National Association of Securities Dealers Automated Quotation (Nasdaq) System*, which is a sophisticated telecommunications network. In 1999 the Nasdaq exchange merged with the American Stock Exchange to become Nasdaq-AMEX. This new entity continued to facilitate floor trading of stocks listed on the American Stock Exchange and computerized trading for stocks listed on Nasdaq.

Nasdaq provides current bid and ask prices on thousands of actively traded OTC securities. The *bid price* is the highest price offered by a dealer to purchase a given security, and the *ask price* is the lowest price at which the dealer is willing to sell the security. The dealer in effect adds securities to his or her inventory by purchasing them at the bid price and sells securities from his or her inventory at the ask price, hoping to profit from the spread between the bid and ask prices. Unlike the auction process on the organized securities exchanges, the prices at which securities are traded in the OTC market result from both competitive bids and negotiation.

In addition to creating a *secondary (resale) market* for outstanding securities, the OTC market, is also a *primary market* in which all new public issues are sold.

### REVIEW QUESTIONS

RQ-9 How does the New York Stock Exchange facilitate the exchange of stocks?

RQ-10 How does the Nasdaq market differ from the New York Stock Exchange?



## Derivative Securities Markets

**derivative securities (derivatives)**

Financial contracts whose values are derived from the value of underlying financial assets.

**Derivative securities** (also called derivatives) are financial contracts whose values are *derived from* the values of underlying financial assets (such as securities). Each derivative security's value tends to be related to the value of the underlying security in a manner that is understood by firms and investors. Consequently, derivative securities allow firms and investors to take positions in the securities on the basis of their expectations of movements in the underlying financial assets. In particular, investors commonly speculate on expected movements in the value of the underlying financial asset without having to purchase the financial asset. In many cases, a speculative investment in the derivative position can generate a much higher return than the same investment in the underlying financial asset. However, such an investment will also result in a much higher level of risk for the investors.

Derivative securities are used not only to take speculative positions but also to hedge, or reduce exposure to risk. For example, firms that are adversely affected by interest rate movements can take a particular position in derivative securities that can offset the effects of interest rate movements. By reducing a firm's exposure to some external force, derivative securities can reduce its risk.

Some investors use derivative securities to reduce the risk of their investment portfolio. For example, they can take a particular position in derivatives to insulate themselves against an expected temporary decline in the bonds or the stocks that they own.

Derivative securities are traded on special exchanges and through telecommunications systems. Financial institutions such as commercial banks and securities firms facilitate the trading of derivative securities by matching up buyers and sellers.

### REVIEW QUESTION

RQ-11 Why are derivative securities purchased by investors?



## The Foreign Exchange Market

### foreign exchange market

A market consisting of large international banks that purchase and sell currencies to facilitate international purchases of products, services, and securities.



### spot market

A market that facilitates foreign exchange transactions that involve the immediate exchange of currencies.

### spot exchange rate (spot rate)

The prevailing rate at which one currency can be immediately exchanged for another currency.

The foreign exchange market allows for the purchase and sale of currencies to facilitate international purchases of products, services, and securities. The foreign exchange market is not based in one location; it is composed of large banks around the world that serve as intermediaries between those firms or investors who wish to purchase a specific currency and those that wish to sell it.

## Spot Market for Foreign Exchange

A key component of the foreign exchange market is the spot market. The **spot market** facilitates foreign exchange transactions that involve the immediate exchange of currencies. The prevailing exchange rate at which one currency can be immediately exchanged for another currency is referred to as the **spot exchange rate** (or **spot rate**). For example, the Canadian dollar's value has ranged between \$0.60 and \$0.80 in recent years. When U.S. firms purchase foreign supplies or acquire a firm in another country, and when U.S. investors invest in foreign securities, they commonly use the spot market to obtain the currency needed for the transaction.

During the so-called Bretton Woods era from 1944 to 1971, exchange rates were virtually fixed. They could change by only 1 percent from an initially established rate. Central banks of countries intervened by exchanging their currency on reserve for other currencies in the foreign exchange market to maintain stable exchange rates. By 1971 the boundaries of exchange rates were expanded to be 2.25 percent from the specified value, but this still restricted exchange rates from changing substantially over time.

In 1973 the boundaries were eliminated. This came as a result of pressure on some currencies to adjust their values because of large differences between the demand for a specific currency and the supply of that currency for sale. As the flow of trade and investing between the United States and a given country changes, so does the U.S. demand for that foreign currency and the supply of that foreign currency for sale (exchanged for dollars).

