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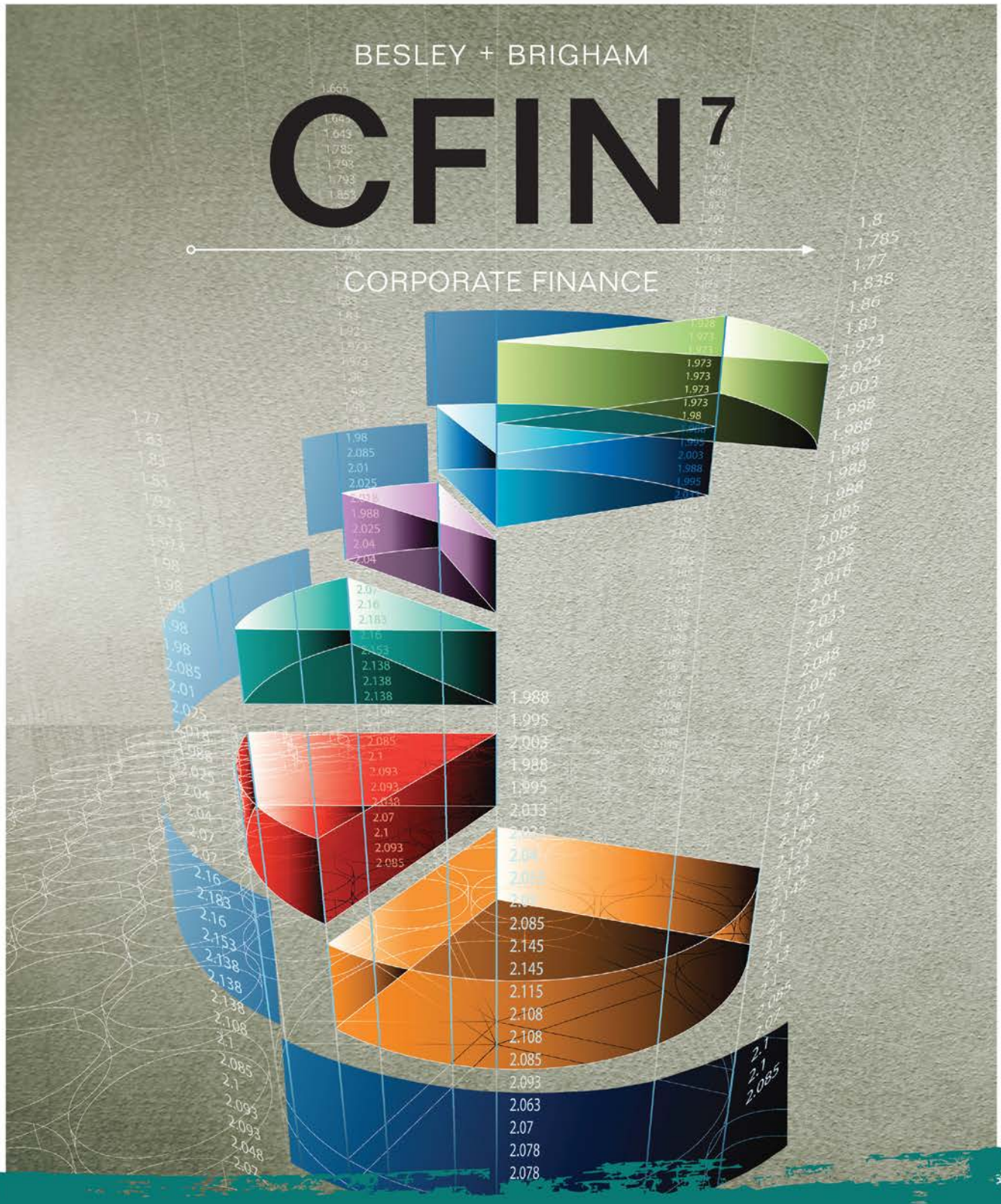

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CFIN, 7th Edition
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Cover Image Source: yystom/DigitalVision Vectors/Getty Images

Library of Congress Control Number: 2020950749

ISBN: 978-0-357-51515-0

Cengage
200 Pier 4 Boulevard
Boston, MA 02210
USA

Printed in the United States of America
Print Number: 01 Print Year: 2021

BESLEY/BRIGHAM

CFIN7

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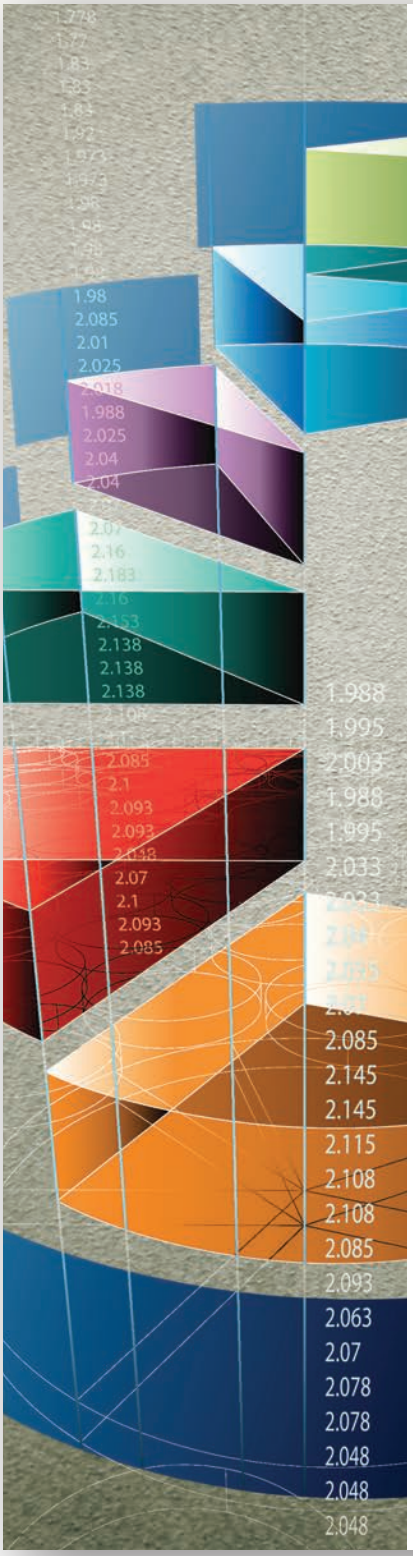

