CHAPTER 1

An Introduction to Basic Finance

"Princes come and princes go." This quote from the musical *Kismet* is exceptionally apropos of finance. Yesterday's success may be today's failure. Bear Stearns, WorldCom, and Enron were major success stories, but thanks to questionable accounting and even illegal acts, they reported huge losses and filed for bankruptcy. Today, eBay and Google are major success stories. Will they experience the same fate as WorldCom and Enron?

Finance studies money and its management. Like economics, it explores the allocation of resources. The process of resource allocation occurs over time. Firms invest in inventory, plant, and equipment, but the returns are earned in the future. An investor constructs a portfolio of assets, but the return is earned in the future. A commercial bank grants a loan in anticipation of earning interest and having the principal repaid. In each case the financial decision is made in the present but the return is in the future.

Because the future is unknown, finance studies the allocation of resources in a world of uncertainty. Of course, future events are anticipated, but they are not certain. Not every possible outcome that may affect returns can be anticipated. Unexpected events infuse financial decisions with uncertainty and the potential risk of loss. Investors, portfolio managers, and corporate financial managers may take actions to help manage risk, but risk still exists and is a major component in the study of finance.

The Divisions of Finance

Finance as a discipline is generally divided into three areas: financial institutions, investments, and business finance. The divisions are somewhat arbitrary, and they certainly overlap. Investment decisions and corporate financing decisions are made within the current financial environment and its institutions. And business finance is not independent of investments. For a firm to be able to issue and sell new securities, there must be individuals who are willing to invest in and buy the new securities.

The study of financial institutions, as the name implies, is concerned with the institutional aspects of the discipline, which encompass the creation of financial assets, the markets for trading securities (for example, the New York Stock Exchange), and the regulation of financial markets. Financial assets are created through investment bankers and financial intermediaries, such as commercial banks, savings and loan associations, and life insurance companies. Each of these financial firms transfers the savings of individuals to firms needing funds, and this transfer produces financial assets. Once these financial assets are created, many may subsequently be bought and sold in the secondary markets. These securities markets transfer billions of dollars of financial assets among investors ranging from individuals with small amounts to invest to large mutual funds and trust departments in commercial banks and insurance companies.

The study of investments is primarily concerned with the analysis of individual assets and the construction of well-diversified portfolios. It encompasses financial planning, specifying the investor's financial goals, analyzing various securities that the individual may acquire, and constructing diversified portfolios. Of course, investment decisions are not made in a vacuum, and the financial environment plays a role in the investment decision process. Certainly taxation, the monetary policy of the Federal Reserve, and the flow of information that publicly held firms are required to provide stockholders can and do affect the decision to buy or sell specific assets.

The study of corporate or business finance emphasizes the role of the financial manager. The financial manager must make certain that the firm can meet its obligations as they come due, determine which are the best sources of financing for the firm, and allocate the firm's resources among competing investment alternatives. The financial manager has a large and demanding job; in a large corporation, this job is performed by a staff that reports to the chief financial officer (CFO). Of course, the management of a small business must also make many of the same decisions, but these individuals have fewer resources to devote to financial management.

Financial managers and investors make similar decisions, although on a different scale. While the individual may have a few thousand dollars to invest, the corporate treasurer may have millions to allocate among competing assets. The financial manager may also make more decisions involving real assets (plant and equipment) than the individual investor, who is primarily concerned with financial assets. Both, however, are affected by the financial

environment. The Federal Reserve's monetary policy, the federal government's fiscal policy, the legal requirements for the dissemination of information, and fiduciary responsibilities to creditors and stockholders affect financial decision making. Neither the firm's financial manager nor the individual investor can ignore the potential impact of the financial and legal environment.

While individual investors may work alone for their personal benefit, a firm's financial manager must work within the framework of the business. Marketing and managing decisions can have important implications for the firm's financial well-being. Virtually every business decision has a financial implication, and financial resources are often a major constraint on the firm's nonfinancial personnel. It is certainly desirable for individuals in marketing, human resources, information systems, and planning to understand the basic concepts of finance and the role of the financial manager. Such understanding may lead to better communication, the creation of better data for decision making, and better integration of the various components of the business.

Key Financial Concepts

Several crucial concepts appear throughout this text. The first is the sources of funds used by a firm. Firms can acquire assets only if someone puts up the funds. For every dollar the firm invests, someone must invest that dollar in the firm. The second concept centers around risk and return. Individuals and firms make investments to earn a return, but that return is not certain. All investments involve risk. The third concept is financial leverage, which is an important source of risk. The last concept is valuation, or what an asset is worth. Because the return earned by an investment occurs in the future, the anticipated cash flow to be generated by the asset must be expressed in the present. That is, the asset must be valued in today's dollars in order to determine whether to make the investment. Because the goal of financial management is often specified as the maximization of the value of the firm, the valuation of assets is probably the most crucial individual concept covered in this text.

Balance sheet
Financial statement that enumerates (as of a point in time) what an economic unit owns and owes and its net worth

Assets
Items or property owned by a firm, household, or government and valued in monetary terms

Liabilities
What an economic unit owes expressed in monetary terms

Equity
Owners' investment in a firm; a firm's book value or net worth

Sources of Finance

Finance is concerned with the management of assets, especially financial assets, and the sources of finance used to acquire the assets. These sources and the assets that a firm owns are often summarized in a financial statement called a **balance sheet**. (Notice that important terms are in **boldface** and the definitions appear in the margin to facilitate learning. The terms and their definitions that appear in this chapter illustrate the presentation. Each reappears in its proper place in the text.) A balance sheet enumerates at a moment in time what an economic unit, such as a firm, owns, its **assets**; what it owes, its **liabilities**; and the owners' contributions to the firm, the **equity**.

Other economic units, such as a household or a government, may also have a balance sheet that lists what is owned (assets) and what is owed (liabilities).

However, since there are no owners, the equity section may be given a different name. For example, the difference between the assets and the liabilities might be referred to as the individual's "net worth," or estate.

Although the construction of financial statements is explained more fully in Chapter 9, the following balance sheet provides an introduction.

Corporation X Balance Sheet as of December 31, 20XX			
Assets		**Liabilities and Equity**	
Total assets	$100	Liabilities	$ 40
		Equity	60
	$100		$100

Notice that the economic unit, Corporation X, has $100 in assets. It could not have acquired these assets unless someone (or some other firm) put up the funds. In this example, $40 was lent to the corporation, and the lenders have a legal claim. The equity ($60) represents the funds invested by the owners, who also have a claim on the corporation. The nature of the owners' claim, however, is different because the corporation does not owe them anything. Instead, the owners receive the benefits and bear the risks associated with controlling the corporation.

Both the creditors who have lent funds and the individuals who own the corporation are investors. Both groups are sources of the capital that will subsequently be invested in the corporation's assets. It is important to realize that creditors as well as owners are investors; the difference lies in the nature of their respective claims. The creditors have a legal claim that the borrower must meet; the owners do not have such a claim. The creditors and the owners, however, are both willing to make their respective investments in anticipation of earning a return, and both bear the risk associated with their investments.

A large part of this text is devoted to the sources of finance and their subsequent investment by the firm's financial managers. For example, Chapters 22 and 25 are devoted to the management of current and long-term assets, while Chapters 10, 12, 14, and 26 consider various sources of finance. It is important to understand the interdependence between the firm that uses the funds and the investors who supply the funds. Bonds, for example, are a major source of long-term funds for many corporations, but it should be remembered that investors buy the bonds that a corporation (or government) issues. The sale of the bonds is a source of finance to the corporation, while the purchase of the bonds is a use of investors' funds. The basic features of the bonds, however, are the same for both the issuer and the buyer.

Return
What is earned on an investment; the sum of income and capital gains generated by an investment

Risk and Return

All investments are made because the individual or management anticipates earning a **return**. Without the expectation of a return, an asset would not be acquired. While assets may generate this return in different ways, the sources of return are the income generated and/or price appreciation. For example,

you may buy stock in anticipation of dividend income and/or capital gains (price appreciation). Another investor may place funds in a savings account because he or she expects to earn interest income. The financial manager of a firm may invest in equipment in anticipation that the equipment will generate cash flow and profits. A real estate investor may acquire land to develop it and sell the properties at an anticipated higher price. And the financial manager of a nonprofit institution may acquire short-term securities issued by the federal government in anticipation of the interest earned.

In each case, the investment is made in anticipation of a return in the future. However, the expected return may not be attained. That is the element of risk. **Risk** is the *uncertainty that an expected return may not be achieved*. All investments involve some element of risk. Even the funds deposited in a federally insured savings account are at risk if the rate of inflation exceeds the interest rate earned. In that case, the investor sustains a loss of purchasing power. The individual certainly would not have made that investment if such a loss had been anticipated; instead, an alternative course of action would have been selected.

Risk
Possibility of loss; the uncertainty that the anticipated return will not be achieved

Because financial decisions are made in the present but the results occur in the future, risk permeates financial decision making. The future is not certain; it is only expected. However, possible sources of risk can be identified, and, to some extent, risk can be managed. One way to manage risk is to construct a portfolio consisting of a variety of assets. When the portfolio is diversified, events that reduce the return on a particular asset may increase the return on another. For example, higher oil prices may benefit oil drilling operations but may hurt users of petroleum products. By combining both in the portfolio, the investor reduces the risk associated with investing in either the oil producer or the oil consumer.

Because risk is an integral part of financial decision making, it appears throughout this text. All investors and financial managers want to earn a return that is commensurate with the amount of risk taken. An investor may be able to achieve a modest return and bear virtually no risk. A federally insured savings account with a commercial bank that pays 2.5 percent is virtually risk free and will be referred to in subsequent chapters as risk-free investment. But to earn a higher return, the individual investor or the firm's management will have to accept additional risk.

Financial Leverage

One major source of risk that permeates financial decision making is the choice between equity and debt financing. You may acquire an asset by using your own funds or by borrowing them. The same choices are available to firms and governments. A corporation may retain earnings or sell new stock and use the funds to acquire assets. Or the firm may borrow the money. Governments use tax revenues and receipts to buy assets and provide services, but governments also may borrow funds. In each case, the borrower is using **financial leverage**. Financial leverage occurs when you borrow funds in return for agreeing to

Financial leverage
Use of borrowed funds in return for agreeing to pay a fixed return; use of debt financing

pay fixed payments such as interest and repay the principal after a period of time. If you can earn a higher return than you have agreed to pay, the difference accrues to you, the borrower, and magnifies the return on your investment. Notice, however, that if you earn a lower return, you have to make up the difference, which magnifies your loss. You cannot have it both ways. To increase the potential return, you also increase the potential loss. This tradeoff between magnifying returns versus magnifying potential losses occurs frequently in the chapters that follow.

Valuation

Assets are acquired in the present, but their returns accrue in the future. No individual or firm would purchase an asset unless there was an expected return to compensate for the risk. Since the return is earned in the uncertain future, there has to be a way to express the future in terms of the present. The process of determining what an asset is currently worth is called **valuation**. An asset's value is the present value of the future benefits. For example, the current value of a federal government bond is the sum of the present value of the expected interest payments and the expected repayment of the principal. The current value of equipment is the present value of the expected cash flows it will generate.

Valuation
Process of determining what an asset is currently worth

The determination of present value is one of the most important topics developed in this text. It requires estimates of future cash flows and measurements of what the funds invested in the asset could earn in alternative, competitive investments. The mechanics of determining present value (as well as determining future value) are covered in Chapter 7. Understanding this material is crucial to understanding much of the material covered in this text.

A firm is a combination of many assets and, therefore, its value must be related to the value of the assets it owns. The value of these assets, in turn, depends on the returns they will generate in the future. In finance, the goal of the financial manager is to *maximize the value of the firm*. Schering-Plough even titled one of its annual reports "Maximizing Shareholder Value." All financial decisions are judged by their impact on the value of the firm. Did the decision increase or reduce the present value of the firm?

This value may be readily measured if the firm has shares of ownership (stock) held by the general public. The market price of the stock is indicative of the value of the company. Because the value of the firm is the sum of the value of its shares, the market value of a share of stock times the number of shares gives the value of the company. For example, as of 2010, Capital One Financial had 456,530,000 shares outstanding. At a price of $44 a share, that made the value of the firm's equity $20,087,000,000.

Although security prices are subject to fluctuations, firms that have consistently grown and prospered have seen the price of the stock, and hence the value of the company, increase. In 1996, the value of Capital One Financial was $2,319,600,000; the value of Capital One thus rose $18 billion from 1996 to 2010. This suggests that management made decisions that increased

the value of the company. Over time, the price of a company's stock is indicative of management performance.

Smaller firms or firms whose stock is not owned by the general public—by far the largest number of firms in existence—do not have market prices for their stock. Hence, owners and managers may not be able to ascertain the value of the firm. In these cases, the value is determined only when the firm is liquidated or sold (at that time, the value of the firm is the liquidation value or sale price). Since such liquidation or sale generally occurs only once, the owners and managers do not know the true value of the firm. They may use the value of the firm's equity as shown on the accounting statements as some indication of the firm's worth, but management cannot be certain of the firm's true value.

Finance and Other Business Disciplines

Although finance is a separate academic discipline, its roots are in accounting and economics. Several years ago, the first finance courses tended to emphasize the analysis of financial statements and legal topics, such as the order of legal claims. Although this emphasis has diminished, accounting principles and financial statements continue to be a major source of information, and the analysis of financial statements is an integral component in the value approach to the selection of securities.

With the development of theories of portfolio behavior and asset valuation, economics began to play a more important role in finance. Theories based on economic principles encompassing corporate financial structure, the importance (or unimportance) of dividends, and option valuation became the backbone of finance and, in many cases, supplanted accounting's role. The development of empirical tools further augmented financial analysis, as statistics became a means to verify economic theory as it applies to finance. The ability to test economic and financial hypotheses further enriched the field of finance.

Although finance uses economic theory and accounting principles and financial statements, it has developed its own body of material. Finance courses, however, are generally offered as part of a program in business. Other academic disciplines within business may include information systems, human resource management, and marketing as well as accounting and economics. Finance, however, differs from these areas in one exceedingly important way. It can be studied from two perspectives: that of the users or that of the suppliers of funds.

This ability to approach finance from more than one perspective is important. Consider human resource management or marketing. In both of these disciplines (and in accounting or information systems or strategic planning), the emphasis is on the business. The individual area may have many subdivisions, but the emphasis is how each division fits into the business and its operations. The emphasis is not from an individual's perspective.

Finance may also be studied from a business perspective, which is exactly what occurs in corporate finance or financial management courses. Finance,

however, may be studied from the investor's perspective. While corporate finance emphasizes raising funds and their subsequent allocation, investments emphasizes the construction of diversified portfolios and the allocation of wealth among competing securities. Of course, these two perspectives are often opposite sides of the same coin. The firm issues securities (for example, bonds or stock) to raise funds. Investors buy these securities to earn a return and diversify their portfolios. In either case, it is the same security.

The tools of analysis used in corporate finance and investments are also the same. A firm's financial statements are employed by both management and investors to analyze the firm's financial condition. Methods used to value and evaluate an investment in plant and equipment are conceptually the same as those used to value stocks and bonds. The calculations of returns on investments in stocks and bonds are the same as the calculations used to determine the returns on investments in plant, equipment, and other real (tangible) assets. The tax and legal environments and the financial institutions in which securities are initially sold and subsequently traded apply both to businesses and to individuals.

Although finance can have more than one perspective, the material as presented in an introductory finance course often emphasizes one side. Many traditional introductory finance courses stress corporate finance or financial management with a corporate emphasis. This approach makes the course more consistent with other classes taught in a business program. It also facilitates tying together marketing, human resource management, information management, and the various other areas of a business education.

Plan of the Text

This text is a basic introduction to the three areas of finance: financial institutions, investments, and business finance. Part 1 is devoted to financial institutions and the process by which savings are transferred into investments. Chapter 1 introduces this process and Chapter 2 covers financial markets and intermediaries. Chapter 3 considers the direct transfer, that is, the creation and initial sale of securities to the general public through investment bankers. The next chapter (Chapter 4) covers the subsequent trading in stocks and bonds in the securities markets. Chapters 5 and 6 add the impact of the Federal Reserve on the money supply and credit markets (Chapter 5), and international flows of funds (Chapter 6).

Part 2 is devoted to three important tools used in investment decision making and corporate finance. Most financial decisions involve time. An investment is made in the present but the return is earned in the future. Standardizing for time is achieved by expressing the present in terms of the future or the future in terms of the present. Every student using this text needs to read carefully and understand the material in Chapter 7, "The Time Value of Money." If you do not comprehend the time value of money, much of the remaining text will have little meaning.