Because the demand and supply conditions for a given currency change continuously, so do the spot rates of most currencies. Thus most firms and investors that will need or receive foreign currencies in the future are exposed to exchange rate fluctuations.

## Forward Market for Foreign Exchange

### forward market

A market that facilitates foreign exchange transactions that involve the future exchange of currencies.

### forward rate

The rate at which one currency can be exchanged for another currency on a specific future date.

### forward contract

An agreement that specifies the amount of a specific currency that will be exchanged, the exchange rate, and the future date at which a currency exchange will occur.

The **forward market** facilitates foreign exchange transactions that involve the future exchange of currencies. The exchange rate at which one currency can be exchanged for another currency on a specific future date is referred to as the **forward rate**. The forward rate quote is usually close to the spot rate quote at a given point in time for most widely traded currency. Many of the commercial banks that participate in the spot market also participate in the forward market by accommodating requests of firms and investors. They provide quotes to firms or investors who wish to purchase or sell a specific foreign currency at a future time.

Firms or investors who use the forward market negotiate a **forward contract** with a commercial bank. This contract specifies the amount of a particular currency that will be exchanged, the exchange rate at which that currency will be exchanged (the forward rate), and the future date on which the exchange will occur. When a firm expects to need a foreign currency in the future, it can engage in a forward contract by “buying the currency forward.” Conversely, if it expects to receive a foreign currency in the future, it can engage in a forward contract in which it “sells the currency forward.”

### EXAMPLE

Charlotte Co. expects to receive 100,000 euros from exporting products to a Dutch firm at the end of each of the next 3 months. The spot rate of the euro is \$1.10. The forward rate of the euro for each of the next 3 months is also \$1.10. Charlotte Co. expects that the euro will depreciate to \$1.02 in 3 months.

If Charlotte Co. does not use a forward contract, it will convert the euros received into dollars at the spot rate that exists in 3 months. A comparison of the expected dollar cash flows that will occur in 3 months follows.

| Choices                    | Exchange Rate                                       | Expected \$ Cash Inflows                  |
|----------------------------|---|---|
| 1. Use the spot market.    | The spot rate in 3 months is expected to be \$1.02. | 100,000 euros $\times$ \$1.02 = \$102,000 |
| 2. Use the forward market. | The 3-month forward rate is \$1.10.                 | 100,000 euros $\times$ \$1.10 = \$110,000 |

Thus Charlotte expects that its dollar cash inflows would be \$8,000 higher as a result of hedging with a forward contract and decides to negotiate a forward contract to sell 100,000 euros forward. If Charlotte Co. were an investor instead of an exporter, and expected to receive euros in the future, it could have used a forward contract in the same manner. ■

### REVIEW QUESTION

RQ-12 Distinguish between the *spot market* and *forward market* for foreign exchange.



## Summary

This chapter provided an overview of the financial institutions and markets that serve managers of firms and investors who invest in firms, and how those institutions and markets facilitate the flow of funds. The roles of financial managers, financial markets, and investors in channeling financial flows of funds are summarized in the Integrative Table.

### INTEGRATIVE TABLE

#### Channeling Financial Flows of Funds

| Role of Financial Managers  | Role of Financial Markets  | Role of Investors  |
|---|--|--|
| Financial managers make financing decisions that require funding from investors in the financial markets. | The financial markets provide a forum in which firms can issue securities to obtain the funds that they need and in which investors can purchase securities to invest their funds. | Investors provide the funds that are to be used by financial managers to finance corporate growth. |

**LG1 Explain how financial institutions serve as intermediaries between investors and firms.** Financial institutions channel the flow of funds between investors and firms. Individuals deposit funds at commercial banks, purchase shares of mutual funds, purchase insurance protection with insurance premiums, and make contributions to pension plans. All of these financial institutions provide credit to firms by purchasing debt securities. In addition, all of these financial institutions except commercial banks purchase stocks issued by firms.

**LG2 Provide an overview of financial markets.** Financial market transactions can be distinguished by whether they involve new or existing securities, whether the transaction of new securities reflects a public offering or a private placement, and whether the securities have short-term or long-term maturities. New securities are issued by firms in the primary market and purchased by investors. If investors desire to sell the securities they have previously purchased, they use the secondary market. The sale of new securities to the general public is referred to as a public offering; the sale of new securities to one investor or a group of investors is referred to as a private placement. Securities with short-term maturities are called money market securities, and securities with long-term maturities are called capital market securities.

**LG3 Explain how firms and investors trade money market and capital market securities in the financial markets in order to satisfy their needs.** Firms obtain short-term funds by issuing commercial paper. Individual and institutional investors that wish to invest funds for a short-term period commonly purchase Treasury bills, commercial paper, and negotiable CDs. Firms that need long-term funds may issue bonds or stock. Institutional and individual investors invest funds for a long-term period by purchasing bonds or stock.