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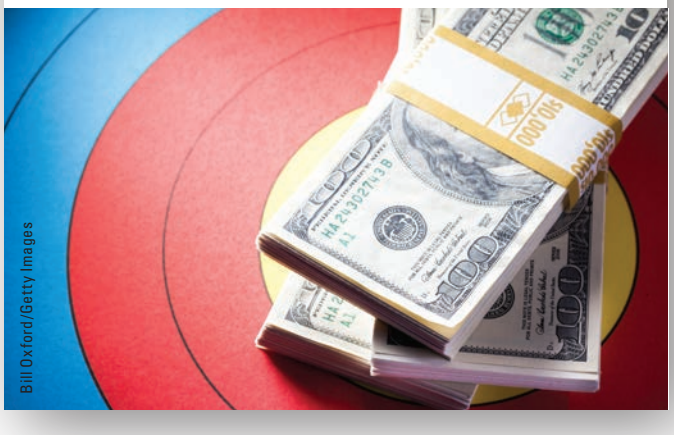
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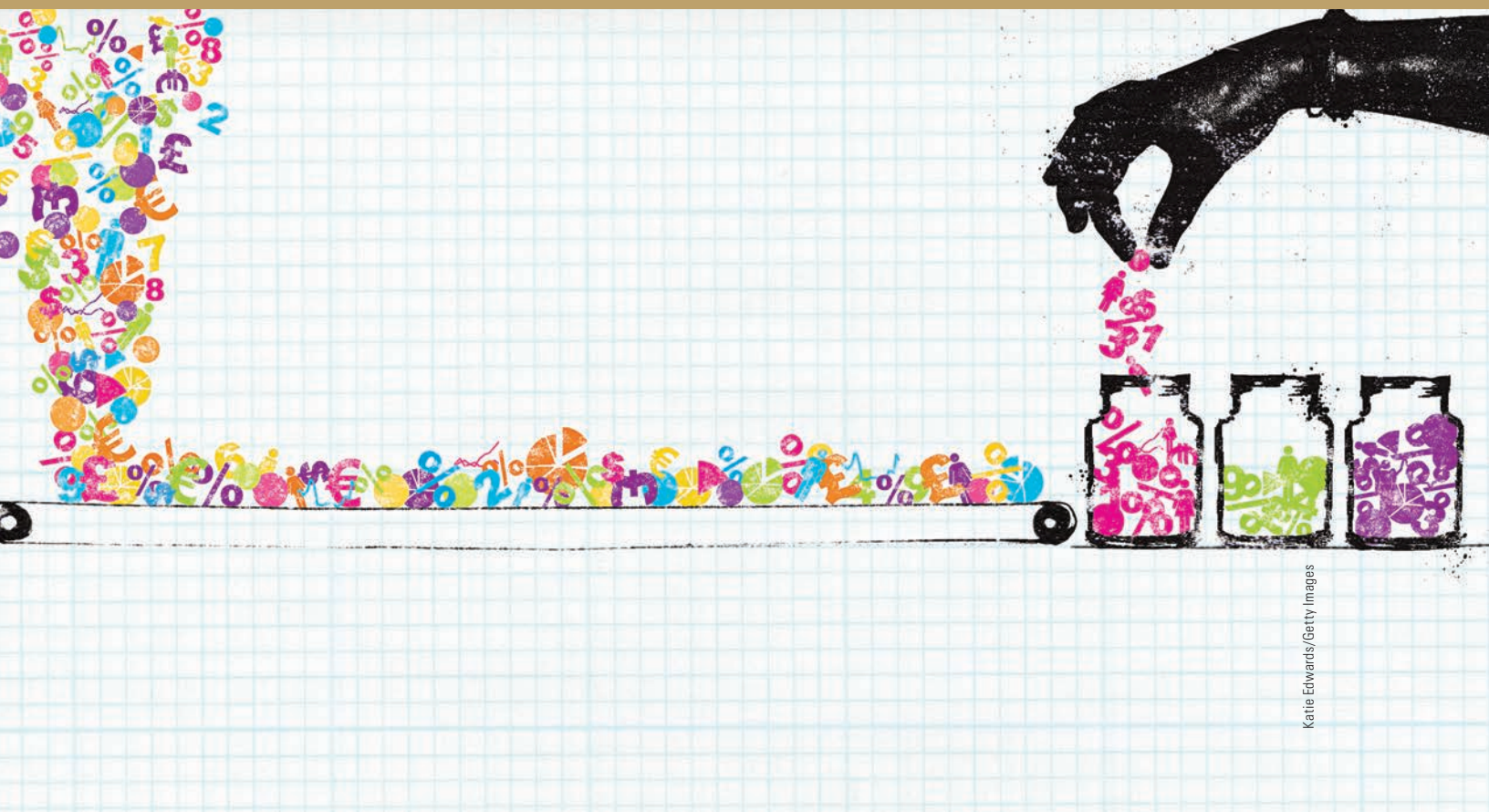
PART 1

1 An Overview of Managerial Finance



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LEARNING OUTCOMES

After studying this chapter, you will be able to . . .

- 1-1 Explain what finance entails and why everyone should have an understanding of basic financial concepts.
- 1-2 Identify different forms of business organization as well as the advantages and disadvantages of each.
- 1-3 Identify major goals that firms pursue and what a firm's primary goal should be.
- 1-4 Explain the roles ethics and good governance play in successful businesses.
- 1-5 Describe how foreign firms differ from U.S. firms, and identify factors that affect financial decisions in multinational firms.

Check out **STUDY TOOLS** at the end of this chapter

In this chapter, we introduce finance by providing you with (1) a description of the discipline and (2) an indication of the goals companies should attain, as well as the conduct that is acceptable when pursuing these goals. As you will discover, a corporation acts in the best interests of its owners (stockholders) when decisions are made that increase the firm's value, which in turn increase the value of its stock.

1-1 WHAT IS FINANCE?

In simple terms, finance is concerned with decisions about money. Financial decisions deal with how money is raised and used by businesses, governments, and individuals. To make sound financial decisions, you must understand three general, yet reasonable, concepts. Everything else equal, (1) more value is preferred to less; (2) the sooner cash is received, the more valuable it is; and (3) less risky assets are more valuable than (preferred to) riskier assets. These concepts are discussed in detail later in the book. At this point, we can state that firms that make decisions with these concepts in mind are able to provide better products to customers at lower prices, pay higher salaries to employees, and still provide greater returns to investors. In general, then, sound financial management contributes to the well-being of both individuals and the general population.

Although the emphasis in this book is on business finance, you will discover that the same concepts firms apply when making sound business decisions can be used to make informed decisions relating to personal finances. For example, consider the decision you might have to make if you won a state lottery worth $105 million. Which *would* you choose: a lump-sum payment of $54 million today or a payment of $3.5 million each year for the next 30 years? Which *should* you choose? In Chapter 4, we will introduce the time value of money techniques firms use to make finance-related business decisions. These same techniques can be used to answer this and other questions that relate to personal finances.