All investments involve risk. Chapter 8 examines the sources of risk, the measurement of risk, and the importance of diversification. As with the time value of money, the measurement of risk and risk management are difficult topics. While Chapter 8 is primarily descriptive, it does cover statistical measures of risk. Even if your background in statistics is weak, simple illustrations are provided so that you should be able to grasp the concepts. The last chapter in Part 2 covers the analysis of financial statements. Chapter 9 is a long chapter because it reviews financial statements and then illustrates the calculation of various ratios used to analyze financial statements. If you already know the analysis of financial statements, you may move forward to Part 3, which is devoted to specific financial assets.

Chapters 10 and 11 cover common stock. The first is descriptive and the second applies valuation techniques. This order is repeated in Chapters 12 and 13, which are devoted to bonds and their valuation. Chapters 14 and 15 explain preferred stock and convertible bonds, which are hybrid securities that include features of equity and debt. Chapter 16 illustrates the calculation of returns and provides historical returns that have been earned on various securities. After completing Chapters 10 through 16, you may decide to delegate investment decisions to someone else. Chapter 17 covers the variety of investment companies that relieve you of having to select specific securities. However, it remains your responsibility to select specific investment companies.

Part 4 is devoted to business finance with emphasis on corporate finance. Chapter 18 reviews the forms of business and corporate taxation, and Chapter 19 describes two simple techniques used to make investment decisions: breakeven analysis and the payback period. Chapter 20 explains leverage as it applies to business: the leverage associated with the nature of the firm's operations and the leverage associated with management's financing decisions. Financing decisions raise the question of the firm's optimal combination of debt and equity financing or optimal capital structure (Chapter 21). The cost of capital associated with the optimal capital structure is then used in Chapter 22 on capital budgeting, which is the process of selecting long-term investments in plant and equipment. Chapters 21 and 22 (the determination of a firm's optimal capital structure and its use in capital budgeting) are among the most important in this text.

Chapters 23 and 24 consider forecasting techniques. Chapter 23 is devoted to the percent of sales and the use of regression analysis to forecast a firm's need for funding, and Chapter 24 covers the cash budget, which helps determine when the firm will need external finance. Chapters 25 and 26 treat the firm's working capital and the management of its current assets and current liabilities. The last chapter (Chapter 27) of Part 4 adds intermediate-term debt financing and leasing to the financial manager's choices of external funding.

The text ends (Part 5) with an introduction to derivatives: options to buy and sell securities (Chapter 28) followed by swap agreements and futures contracts for the future delivery of commodities and financial assets (Chapter 29). Derivatives are used to speculate on anticipated price changes or to hedge to reduce the risk of loss from fluctuations in prices and interest rates. You may find derivatives the most interesting and exciting topic covered in this

introduction to basic finance. They are, however, complex, so these two chapters can only scratch the surface, but they can lay a foundation on which you may build. If you continue to study finance, you will quickly realize that the use of derivatives permeates finance.

Relationships

Relationships play an important role in finance. For example, a change in interest rates affects bond prices or a change in risk affects the required return on an investment.

It is important for you to perceive these relationships. To help you test your understanding, many of the chapters have a self-test called "Relationships." In each case, one thing is changed, and you are asked to determine the impact on something else. For example, "With the passage of time life expectancy ____." There are three possible answers: increases, decreases, or no change (no impact). In this example, the answer is "decreases." Another illustration is "If a firm collects its accounts receivable, total assets ____." In this illustration, the answer is "are not affected (no change)."

There are, however, situations in which an answer cannot be determined. An increase (or decrease) in sales may increase, decrease, or not affect earnings. To determine the impact on earnings, you need to know the impact on BOTH revenues and costs. Just as it is important to perceive changes, it is also important to realize that there may be NO change or that the impact cannot be determined.

The possible answers to "relationship" self-tests will be increase (or increases depending on the word usage), decrease (decreases), or no change (have no impact). Care has been taken to avoid situations in which an answer cannot be determined. The answers to each of these fill-in-the-blanks is provided at the end of the assignment.

PART

1

Financial Institutions

My bank has assets in excess of $10 billion. My checking account may have $1,000 in it. I account for about 0.00001 percent of my bank's sources of funds. Just think how many depositors my bank must have in order to generate the money it has lent.

I own 500 shares of VF Corporation. At $70 a share, that is $35,000. Although $35,000 is sufficient to buy any of a number of consumer goods, it is a very small fraction of the total value of all VF Corporation shares. The firm has 110,100,000 shares outstanding for a total value of $7,707,000,000. My holdings are obviously a minute portion of the total.

Recently my family vacationed in Canada. We spent over $3,000 outside the United States, which added to the nation's deficit in its merchandise balance of trade. The amount we spent was small, however, when compared to the federal government's foreign aid programs or military spending abroad, which also contributed to the deficit in the balance of trade.

Hardly a day goes by that I do not have contact with a financial institution. The same is true for most individuals. They write and receive checks, make deposits and withdrawals from depository institutions,

buy and sell shares of stock in corporations and mutual funds, make contributions to pension plans, pay taxes, buy imported goods, and borrow funds from a variety of sources. Each of these acts involves contact with a financial institution.

The first part of this text discusses the financial environment and institutions with which we have so much contact. Some of these financial institutions facilitate the transfer of funds from lenders to borrowers (such as commercial banks), while others facilitate the exchange of securities from sellers to buyers (for example, the stock exchanges). Other financial institutions affect the level of income and the stability of consumer prices (such as the Federal Reserve), and yet another financial institution, the market for foreign currency, makes possible the exchange of foreign goods and services. The participants in these markets for financial products and services range from the large corporate giants and the federal government to the small corner store and the individual saver. Everyone reading this text is touched by these financial institutions, and increasing your knowledge of them by learning the material in Part 1 can help you to better function in today's financial environment.

CHAPTER 2

The Role of Financial Markets and Financial Intermediaries

In *Hamlet*, Polonius gave Laertes the advice to "neither a borrower nor a lender be." Participants in financial markets and financial intermediaries violate both parts of that advice. Financial intermediaries borrow from one group and lend to another, a process that channels resources into productive investments. Consider how firms would be constrained if they could not borrow funds to purchase plant and equipment or how individuals would be prevented from purchasing homes by borrowing funds through mortgage loans. This transfer of savings through financial intermediaries—from individuals with funds to firms, governments, and other individuals who need funds—is one crucial component of the financial system.

Financial markets perform two exceedingly important functions. Like financial intermediaries, financial markets facilitate the transfer of funds from savers to firms, governments, and individuals who use the funds. Financial markets, however, also facilitate the transfer of existing securities from sellers to buyers. You and I are willing to make investments because we know these investments may be subsequently sold through the financial markets.

This chapter sets the framework for the remaining chapters in this text. It begins with the roles of money and interest rates. This is followed by transfer of savings to investments and the purpose of financial intermediaries through which these savings are channeled to the ultimate users of the funds. (The process of transferring funds through investment banking and the "secondary" markets in existing securities is covered in the next two chapters.) In terms of the amount of outstanding loans, commercial banks are the most important financial intermediary. Commercial banks, however, must compete with other intermediaries such

as thrift institutions, life insurance companies, and money market mutual funds for the funds of savers. Attracting these savings is obviously important, since the individual intermediary can only lend what savers have lent it.

The bulk of this chapter provides a basic introduction to financial intermediaries. Emphasis is placed on commercial banks, their sources of funds, the types of loans they make, and regulation of the banking system. The subsequent sections consider life insurance companies and pension plans. And the chapter ends with money market mutual funds and money market instruments. Money market mutual funds offer individuals an alternative to the checking accounts, savings accounts, and savings certificates issued by banks and thrift institutions.

By acquiring shares in money market mutual funds, individuals are able to invest indirectly in a variety of short-term securities. Since these securities are usually issued in large denominations, most investors have insufficient funds to purchase them. By selling shares in small units, money market mutual funds permit individuals to participate in the market for money market securities. Since money market mutual funds tend to offer marginally higher yields than traditional savings accounts, shares in these funds have become a major competitor with other financial intermediaries for individuals' savings.

The Role of Money

Money
Anything that is generally accepted as a means of payment

Money is anything that is generally accepted in payment for goods and services or for the retirement of debt. This definition has several important words, especially *anything* and *generally accepted*. Anything may perform the role of money, and many different items, including shells, stones, and metals, have served as money. During the history of this country, a variety of coins and paper moneys have been used. The other important words are *generally accepted*. What serves as money in one place may not be money elsewhere. This fact is readily understood by anyone who travels abroad and must convert one currency to another. The paper that serves as money in Great Britain, called pounds, is not used as money in Paris, where European euros are used. A British traveler must convert pounds into euros to buy goods in Paris.

Money may also be used to transfer purchasing power to the future. In this second role, money acts as a store of value from one time period to another. Money, however, is only one of many assets that may be used as a store of value. Stocks, bonds, savings accounts, savings bonds, real estate, gold, and collectibles are some of the various assets that you may use to store value.

Liquidity
Ease of converting an asset into cash without loss; the depth of a financial market

While you may store value in these nonmonetary assets, you cannot buy goods and services with them. To do that, you must convert the assets into money. The ease with which an asset may be converted into money is its **liquidity**.

Unfortunately, the word *liquidity* is ambiguous. In some contexts it means ease of converting an asset into cash without loss. A savings account with a commercial bank is liquid, but shares of IBM would not be liquid, since you could sustain a loss. In other contexts, liquidity means ability to sell an asset without affecting its price. In that context, liquidity refers to the depth of the market for the asset. You may be able to buy or sell thousands of shares of IBM stock without affecting its price, in which case the stock is liquid. The context in which the word is used often indicates the specific meaning.

The power to create money is given by the Constitution to the federal government. Congress established a central bank, the Federal Reserve System, and gave it power to control the supply of money and to oversee the commercial banking system. Initially it was not the intent of Congress to create a central bank, for the Federal Reserve Act of 1913 established 12 district banks. The Federal Reserve was reorganized by the Banking Acts of 1933 and 1935 to become the central bank known today. Although the Federal Reserve has control over the supply of money, most of the money supply is produced through the creation of loans by the banking system. (The Federal Reserve and the process of loan creation are explained in Chapter 5.)

Measures of the Supply of Money

Money supply
Total amount of money in circulation

M-1
Sum of coins, currency, and demand deposits

M-2
Sum of coins, currency, demand deposits, savings accounts, and small certificates of deposit

There are several measures of the composition of the **money supply**. The traditional measure (commonly referred to as **M-1**) is the sum of coins and currency in circulation outside of banks plus demand deposits (including interest-bearing checking accounts and travelers' checks) held by the general public in all depository institutions. A broader definition of the supply of money (commonly referred to as **M-2**) includes not only demand deposits, coins, and currency but also regular savings accounts and small certificates of deposit (less than $100,000). The actual amount of money outstanding depends on which definition is used. As of January 2010, the Federal Reserve reported that M-1 and M-2 were:

	M-1	M-2
Coin and currency	$ 861.2	$ 861.2
Demand deposits	438.1	438.1
Other checkable deposits (e.g., NOW accounts)*	376.4	376.4
Travelers' checks	5.1	5.1
Savings accounts and time deposits	–	4,855.9
	$1,680.8	$6,536.7

*NOW stands for "negotiable order of withdrawal."

Source: Summary monetary statistics are available in the Federal Reserve Bulletin. Detailed data is available at the Federal Reserve's Web site **http://www.federalreserve.gov**.

As may be seen in the preceding data, savings accounts constitute about 74 percent of the money supply when the broader definition (M-2) is used. This broader definition of the money supply is preferred by those economists and financial analysts who stress the ease with which individuals may transfer

funds among the components of M-2. Individuals may transfer funds from a savings account or time deposit into a checking account. Such a movement increases M-1, because demand deposits have risen, but the transaction has no impact on M-2, because the increase in demand deposits is offset by the decline in the other account.

In summary, money is crucial to an advanced economy, for it facilitates the transfer of goods and resources. An advanced economy could not exist without something to perform the role of money. Since a large proportion of the money supply consists of deposits in various depository institutions, the student of finance should understand financial markets, the banking system, and their regulation.

The Role of Interest Rates

The words *money* and *interest* are often used together, but their meanings differ and they perform different roles. Money is a medium of exchange; its value is related to what it will purchase. Interest is the cost of credit; it is the price paid for the use of someone else's money.

The cost of credit is often expressed as a percentage, that is, the *rate* of interest. Interest rates help allocate scarce credit among competing uses for the funds. Higher interest rates increase the cost of credit and should discourage borrowing, so that the scarce credit is directed toward its best usage.

As is discussed throughout this text, there are many types of loans (such as mortgage loans, trade credit, and bonds). In addition to many debt instruments, there are also many interest rates that reflect the amount borrowed, the length of time the borrower will have the use of the funds, and the creditworthiness of the borrower. Generally, the longer the term of the debt and the riskier (or less creditworthy) the debt instrument, the higher will be the rate of interest.

Debt, and hence interest rates, is often classified as short or long term. The time period is arbitrarily established at one year. *Short-term* refers to a year or less. *Long-term* refers to greater than a year. (Debt that matures in one to ten years is sometimes referred to as intermediate term.) Of course, with the passage of time, long-term debt instruments become short-term when they mature within a year.

Financial markets have an analogous classification. The "money market" refers to the market for low-risk, large-denomination debt instruments that mature within a year. The "capital market" refers to securities with a longer-term horizon. In the case of a bond or mortgage loan, the term may be 10, 20, or more years. In some cases, such as common stock, the time dimension is indefinite. A corporation may exist for centuries. Many of the nation's banks, such as Citicorp, were started in the 1700s or early 1800s. Industrial firms such as AT&T, Coca-Cola, and ExxonMobil commenced operations in the 1800s.

Term structure of interest rates
Relationship between yields and the time to maturity for debt with a given level of risk

Yield curve
Graph relating interest rates and the term to maturity

The Term Structure of Interest Rates

The relationship between interest rates (the cost of credit) and the length of time to maturity (the term) for debt in a given risk class is referred to as the **term structure of interest rates**. This structure is illustrated by a **yield curve**,

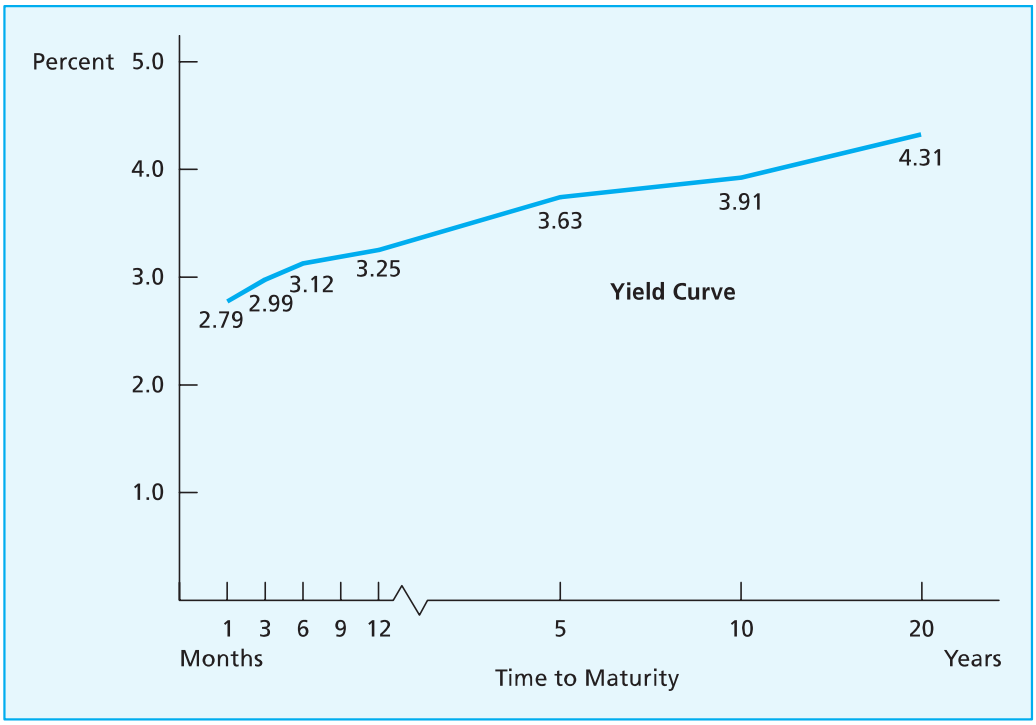
which relates the yield on debt instruments with different terms to maturity. Such a yield curve is illustrated in Figure 2.1, which plots the yield on various U.S. government securities as of June 2005. This figure shows that the bonds with the longest term to maturity have the highest interest rates. For example, short-term securities with three months to maturity had yields of 2.99 percent, five-year bonds paid 3.63 percent, and bonds that matured after 20 years paid 4.31 percent.