**LG4** **Describe the major securities exchanges.** The major securities exchanges are the New York Stock Exchange and the Nasdaq–AMEX exchange. The stocks of the largest U.S. publicly traded firms are typically traded on the New York Stock Exchange, whereas stocks of smaller firms are traded on the Nasdaq–AMEX exchange.

**LG5** **Describe derivative securities and explain why they are used by firms and investors.** Derivative securities are financial contracts whose values are derived from the values of underlying financial assets. They are commonly used by firms to reduce their exposure to a particular type of risk. Investors may use derivative securities to enhance their returns or reduce their exposure to some types of risk.

**LG6** **Describe the foreign exchange market.** The foreign exchange market is composed of the spot market and the forward market. The spot market makes possible the immediate exchange of one currency for another at the prevailing exchange rate (spot rate). The forward market allows for the negotiation of contracts (forward contracts) that specify the exchange of an amount of one currency for another at a particular future date and a particular exchange rate (the forward rate).

## Self-Test Problems

- LG1** **ST-1** Explain the process in which financial institutions channel funds from investors to firms.
- LG3** **ST-2** **Annualized return** You purchased a 180-day maturity, \$100,000 par value Treasury bill for \$96,800.
- Calculate your annualized return if you hold it until it matures.
  - If you sell it for \$98,100 after 90 days, what is your annualized return?
  - What should the price be in part **b** in order for your annualized return to be the same as in part **a**?

## Problems

- LG1** **P-1** How is the role of the securities firms as intermediaries different from the roles of commercial banks and insurance companies?
- LG1** **P-2** Consolidation among financial institutions in recent years has changed the landscape of financial services offered to investors. How has consolidation affected the services offered?
- LG1** **P-3** Give three reasons why financial institutions have expanded globally in recent years.
- LG2** **P-4** Why are financial markets important to firms and investors?

LG2

P-5 Why are secondary markets important?

LG2

P-6 What are (a) initial public offerings and (b) secondary offerings?

LG2

P-7 Distinguish between public offering and private placement.

LG3

P-8 Describe the following money market securities: (a) Treasury bills, (b) commercial paper, and (c) negotiable certificates of deposit.

LG3

P-9 Money market securities, in general, provide lower returns than capital market securities. In the presence of the secondary market where capital securities are easily tradeable, why would anyone invest in money market securities instead of capital market securities?

LG3

P-10 Explain how foreign money market securities can be used for cash receipts or payments in the foreign currency.

LG4

P-11 Distinguish between a general obligation bond and a revenue bond.

LG4

P-12 What are the bid price and the ask price? Why are prices in the OTC market quoted in this way?

LG6

P-13 **Exchange rate transactions** Suppose Charlotte Co. expects to pay out 100,000 euros to a Dutch exporter in 3 months' time. The current spot rate and forward rate remain at \$1.10 per euro.

- a. If Charlotte Co. expects the euro to depreciate to \$1.02, should Charlotte purchase euros forward?
- b. If Charlotte Co. expects the euro to appreciate to \$1.18, should Charlotte purchase euros forward? Explain.

## Web Exercise



Go to the New York Federal Reserve Bank Web site [www.ny.frb.org/](http://www.ny.frb.org/).

- a. Click on the **TreasuryDirect** box. On the next screen, click on **Treasury Bill Auction Results** for a list of Treasury bills that were auctioned weekly during the last 4 months. Information includes issue dates, maturity dates, discount rates, investment rates, and the price paid based on a \$100 par value.

The discount rate is an annualized rate of return based on the par value of the bill. The investment rate, or equivalent coupon yield, is an annualized rate based on the purchase price of the bill and reflects the actual yield if the bill is held until maturity. Both rates are calculated on the basis of the actual number of days to maturity. The discount rate is calculated on a 360-day basis, the investment rate on a 365-day basis (or 366 days in a leap year).

Select one security and use its price to calculate the investment rate on the basis of the method given in this book. Compare your answer to that given in the table.

- b. Go back to the home page and click on the **Statistics** box. On the next screen, click on the **FRED Federal Reserve Economic Database**. Under the **Database Categories**, click on **Monthly Interest Rates** and the **3-Month Treasury Bill Rate—Auction Average**. The table lists monthly T-bill rates since the 1940s and gives you some idea of the rates of return you would have earned over the years if you had invested in Treasury bills. You can also explore rates of return on other longer-term Treasury securities (such as notes and bonds).