1-1a General Areas of Finance

The study of finance consists of four interrelated areas:

1. ***Financial markets and institutions***—Financial institutions, which include banks, insurance companies, savings and loans, and credit unions, are an integral part of the general financial services marketplace. The success of these organizations requires an understanding of factors that cause interest rates and other returns in the financial markets to rise and fall, regulations that affect such institutions, and various types of financial instruments, such as mortgages, automobile loans, and certificates of deposit, that financial institutions offer.
2. ***Investments***—This area of finance focuses on the decisions made by businesses and individuals as they choose securities for their investment portfolios. The major functions in the investments area are (a) determining the values, risks, and returns associated with such financial assets as stocks and bonds and (b) determining the optimal mix (combination) of securities that should be held in a portfolio of investments, such as a retirement fund.
3. ***Financial services***—Financial services refer to functions provided by organizations that deal with the management of money. Persons who work in these organizations, which include banks, insurance companies, brokerage firms, and similar companies, provide services that help individuals and companies determine how to invest money to achieve such goals as home purchase, retirement, financial stability and sustainability, budgeting, and so forth.
4. ***Managerial (business) finance***—Managerial finance deals with decisions all firms make concerning their cash flows, both inflows and outflows. As a consequence, managerial finance is important in all types of businesses, whether they are public or private, and whether they deal with financial services or the manufacture of products. The duties encountered in managerial finance range from making decisions about plant expansions to choosing what types of securities should be issued to finance such expansions. Financial managers also have the responsibility for deciding the credit terms under which customers can buy, how much inventory the firm should carry, how

much cash to keep on hand, whether to acquire other firms (merger analysis), and how much of each year's earnings should be paid out as dividends versus how much should be reinvested in the firm.

Although our concern in this book is primarily with managerial finance, because all areas of finance are interrelated, an individual who works in any one area should have a good understanding of the other areas as well. For example, a banker lending to a business must have a basic understanding of managerial finance to judge how well the borrowing company is operated, which provides an indication of its ability to repay a loan. The same holds true for a securities analyst, who must understand how a firm's current financial position can affect its future prospects and thus its stock price. At the same time, corporate financial managers must know what their bankers are thinking as well as how investors are likely to judge their business decisions when determining the companies' stock prices.

1-1b The Importance of Finance in Non-Finance Areas

Everyone is exposed to finance concepts almost every day. For example, when you borrow to buy a car or a house, finance concepts are used to determine the monthly payments you are required to make. When you retire, finance concepts are used to determine the amount of the monthly payments you receive from your retirement funds. Further, if you want to start your own business, an understanding of finance concepts is essential for survival. Thus, even if you do not intend to pursue a career in a finance-related profession, it is important that you have some basic understanding of finance concepts. Similarly, if you pursue a career in finance, it is important that you have an understanding of other areas in the business, including marketing, accounting, production, and so forth, to make well-informed financial decisions.

Let's consider how finance relates to some of the non-finance areas that students often study in a business college.

1. ***Management***—When we think of "management," we often think of personnel decisions and employee relations, strategic planning, and the general operations of the firm. Strategic planning, which is one of the most important activities of management, cannot be accomplished without considering how such plans impact the overall financial well-being of the firm. Such personnel decisions as setting salaries, hiring new staff, and paying bonuses must be coordinated with financial decisions to ensure that needed funds are available. For these reasons, senior managers must have at least a general understanding of financial management concepts to make informed decisions in their areas.
2. ***Marketing***—If you have taken a basic marketing course, you learned that the *four Ps of marketing*—product, price, place, and promotion—determine the success of products manufactured and sold by companies. Clearly, the price that should be charged for a product and the amount of advertising a firm can afford for the product must be determined in conjunction with financial managers because the firm will lose money if the price of the product is too low or too much is spent on advertising. Coordination of the finance function and the marketing function is critical to the success of a company, especially a small, newly formed firm because it is necessary to ensure that sufficient cash is generated to survive. For these reasons, people in marketing must understand how marketing decisions affect and are affected by such issues as funds availability, inventory levels, and excess plant capacity.

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3. ***Accounting***—In many firms (especially small ones), it is difficult to distinguish between the finance function and the accounting function. Because the two disciplines are closely related, often accountants are involved in finance decisions and financial managers are involved in accounting decisions. As our discussions will show, financial managers rely heavily on accounting information because making decisions about the future requires information that accountants provide about the past. As a consequence, accountants must understand how financial managers use accounting information in planning and decision making so that it can be provided in an accurate and timely fashion. Similarly, accountants must understand how accounting data are viewed (used) by investors, creditors, and others who are interested in the firm's operations.
4. ***Information systems***—To make sound decisions, financial managers rely on accurate information that is available when needed. The process by which the delivery of such information is planned, developed, and implemented is costly, but so are the problems caused by a lack of good information. Without appropriate information, decisions relating to finance, management, marketing, and accounting could prove disastrous. Different types of information require different information systems, so information system specialists work with financial managers to determine what information is needed, how it should be stored, how it should be delivered, and how managing information affects the profitability of the firm.
5. ***Economics***—Finance and economics are so similar that some universities offer courses related to these two subjects in the same functional area (department). Many tools used to make financial decisions evolved from theories or models developed by economists. Perhaps the most noticeable difference between finance and economics is that financial managers evaluate information and make decisions about cash flows associated with a particular firm or a group of firms, whereas economists analyze information and forecast changes in activities associated with entire industries and the economy as a whole. It is important that financial managers understand economics and that economists understand finance because economic activity and policy impact financial decisions, and vice versa.

Finance will be a part of your life no matter what career you choose. There will be a number of times during your life, both in business and in your personal finances, that you will make finance-related decisions. Therefore, it is vitally important that you have some understanding of general finance concepts. *There are financial implications in virtually all business decisions, and non-financial executives must know enough finance to incorporate these implications into their own specialized analyses.* For this reason, every student of business, regardless of his or her major, should be concerned with finance.

Finance in the Organizational Structure of the Firm. Although organizational structures vary from company to company, the chief financial officer (CFO), who often has the title of vice president of finance, generally reports to the president. The financial vice president's key subordinates are the treasurer and the controller. In most firms, the *treasurer* has direct responsibility for managing the firm's cash and marketable securities, planning how the firm is financed and when funds are raised, managing risk, and overseeing the corporate pension fund. The treasurer also supervises the credit manager, the inventory manager, and the director of capital budgeting, who analyzes decisions related to investments in fixed assets. The *controller* is responsible for the activities of the accounting and tax departments.

1-2 ALTERNATIVE FORMS OF BUSINESS ORGANIZATION

There are three major forms of business organization in the United States: (1) proprietorships, (2) partnerships, and (3) corporations. In terms of numbers, 70–75 percent of businesses are operated as proprietorships, 10–15 percent are partnerships, and the remaining 15–20 percent are corporations. Based on the dollar value of sales, however, 80–85 percent of all business is conducted by corporations, while the remaining 15–20 percent is generated by proprietorships (3–5 percent) and partnerships (13–15 percent).[1] Because most business is conducted by corporations, we will focus on that form in this book. However, it is important to understand the differences among the three major forms of business, as well as the popular "hybrid" forms of business that have evolved from these major forms.

[1]The statistics provided in this section are based on business tax filings reported by the Internal Revenue Service (IRS), which can be found on the IRS website at https://www.irs.gov/statistics/soi-tax-stats-business-tax-statistics.

1-2a Proprietorship

A **proprietorship** is an unincorporated business owned by one individual. Starting a proprietorship is generally as easy as just beginning business operations.

The proprietorship has three important advantages:

1. It is easily and inexpensively formed. Not much "red tape" is involved when starting a proprietorship; generally, only licenses required by the state and the municipality in which the business operates are needed.
2. It is subject to few government regulations. Large firms that potentially threaten competition are much more heavily regulated than small, family-owned (independent) businesses, such as proprietorships.
3. It is taxed like an individual, not like a corporation; thus, earnings are taxed only once. The double taxation of dividends is discussed later in the chapter.