Although the positive relationship between time and interest rates illustrated in Figure 2.1 does usually exist, there have been periods when the opposite occurred. During 1981, short-term rates exceeded long-term rates; the yield curve became inverted and had a negative slope. This is illustrated in Figure 2.2. Securities maturing in less than a year had yields exceeding 14 percent, while long-term debt that matured after ten years yielded 13 percent.

Such a yield curve can be explained by inflation and the action of the Federal Reserve to curb rising prices. As is explained in Chapter 5, the Federal Reserve fights inflation by selling short-term federal government debt securities. Such sales absorb credit by reducing the supply of money and the capacity of banks to lend because paying the Federal Reserve for the securities pulls money out of the banking system.

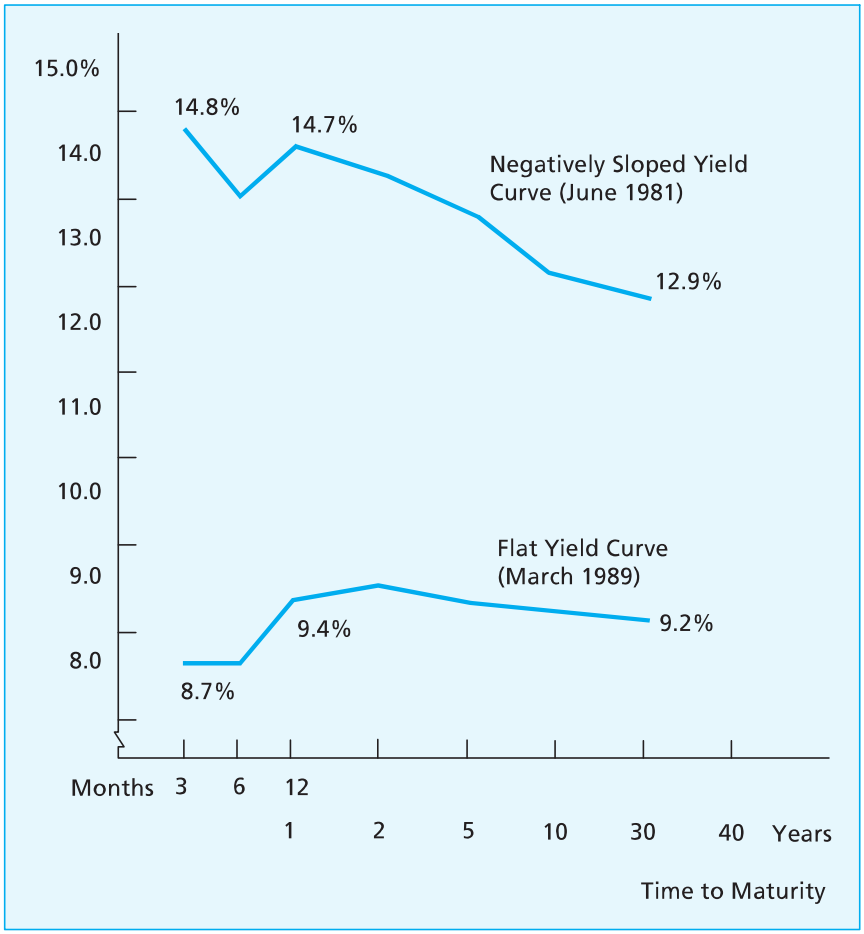
The sales depress securities prices and increase their yields. While the yields on all debt instruments respond to changes in the supply of credit, the Federal Reserve's selling of short-term securities has the most impact on short-term rates.

FIGURE 2.1
Positively Sloped Yield Curve (June 1, 2005)



Source: Federal Reserve data on yields available at **http://www.federalreserve.gov**.

FIGURE 2.2
Yield Curves (Yields on Federal Government Securities)



Source: Data on yields derived from the Federal Reserve at **http://www.federalreserve.gov**.

In the illustration in Figure 2.2, short-term yields rose above long-term rates, resulting in an "inverted" yield curve. When the rate of inflation abated, the yield curve returned to the positive slope that it has maintained during most periods.

There have also been periods when the yield curve was relatively flat. Such a structure is also illustrated in Figure 2.2 by the yield curve for March 1989. The yield on short-term debt with three to six months to maturity was approximately 8.7 percent, and the rate on 30-year bonds was 9.2 percent. While the long-term rate did exceed the short-term rate, the small difference produced a gently rising, almost flat, yield curve.

Financial Markets and the Transfer of Savings

After working and earning income, my Auntie Bea's advice was to "spend a little, give a little, and save a little." Each year I take that advice. After I decide not to spend and to save, I have to make an additional decision: what to do with my savings. Should I put the funds in a bank or buy stock or shares in

a mutual fund? I'm not going to let the funds sit idle. I want to put them to productive use to earn a return.

This process is not limited to individuals. Firms also have savings. Earnings that are not distributed and retained are saved, and management will have to decide what to do with the savings. Perhaps the funds will be used for investments in plant and equipment and other productive assets. Management could also invest the funds in financial assets for short periods of time prior to the acquisition of assets such as plant and equipment. The financial managers of governments go through the same thought process. The government collects tax revenues but does not necessarily spend the funds immediately. The funds may be placed in short-term investments to earn a return. The same principles apply to nonprofit organizations such as charitable foundations. In each case, the current savings are invested to earn a return.

When I spend my income, the funds are returned to the economy, and presumably they are returned when I give to charities. Savings are not spent; they represent a command over resources that I am not using. How are these funds returned to the economy? The answer revolves around the role of financial markets. Financial markets are the mechanism to transfer these savings to productive uses. The process of transferring savings into investments is a primary, perhaps the most important, function of the financial system. The process of transferring savings into investments leads to the creation of financial claims such as stock and debt instruments such as bonds. These securities are issued to tap the various sources of savings.

Two basic methods exist for transferring funds from savers to users. First is the direct investment. This transfer occurs when you start your own business and invest your savings in the operation. A direct transfer also occurs when securities are initially sold to investors in the "primary" market. Firms and governments issue securities, which may be sold directly to the general public through investment bankers. (The process of issuing and selling securities through investment bankers is covered in the next chapter.)

Once the securities are created, they may be subsequently bought and sold ("traded"). A second important purpose of financial markets is the creation of markets in *existing* securities. These "secondary" markets, however, do not transfer funds to the users of funds; they transfer ownership of securities among various investors. Sellers trade their securities for cash, and buyers trade cash for the securities. (Secondary markets are not limited to financial assets. The markets for land or antiques are secondary markets. No new assets are created; there is only the transfer of ownership of an existing asset.) Trading in existing securities through secondary markets such as the New York Stock Exchange receives substantial coverage in the financial press and is covered in Chapter 4.

The Indirect Transfer Through Financial Intermediaries

When new securities are issued, funds are directly transferred from savers to firms. While the ultimate effect is the same, the transfer through financial intermediaries is less direct. The funds are initially lent to the intermediary, and the intermediary subsequently lends the funds to the ultimate users. To obtain the

funds, the financial intermediaries create *claims on themselves*. This creation of claims is an important distinction. An investment banker facilitates an initial sale; securities brokers and secondary markets facilitate subsequent sales. Investment bankers, brokers, and securities exchanges do not create claims on themselves. They are not financial intermediaries but rather function as middlemen who facilitate the buying and selling of new and existing securities.

When a saver deposits funds in a financial intermediary such as a bank, that individual receives a claim on the bank (the account) and not on the firm (or individual or government) to whom the bank lends the funds. If the saver had lent the funds directly to the ultimate users and they failed, the saver would sustain a loss. This loss may not occur if the saver lends the money to a financial intermediary. If a financial intermediary makes a bad loan, the saver does not sustain the loss unless the financial intermediary fails. Even then the saver may not sustain a loss if the deposits are insured. The combination of the intermediary's diversified portfolio of loans and the insurance of deposits has made financial intermediaries a primary haven for the savings of many risk-averse investors. (Diversification is an important topic in finance and is covered at length in Chapter 8 on the analysis of risk.)

To tap these savings, a variety of intermediaries has evolved. These include commercial banks, thrift institutions (savings and loan associations, mutual savings banks, and credit unions), and life insurance companies. Many savers are probably not aware of the differences among these financial intermediaries. They offer similar services and pay virtually the same rate of interest on deposits.

This blurring of the distinctions among the various financial intermediaries is the result of changes in the regulatory environment. Under the Depository Institutions Deregulation and Monetary Control Act of 1980 (more commonly referred to as the Monetary Control Act of 1980), all depository institutions (commercial banks, savings and loan associations, mutual savings banks, and credit unions) became subject to the regulation of the Federal Reserve. The Federal Reserve's powers extend to the types of accounts these institutions may offer and the amount that the various depository institutions must hold in reserve against their deposits.

Although the Federal Reserve has supervisory power over depository institutions' portfolios, the Monetary Control Act of 1980 gave the managements of various financial institutions more flexibility to vary their loan portfolios. In addition, each depository institution was granted the right to borrow funds from the Federal Reserve. The net effect of these reforms has been to reduce the differentiation among the various types of financial intermediaries. Thus, for most individuals the difference between the local commercial bank and the local savings and loan association is slight.

Commercial Banks

In terms of size, commercial banks are the most important depository institution. The total amount of deposits and loans made by commercial banks is given in Exhibit 2.1. Commercial banks' importance to business is evident, as loans to firms exceeded $1,279 billion and accounted for 10.9 percent of

commercial banks' total assets. Commercial banks are also a prime source of funds to consumers, with consumer loans accounting for 6.9 percent of banks' total assets. Most of the loans to firms and households are for a relatively short term (for instance, less than one to five years to maturity). Commercial banks tend to stress loans that must be paid off ("mature") quickly. This emphasis on short maturities is the result of the rapid turnover of bank deposits (especially demand deposits) and the need for banks to coordinate their portfolios with changes in the economic environment and the level of interest rates.

The primary liabilities of commercial banks are their deposits: checking accounts (demand deposits) and various types of savings and time deposits. These deposits constitute 49.3 percent of the banks' sources of finance. Demand deposits are payable on demand. The owner of a checking account may demand immediate cash, and funds in the account may be readily transferred by check.

EXHIBIT 2.1
Assets and Liabilities of Commercial Banks as of January 2010 (in billions)

Assets		
Cash (currency and coins), cash items in process, and deposits with the Federal Reserve	$ 1,314.1	11.2%
U.S. government securities	1,447.4	12.3
Other securities	891.4	7.6
Loans		
Commercial and industrial	$ 1,279.6	10.9
Real estate	3,757.0	32.0
Loans to individuals	813.4	6.9
Interbank and other loans	219.4	1.9
Other assets	2,051.2	17.4
	$11,753.5	100.0%
Liabilities		
Demand deposits, savings accounts and CDs	$ 5,799.5	49.3
Large time deposits	1,888.9	16.1
Other borrowings and liabilities	2,794.8	23.8
Equity (net worth)	1,270.3	10.8
	$11,735.5	100.0%

Source: Data available at the Federal Reserve Web site **http://www.federalreserve.gov**.

Certificate of deposit (CD)
Time deposit issued by a bank with a specified interest rate and maturity

Negotiable CD
Certificate of deposit issued in amounts of$100,000 or more whose terms are individually negotiated between the bank and the saver and for which there exists a secondary market

Savings accounts, money market accounts, and certificates of deposit are interest-bearing accounts. Funds deposited in a regular savings account may be withdrawn at will. Time deposits, which are referred to as **certificates of deposit** (or **CDs**, as they are commonly called), are issued for a fixed term, such as six months or two years. The saver may redeem the CD prior to maturity but must pay a penalty, such as the loss of interest for one quarter. For CDs issued in denominations of $100,000 or larger, the rate of interest and the length of time to maturity are mutually agreed upon by the bank and the saver with the funds. These "jumbo CDs" may be subsequently sold, as there is a secondary market in CDs with denominations exceeding $100,000. Since large-denomination CDs may be bought and sold, they are often referred to as **negotiable CDs** to differentiate them from smaller-denomination CDs, which cannot be sold but may be redeemed prior to maturity (usually with a penalty).

For denominations of less than $100,000, the bank establishes the terms and offers the CD to the general public. If the public finds the terms unattractive (perhaps the rate of interest is less than that offered by competing banks), the bank does not receive deposits. Thus, it is not surprising that the terms offered by one bank are similar to the terms offered by competing banks; differences tend to be small or very subtle, such as the frequency with which interest is added to the principal. (The more frequently the interest is added, or compounded, the more interest the depositor earns, as interest earns additional interest.)

The remaining liabilities of the commercial bank include other borrowings from a variety of sources. For example, commercial banks borrow from each other and borrow from the Federal Reserve. The last entry on the commercial bank's balance sheet in Exhibit 2.1 is stockholders' equity, which represents the stockholders' investment in the firm.

While Exhibit 2.1 shows the various sources of funds available to commercial banks, it also illustrates that the various types of deposits are the most important. Checking and savings accounts and time deposits constitute almost 50 percent of the banks' sources of finance. The exhibit also indicates that total deposits greatly exceed stockholders' equity. Commercial banks have a large amount of debt outstanding when it is realized that the deposits are loans to the banks by households, firms, and governments.

Thrift Institutions

As the name implies, thrift institutions are a place for savers, especially individuals with modest sums, to deposit funds. The money is then loaned by the thrift to borrowers in need of the funds. There are essentially two types of thrifts: mutual savings banks and savings and loan associations (S&Ls). Mutual savings banks developed in the early 1800s to encourage savings. Many had colorful names (for example, Merchant Seaman's Bank) that indicated their origins. A mutual savings bank is owned by its depositors, but the bank itself is managed by a board of trustees. While a mutual savings bank may

view its depositors as owners and not creditors, the owners may readily withdraw their funds. Thus, mutual savings banks must have sufficient liquidity to meet withdrawals.

Savings and loan associations developed later, primarily as a source of mortgage loans. Initially, S&L members (depositors) pooled their money to build housing. (The members were, in effect, the owners of the S&L.) Members borrowed the funds and when all the borrowed funds were repaid, the association was dissolved. Since these S&Ls were self-liquidating, they could not grow. They simply served a specific need of their members.

Today the S&L has evolved into a thrift institution that accepts deposits from anyone and makes a variety of loans. S&Ls, however, continue to place more emphasis on mortgage loans than do commercial banks. To attract deposits, S&Ls (and other thrifts) tend to pay a rate of interest that is slightly higher than the rates paid by commercial banks.

Regulation of Commercial Banks and Thrift Institutions

Commercial banks and other savings banks are subject to government regulation, whose purpose is to protect the banks' creditors, especially their depositors. The very nature of banking implies that when a commercial bank fails, substantial losses could be sustained by the bank's depositors. This is exactly what occurred during the Great Depression of the 1930s, when the failure of many commercial banks imposed substantial losses on depositors. These losses led to increased regulation of commercial banks and the establishment of federal deposit insurance, both of which are designed to protect depositors. Such protection promotes a viable banking system and eases the flow of savings into investment.

The regulation of banks comes from both state and federal banking authorities and the Federal Deposit Insurance Corporation. Banks that have national charters must join the Federal Reserve and are subjected to its regulation as well as to examination by the Comptroller of the Currency, which is the federal agency that grants national bank charters. Banks with state charters are regulated by the individual state banking commissions and are subject to regulation by the Federal Reserve. These various authorities regulate and supervise such facets of a bank's operations as its geographic location, the number of banks and branches in an area, and the types of loans and investments the bank may make.

Reserves

Required reserves
Funds that banks must hold against deposit liabilities

Commercial banks and all other depository institutions (savings and loan associations, mutual savings banks, and credit unions) must keep funds in reserve against their deposit liabilities (that is, **required reserves**). The minimum amount that all banks must maintain as a reserve is determined by the Federal Reserve. While holding reserves against deposit liabilities may

increase the safety of the deposits, such safety is not the prime reason for having reserve requirements. As will be explained in Chapter 5, the reserve requirement is one of the tools of monetary control. This element of control, not safety, is the reason for having a reserve requirement against the deposit liabilities of banks.

The amount of the reserve requirement varies with the type of account. For example, as of January 2010, checking accounts had a reserve requirement of 10 percent. (The first $55.2 million in checking accounts have a reserve requirement of 3 percent.) Time deposits have no reserve requirements.