The proprietorship also has four important limitations:

1. The proprietor has unlimited personal liability for business debts because any debts of the business are considered obligations of the sole owner. With unlimited personal liability, the proprietor (owner) can potentially lose all of his or her personal assets, even those assets not invested in the business. Thus, losses can far exceed the money that he or she has invested in the company. An explanation of this concept is given later in this chapter.
2. A proprietorship's life is limited to the time the individual who created it owns the business. When a new owner takes over the business, legally the firm becomes a new proprietorship (even if the name of the business does not change).
3. Transferring ownership is somewhat difficult. Disposing of the business is similar to selling a house in that the proprietor must seek out and negotiate with a potential buyer, which generally takes weeks or months to complete.
4. It is difficult for a proprietorship to obtain large sums of capital (funds) because the firm's financial strength generally is based solely on the financial strength of the only owner. A proprietorship's funds are derived from the owner's sources of credit, which include his or her credit cards, access to bank loans, loans from relatives and friends, and so forth. Unlike corporations, proprietorships cannot raise funds by issuing stocks or bonds to investors.

proprietorship An unincorporated business owned by one individual.

partnership An unincorporated business owned by two or more persons.

For these reasons, individual proprietorships are confined primarily to small business operations. In fact, only about 1 percent of all proprietorships have assets that are valued at $1 million or more; nearly 90 percent have assets valued at $100,000 or less. However, most businesses start out as proprietorships and then convert to corporations when their growth causes the disadvantages of being a proprietorship—namely, unlimited personal liability and the inability to raise large sums of money—to outweigh the advantages.

1-2b Partnership

A **partnership** is the same as a proprietorship, except that it has two or more owners. Partnerships can operate under different degrees of formality, ranging from informal, oral understandings to formal agreements filed with the appropriate department of the state in which the partnership does business. Most legal experts recommend that partnership agreements be put in writing.

The advantages and limitations of a partnership are the same as those of a proprietorship, except that most partnerships have more sources available for raising funds because there are more owners, with more relatives, more friends, and more opportunities to raise funds through credit. Even though they generally have greater capabilities than proprietorships to raise funds to support growth, partnerships still have difficulty in attracting substantial amounts of funds. This is not a major problem for a slow growing partnership. However, if a business's products really catch on and it needs to raise large amounts of funds to capitalize on its opportunities, the difficulty of attracting funds becomes a real drawback. For this reason, growth companies, such as Google Inc. and Amazon.com Inc., generally begin life as proprietorships or partnerships but at some point find it necessary to convert to corporations.

Under partnership law, each partner is liable for the debts of the business. Therefore, if any partner is unable to meet his or her pro rata claim in the event the partnership goes bankrupt, the remaining partners must make good on the unsatisfied claims, drawing on their personal assets if necessary. Thus, the business-related activities of any of the firm's partners can bring ruin to the other partners, even though those partners are not direct parties to such activities.

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1-2c Corporation

A **corporation** is a legal entity created by a state, which means that a corporation has the legal authority to act like a person when conducting business. It is separate and distinct from its owners and managers. This separateness gives the corporation four major advantages:

1. A corporation offers its owners *limited liability*. To illustrate the concept of limited liability, suppose you invested $10,000 to become a partner in a business formed as a partnership that subsequently went bankrupt, owing creditors $1 million. Because the owners are liable for the debts of a partnership, as a partner you would be assessed for a share of the company's debt; you could even be held liable for the entire $1 million if your partners could not pay their shares. This is the danger of *unlimited liability*. On the other hand, if you invested $10,000 in the stock of a corporation that then went bankrupt, your potential loss on the investment would be limited to your $10,000 investment.[2]
2. Ownership interests can be divided into shares of stock, which can be *transferred far more easily* than can proprietorship or partnership interests. Shares of stock in large publicly-traded corporations can be bought and sold in minutes, whereas interests in proprietorships and partnerships generally cannot.
3. A corporation can continue after its original owners and managers no longer have a relationship with the business; thus it is said to have *unlimited life*. The life of a corporation is based on the longevity of its stock, not the longevity of those who own the stock (the owners).
4. The first three factors—limited liability, easy transferability of ownership interest, and unlimited life—make it much easier for corporations than for proprietorships or partnerships to raise money in the financial markets. In addition, corporations can issue stocks and bonds to raise funds, whereas proprietorships and partnerships cannot.

Even though the corporate form of business offers significant advantages over proprietorships and partnerships, it does have two major disadvantages:

1. Setting up a corporation is more complex and time-consuming than for a proprietorship or a partnership. When a corporation is created, (a) a **corporate charter**, which provides general information, including the name of the corporation, types of activities it will pursue, amount of stock that initially will be issued, and so forth, must be filed with the appropriate department of the state in which the firm incorporates, and (b) a set of rules, called **bylaws**, that specify how the corporation will be governed must be drawn up by the founder(s). In addition, corporations must file periodic state and federal reports that are not required of other forms of businesses.
2. Because the earnings of the corporation are taxed at the corporate level and then any earnings paid out as dividends are again taxed as income to stockholders, corporate earnings are subject to *double taxation*.[3]

corporation A legal entity created by a state, separate and distinct from its owners and managers, having unlimited life, easy transferability of ownership, and limited liability.

corporate charter A document filed with the appropriate department of the state in which a business is incorporated that provides information about the company, including its name, address, directors, and amount of capital stock.

bylaws A set of rules drawn up by the founders of a corporation that indicates how the company is to be governed; includes procedures for electing directors, rights of stockholders, and how to change the bylaws when necessary.

[2]In the case of small corporations, the limited liability feature is often a fiction because bankers and credit managers frequently require personal guarantees from the stockholders of small, weak corporations.

[3]There was a push in Congress in 2003 to eliminate the double taxation of dividends by either treating dividends paid by corporations the same as interest—that is, making them a tax-deductible business expense—or allowing dividends to be tax exempt to stockholders. Congress passed neither; instead, the tax on dividends received by investors was reduced from the ordinary tax rate to the capital gains rate.

1-2d Hybrid Forms of Business: LLP, LLC, and S Corporation

Alternative business forms that include some of the advantages, and avoid some of the disadvantages, of the three major forms of business have evolved over time. These alternative forms of business combine some characteristics of proprietorships and partnerships with some characteristics of corporations. In this section, we provide brief descriptions of three popular *hybrid business forms* that exist today.

Limited Liability Partnership (LLP). In the earlier discussion of a partnership, we described the form of business that is referred to as a *general partnership*, wherein each partner is personally liable for any of the debts of the business. It is possible to limit the liability faced by some of the partners by establishing a **limited liability partnership (LLP)**. The legal aspects of LLPs vary from state to state. Even so, an LLP generally is set up as one of two forms. In some states an LLP can be established that permits persons to invest in partnerships without exposure to the personal liability that general partners face. With this type of LLP, at least one partner is designated as a *general partner* and the others are *limited partners*. The general partners remain fully personally liable for all business debts, whereas the limited partners are liable only for the amounts they have invested in the business. With this form of an LLP, only the general partners can participate in the management of the business; partners with limited liability are considered investors only. In other states, all partners in an LLP are fully liable for the general debts of the business, but an individual partner is not liable for the negligence, irresponsibility, or similar acts committed by any other partner (thus the limited liability). Some states require LLPs to file partnership agreements with the appropriate department of state, whereas other states do not.

limited liability partnership (LLP) A partnership wherein at least one partner is designated as a *general partner* with unlimited personal financial liability, and the other partners are *limited partners* whose liability is limited to amounts they invest in the firm.

limited liability company (LLC) Offers the limited personal liability associated with a corporation; however, the company's income is taxed like that of a partnership.

S corporation A corporation with no more than 100 stockholders that elects to be taxed in the same manner as proprietorships and partnerships, so that business income is only taxed once.

Limited Liability Company (LLC). A **limited liability company (LLC)** is a relatively new business form that has become popular during the past couple of decades; it combines the features of a corporation and a partnership. An LLC offers the limited personal liability associated with a corporation, but the company can choose to be taxed either as a corporation or as a partnership. If an LLC is taxed like a partnership, income is said to pass through to the owners, so that it is taxed only once. The structure of the LLC is fairly flexible; owners generally can divide liability, management responsibilities, ownership shares, and control of the business any way they please. In addition, LLC owners, who are called members, can be individuals or other businesses. Unlike a partnership, an LLC can have a single owner. As with a corporation, legal paperwork, which is termed articles of organization, must be filed with the state in which the business is set up, and there are certain financial reporting requirements after the formation of an LLC. Because LLCs are created by state laws, which vary considerably from state to state, there can be substantial differences between how an LLC can be formed in one state versus another state. As this type of business organization becomes more widespread, state regulation likely will become more uniform.

S Corporation. A domestic corporation that has no more than 100 stockholders and only one type of stock outstanding can elect to file taxes as an **S corporation**. If a corporation elects the S corporation status, then its income is taxed the same as income earned by proprietorships and partnerships; that is, income passes through the company to the owners so that it is taxed only once. The major differences between an S corporation and an LLC are that an LLC can have more than 100 stockholders (members) and more than one type of stock (membership interest).

1-2e Which Form of Business Is Best?

Different forms of business serve different purposes. For the following reasons, however, the value of any business, other than a very small concern, probably will be maximized if it is organized as a corporation:

1. Limited liability reduces the risks borne by investors. All else equal, *the lower the firm's risk, the higher its market value.*
2. *A firm's current value is related to its future growth opportunities,* and corporations can more easily

attract funds to take advantage of growth opportunities than can unincorporated businesses (only corporations can issue stocks and bonds to raise funds).

3. Corporate ownership can be transferred more easily than ownership of either a proprietorship or a partnership. Therefore, all else equal, investors would be willing to pay more for a corporation than for a proprietorship or partnership, which means that the corporate form of organization can *enhance the value* of a business.

Most firms are managed with value maximization in mind, and this, in turn, has caused most large businesses to be organized as corporations.

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1-3 WHAT GOAL(S) SHOULD BUSINESSES PURSUE?

Depending on the form of business, one firm's major goals might differ somewhat from another firm's major goals. But, in general, every business owner wants the value of his or her investment in the firm to increase. The owner of a proprietorship has direct control over his or her investment in the company because it is the proprietor who owns and runs the business. As a result, a proprietor might choose to work three days per week and play golf or fish the rest of the week as long as the business remains successful and he or she is satisfied living this type of life. On the other hand, the owners (stockholders) of a large corporation have very little control over their investments because they generally do not run the business. Because they are not involved in the day-to-day decisions, these stockholders expect that the managers who run the business do so with the best interests of the owners in mind.

Investors purchase the stock of a corporation because they expect to earn an acceptable return on the money they invest. Because we know investors want to increase their wealth positions as much as possible, all else equal, it follows that managers should behave in a manner that is consistent with enhancing the firm's value. For this reason, throughout this book we operate on the assumption that management's primary goal is **stockholder wealth maximization**, which, as we will see, translates into maximizing the value of the firm as measured by the price of its common stock. Firms do, of course, have other goals. In particular, managers who make the actual decisions are also interested in their own personal satisfaction, in their employees' welfare, and in the good of the community and of society at large. Still, *stock price maximization is the most important goal of most corporations.*

If a firm attempts to maximize its stock price, is this good or is this bad for society? In general, it is good. Aside from such illegal actions as attempting to form monopolies, violating safety codes, and failing to meet pollution control requirements, *the same actions that maximize stock prices also benefit society.* First, note that stock price maximization requires efficient, low-cost plants that produce high-quality goods and services that are sold at the lowest possible prices. Second, stock price maximization requires the development of products that consumers want and need, so the profit motive leads to new technology, to new products, and to new jobs. Finally, stock price maximization necessitates efficient and courteous service, adequate stocks of merchandise, and well located business establishments. These factors are necessary to maintain a customer base that generates sustainable profits. Therefore, most actions that help a firm increase the price

stockholder wealth maximization The appropriate goal for management decisions; considers the risk and timing associated with expected cash flows to maximize the price of the firm's common stock.

of its stock also are beneficial to society at large. This is why profit-motivated, free-enterprise economies have been so much more successful than socialistic and communistic economic systems. Because managerial finance plays a crucial role in the operation of successful firms and because successful firms are necessary for a healthy, productive economy, it is easy to see why finance is important from a social standpoint.[4]

1-3a Managerial Actions to Maximize Shareholder Wealth

How do we measure value, and what types of actions can management take to maximize value? Although we will discuss valuation in much greater detail later in the book, we introduce the concept of value here to give you an indication of how management can affect the price of a company's stock. First, the value of any investment, such as a stock, is based on the cash flows the asset is expected to generate during its life. Second, investors prefer to receive a particular cash flow sooner rather than later. And, third, investors generally are risk averse, which means they are willing to pay more for investments with more certain future cash flows than for investments with less certain, or riskier, cash flows, everything else equal. For these reasons, we know that managers can increase the value of a firm by making decisions that increase the firm's expected future cash flows, generate the expected cash flows sooner, increase the certainty of the expected cash flows, or produce any combination of these actions.

The financial manager makes decisions about the expected cash flows of the firm, which include decisions about how much and what types of debt and equity should be used to finance the firm (*capital structure decisions*); what types of assets should be purchased to help generate expected cash flows (*capital budgeting decisions*); and what to do with net cash flows generated by the firm—reinvest them in the firm or pay dividends (*dividend policy decisions*). Each of these topics will be addressed in detail later in the book. But, at this point, it should be clear that the decisions financial managers make can significantly affect a firm's value because they affect the amount, timing, and riskiness of the cash flows the firm produces.

value The present, or current, value of the cash flows that an asset is expected to generate in the future.