Commercial banks may hold their reserves in two forms: (1) cash in the vault or (2) deposits with another bank, especially the Federal Reserve. If the bank's reserve requirement is 10 percent for demand deposits and the bank receives $100 cash in a checking account, it must hold $10 in reserve against the new demand deposit. The entire $100 in cash is considered part of the bank's total reserves, but the bank must hold only $10 against the deposit liability. The bank may choose to hold $1 of the required reserves in cash in the vault (to meet cash withdrawals) and $9 in the Federal Reserve. The remaining $90 are funds that the bank does not have to hold in reserve. In this example, these **excess reserves** (the difference between the bank's total reserves and its required reserves) total $100 − $10 = $90. A commercial bank's excess reserves may be lent to borrowers or used for some other purpose, such as purchasing government securities. If a commercial bank does not have any excess reserves, it is said to be "fully loaned up." To acquire additional income-earning assets, such as a government security or a business loan, the bank would have to acquire additional excess reserves.

Excess reserves
Reserves held by a bank in excess of those it must hold to meet its reserve requirement

Commercial banks (and other depository institutions) may deposit their reserves in a Federal Reserve bank, or they may deposit their reserves in other banks called **correspondent banks**. Correspondent banks in many cases are large, metropolitan commercial banks. These large correspondent banks frequently provide additional services. For example, they have efficient mechanisms for clearing checks that facilitate check clearing for smaller banks. The correspondent banks also have research staffs and give management advice and investment counsel. Thus, they are important to the well-being of the small, local banks. Of course, the correspondent banks are willing to provide these services because a small bank's deposits are like any other deposits: they are a source of funds that the larger banks may use. The large commercial banks use the funds deposited in them by small banks to purchase income-earning assets.

Correspondent bank
Major bank with which a smaller bank has a relationship to facilitate check clearing and to serve as a depository for reserves

In addition to the required reserves, commercial banks also hold **secondary reserves**. These are high-quality, short-term marketable securities such as U.S. government securities (Treasury bills) that may be readily sold. Thus, short-term marketable securities offer a bank both a source of interest income and a means to obtain funds quickly to cover a shortage in its reserves.

Secondary reserves
Short-term securities, especially Treasury bills, held by banks to increase their liquidity

The importance of reserves and reserve requirements cannot be exaggerated. The commercial banking system, through the process of loan creation, can expand or contract the nation's supply of money. The ability of commercial banks and other depository institutions to lend depends on their excess

reserves. Thus anything that affects their reserves alters their ability to lend and create money and credit. Many financial transactions affect commercial banks' reserves, including the federal government's methods of financing a deficit or the open market operations of the Federal Reserve.

Deposit Insurance

Federal government deposit insurance is one of the positive results of the Great Depression of the 1930s. The large losses sustained by commercial banks' depositors led to the establishment of the Federal Deposit Insurance Corporation (FDIC). The establishment of FDIC has significantly increased the general public's confidence in the banking system. As of this writing, FDIC insures deposits to $250,000. Thus, if a commercial bank should fail, FDIC will reimburse depositors up to the $250,000 limit. Since most individuals do not have that much on deposit, these individuals know that their funds are safe. (If you have more than $250,000, you may obtain the same degree of safety by placing amounts up to $250,000 in different banks.) The $250,000 limit does mean that large depositors, including many corporations, are not fully insured and do stand to take losses should a bank fail.

All commercial banks that are members of the Federal Reserve System must purchase insurance from FDIC, and many state banking authorities also require that FDIC insurance be carried by their state nonmember banks. However, some state banking authorities do not require federal deposit insurance. Also foreign banks that are licensed to operate in the United States do not have to carry FDIC insurance.

Besides offering deposit insurance, FDIC has further increased public confidence in the banking system through its powers of bank examination. By exercising this power to examine banks, FDIC, along with other regulatory agencies, has improved bank practices. The improved bank practices plus the deposit insurance have improved the quality of banking. However; the establishment of FDIC and other regulatory agencies has not eliminated bank failures, for banks do fail.

Such failures became common occurrences as a result of the financial crisis that started in 2008. During 2007, only three banks failed. However, the number of bank failures increased to 25 during 2008 and rose dramatically to 140 during 2009. An additional 90 failures occurred during the first six months of 2010. While most of these failures were small banks, losses were not sustained by the many individuals who deposited modest sums with the failed commercial banks. If necessary, such depositors received full reimbursement by FDIC. Thus, for most individuals, depositing funds in a commercial bank does not subject the funds to risk of loss.

If a bank does fail, FDIC generally seeks to merge that bank into a stronger bank. The transfer of deposits saves FDIC from having to reimburse depositors. For example, when Washington Mutual failed during 2008, its assets were acquired by JPMorgan Chase. Its depositors and customers became

depositors and customers of the acquiring bank. There was no interruption of banking services, and depositors did not sustain losses. If, however, such a merger cannot be arranged, the failed bank may be liquidated, in which case the depositors receive reimbursement up to the legal limit.

Life Insurance Companies

Life insurance companies also perform the role of a financial intermediary because they receive the funds of savers, create a claim on themselves, and lend the funds to borrowers. Since other types of insurance companies do not perform this financial intermediary role, a distinction has to be made between them and life insurance companies. Other types of insurance, such as property and liability insurance, are exclusively services that the individual buys. The price of the insurance is related to the cost of the product, just as the cost of any service, such as a movie or an electrician, is related to the cost of producing the service. Of course, the property and liability insurance companies invest the funds they receive from policyholders. However, suppliers of other services will also use the funds they receive. In neither case is there a transfer of savings to borrowers.

The feature that differentiates life insurance from other forms of insurance and makes life insurance companies financial intermediaries is that life insurance may provide more than insurance against premature death. Ordinary and universal life insurance policies and endowments contain two elements, the insurance and a savings plan. The policy's premiums cover both the cost of the insurance and the savings program. As long as the policy is in force, the policy accumulates cash value, which is the savings component of the policy. Many savers find such policies attractive because the periodic payments assure them of insurance plus a savings program. Others find them unattractive because the interest rate paid on the savings may be less than can be earned on alternative investments.

Life insurance companies use the proceeds from the policies to acquire income-earning assets. While life insurance companies compete with commercial banks for granting loans, they serve different financial markets. Commercial banks stress short-term, liquid loans and are a primary source of short-term finance. Life insurance companies, however, do not need to stress short-term liquidity. Mortality tables are scientifically constructed. A life insurance company can predict with accuracy the volume of death benefits that the company will have to pay and can construct a portfolio of long-term assets that meets the forecast benefits. Since long-term investments tend to earn higher interest rates than short-term debt, a life insurance company will seek to have a substantial amount of its funds in these more profitable investments. This strategy is illustrated in Exhibit 2.2, which presents selected assets for MetLife. The value of MetLife's long-term bond portfolio is almost 27 times the size of its holdings of cash and other short-term securities. (The features of these various debt instruments are covered in Chapter 12.)

EXHIBIT 2.2
Selected Assets of MetLife (in millions) as of December 31, 2009

Long-term bonds		
Treasury bonds	$ 25.4	11.1%
State and local government bonds	7.2	3.2
Corporate bonds	104.9	46.1
Foreign government bonds	11.9	5.2
Mortgage-backed securities	72.8	32.0
Other bonds	5.4	2.4
Total bonds	$227.6	100.0%
Other investments		
Mortgages	$ 50.9	
Stock	3.1	
Cash and cash equivalents	8.3	

Source: 2009 MetLife 10-K Report.

Pension Plans

The role of a pension plan is to accumulate assets for workers so that they will have funds for retirement. Funds are periodically put in the pension plan by the saver, the employer, or both. The money deposited with the fund then is used to purchase income-earning assets. The saver's funds grow over time as additional contributions are paid into the pension plan, and the funds already in the plan earn income and appreciate in value.

Many pension plans exist, but not all of them really perform the function of financial intermediaries. Many pension plans do not invest or lend the money directly to borrowers. Instead they may purchase *existing* securities, such as the stock of IBM; that is, the pension plan participates in the secondary, not the primary, market for securities. For a pension plan to serve as a financial intermediary, it must pass the funds directly to a borrower or invest them directly in a firm.

This distinction between pension plans may be illustrated by the pension plans used by many colleges and universities for their employees. Funds may be contributed by both the employer and the employee to the Teachers Insurance and Annuity Association (TIAA) or to the College Retirement Equity Fund (CREF). The actual dollar amount of the contribution varies with the school and the employee's salary. The funds may be contributed to either plan or may be split between the two plans.

CREF primarily purchases existing corporate stock. Money that flows into CREF does not go to the companies that issued the stock. Instead, the money goes to the seller of the stock, who may have purchased the shares many years ago. TIAA purchases an entirely different type of portfolio that stresses debt,

especially mortgages. In this case funds are transferred from savers to borrowers, and the pension plan is acting as a financial intermediary. It creates a claim on itself when it receives the savers' funds, and it receives a claim from borrowers when the funds are lent to finance purchases. The transfer of purchasing power from saver to borrower by an intermediary that creates claims on itself is the role of a financial intermediary. Hence, TIAA is an example of a pension plan that does serve as a financial intermediary.

Money Market Mutual Funds and Money Market Instruments

One of the most important financial institutions is the mutual fund that invests on behalf of individuals. However, most of these funds are not financial intermediaries in the sense that they borrow from savers and lend the funds to the ultimate users. It is true that they do create claims on themselves, since investors own shares in the funds (in other words, the investors own equity claims). Whether the fund is a financial intermediary depends on what it does with the money raised by selling the shares: Does it acquire newly issued securities or buy previously issued securities?

If the fund buys securities in the secondary markets, it is not serving as a financial intermediary. No money is transferred to a firm, government, or individual seeking to borrow funds. Instead, the money is transferred to another investor who is seeking to liquidate a position in the particular security.

Of course, a mutual fund could buy newly issued securities. Some funds specialize in purchasing shares of emerging and new firms, and to the extent that these funds participate in the primary market, they are operating as financial intermediaries. Other mutual funds specialize in government securities, which may be purchased when the bonds are issued. Such funds also serve as financial intermediaries, transferring the money of savers to the ultimate users of the money. Most mutual funds, however, do not serve as financial intermediaries, as they primarily buy and sell existing securities.

Money market mutual fund
Investment company that invests solely in short-term money market instruments

Even though most mutual funds are not financial intermediaries, there is one major exception—the **money market mutual fund** that acquires short-term securities. While these are secondary markets in some money market instruments, money market mutual funds tend to acquire newly issued short-term debt instruments. These securities are then held until they are redeemed at maturity, at which time the process is repeated.

The development of these funds and their explosive growth was one of the most important developments in the financial markets. The initial growth was nothing short of phenomenal, as total assets rose from less than $10 billion in 1975 to over $1.6 trillion in 30 years. This immediate popularity may be explained by three factors: safety of principal, liquidity, and interest rates that exceed the rates paid by banks. The shares are safe since the money funds acquire short-term debt obligations whose values are subject to minimal price fluctuations. In addition, these debt obligations tend to have high credit ratings, so there is minimal risk of default. Individuals may withdraw money

invested in the money funds (that is, redeem shares) at will. This ease of converting to cash with minimal chance of loss means these shares are among the most liquid assets available to savers.

The money funds invest in a variety of short-term securities that include the negotiable CDs discussed earlier. Other money market instruments include the short-term debt of the federal government (Treasury bills), commercial paper issued by corporations, repurchase agreements (commonly referred to as repos), banker's acceptances, and tax anticipation notes. Of course, the individual investor may also directly acquire these securities, but the large denomination of some short-term securities (for example, the minimum denomination of negotiable CDs is $100,000) excludes most investors.

U.S. Treasury bill (T-bill)
Short-term debt instrument issued by the federal government

The safest short-term security is the **U.S. Treasury bill** (commonly referred to as a **T-bill**), which is issued by the federal government. Before the political confrontation over the federal budget in 1995, there was no question that the federal government would retire the principal and pay the interest on its obligations. (The pricing of T-bills and the calculation of yields earned on the bills and other discounted short-term securities are covered in Chapter 25.) The short term of the bills also implies that if interest rates were to rise, the increase would have minimum impact on the bills, and the quick maturity means that investors could reinvest the proceeds in the higher-yielding securities.

Commercial paper
Unsecured short-term promissory notes issued by the most creditworthy corporations

Commercial paper is an unsecured short-term note issued by a corporation as an alternative to borrowing funds from commercial banks. Since the paper is usually unsecured, only firms with excellent credit ratings are able to sell it; hence, the risk of default is small, and the repayment of principal is virtually assured.

Repurchase agreement (repo)
Sale of a short-term security in which the seller agrees to buy back the security at a specified price

A **repurchase agreement (repo)** is a sale of a security in which the seller agrees to buy back (repurchase) the security at a specified price at a specified date. Repos are usually executed using federal government securities, and the repurchase price is higher than the initial sale price. The difference between the initial sale price and the repurchase price is the source of the return to the holder of the security. By entering into the repurchase agreement, the investor (the buyer) knows exactly how much will be made on the investment and when the funds will be returned.

Banker's acceptances
Short-term promissory note guaranteed by a bank

Banker's acceptances are short-term promissory notes guaranteed by a bank. These acceptances arise through international trade. Suppose a firm ships goods abroad and receives a draft that promises payment after two months. If the firm does not want to wait for payment, it can take the draft to a commercial bank for acceptance. Once the bank accepts the draft (and stamps it "accepted"), the draft may be sold. The buyer purchases the draft for a discount, which becomes the source of the return to the holder. Bankers' acceptances are considered to be good short-term investments because they are supported by two parties: the firm on which the draft is drawn and the bank that accepts the draft.

Tax anticipation note
Short-term government security secured by expected tax revenues

Tax anticipation notes are issued by states or municipalities to finance current operations before tax revenues are received. As the taxes are collected, the proceeds are used to retire the debt. Similar notes are issued in anticipation of

EXHIBIT 2.3
Distribution of Money Market Mutual Funds' Assets as of January 2010 (in billions)

Commercial paper	$ 511.8	27.6%
U.S. government and agency securities	257.7	13.9
Repurchase agreements	159.5	8.6
Eurodollar certificates of deposit	98.3	5.3
Negotiable certificates of deposit	571.1	30.8
Corporate notes	115.0	6.2
Other	139.1	7.5
	$ 1,852.5	100.0%

Source: Derived from *Investment Institute 2010 Mutual Fund Fact Book,* available at the Investment Company Institute Web site **http://www.ici.org**.

revenues from future bond issues and other sources, such as revenue sharing from the federal government. While these anticipation notes do not offer the safety of Treasury bills, the interest is exempt from federal income taxation. (The interest paid on debt issued by state and local governments is exempt from federal income taxation. These securities are discussed in Chapter 12 on bonds.) Commercial banks and securities maintain secondary markets in them, so the notes may be sold if the firm needs cash.

In addition to domestic short-term securities, money market mutual funds invest in Eurodollar certificates of deposit (Eurodollar CDs). These are similar to domestic negotiable CDs except they are issued either by branches of domestic banks located abroad or by foreign banks. Like domestic negotiable CDs, Eurodollar CDs are *denominated in U.S. dollars*, and they may be bought and sold because a secondary market exists. Eurodollar CDs offer a small yield advantage because they are not quite as liquid as domestic negotiable CDs and because they carry the additional risk of being issued in a foreign country.

Money market mutual funds can invest in any of the preceding money market instruments (negotiable certificates of deposit, Treasury bills, commercial paper, repurchase agreements, banker's acceptances, and tax anticipation notes). Exhibit 2.3 shows aggregate distribution of money market fund assets. As may be seen in the exhibit, commercial paper and negotiable CDs constitute about half of these funds' assets, so the money funds are a major source of finance to the government and corporations.

Although the money funds as a whole own a wide spectrum of money market instruments, some of the funds do specialize. Schwab U.S. Treasury Money Fund, for example, invests solely in U.S. government securities or securities that are collateralized by obligations of the federal government. Other Schwab money funds invest in a wider spectrum of short-term debt obligations. For example, as of December 31, 2009, Schwab Money Fund had 14.0 percent of its assets in federal government agency obligations, 39.8 percent in negotiable CDs, 29.6 percent in commercial paper, and the remaining percentage in various other short-term assets, such as repurchase agreements.

Competition for Funds

A commercial bank or any financial intermediary can lend only what has been lent to it. Unless the bank is able to induce individuals, firms, and governments to make deposits, that bank will be unable to grant loans and make investments. This general statement holds for all financial intermediaries. None can make investments without a source of funds. Whether these claims on the intermediaries are called life insurance policies or savings accounts or shares in money market mutual funds, the essential point remains the same. No financial intermediary can exist without its sources of funds.

Conversely, if funds flow out of financial intermediaries, all intermediaries will be able to hold fewer assets (that is, make fewer loans). Unless the outflow is reversed, it will tend to increase the cost of credit as the intermediaries raise the rates of interest they charge in order to ration their remaining lending capacity.

In addition to the aggregate flows into and out of all financial intermediaries, credit markets may feel the impact of flows among financial intermediaries. Funds deposited in one particular bank are not deposited in another competitive bank. If an individual saver has funds to invest and chooses a money market mutual fund instead of the local savings and loan association, it is the mutual fund that can lend the funds and not the savings and loan association. From the standpoint of the borrowers, it would not matter which intermediary makes the loans if all financial intermediaries had similar portfolios. But the portfolios of various financial intermediaries do vary.