Although managerial actions affect the value of a firm's stock, external factors also influence stock prices. Included among these factors are legal constraints, the general level of economic activity, tax laws, and conditions in the financial markets. Based on both internal and external constraints, management makes a set of long-run strategic policy decisions that chart a future course for the firm. These policy decisions, along with the general level of economic activity and government regulations and rules (e.g., tax payments), influence the firm's expected cash flows, the timing of these cash flows, as well as their eventual transfer to stockholders in the form of dividends, and the degree of risk inherent in the expected cash flows.

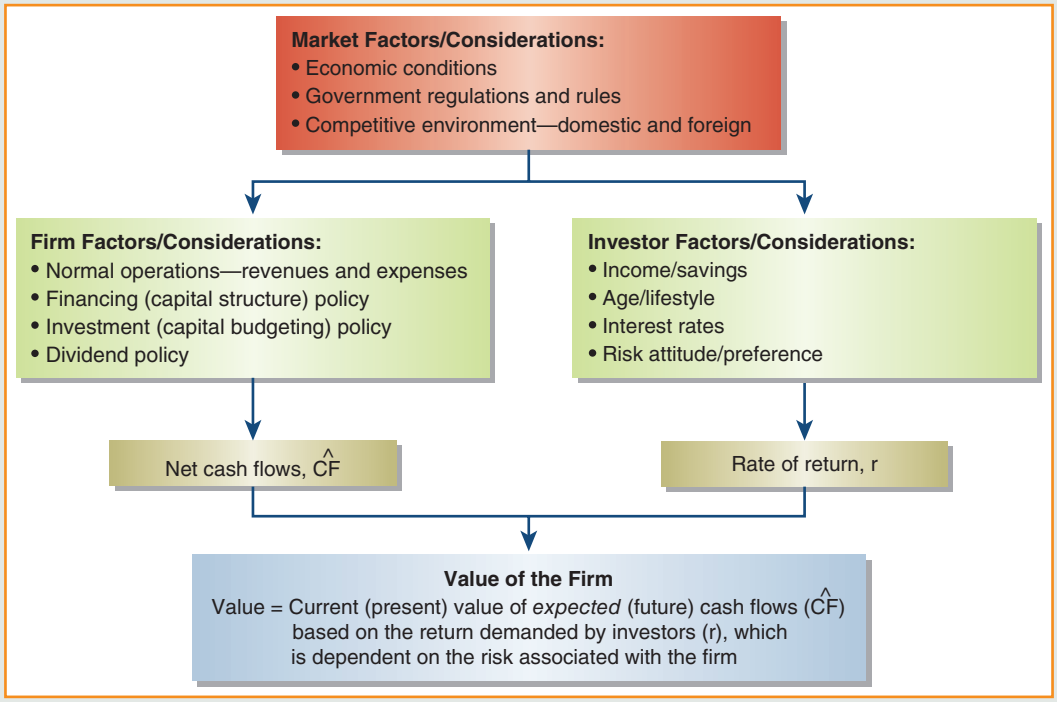
Figure 1.1 diagrams the general relationships involved in the valuation process. As you can see, and as we will discuss in much greater detail throughout the book, a firm's value is ultimately a function of the cash flows it is expected to generate in the future and the rate of return at which investors are willing to provide funds to the firm for the purposes of financing operations and growth. Many factors, including conditions in the economy and financial markets, the competitive environment, and the general operations of the firm, affect the determination of the expected cash flows and the rates people demand when investing their funds. As we progress through the book, we will discuss these and other factors that affect a firm's value. For now, however, it is important to know that when we refer to **value**, we mean the worth of the expected future cash flows restated in current dollars—that is, the *present (current) value* of the future cash flows.

1-3b Should Earnings per Share Be Maximized?

Will profit maximization also result in stock price maximization? In answering this question, we introduce the concept of *earnings per share* (EPS), which equals net income (NI) divided by the number of outstanding shares of common stock (Shares)—that is, EPS = NI/Shares. Many investors use EPS to gauge the value of a stock. A primary reason EPS receives so much attention is the belief that net income, and thus EPS, can be used as a barometer for measuring the firm's potential for generating future cash

[4]People sometimes argue that firms, in their efforts to raise profits and stock prices, increase product prices and gouge the public. In a reasonably competitive economy, which exists in the United States, prices are constrained by competition and consumer resistance. If a firm raises its prices beyond reasonable levels, it will simply lose its market share. Of course, firms want to earn more, and they constantly try to cut costs or develop new products in an attempt to earn above-normal profits. Note, though, that if they are indeed successful and do earn above-normal profits, those very profits will attract competition that will eventually drive prices down so that normal profits are generated; again, the main long-term beneficiary is the consumer.

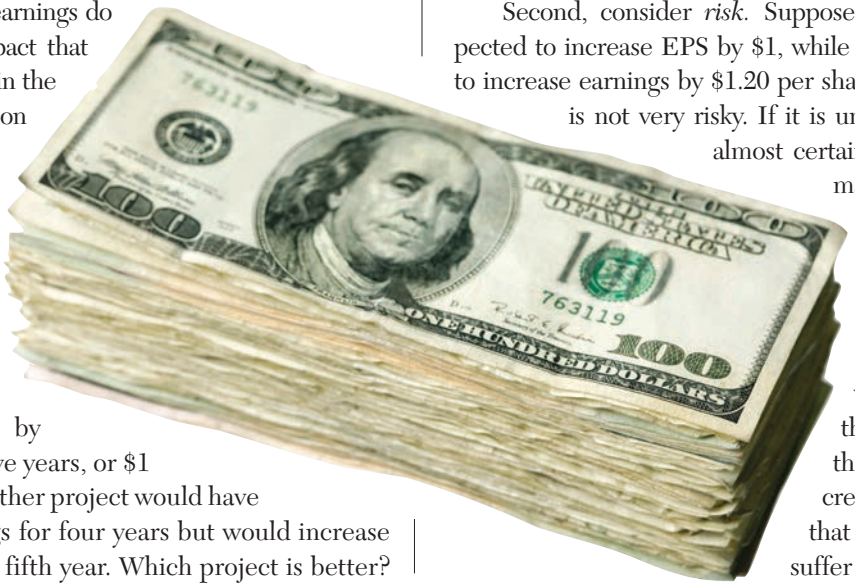
FIGURE 1.1 VALUE OF THE FIRM



flows. Although current earnings and cash flows are generally highly correlated, as mentioned earlier, a firm's value is determined by the cash flows it is expected to generate in the future, as well as the risk associated with those expected cash flows. Thus, financial managers who attempt to maximize earnings might not maximize value because earnings maximization is a shortsighted goal. Most managers who focus solely on earnings do not consider the impact that maximizing earnings in the current period has on either future earnings (timing) or the firm's future risk position.

First, consider the *timing of the earnings.* Suppose Xerox has a project that will cause EPS to rise by $0.20 per year for five years, or $1 in total, whereas another project would have no effect on earnings for four years but would increase EPS by $1.25 in the fifth year. Which project is better? In other words, is $0.20 per year for five years better or worse than $1.25 in Year 5? The answer depends on which project contributes the most to the value of the firm, which in turn depends on the time value of money to investors. Thus, timing is an important reason to concentrate on wealth as measured by the price of the stock rather than on earnings alone.