These differences can have an important implication. A transfer of funds from one intermediary (for example, a savings and loan association) to another (such as a money market mutual fund) can have an important impact on the supply of credit available to a particular sector of the economy. Although the total supply of credit is unaffected (because the money market fund can lend only what the savings and loan association loses), there will be a redistribution of credit from those who borrow from savings and loan associations to those who borrow from the money funds. The money market mutual fund now has more funds to acquire short-term securities. Simultaneously, the flow of funds out of the savings and loan association reduces its capacity to grant mortgage loans. Such a redistribution of funds from savings and loan associations to money market mutual funds will be felt by the construction industry and home buyers as the supply of mortgage money declines.

As this discussion implies, financial intermediaries compete with each other for funds. This competition occurs through yields and services offered. If a particular intermediary did not offer competitive rates, funds would flow from it to those intermediaries offering higher yields. Thus, differentiation among the intermediaries on the basis of yields tends to be small.

Historically, financial intermediaries have been categorized on the basis of services or products offered. Today, however, this is only partially true. In the past, savers bought life insurance through insurance agents, bought stocks through securities brokers, and invested funds in a savings account in a bank. Those days of specialization are disappearing. Insurance agents, stockbrokers,

and bankers today offer a wide spectrum of services and financial products. For example, many commercial banks offer savers not only the traditional services of savings and checking accounts but other products as well, such as brokerage services (to compete with stockbrokers), money market accounts (to compete with money market mutual funds), and pension plans (to compete with insurance companies and mutual funds). Such product competition also applies to savings banks. Savings and loan associations offer a variety of savings accounts as well as checking accounts, life insurance, and brokerage services.

Summary

Financial markets transfer savings by individuals, firms, and governments into productive investments. This transfer occurs directly when new securities are issued or indirectly through financial intermediaries. Financial markets also transfer existing securities among investors.

Money is anything that is generally acceptable to pay for goods and services and to retire debt. Liquidity refers to the ease of converting nonmonetary assets into money. The narrow definition of the money supply (M-1) is the sum of coins, currency, and demand deposits. A broader definition (M-2) adds saving accounts and small certificates of deposit to M-1.

Interest rates help allocate scarce credit among competing uses for the funds. The structure of yields relates the interest rate to the length of time that the debt will be outstanding. The structure of yields is often summarized by a yield curve. Generally the yield curve is positively sloped, which indicates that the longer the borrower has the use of the funds, the greater is the cost of funds. However, there have been periods when the yield curve was negative and short-term rates exceeded long-term rates. There have also been periods when the yield curve was flat; short-term and long-term rates were equal and there was no differentiation between the cost of short-term and long-term funds.

Funds are transferred from savers to borrowers through a system of financial intermediaries.The intermediaries borrow from savers and then lend the funds to their ultimate users. Financial intermediaries include commercial banks, thrift institutions, life insurance companies, pension plans, and money market mutual funds. All financial intermediaries compete for funds, since an individual intermediary can acquire a portfolio of assets only if it can obtain funds. The deregulation of the banking system has increased competition among the various intermediaries and blurred the distinctions among them, allowing them to offer products and services that previously were the exclusive domain of a particular intermediary.

In terms of size, commercial banks are the most important financial intermediary. These banks make a variety of loans but tend to stress loans that are quickly repaid. Other financial intermediaries, such as savings and loan associations and life insurance companies, make longer-term loans.

Recent developments in financial intermediaries include the large growth in money market mutual funds. Money market mutual funds compete directly with banks; they offer the advantages of somewhat higher yields and almost comparable safety. While the shares are not federally insured as are the deposits in banks, the short-term nature of their portfolios affords the saver safety of principal.

Money marker mutual funds own a variety of short-term debt securities issued by corporations (commercial paper), commercial banks (negotiable CDs), and governments. Government short-term debt obligations include U.S. Treasury bills and tax anticipation notes. Other short-term money market instruments include repurchase agreements, banker's acceptances, and Eurodollar CDs. Each of these securities is a means for the issuer to raise short-term funds, and each is a place for investors, especially money market mutual funds, to commit funds for a short period of time.

Review Objectives

Now that you have completed this chapter, you should be able to

1. Define money and determine how the money supply is measured (pp. 15–17).
2. Develop a yield curve and contrast positive and negative yield curves (pp. 18–19).
3. Differentiate the direct and indirect transfer of savings to users of funds (pp. 19–21).
4. Enumerate the primary assets and liabilities of a commercial bank (pp. 21–23).
5. Describe several regulations that apply to the banking system (pp. 24–27).
6. Differentiate required and excess banks reserves (pp. 24–26).
7. Explain the role of FDIC (pp. 26–27).
8. Compare the assets of life insurance companies and commercial banks (p. 22 and p. 27).
9. Contrast the various money market instruments (pp. 29–31).

Relationships

1. An increase in currency _____ the supply of money (M-1).
2. Transferring funds in a demand deposit to a savings account _____ M-1 and _____ M-2.
3. During most periods of history, increasing the term of a loan (time to maturity) _____ the rate of interest.
4. Depositing cash in a checking account _____ required reserves.
5. Transferring funds in a savings account to a checking account _____ commercial banks' excess reserves.

6. If the Federal Reserve increases banks' reserve requirement, it _____ the banks' ability to lend.
7. If the Federal Reserve decreases banks' reserve requirement, existing bank deposits _____.

Answers

1. increases
2. decreases; does not affect (no change)
3. increases
4. increases
5. decreases
6. decreases
7. are not affected (no change)

CHAPTER

3

Investment Banking

Two basic methods exist for transferring funds from savers to users. The indirect transfer occurs through a financial intermediary such as a bank. You lend funds to the bank, which in turn lends the funds to the ultimate borrower. (The role of commercial banks and the various types of financial intermediaries was covered in Chapter 2.) The alternative is the direct sale of securities to investors in the primary market.

While most purchases of stocks (and bonds) occur in the secondary markets such as the New York Stock Exchange, the initial sales occur in the primary markets. The primary and secondary markets perform different functions, but both are important financial institutions. Secondary markets increase your willingness to buy securities and primary markets are the means by which your savings are transferred to firms and governments.

The initial sale of a security in the primary market is often executed with the assistance of investment bankers. While this initial sale occurs only once, it is exceedingly important, because it is the process by which securities come into existence. If firms and governments did not issue securities, you would have to find alternative uses for your savings. Firms and governments, however, do need funds, and they tap your savings through issuing and selling new securities in the primary markets. The secondary markets provide you with a means to sell these securities (or buy more) once they have been issued.

This chapter also briefly describes the major federal laws that govern the issuing and subsequent trading in securities. The purpose of this legislation is not to ensure that you will earn a positive return. Instead its purpose is to

ensure that you and all investors receive timely and accurate information. You continue to bear the risk associated with buying stocks and bonds.

The Transfer of Funds to Business

One purpose of financial markets is to facilitate the transfer of funds from individuals (and firms and governments) with funds to invest to those individuals (and firms and governments) that need funds. One method is an indirect transfer through a financial intermediary such as a commercial bank. The other method is the direct investment in the firm by the general public. This transfer occurs when you start your own business and invest your savings in the operation. But the direct transfer is not limited to investing in your own business. Firms (and governments) also raise funds by selling securities directly to the general public.

The Role of Investment Bankers

Investment banker
Middleman who brings together investors and firms (and governments) issuing new securities

Initial public offering (IPO)
First sale of common stock to the general public

While companies could sell securities directly to you (and some do sell modest amounts of securities through programs such as the dividend reinvestment plans described in Chapter 10), the majority of these sales are executed through **investment bankers**. In effect, an investment banker serves as a middleman to channel money from investors to firms and governments that need the funds. If this sale is the *first* sale of common stock, it is referred to as an **initial public offering (IPO)**. Exhibit 3.1 is the title page for the initial public offering of Yahoo! common stock and is used to illustrate the process of an initial public offering.

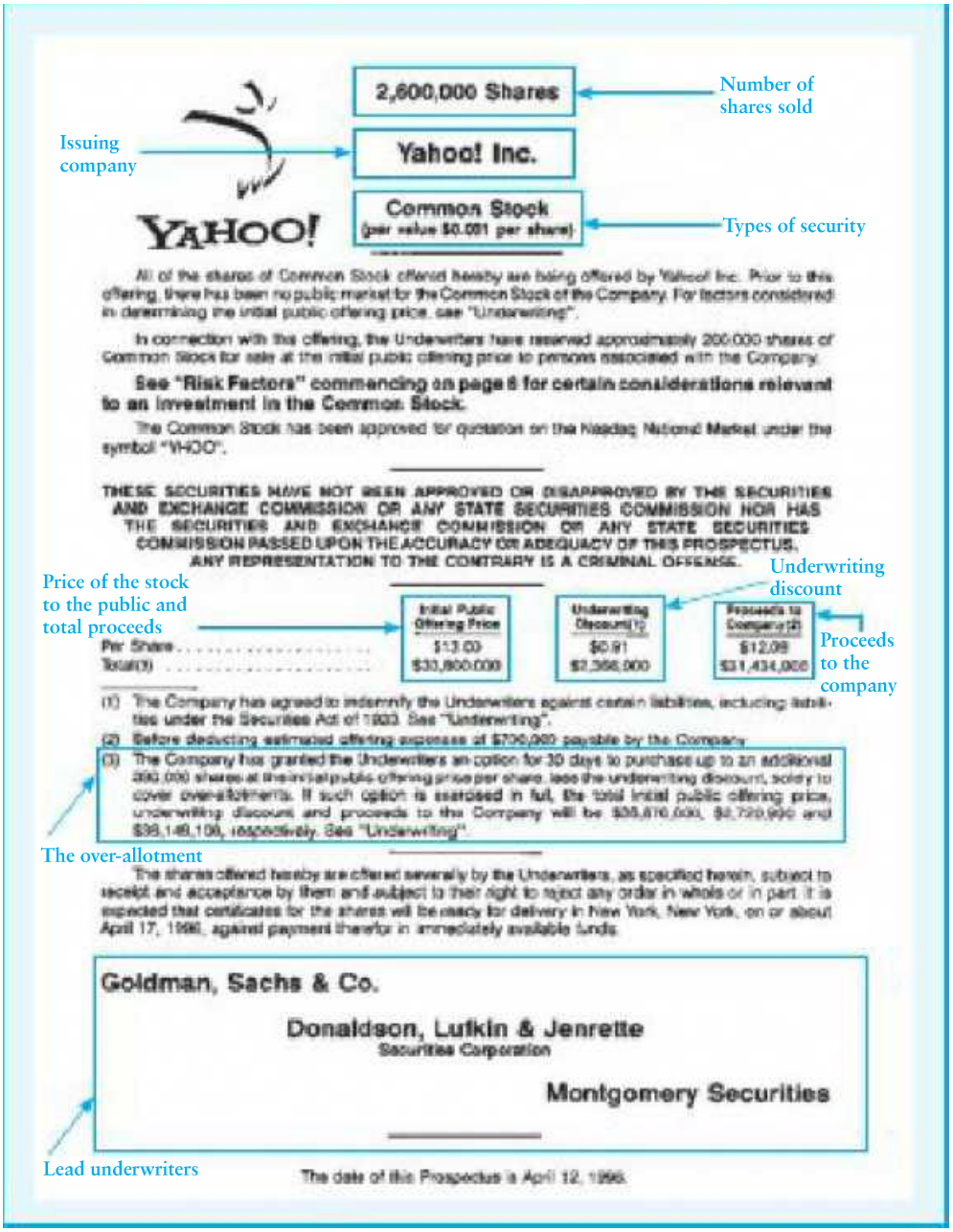
Firms sell securities when internally generated funds are insufficient to finance the desired level of spending and when the management believes it is advantageous to obtain outside funding from the general public. Such public funding may increase interest in the firm and avoid some of the restrictive covenants required by financial institutions.

Most sales of new securities are made with the assistance of investment bankers. Unfortunately, the term *investment banker* may be confusing, since investment bankers are often not bankers and generally do not invest. Instead they are usually a division of a brokerage firm such as Goldman, Sachs & Co., Donaldson, Lufkin & Jenerette Securities Corporation, or Montgomery Securities. (See Exhibit 3.1.) Although these firms may own securities, they do not necessarily buy and hold newly issued securities in their own accounts for investment purposes. Instead they are the middlemen that bring together individuals with funds to invest and the firms that need financing.

Underwriting
Purchase of an issue of new securities for subsequent sale by investment bankers; the guaranteeing of the sale of a new issue of securities

The firm in need of funds approaches the investment bankers to discuss an **underwriting**. If the investment bankers guarantee the sale, they make a "firm commitment" to raise a specified amount of money. In effect, the underwriters buy the securities with the intention to sell them to the general public. By

EXHIBIT 3.1
Title Page for the Prospectus of an issue of Common Stock of Yahoo! Inc.



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Originating house
Investment banker who makes an agreement to sell a new issue and forms a syndicate to sell the securities

agreeing to buy the securities, the underwriters guarantee the sale and bear the risk associated with the sale. If the investment bankers are unable to sell the securities to the general public, they must still pay the agreed-on sum to the issuing firm. Failure to sell the securities imposes losses on the underwriters, who must remit funds for securities that have not been sold to the general public.

Because an underwriting starts with a particular brokerage firm, which manages the underwriting, that firm is called the **originating house**. The originating

house may not be a single firm if the negotiation involves several investment bankers. In that case, several firms join together to manage the underwriting. The originating house usually does not sell all the securities but forms a **syndicate**. The syndicate is a group of brokerage houses that joins together to underwrite and market a specific sale of securities. The firms that manage the sale are often referred to as the *lead underwriters*. In the Yahoo! illustration, 17 additional firms joined the three lead underwriters to sell the securities.

Syndicate
Selling group formed to market a new issue of securities

The use of a syndicate has several advantages. The syndicate has access to more potential buyers, and using a syndicate reduces the number of securities that each firm must sell, which also increases the probability that the entire issue will be sold. Thus, syndication makes possible both the sale of a large offering and a reduction in the risk borne by each member of the selling group.

If the investment bankers do not want to bear the risk of the sale, they can agree to sell the securities through a **best efforts agreement**. The investment bankers do not underwrite the sale and do not guarantee that a specified amount of money will be raised. Instead, the investment bankers agree to make their best efforts to sell the securities, but the risk of the sale is borne by the issuing firm. If the securities do not sell, the firm does not receive the funds. While most sales of new securities are by underwriting, small issues of risky securities are often best efforts sales.

Best efforts agreement
Contract with an investment banker for the sale of securities in which the investment banker does not guarantee the sale but does agree to make the best effort to sell the securities

Pricing a New Issue

Because most sales of new securities are underwritings, the pricing of securities is crucial. If the initial offer price is too high, the syndicate will be unable to sell the securities. When this occurs, the investment bankers have two choices: (1) to maintain the offer price and to hold the securities in inventory until they are sold, or (2) to let the market find a lower price level that will induce investors to purchase the securities. Neither choice benefits the investment bankers.

If the underwriters purchase the securities and hold them in inventory, they either must tie up their own funds, which could be earning a return elsewhere, or must borrow funds to pay for the securities. The investment bankers must pay interest on these borrowed funds. Thus, the decision to support the offer price of the securities prevents the investment bankers from investing their own capital elsewhere or (more likely) requires that they borrow the funds. In either case, the profit margin on the underwriting is decreased, and the investment bankers may even experience a loss on the underwriting.

Instead of supporting the price, the underwriters may choose to let the price of the securities fall. The inventory of unsold securities can then be sold at the lower price. The underwriters will not tie up capital or have to borrow money from their sources of credit. If the underwriters make this choice, they force losses on themselves when they sell the securities at less than cost. But they also cause the customers who bought the securities at the initial offer price to lose. The underwriters certainly do not want to inflict losses on these customers, because the underwriters' market for future new security issues will vanish. Therefore, the investment bankers try not to overprice a new issue of securities, for overpricing will ultimately result in their suffering losses.

There is also an incentive to avoid underpricing new securities. If the issue is underpriced, all the securities will readily be sold, and their price will rise because demand will have exceeded supply. The buyers of the securities will be satisfied, for the price of the securities will have increased as a result of the underpricing. The initial purchasers of the securities reap windfall profits, but these profits are really at the expense of the company whose securities were underpriced. If the underwriters had assigned a higher price to the securities, the company would have raised more capital.

Although there are reasons for the underwriters to avoid either underpricing or overpricing, there appears to be a greater incentive to underprice the securities. Studies have found that initial purchases earned higher returns as the buyers were given a price incentive to buy the new offering.[1] Subsequent buyers, however, did not fare as well, and any initial underpricing appears to disappear soon after the original offering. In addition, many initial public offerings subsequently underperform the market during the first years after the original sale.

Marketing New Securities

Preliminary prospectus (red herring)
Initial document detailing the financial condition of a firm that must be filed with the SEC to register a new issue of securities

Securities and Exchange Commission (SEC)
Government agency that enforces the federal securities laws

Registration
Process of filing information with the SEC concerning a proposed sale of securities to the general public

Once the terms of the sale have been agreed upon, the managing house may issue a **preliminary prospectus**. The preliminary prospectus is often referred to as a *red herring*, a term that connotes the document should be read with caution as it is not final and complete. (The phrase "red herring" is derived from British fugitives' rubbing herring across their trails to confuse pursuing bloodhounds.) The preliminary prospectus informs potential buyers that the securities are being registered with the **Securities and Exchange Commission (SEC)** and may subsequently be offered for sale. **Registration** refers to the disclosure of information concerning the firm, the securities being offered for sale, and the use of the proceeds from the sale.[2]

The preliminary prospectus describes the company and the securities to be issued; it includes the firm's income statement and balance sheets, its current activities (such as a pending merger or labor negotiation), the regulatory bodies to which it is subject, and the nature of its competition. The preliminary prospectus is thus a detailed document concerning the company and is, unfortunately, usually tedious reading.

The preliminary prospectus does not include the price of the securities. That will be determined on the day that the securities are issued. If security prices decline or rise, the price of the new securities may be adjusted for the change in market conditions. In fact, if prices decline sufficiently, the firm has the option of postponing or even canceling the underwriting.

[1]See Seth Anderson, *Initial Public Offerings* (Boston: Kluwer Academic Publishers, 1995).

[2]While there are exceptions, generally unregistered corporate securities may not be sold to the general public. The debt of governments (e.g., state municipal bonds), however, is not registered with the SEC and may be sold to the general public. Information concerning the SEC may be obtained from **http://www.sec.gov**, the Securities and Exchange Commission's home page.

After the SEC accepts the registration statement, a final prospectus is published. The SEC does not approve the issue as to its investment worth but does affirm that all required information has been provided and that the prospectus is complete in format and content. Except for changes that are required by the SEC, the final prospectus is virtually identical to the preliminary prospectus. Information regarding the price of the security, the proceeds to the company, the underwriting discount, and any more recent financial data is added. As may be seen in Exhibit 3.1, Yahoo! Inc. issued 2,600,000 shares of common stock at a price of $13.00 to raise a total of $33,800,000. The cost of the underwriting (also called *flotation costs* or *underwriting discount*) is the difference between the price of securities to the public and the proceeds received by the firm. In this example, the cost is $0.91 a share for a total cost of $2,366,000, which is 7.5 percent of the proceeds received by Yahoo!

The issuing company frequently grants the underwriter an over-allotment to cover the sale of additional shares if there is sufficient demand. In this illustration, Yahoo! granted the underwriters the option to purchase an additional 390,000 shares, which would raise the total proceeds received by Yahoo! to $36,149,100.

Volatility of the Market for Initial Public Offerings

The new issue market (especially for initial public offerings of common stock, or IPOs) can be extremely volatile. Periods have occurred when the investing public seemed willing to purchase virtually any security that was being sold (e.g., the dot-com period during the late 1990s). There have also been periods during which new companies were simply unable to raise money, and large companies did so only under onerous terms.

The new issue market is volatile not only regarding the number of securities that are offered but also regarding the price changes of the new issues. When the new issue market is "hot," it is not unusual for the prices to rise dramatically. Yahoo!'s stock was initially offered at $13 and closed at $33 after reaching a high of $43 during the first day of trading.

Few new issues perform as well as Yahoo!, and many that initially do well subsequently fall on hard times. Boston Chicken (parent of Boston Market) went public at $20 a share and rose to $48½ by the end of the first day of trading. The company's rapid expansion overextended the firm's ability to sustain profitable operations. Boston Chicken filed for bankruptcy, and the stock traded for a few pennies a share. (One of the questions facing the holders of any IPO whose stock price rises dramatically is whether the initial performance can be continued, or at least sufficiently maintained so that the price does not fall.)

All firms, of course, were small at one time, and each one had to go public to have a market for its shares. Someone bought the shares of IBM, Microsoft, and Johnson & Johnson when these firms initially sold shares to the general public. The new issue market offers the opportunity to invest in emerging

firms, some of which may achieve substantial returns for those investors or speculators who are willing to accept the risk. It is the possibility of large rewards that makes the new issue market so exciting. However, if the past is an indicator of the future, many firms that go public will fail and will inflict losses on those investors who have accepted this risk by purchasing securities issued by the small, emerging firms.

Shelf Registrations

The previous discussion was cast in terms of firms initially selling their stock to the general public (that is, the "initial public offering" or "going public"). Firms that have previously issued securities and are currently public also raise funds by selling new securities. If the sales are to the general public, the same basic procedure applies. The new securities must be registered with and approved by the SEC before they may be sold to the public, and the firm often uses the services of an investment banker to facilitate the sale.

There are, however, differences between an initial public offering and the sale of additional securities by a publicly held firm. The first major difference concerns the price of the securities. Because a market already exists for the firm's stock, the problem of an appropriate price for the additional shares is virtually eliminated. This price will approximate the going market price on the date of issue. Second, because the firm must periodically publish information (for instance, the annual report) and file documents with the SEC, there is less need for a detailed prospectus. Many publicly held firms construct a prospectus describing a proposed issue of new securities and file it with the SEC. This document is called a "shelf registration." After the shelf registration has been accepted, the firm may sell the securities whenever the need for funds arises. For example, Dominion Resources filed a shelf registration that covered debt securities, preferred stock, common stock, and rights to purchase stock. Such a shelf registration gives Dominion Resources considerable flexibility. Not all the various types of securities have to be issued, and specific securities can be sold quickly if the firm deems that conditions are optimal for the sale.

Private placement
Nonpublic sale of securities to a financial institution

In addition to public sales of securities, firms may raise funds through **private placements**, which are nonpublic sales of securities. Such sales are made to venture capital firms or mutual funds that specialize in emerging firms. Small firms are often unable to raise capital through traditional sources. The size of the issue may be too small or the firm perceived as too risky for an underwriting through an investment banker. Venture capitalists thus fill a void by acquiring securities issued by small firms with exceptional growth potential.

Of course, not all small firms with exceptional growth potential realize that potential. Venture capitalists often sustain large losses on these investments, but their successes can generate large returns. If a venture capitalist invests $1,000,000 in five firms and four fail but one grows into a successful business, the one large gain can more than offset the investments in the four losers.

The venture capitalist's success depends on the ability to identify quality management and new products with market potential. While venture capitalists must negotiate terms that will reward their risk taking, they must not stifle the entrepreneurial spirit necessary to successfully manage an emerging business.

Once the firm does grow and achieve success, the securities purchased by the venture capitalist may be sold to the general public as part of the initial public offering. Many public offerings of securities combine a sale of new securities to raise funds for the firm and a sale of securities by existing stockholders. These holdings are often composed of shares originally purchased by the venture capitalists who are using the initial public sale as a means to realize their profits on their investments in the successful firm.

The Regulation of New Public Issues of Corporate Securities

The securities industry is subject to a large amount of regulation. Since the majority of securities cross state borders, the primary regulation is at the federal level. The purpose of this regulation is to protect the investing public by providing investors with information to help prevent fraud and the manipulation of securities prices. The regulation in no way assures you that you will make profits on your investments. It is not the purpose of the regulation to protect you from your own mistakes.

Federal regulation developed as a direct result of the debacle in the securities markets during the early 1930s. The first major pieces of legislation were the Securities Act of 1933 and the Securities Exchange Act of 1934. These are concerned with issuing and trading securities. The 1933 act covers new issues of securities, and the 1934 act is devoted to trading in existing securities. To administer these acts, the Securities and Exchange Commission (commonly called the SEC) was established.[3]

Full-disclosure laws
Federal securities laws requiring the timely disclosure of information that may affect the value of a firm's securities

These acts are also referred to as the **full-disclosure laws**, for their intent is to require companies with publicly held securities to inform the public of facts relating to the companies. A firm can issue new securities only after filing a registration statement with the SEC. The SEC will not clear the securities for sale until it appears that all material facts that may affect the value of the securities have been disclosed. The SEC does not comment on the worthiness of the securities as an investment. It is assumed that once you have received the required information you can make your own determination of the quality of the securities as an investment.

[3]The SEC home page (**http://www.sec.gov**) includes investor assistance and complaints, basic information concerning the SEC and its rule-making and enforcement powers, and specialized information for small business. The home page also provides entry to the EDGAR database. EDGAR is an acronym for Electronic Data Gathering Analysis and Retrieval, which is the government's database of SEC filings by public companies and mutual funds. All publicly held companies are required to file financial information electronically. From this site, an investor may obtain (download) a firm's 10-K and other required documents.

10-K report
Required annual report filed with the SEC by publicly held firms

Once the securities are sold to the general public, companies are required to keep current the information on file with the SEC. This is achieved by having the firm file an annual report (called the **10-K report**) with the SEC. The 10-K report has a substantial amount of factual information concerning the firm, and this information may be sent to stockholders as the company's annual report. (Companies will, on request, send stockholders a copy of the 10-K report without charge.)

Firms are also required to release during the year any information that may materially affect the value of their securities. Information concerning new discoveries or major lawsuits or strikes is disseminated to the general public. The SEC has the power to suspend trading in a firm's securities if the firm does not release this information. This is a drastic act and is seldom used, for most firms continually have news releases that inform the investing public of significant changes affecting the firm. Sometimes the firm itself will ask to have trading in its securities stopped until a news release can be prepared and disseminated.

The disclosure requirements do not insist that the firm tell everything about its operations. Every firm has trade secrets that it does not want known by its competitors. The purpose of full disclosure is not to stifle the corporation but (1) to notify the investors so they can make informed decisions and (2) to prevent the firm's employees from using privileged information for personal gain. It should be obvious that employees may have access to information before it reaches the general public. Such inside information can enhance their ability to profit by buying or selling the company's securities before the announcement is made. Such profiteering from inside information is illegal. Officers and directors of the company must report their holdings and any changes in their holdings of the firm's securities with the SEC. Thus, it is possible for the SEC to determine if transactions are made prior to public announcements.

Inside information, however, is not limited to individuals who work for a firm. The concept applies to people who work for another firm that has access to privileged information. For example, accountants, lawyers, advertising agency employees, and creditors have access to inside information. Certainly a firm's investment bankers will know if a firm is anticipating a merger, seeking to take over another company, or intending to issue new securities. These investment bankers are, in effect, insiders. Neither they, nor anyone to whom they give this information, may legally use the information for personal gain.

Securities Investor Protection Corporation (SIPC)
Federal agency that insures investors against failure by brokerage firms

Another source of regulation of securities markets is the **Securities Investor Protection Corporation (SIPC)**. This agency is similar in purpose to FDIC, for SIPC is designed to protect investors from failure by brokerage firms. SIPC insurance applies to those investors who leave securities and cash with brokerage firms. If the firm were to fail, these investors might lose part of their funds and investments. SIPC insurance is designed to protect investors from this type of loss. The insurance, however, is limited to $500,000 per customer, of which only $100,000 applies to cash balances. Hence, if you leave a substantial amount of securities and cash with a brokerage firm that fails, you are not fully protected

by the insurance. To increase coverage, some brokerage firms carry additional insurance with private companies to protect their customers.

Sarbanes-Oxley Act of 2002

The large increase in stock prices experienced during 1998 and into 2000, and the subsequent decline in prices, may partially be attributed to fraudulent (or at least questionable) accounting practices and securities analysts' touting of stocks. These scandals led to the creation of the Sarbanes-Oxley Act, which was intended to restore public confidence in the securities markets. While it is too early to determine the ramifications of Sarbanes-Oxley, its range and coverage are extensive. The main provisions encompass:

- The independence of auditors and the creation of the Public Company Accounting Oversight Board
- Corporate responsibility and financial disclosure
- Conflicts of interest and corporate fraud and accountability

Sarbanes-Oxley created the Public Company Accounting Oversight Board, whose purpose is to oversee the auditing of the financial statements of publicly held companies. The board has the power to establish audit reporting rules and standards and to enforce compliance by public accounting firms. Firms and individuals who conduct audits are prohibited from performing nonaudit services for clients that they audit.

Corporate responsibility and financial disclosure require a publicly held firm's chief executive officer (CEO) and chief financial officer (CFO) to certify that the financial statements do not contain untrue statements or material omissions. These officers are also responsible for internal controls to ensure that they receive accurate information upon which to base their certifications of the financial statements. Corporate personnel cannot exert improper influence on auditors to accept misleading financial statements. Directors and executive officers are also banned from trading in the firm's securities during blackout periods when the firm's pensions are not permitted to trade the securities. Personal loans to executives and directors are prohibited, and senior management must disclose purchases and sales of the firm's securities within two business days.

Conflicts of interest revolve around the roles played by securities analysts and by investment bankers. Investment bankers facilitate a firm's raising of funds. Analysts determine if securities are under- or overvalued. Both are employed by financial firms such as Merrill Lynch. If a securities analyst determines that a stock is overvalued, this will damage the relationship between the investment bankers and the firm wishing to sell the securities. Hence, there is an obvious conflict of interest between the securities analysts and the investment bankers working for the same financial firm.

These two divisions need to be independent of each other. While the financial firms asserted that a "firewall" did exist between the investment bankers

and the securities analysts, the actions of the securities analysts often implied the opposite. Sarbanes-Oxley strengthens the firewall. Investment bankers' ability to preapprove a securities analyst's research reports is restricted. Individuals concerned with investment banking activities cannot supervise securities analysts. Retaliation against securities analysts for negative reports is prohibited. An analyst must disclose whether he or she owns securities or received compensation from the companies covered by the analyst. Penalties for violating Sarbanes-Oxley and existing corporate fraud laws that prohibit the destruction of documents and impeding or obstructing investigations were increased, with penalties including fines and imprisonment of up to 20 years.

Summary

All firms must have a source of funds to acquire assets and retire outstanding debt. One possible source for these funds includes savers who are not currently using all of their income to buy goods and services. The transfer of these funds may occur indirectly through a financial intermediary or directly through the purchase of securities issued by firms.

When a firm (or government) issues new securities, it usually employs the services of investment bankers to facilitate the sale. The investment bankers act as a middleman between the firm and investors. In many cases, the investment bankers underwrite the securities and guarantee the issuing firm a specified amount of money. The investment bankers buy the securities with the intention of reselling them to the investing public.

New issues of corporate stocks and bonds that are sold to the general public must be registered with the Securities and Exchange Commission (SEC). The registration provides individuals with information so they may make informed investment decisions. The SEC also enforces the federal securities laws that govern the trading of corporate stocks and bonds in the secondary markets.

Investors' accounts with brokerage firms are insured by the Securities Investor Protection Corporation (SIPC). This insurance covers up to $500,000 an individual's securities held by a broker, but many brokerage firms carry more insurance. The intent of SIPC is to increase public confidence in the securities industry by reducing the risk of loss from a failure by a brokerage firm. The most recent securities legislation was the Sarbanes-Oxley Act of 2002. Fraudulent corporation activities, misleading accounting practices, and the resulting severe stock market price declines reduced investor confidence. By increasing corporate responsibility and financial disclosure requirements, creating stronger firewalls between investment bankers and securities analysts, and increasing the punishment for violations, Sarbanes-Oxley is designed to help restore investor confidence in the securities markets.

Review Objectives

Now that you have completed this chapter, you should be able to

1. Explain the role of investment bankers (pp. 37–43).
2. Describe the components of a public sale of securities (pp. 38–41).
3. Differentiate a best-effort agreement from a firm commitment (pp. 39–40).
4. Explain the purpose of a shelf registration and a private placement (pp. 42–43).
5. Identify the regulatory body that enforces the federal securities laws (p. 43).
6. State the primary purpose of the federal securities laws (pp. 43–46).

Internet Assignment

Initial public offerings occur frequently. Go to a calendar of new offerings, select a company that has just issued stock or is about to issue stock, and track the price for a week after the IPO. Did the price increase by more than 10 percent after the IPO? Possible sites include Hoover's IPO Central (**http://www.hoovers.com/global/ipoc**) or IPO Monitor (**http://ipomonitor.com**). You may also search for sites using Google by typing in "IPO."