Second, consider *risk.* Suppose one project is expected to increase EPS by $1, while another is expected to increase earnings by $1.20 per share. The first project is not very risky. If it is undertaken, EPS will almost certainly rise by approximately $1. However, the other project is quite risky. Although our best guess is that EPS will rise by $1.20, we must recognize the possibility that there might be no increase whatsoever or that the firm might even suffer a loss. Depending



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on how averse stockholders are to risk, the first project might be preferable to the second.

In many instances, firms have taken actions that increased earnings per share, yet the stock price decreased because investors believed that either the higher earnings would not be sustained in the future or the risk level of the firm would be increased substantially. Of course, the opposite effect has been observed as well. We see, then, that the firm's stock price, and thus its value, is dependent on (1) the cash flows the firm is expected to provide in the future, (2) when those cash flows are expected to occur, and (3) the risk associated with those cash flows. As we proceed through the book, you will discover that every significant corporate decision should be analyzed in terms of these factors and their effects on the firm's value and hence the price of its stock.

1-3c Managers' Roles as Agents of Stockholders

Because they generally are not involved in day-to-day operations, stockholders (owners) of large corporations "permit" (empower) the executives to make decisions about how the firms are run. Of course, the stockholders want the managers to make decisions that are consistent with the goal of wealth maximization. However, managers' interests can potentially conflict with stockholders' interests.

An *agency relationship* exists when one or more individuals, who are called the *principals*, hire another person, the *agent*, to perform a service and delegate decision-making authority to that agent. If a firm is a proprietorship, there is no agency relationship because the owner–manager operates the business in a fashion that will improve his or her own welfare, with welfare measured in the form of increased personal wealth, more leisure, or perquisites.[5] However, if the owner–manager incorporates and sells some of the firm's stock to outsiders, potential conflicts of interest immediately arise. For example, the owner–manager (agent) might now decide not to work as hard to maximize shareholder (principals') wealth because less of the firm's wealth will go to him or her, or he or she might decide to take a higher salary or enjoy more perquisites because part of those costs will fall on the outside stockholders. This potential conflict between two parties—the principals (outside shareholders) and the agents (managers)—is an **agency problem**.

agency problem A potential conflict of interest between outside shareholders (owners) and managers who make decisions about how to operate the firm.

The potential for agency problems is greatest in large corporations with widely dispersed ownership—for example, IBM and General Motors—because individual stockholders own extremely small proportions of the companies and managers have little, if any, of their own wealth tied up in these companies. For this reason, managers might be more concerned about pursuing their own agendas, such as increased job security, higher salaries, or more power, than about maximizing shareholder wealth.

Mechanisms used by large corporations to motivate managers to act in the shareholders' best interests include:

1. ***Managerial compensation (incentives)***—A common method used to motivate managers to operate in a manner consistent with stock price maximization is to tie managers' compensation to the company's performance. Such compensation packages should be developed so that managers are rewarded on the basis of the firm's performance over a long period of time, not on its performance in any particular year. For example, a company might implement a compensation plan where managers earn 100 percent of a specified reward when the company achieves a targeted growth rate. If the performance is above the target, higher rewards can be earned, whereas managers receive lower rewards when performance is below the target. Often the reward managers receive is the stock of the company. If managers own stock in the company, they should be motivated to make decisions that will increase the firm's value and thus the value of the stock they own.

   All incentive compensation plans should be designed to accomplish two things: (1) Provide inducements to executives to act on those factors under their control in a manner that will contribute to stock price maximization. (2) Attract and retain top-level executives. Well-designed plans can accomplish both goals.

2. ***Shareholder intervention***—Approximately 20–25 percent of the individuals in the United States invest directly in stocks. Along with such institutional stockholders as pension funds and mutual funds, individual stockholders often "flex their muscles" to ensure firms pursue goals that are in the best interests of shareholders rather than of the managers (where conflicts might arise). In addition, many institutional investors routinely monitor top corporations to ensure

[5]Perquisites (or "perks") are executive fringe benefits, such as luxurious offices, use of corporate planes and yachts, personal assistants, and general use of business assets for personal purposes.

managers pursue the goal of wealth maximization. When it is determined action is needed to realign management decisions with the interests of investors, these institutional investors exercise their influence by suggesting possible remedies to management or by sponsoring proposals that must be voted on by stockholders at the annual meeting. Stockholder-sponsored proposals are not binding, but the results of the votes are noticed by corporate management.

In situations where large blocks of the stock are owned by a relatively few large institutions that have enough clout to influence a firm's operations, these institutional owners often have enough voting power to overthrow management teams that do not act in the best interests of stockholders. Examples of major corporations whose managements have been ousted in past years include Coca-Cola, General Motors, and United Airlines.

3. ***Threat of takeover***—**Hostile takeovers**, instances in which management does not want the firm to be taken over, are most likely to occur when a firm's stock is undervalued relative to its potential, which often is caused by inefficient operations that result from poor management. In a hostile takeover, the managers of the acquired firm generally are fired, and those who stay on typically lose the power they had prior to the acquisition. Thus, to avoid takeover threats, managers have a strong incentive to take actions that maximize a firm's value to ensure its stock price is not undervalued.

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Because wealth maximization is a long-term goal rather than a short-term goal, management must be able to convey to stockholders their best interests are being pursued. As you proceed through this book, you will discover that many factors affect the value of a stock, which make it difficult to determine precisely when management is acting in the stockholders' best interests. However, a firm's management team will find it difficult to fool investors, both in general and for a long period, because stockholders can generally determine which major decisions increase value and which ones decrease value.

1-4 WHAT ROLES DO ETHICS AND GOVERNANCE PLAY IN BUSINESS SUCCESS?

In the previous section, we explained how the managers of a firm, who act as the agents of the owners, should make decisions that are in the best interests of the firm's investors. Would you consider it unethical for managers to act in their own best interests rather than the best interests of the owners? Would you invest in a firm that espoused unethical practices or had no direction about how the company's day-to-day operations should be handled? Probably not. In this section, we discuss business ethics and corporate governance, and the roles each of these concepts plays in successful businesses.

1-4a Business Ethics

The word *ethics* can be defined as "moral behavior" or "standards of conduct." **Business ethics** can be thought of as a company's attitude and conduct toward its employees, customers, community, and stockholders. High standards of ethical behavior demand that a firm treat each party it deals with in a fair and honest manner. A firm's commitment to business ethics can be measured by the tendency of the firm and its employees to adhere to laws and regulations relating to such factors as product safety and quality, fair employment practices, fair marketing and selling practices, the use of confidential information for personal gain, community involvement,

hostile takeover The acquisition of a company over the opposition of its management.

business ethics A company's attitude and conduct toward its stakeholders (employees, customers, stockholders, and community). Ethical behavior requires fair and honest treatment of all parties.

bribery, and illegal payments to foreign governments to obtain business.