CHAPTER

4

Securities Markets

An anonymous sage once suggested, "A fool and his money are soon parted." The stock market is definitely one place where such separation may occur. On Monday, October 19, 1987, the Dow Jones Industrial Average plummeted 508 points, a 22.6 percent decline in one day. That decrease in aggregate stock prices exceeded the decline that occurred on October 28, 1929. On that fateful day, the value of the market declined only 12.8 percent!

Of course, you could point out that those are just two examples from one day of trading. Over time the stock market has risen. That is true; over time the stock market has risen, but there have been extended periods when the stock market declined. From 2000 through 2002, aggregate stock price fell for three consecutive years. If you bought stock in January 2000 and maintained your position, you probably had a loss three years later at the end of December 2002. Think about that statement—virtually everyone who purchased stocks near the end of 1999 and the beginning of 2000 had a loss on the purchases at the end of 2002!

The stock market did not exceed its 2000 highs until the fall of 2007. In October the Standard & Poor's 500 stock index reached 1576, but that was only marginally higher than the 1517 reached in September 2000. Stock prices then immediately started to decline, and in less than two years the S&P 500 fell to a low of 667 in March 2009. That is a decline of over 57 percent in less than two years! In mid-2010 the index stood around 1000, or 37 percent below the 2007 historic high.

There certainly is no question that investing in stocks involves the potential for loss. Without the possibility of loss, there would be no possibility of gain. Of all the financial institutions, the stock market may be the best known. While

the stock market is certainly fascinating and well known, its purpose is often misunderstood. The primary function of a stock market is not to raise funds for firms but to transfer securities from sellers like you and me to buyers like you and me. There is no net change in the number of securities in existence; no funds are transferred to firms. All that occurs is a transfer of ownership from the seller to the buyer.

Stock markets are *secondary markets* that facilitate the transfer of existing securities among investors. This transfer is extremely important, for owners know a secondary market exists in which they may sell their securities. The ease with which securities may be sold and converted into cash increases the willingness of investors to buy and hold stocks and bonds and thus increases the ability of firms to issue securities. Without secondary markets, investors would be reluctant to buy the shares when a firm initially issued them.

This chapter considers securities markets, especially the stock market. The mechanics of investing, the role of brokers and securities dealers, cash versus margin accounts, long and short positions, and foreign securities are covered. The chapter ends with a discussion of the efficient market hypothesis, which suggests that over a period of years few investors will outperform the market.

Market Makers

Millions of shares and billions of dollars change hands every day. The buyers and sellers never meet; instead the securities markets impersonally transfer the stocks (and bonds) from the sellers to the buyers. The transfers may occur on an organized exchange, such as the New York Stock Exchange (NYSE), or through a less formal market called the over-the-counter (OTC) market. While there are organizational differences between the exchanges and the OTC markets, from your perspective as a potential investor, they work essentially the same.

Suppose you want to buy a stock such as IBM or Google. IBM trades through the NYSE and Google trades through the OTC markets, but in either case you buy the stock through a broker. The broker does not actually sell you the stock but acts *as your agent*. The stock is purchased from a securities dealer. Even if you use a discount brokerage firm or buy and sell on-line through the Internet, the stock is sold to you by a securities dealer. The Securities and Exchange Act of 1934 defines a dealer as anyone who engages in the "business of buying and selling securities for his *own account*."

This buying and selling by dealers for their own accounts has the effect of making a market in the securities, and dealers in the over-the-counter securities

are referred to as "market makers." Dealers for securities traded on the New York Stock Exchange and the American Stock Exchange are referred to as **specialists**.

Specialist
Market maker on an organized exchange

In either case, the market makers and specialists offer to buy securities from any seller and to sell securities to any buyer. They make a market in the security, so you and other investors are able to buy and sell when you wish. Without market makers, you would not be able to readily buy and sell stocks and bonds. Market makers set specified prices at which they will buy and sell the security. For example, a market maker may be willing to purchase a stock at $20 and sell it at $21. The security is then quoted 20–21, which are the **bid and ask prices**. The market maker is willing to purchase (bid) the stock at $20 and to sell (ask) the stock for $21.

Bid and ask prices
Prices quoted by market makers at which they are willing to buy and sell securities

Transactions are either **round or odd lots**. A round lot is the basic unit of trading and for stock is usually 100 shares. Smaller transactions, such as 55 shares, are odd lots. For some stocks the round lot differs from 100 shares. For example, for inexpensive stocks a round lot may be 500 or 1,000 shares. The importance of the distinction between odd and round lots has diminished over time, especially in the stock market. You can easily buy or sell 55, or 555, or 5,555 shares of IBM. The same does not apply to the bond markets. You will not be able to buy or sell $55, $555, or $5,555 of an IBM bond. The unit of trading is $1,000 and even that may be too small to execute a trade; the minimum unit of trading may be $5,000 or $10,000 face value of the bond. In some cases the minimum unit may be $100,000.

Round lot
Normal unit of trading in a security

Odd lot
Unit of trading that is less than a round lot

The difference between the bid and the ask is the **spread**, and this spread, like brokerage commissions, is part of the cost of investing. When you buy a security, the value of the security is the bid price, but you pay the ask price. Thus, the difference between the bid and the ask is a cost to you. If there are several market makers in a particular security, this spread will be small. If, however, there are only one or two market makers, the spread may be large (at least as a percentage of the bid price). The spread is also affected by the volume of transactions in the security and the number of shares the firm has outstanding. If there is a large volume of transactions or the number of outstanding shares is large, then there is usually a larger number of market makers. This increased competition reduces the spread between the bid and the ask. If the number of outstanding shares is small, the spread is usually larger.

Spread
Difference between the bid and ask prices

The spread is one source of market makers' profits as they turn over the securities in their portfolios. Market makers also profit when the prices of the securities rise, for the value of their inventory of securities rises. (They also bear the risk if the value of any securities they hold were to fall.) The profits are a necessary facet of securities markets, for the profits induce the market makers to serve the crucial function of buying and selling securities. These market makers guarantee to buy and sell at the prices they quote. Thus you know (1) what the securities are worth at a point in time and (2) that there is a place to sell current security holdings or to purchase additional securities. For this service the market makers must be compensated, and this compensation is generated primarily through the spread between the bid and the ask.

While the bid and ask prices are set by the market makers, the level of these securities prices is set by investors. The market maker only guarantees to make a transaction at the bid-ask prices. If the market maker sets too low a price for a stock, a large quantity of shares will be demanded by investors. If the market maker is unable or does not want to satisfy this demand for the stock, this dealer will sell one round lot and increase the bid-ask prices. The increase in the price of the stock will (1) induce some holders of the stock to sell their shares and thereby replenish the market maker's inventory and (2) induce some investors wanting to buy the stock to drop out of the market.

If the market maker sets too high a price for the stock, there will be a large quantity of shares offered for sale. If the market maker is unable or does not want to absorb all these shares, the dealer may purchase a round lot and lower the bid-ask prices. The decline in the price of the stock will (1) induce some potential sellers to hold their stock and (2) induce some investors to enter the market and purchase the shares, thereby reducing any excess buildup of inventory by the market maker. Thus, while market makers may set the bid and ask prices for a security, they cannot set the general level of securities prices.

To set the general price level, market makers must be able to absorb excess securities into their inventory when excess supply exists and to sell securities from their inventory when excess demand exists. Buying these excess securities will require that the market makers pay for them, and selling securities will require that the market makers deliver the securities sold. No market maker has an infinite source of funds or securities. Although market makers may build up or decrease their inventory, they cannot indefinitely support the price by buying, nor can they stop a price increase by selling. The market maker's function is not to set the level of securities prices; all investors do that through buying and selling. The market maker's function is to facilitate the orderly process by which buyers and sellers of securities are brought together.

Composite Transactions

With the development of the Nasdaq stock market and mergers among stock exchanges (the American Stock Exchange merged with Nasdaq in 1998), the distinction among the various securities market has virtually disappeared. Since New York Stock Exchange securities trade on other exchanges (e.g., European exchanges), reporting in the financial press on listed securities includes all trades and is reported as the NYSE-Composite transactions.

Securities listed on an exchange also trade in the over-the-counter markets. The bulk of these trades are large transactions (e.g., 10,000 or more shares) and are often referred to as *block* trades. The participants in these markets are large institutional investors such as mutual funds, pension plans, and insurance companies who need to buy and sell large amounts of listed securities such as IBM, which trades on the NYSE. These institutional investors work through brokerage firms or market makers that complete the transactions.

Institutional investors can also avoid brokerage firms and securities dealers by using computerized trading systems such as *Instinet* (**http://www.instinet.com**), which provides bid and ask quotations and executes orders. Participation in *Instinet* is limited to financial institutions that subscribe to the service. These transactions are also reported in the composite transactions just like trades on the various exchanges.

The Mechanics of Investing in Securities

Market order
Order to buy or sell a security at the best current price

Day order
Order to buy or sell at a specified price that is canceled at the end of the day if it is not executed

Good-till-canceled order
Order to buy or sell at a specified price that remains in effect until it is executed by the broker or canceled by the investor

Commission
Payment to broker for executing an investor's buy and sell orders

Settlement date
Date by which payment for the purchase of securities must be made; date by which delivery of securities sold must be made

After deciding to purchase a security, you place a purchase order with a broker whose role is to buy and sell securities for customers. The broker and the market maker (the securities dealer) should not be confused, since they perform different, but crucial, roles in the mechanics of purchasing and selling securities. Brokers execute orders for customers. Securities dealers make a market; they buy and sell securities for their own accounts. Dealers bear the risk associated with their purchases and sales. Because brokers buy and sell for their customers' accounts, they do not bear the risk associated with fluctuations in securities prices. These risks are borne by the investors.

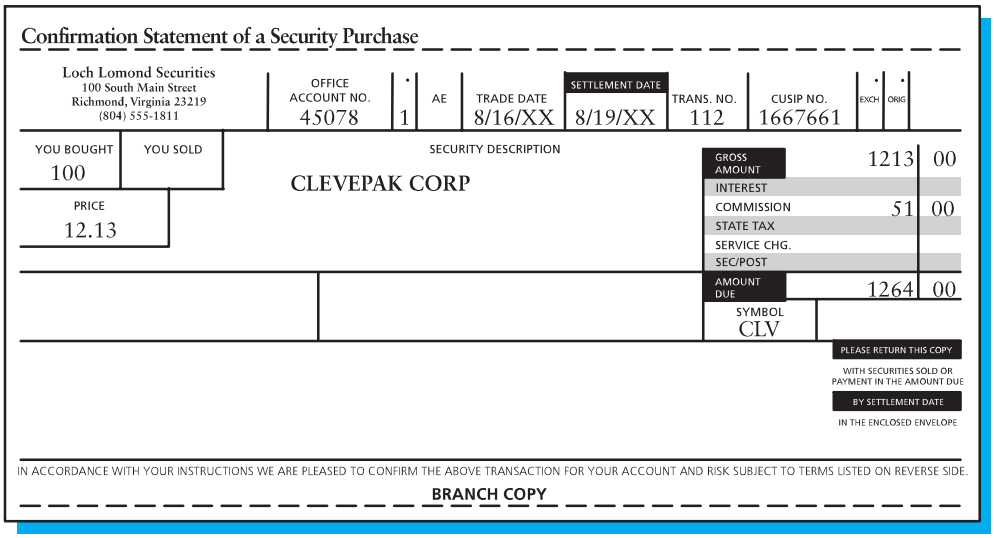
You may ask the broker to buy the security at the best price currently available, which is the asking price set by the market maker. Such a request is a **market order**. You are not assured of receiving the security at the currently quoted price, since that price may change by the time the order is executed. However, the order is generally executed at or very near the asking price.

You may enter a limit order and specify a price below the current asking price and wait until the price declines to the specified level. Such an order may be placed for one day (a **day order**), or the order may remain in effect indefinitely (a **good-till-canceled order**). Such an order remains in effect until it is either executed or canceled. If the price of the security does not decline to the specified level, the purchase is never made.

Once the purchase has been made, the broker sends you a confirmation statement (Exhibit 4.1). This confirmation statement gives the number of shares and type of security purchased (100 shares of Clevepak Corporation), the per unit price (12.13 or $12.13), and the total amount due ($1,264.00). The amount due includes the price of the security and the transaction fees. The major transaction fee is the brokerage firm's **commission**, but there may also be state transfer taxes and other miscellaneous fees. You have three business days after the date of purchase (8/16/XX) to pay the amount due and must make payment by the **settlement date** (8/19/XX). (The difference in the two dates is referred to as $t + 3$.)

Brokerage firms establish their own commission schedules, and it may pay to shop around for the best rates. Large investors are able to negotiate commissions, so that the brokerage costs are less than 1 percent of the value of the securities. Some brokerage firms offer investors discount rates that may reduce brokerage fees. You may further reduce commission costs by using on-line brokerage firms. If you feel comfortable using online trading and do not need

EXHIBIT 4.1
Confirmation Statement of a Security Purchase



Confirmation Statement of a Security Purchase

Loch Lomond Securities
100 South Main Street
Richmond, Virginia 23219
(804) 555-1811

OFFICE ACCOUNT NO.	AE	TRADE DATE	SETTLEMENT DATE	TRANS. NO.	CUSIP NO.	EXCH	ORIG
45078	1	8/16/XX	8/19/XX	112	1667661		

YOU BOUGHT	YOU SOLD	PRICE
100		12.13

SECURITY DESCRIPTION
CLEVEPAK CORP

GROSS AMOUNT	1213 00
INTEREST	
COMMISSION	51 00
STATE TAX	
SERVICE CHG.	
SEC/POST	
AMOUNT DUE	1264 00

SYMBOL
CLV

PLEASE RETURN THIS COPY
WITH SECURITIES SOLD OR PAYMENT IN THE AMOUNT DUE
BY SETTLEMENT DATE
IN THE ENCLOSED ENVELOPE

IN ACCORDANCE WITH YOUR INSTRUCTIONS WE ARE PLEASED TO CONFIRM THE ABOVE TRANSACTION FOR YOUR ACCOUNT AND RISK SUBJECT TO TERMS LISTED ON REVERSE SIDE.

BRANCH COPY

regular brokerage services, you can obtain substantial reductions in commission costs by buying and selling securities over the Internet.

Margin
Investor's equity in a security position

You may purchase the security on **margin**, which is buying the stock with a combination of your cash and credit supplied by the broker. The phrase "on margin" can be confusing, since it is similar to buying "on credit." Margin is not the amount borrowed but is your equity in the security. This amount is often expressed as a percentage:

$$\text{Margin} = \text{Equity/Total value of the portfolio},$$

so if you own stock worth $10,000 but owe $2,000, your margin is 80 percent ($8,000/$10,000).

Margin requirement
Minimum percentage, set by the Federal Reserve, of the total price that must be put up to buy securities

The **margin requirement** is the minimum percentage of the total price that you must pay and is set by the Federal Reserve Board. Individual brokers, however, may require more margin. The minimum payment required of the investor is the value of the securities times the margin requirement. Thus, if the margin requirement is 60 percent and the price plus the commission on 100 shares of Clevepak Corporation is $1,264.00, the investor must supply $758.40 in cash and borrow $505.60 from the broker, who in turn borrows the funds from a commercial bank. The investor pays interest to the broker on $505.60. The interest rate will depend on the rate that the broker must pay to the lending institution. The investor, of course, may avoid the interest charges by paying the entire $1,264.00 and not using borrowed funds.

Investors use margin to increase the potential return on the investment. Suppose you buy 50 shares at $20 a share for a total cost (excluding commissions) of $1,000. If the margin requirement is 60 percent, you put up $600 in cash and borrow $400 from your broker. If the price of the stock rises to $30, your position in the stock is worth $1,500. Your profit is $500, and you make 83.3 percent ($500/$600) on your funds invested in the stock. If you

had not used margin and covered the entire cost ($1,000), your percentage return would have been 50 percent. The use of margin magnified your return. The use of borrowed funds to magnify your return is referred to as **financial leverage**.

Financial leverage
Use of borrowed funds to magnify the percentage return on an investment

Using margin works both ways. If the price of the stock falls to $15, the value of the 50 shares is now $750. You have lost $250 on the investment. Your percentage loss is 25 percent if you buy the stock with cash, but your percentage loss is 41.7 percent ($250/$600) if you buy the stock on margin. If you borrow money and commit less of your own funds, the percentage loss is magnified. Leverage is a two-edged sword! (These illustrations do not include [1] commissions on the stock purchases and sales and [2] interest on the borrowed funds. Both commissions and interest reduce the return you earn. Problems 5 and 6 at the end of this chapter add the interest expense, which reduces the profits on the stocks purchased through the use of margin.)

The use of margin could increase the broker's risk exposure. If the price of the stock declined sufficiently, it would wipe out your margin, but you would still owe the broker the funds borrowed to purchase the securities. If you then defaulted (did not pay off the loan), the broker would lose. Obviously brokers do not want to be at risk, so as the security's price and your margin decline, the broker will request additional collateral. This request, referred to as a "margin call," may be met by having you deposit cash or additional securities in the account. Once the cash and/or securities are placed in the account, your margin is increased. The restoration of the margin means that you, and not the broker, are at risk.

Delivery of Securities

Once the shares have been purchased and paid for, you must decide whether to leave the securities with the broker or to take delivery. (In the case of a margin account, you *must* leave the securities with the broker.) If the shares are left with the broker, they will be registered in the broker's name (that is, in the **street name**). The broker then becomes custodian of the securities and sends a monthly statement of the securities that are being held in the street name. The monthly statement also includes any transactions that have taken place during the month and any dividends and interest that have been received. You may leave the dividends and interest payments to accumulate with the broker or receive payment from the broker.

Street name
Registration of securities in a broker's name instead of in the buyer's name

The primary reason for leaving securities with the broker is convenience, and the vast majority of investors (probably more than 95 percent) have their securities registered in the street name. You do not have to store the securities and can readily sell them, because they are in the broker's possession. Interest and dividend payments are received by the broker. You may have the money transferred to a bank account or held for subsequent investment. (The brokerage firm may also permit checks to be drawn against the account.)

Whether the investor ultimately decides to leave the securities with the broker or take delivery depends on the individual investor. If the securities are purchased on margin, you must leave the securities with the broker. If you frequently buy and sell securities (in other words, you are a "trader"), then the securities have to be left with the broker in order to facilitate the transactions.

The Short Sale

Long position
Purchase of securities in anticipation of a price increase

Short position
Sale of borrowed securities in anticipation of a price decrease

The previous discussion was limited to what is called a **long position** in which you purchase a stock and profit when its price rises. Of course, you will sustain a loss if the price of the stock declines. Can you earn a profit from a decline in the price of a stock? The answer is yes if you establish a **short position**. In a short sale, you *borrow* stock and sell it. If the price declines, you buy back the stock and pay off the loan (that is, return the borrowed stock). You earn a profit because the stock is bought for less than it was sold.

Perhaps this process is best understood through a simple illustration. A stock is selling for $39. You believe that the stock is overvalued and that the price will decline. You then borrow the stock through a broker and sell it for $39. Several weeks later the stock is selling for $25. You buy the stock for $25 and repay the loan (that is, return the stock to the broker). You made $14 a share because you purchased the stock for $25 and sold it for $39. Of course, if the price rises to $46, you would lose because you have to buy the stock at the higher price. In that case, the stock would be sold for $39 but would be bought at $46.

Short sales are common in business because a short sale is simply a *contract for future delivery*. When a school takes a student's tuition money before the semester begins, it enters into a contract for the future delivery of services (courses). This is a short position because if the price of providing the services falls, the school profits. If, however, the price of providing the services rises, the school loses. Entering into contracts for the future delivery of goods and services is common practice in business. In each case, the firm has made a short sale.

Measures of Securities Prices

Securities prices fluctuate daily, and many indexes have been developed to measure the price performance of securities. The best known and most widely quoted is the Dow Jones Industrial Average (DJIA) of 30 stocks. Dow Jones and Company also computes averages for 15 utility stocks and 20 transportation stocks as well as a composite index of all 65 stocks. The companies that compose the Dow Jones averages are among the largest, most well-established firms in the nation. Small firms and many firms that have grown into prominence during the last decade are excluded from the average. You should, however,

not conclude that the Dow Jones Industrial Average is static. For example, Chevron, Goodyear, Sears, and Union Carbide were dropped and replaced with Home Depot, Intel, Microsoft, and AT&T. The rationale for the change was to make the DJIA more representative of the current stock market.

If you believe that the DJIA is too narrow, many other indexes are available for you to follow. The Standard & Poor's 500, NYSE Composite Index, and the Nasdaq index are among the most important and most frequently quoted. Other indexes and their composition are as follows:

Russell 1000: The largest 1,000 firms

Russell 2000: The next-largest 2,000 firms

Russell 3000: Combines the firms in the Russell 1000 and Russell 2000

Standard & Poor's 400 MidCap: Index of moderate-sized firms

Standard & Poor's 600 Small Cap: Index of relatively small firms

Standard & Poor's 1500 Index: Combines all the stocks in the S&P 500, S&P 400 MidCap, and the S&P 600 Small Cap

Value Line Stock Index: Index of all stocks covered by the Value Line Investment Survey

Wilshire 5000: Index of the market value of all NYSE, AMEX, and actively traded Nasdaq stocks (Although the name implies that the index covers 5,000 stocks, the actual composition exceeds 7,000 issues and covers virtually all publicly traded companies.)

In addition to the preceding aggregate measures of the market, there are indexes of subsets of the securities market. For example, Dow Jones daily publishes in the *Wall Street Journal* its specialty indexes that include Internet services, real estate investment trusts, and foreign countries such as the United Kingdom and Japan. There is even a Dow Jones Islamic Market index. This variety of indexes is important because, as is discussed in Chapter 17 on investment companies, there are mutual funds and exchange-traded funds that track an index instead of investing in individual stocks and bonds. Such funds permit you to take a position in the market or a subset of the market without the need to select specific securities.

While the composition of the various indexes obviously differs, that is not the only important distinction. How the indexes are calculated also differs. Averages of securities prices may be simple averages or weighted averages. As the name implies, a simple average adds the prices and divides by the number of entries. A value-weighted average multiplies the price of each stock by the number of shares outstanding. Firms such as AT&T and IBM have more than 1,700,000,000 shares outstanding. They have perceptibly more impact on a value-weighted index such as the S&P 500 than a firm like Shaw Group, a building engineering firm with only 69,100,000 outstanding shares.

How have stocks performed? The answer in part depends on the time period you select. For example, stock prices rose during the 1990s and then fell dramatically during 2000–2002. If you sold near the end of 1999, you probably did very well. But if you bought near the end of 1999, you probably

sustained losses during the next three years. As of 2010, many stocks continued to sell perceptibly lower than the highs reached during the late 1990s. For example, Textron closed on December 31, 2009, at $18.81, which is 26 percent lower than its December 31, 1999, closing price of $25.50. (For the calculation of returns and how various investments have performed, please read Chapter 16.)

Foreign Securities

In addition to domestic securities, you may purchase foreign stocks and bonds. Foreign companies, like American companies, issue a variety of securities as a means to acquire funds. These securities subsequently trade on foreign OTC markets and foreign exchanges such as the stock exchanges in London, Paris, Tokyo, and other financial centers. Unless Americans and other foreigners are forbidden to acquire these securities, you can buy and sell stocks through these exchanges in much the same way that you purchase domestic American stocks and bonds. Thus, foreign securities may be purchased through the use of American brokers who have access to trading on these exchanges. In many cases this access is obtained through a correspondent relationship with foreign brokers.

American Depositary Receipts (ADRs)
Receipts issued for foreign securities held by a trustee

American securities markets do not actually trade foreign shares but trade receipts for the stock called **American Depositary Receipts** or **ADRs**. (ADRs are also referred to as American Depositary Shares.) Such receipts are created by large financial institutions, such as commercial banks, and are denominated in dollars. The ADRs are then sold to the American public and continue to trade in the United States.

The creation of ADRs greatly facilitates trading in foreign securities. Prices are quoted in dollars, and dividend payments are received in dollars. The ADR can represent any number of foreign shares. For example, each share of Telefonos de Mexico traded on the New York Stock Exchange represents 20 ordinary Mexican shares. The regular shares would be considered low-priced stocks in the United States. To make the prices comparable to U.S. securities prices, an ADR may represent 10, 15, or 20 Mexican shares.

In addition to stocks, Americans may also acquire bonds sold in foreign countries. There are basically three general types: (1) bonds issued by foreign firms; (2) bonds issued by foreign governments; and (3) bonds issued in foreign countries by American firms.

Bonds issued abroad by American firms are basically of two types, depending on the currency in which they are denominated. The American firms can sell bonds denominated in the local currency (for example, British pounds), or the firms can sell abroad bonds denominated in American dollars, called **Eurobonds**. This term applies even though the bonds may be issued in Asia instead of Europe. When an American firm issues a Eurobond, it promises to make payments in dollars. In this case the American investor will not have to convert the payments from the local currency (such as British pounds) back into dollars.

Eurobonds
Bonds sold in a foreign country but denominated in the currency of the issuing firm

Competition in the Securities Markets

Economics teaches that markets will be competitive if there are many informed participants who may readily enter and exit. Both the stock and bond markets meet these conditions. Individuals may readily buy and sell securities, information is rapidly disseminated, and prices quickly change in reaction to changes in the economic and financial environment. The securities markets are among the most competitive markets in existence.

Efficient market hypothesis (EMH)
Theory that securities prices correctly measure the current value of a firm's future earnings and dividends

This competition among investors has led to the **efficient market hypothesis (EMH)**, which asserts that securities markets are so competitive that the current price of a stock properly values the firm's future prospects—that is, the firm's future earnings and its dividends. If a firm's stock were perceived as undervalued, investors would rush to buy it, thus driving up its price. The converse would occur if the stock were perceived as overvalued, and the price would be driven down. Hence the current price is a true measure of the security's worth. For the individual investor, therefore, security analysis designed to determine if a stock is overpriced or underpriced is futile, because the stock is neither.

An important implication of this theory of efficient markets is that you cannot *consistently beat the market*; rather, you will earn a return consistent with the market return and the amount of risk you bear. The efficient market hypothesis suggests that the probability of your outperforming the market over any extended period is very small. That does not mean you cannot outperform (or underperform) the market during a short period of time. During a brief period, such as a year, some investors will earn a return that is higher than the return earned by the market. However, there is little chance that those individuals will be able to achieve superior results for an extended period of time (in other words, to outperform the market consistently).

One primary reason for the efficient market hypothesis is the speed with which securities prices adjust to new information. The hypothesis requires that prices adjust extremely rapidly as new information is disseminated. In the modern world of advanced communication, information is rapidly dispersed in the investment community. The market then adjusts securities prices in accordance with the impact of the news on the firm's future earnings and dividends. By the time that the individual investor has learned the information, securities prices probably will have already changed. Thus, the investor will not be able to profit from acting on the information.

This adjustment process is illustrated in Figure 4.1, which plots the daily closing price of Merck when the company pulled its drug Vioxx. The price of the stock fell over $12 from $45.07 to $33.00 in one day. Such price behavior is exactly what the efficient market hypothesis suggests: the market adjusts very rapidly to new information. By the time the announcement was reported in the financial press, it was too late for the individual investor to react, as the price change had already occurred.

If the market were not so efficient and prices did not adjust rapidly, some investors would be able to adjust their holdings and take advantage of differences in investors' knowledge. Consider the broken line in Figure 4.1. If some investors knew that the drug had been recalled but others did not, the former could sell

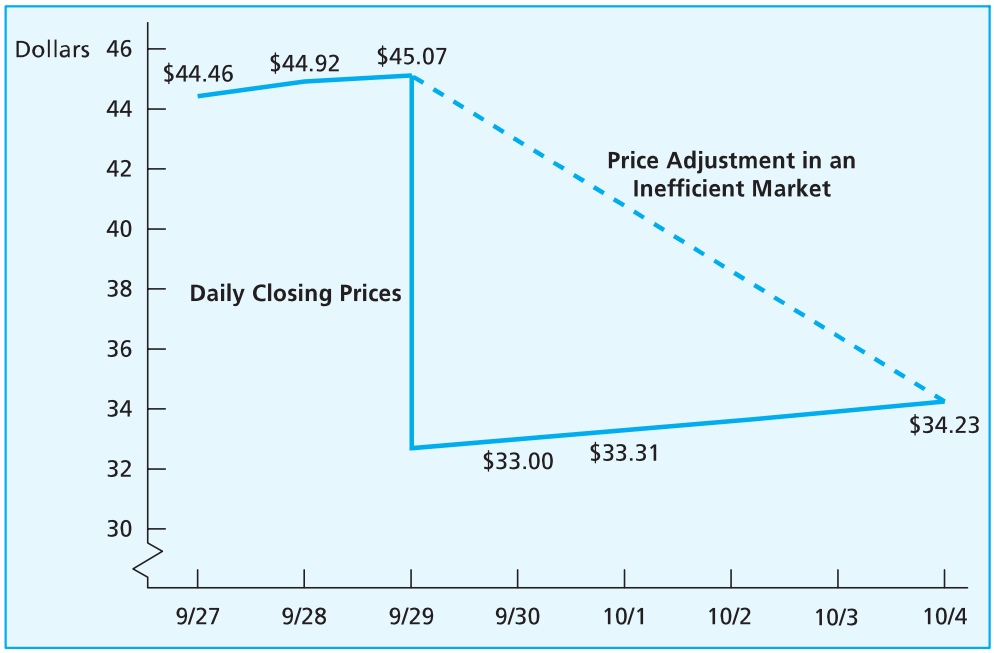


FIGURE 4.1
Daily Closing Price of Merck Stock (September 27, 2004–October 4, 2004)

their holdings to those who were not informed. The price then could fall over a period of time as the knowledgeable sellers accepted progressively lower prices in order to unload their stock. Of course, if a sufficient number of investors had learned quickly of the recall, the price decline would be rapid as these investors adjusted their valuations of the stock in accordance with the new information. That is exactly what happened, because a sufficient number of investors were rapidly informed and the efficient market quickly adjusted the stock's price.

If an investor were able to anticipate the recall before it was announced, that individual could avoid the price decline. Obviously some investors did sell their shares just before the announcement, but it is also evident that some individuals bought those shares. Certainly one of the reasons for learning the material and performing the various types of analysis throughout this text is to increase your ability to anticipate events before they occur. However, you should realize that considerable evidence supports the efficient market hypothesis and strongly suggests that few investors will over a period of time outperform the market consistently.

While financial markets appear to be exceedingly efficient, some empirical evidence suggests that inefficiencies do exist. These inefficiencies are often referred to as "anomalies." As applied to financial markets, an anomaly is an investment strategy whose return exceeds the return that should be earned if the market were completely efficient.[1] Such inefficiencies tend to revolve

[1]For an excellent lay discussion of efficient markets, possible anomalies, and the implications of efficient markets for investing, see Burton Malkiel, *A Random Walk Down Wall Street*, 10th ed. (New York: W.W. Norton & Company, 2010). One implication of efficient markets is the use of a passive investment strategy. One possible passive strategy is explained in Richard Evans, *The Index Fund Solution* (New York: Simon & Schuster, 1999).

around particular investment strategies such as buying stocks in which insiders (e.g., management) are investing or buying stocks after an unusual event occurs, since the market may overreact. For example, an unexpected decline in earnings may lead to a large price decline in the price of the stock. After the market has digested the new earnings information, the price of the stock may subsequently rise.

Whether the inefficiencies are sufficiently large that you can take advantage of the anomaly and generate an excess return is open to debate. Essentially the argument becomes, if an investment strategy increases my return from 8.3 percent to 8.6 percent but I have more expenses (such as more commissions or higher taxes from securities trading), the increased return may not cover the additional costs. Thus, an anomaly could exist but its magnitude is insufficient to justify using it as an investment strategy. Or the anomaly may apply to large institutional investors but individuals may be unable to take advantage of the inefficiency.

Summary

Securities are traded on organized exchanges, such as the NYSE, or in the informal over-the-counter markets (Nasdaq). Securities are bought through brokers, who buy and sell for their customers' accounts. The brokers obtain the securities from dealers, who make markets in them. These dealers offer to buy and sell at specified prices (quotes), which are called the bid and the ask. Brokers and investors obtain these prices through an electronic system that transmits the quotes from the various dealers.

After securities are purchased, you must pay for them with either cash or a combination of cash and borrowed funds. When you use borrowed funds, you are buying on margin. Buying on margin increases both your potential return and potential risk of loss.

You may take delivery of securities or leave them with the broker. Leaving securities registered in the street name offers the advantage of convenience because the broker becomes the custodian of the certificates. Since the advent of the SIPC and its insurance protection, there is little risk of loss to the investor from leaving securities with the broker.

You may establish long or short positions. With a long position, you purchase stock in anticipation of its price rising. If the price of the stock rises, you may sell it for a profit. With a short position, you sell borrowed stock in anticipation of its price declining. If the price of the stock falls, you may repurchase it at the lower price and return it to the lender. The position generates a profit because the selling price exceeds the purchase price.

Both the long and short positions are the logical outcomes of securities analysis. If you think a stock is underpriced, a long position (purchase of the stock) should be established. If you believe a stock is overvalued, a short position (the sale of borrowed securities) is established. In either case, if you are correct, the position will generate a profit. Either position may, however, generate a loss if prices move against your expected price change.