Although most firms have policies that espouse ethical business conduct, in many instances large corporations have engaged in unethical behavior. Companies such as Arthur Andersen, Enron, and WorldCom MCI have fallen or have been changed significantly as the result of unethical, and sometimes illegal, practices. In some cases, employees (generally top management) have been sentenced to prison for illegal actions that resulted from unethical behavior. Not long ago, the number of high-profile instances in which unethical behavior provided substantial gains for executives at the expense of stockholders' positions increased to the point where public outcry resulted in legislation aimed at mitigating such behavior in the future. A major reason for the legislation was that accounting scandals caused the public to become skeptical of accounting and financial information reported by large U.S. corporations. Simply put, the public no longer trusted what managers said. Investors felt executives were pursuing interests that too often resulted in large gains for themselves and large losses for stockholders. As a result, Congress passed the Sarbanes-Oxley Act of 2002.

The 11 sections (*titles*) in the Sarbanes-Oxley Act of 2002 establish standards for accountability and responsibility in reporting financial information for publicly traded corporations. The act requires a publicly-traded corporation to (1) have a committee that consists of outside directors to oversee the firm's audits, (2) hire an external auditing firm that renders an unbiased (independent) opinion concerning the firm's financial statements, and (3) provide additional information about the procedures used to construct and report financial statements. In addition, the firm's chief executive officer (CEO) and CFO must certify financial reports that are submitted to the Securities and Exchange Commission. The act also stiffens the criminal penalties that can be imposed for producing fraudulent financial information and gives regulatory bodies greater authority to prosecute such actions.

corporate governance
Deals with the set of rules a firm follows when conducting business; these rules identify who is accountable for major financial decisions.

stakeholders Those who are associated with a business, including managers, employees, customers, suppliers, creditors, stockholders, and other parties with an interest in the firm's well-being.

Even though past actions of some executives created investor skepticism regarding the content of financial reports, most executives would tell you they believe their firms should, and do, try to maintain high ethical standards in all their business dealings. Further, most executives believe there is a positive relationship between ethics and long-run profitability because ethical behavior (1) prevents fines and legal expenses, (2) builds public trust, (3) attracts business from customers who appreciate and support ethical policies, (4) attracts and keeps employees of the highest caliber, and (5) supports the economic viability of the communities where these firms operate.

Today most large firms have in place strong codes of ethical behavior, and they conduct training programs designed to ensure all employees understand what the correct behavior is in different business situations. It is imperative that executives and top management—the company's chairperson, president, and vice presidents—be openly committed to ethical behavior and that they communicate this commitment through their own personal actions as well as through company policies, directives, and punishment/reward systems. Investors expect nothing less.

1-4b Corporate Governance

The term *corporate governance* has become a regular part of business vocabulary. As a result of the scandals uncovered at Arthur Andersen, Enron, WorldCom, and many other companies, stockholders, managers, and Congress have become quite concerned with how firms are operated. **Corporate governance** deals with the set of rules a firm follows when conducting business. These rules provide the "road map" managers follow to pursue the various goals of the firm, including maximizing its stock price. It is important for a firm to clearly specify its corporate governance structure so individuals and entities that have an interest in the well-being of the business understand how their interests will be pursued. A good corporate governance structure should provide those who have a relationship with a firm an understanding of how executives run the business and who is accountable for important decisions. As a result of the Sarbanes-Oxley Act of 2002 and increased stockholder pressure, most firms carefully write their corporate governance policies so all **stakeholders**—managers, stockholders, creditors, customers, suppliers, and employees—better understand their rights and responsibilities.[6] In addition, from our

[6]Broadly speaking, the term *stakeholders* should include the environment in which we live and do business. It should be apparent that a firm cannot survive—that is, remain sustainable—unless it treats both human stakeholders and environmental stakeholders fairly. A firm that destroys either the trust of its employees, customers, and shareholders, or the environment in which it operates, destroys itself.

previous discussions, it should be clear that maximizing shareholder wealth requires the fair treatment of all stakeholders.

Studies show firms that practice good corporate governance generate higher returns to stockholders than those that don't have good governance policies. Good corporate governance includes a board of directors with members who are independent of the company's management. An independent board generally serves as a checks-and-balances system that monitors important management decisions, including executive compensation. It has also been shown that firms that develop governance structures that make it easier to identify and correct accounting problems and potentially unethical or fraudulent practices perform better than firms that have poor governance policies (internal controls).[7]

1-5 FORMS OF BUSINESSES IN OTHER COUNTRIES

Large U.S. corporations can best be described as "open" companies because they are publicly-traded organizations that, for the most part, are independent of each other and of the government. While most developed countries with free economies have business organizations that are similar to U.S. corporations, some differences exist relating to ownership structure and management of operations. Although a comprehensive discussion is beyond the scope of this book, this section provides some examples of differences between U.S. companies and non-U.S. companies.

Firms in most developed economies, such as corporations in the United States, offer equities with limited liability to stockholders that can be traded in domestic financial markets. However, such firms are not always called *corporations*. For instance, a comparable firm in England is called a *public limited company*, or PLC, while in Germany it is known as an *Aktiengesellschaft*, or AG. In Mexico, Spain, and Latin America, such a company is called a *Sociedad Anónima,* or SA. Some of these firms are publicly traded, whereas others are privately held.

Like corporations in the United States, most large companies in England and Canada are *open,* which means their stocks are widely dispersed among a large number of different investors, both individuals and institutions. On the other hand, in much of continental Europe, stock ownership is more concentrated; major investor groups include families, banks, and other corporations. In Germany and France, for instance, other domestic companies represent the primary group of shareholders, followed by families. Although banks in these countries do not hold large numbers of shares of stocks, they can greatly influence companies because many shareholders assign banks their **proxy votes** for the directors of the companies. In addition, often the family unit has concentrated ownership and thus represents a major influence in many large companies in developed countries such as these. The ownership structures of these firms and many other large non-U.S. companies often are concentrated in the hands of a relatively few investors or investment groups. Such firms are considered *closed* because shares of stock often are not publicly traded, relatively few individuals or groups own the stock, and major stockholders generally are involved in the firms' daily operations.

The primary reason non-U.S. firms are likely to be more closed, and thus have more concentrated ownership, than U.S. firms results from the universal banking relationships that exist outside the United States. Financial institutions in other countries generally are less regulated than in the United States, which means foreign banks can provide businesses a greater variety of services than U.S. banks can, including stock ownership. As a result, non-U.S. firms tend to have close relationships with individual banking organizations that also might take ownership positions in the companies. What this means is that banks in countries like Germany can meet the financing needs of family-owned businesses, even if they are very large. Therefore, such companies do not need to go public and thus relinquish control to finance additional growth. The opposite is true in the United States, where large firms do not have comparable "one-stop" financing outlets. Hence, their growth generally must be financed by bringing in outside owners, which results in more widely dispersed ownership.

In some parts of the world, firms belong to **industrial groups**, which are organizations composed of companies

proxy votes Voting power that is assigned to another party, such as another stockholder or institution.

industrial groups Organizations of companies in different industries with common ownership interests, which include firms necessary to manufacture and sell products; networks of manufacturers, suppliers, marketing organizations, distributors, retailers, and creditors.

[7]See, for example, Reshma Kapadia, "Stocks Reward Firms' Good Behavior," *The Wall Street Journal Online*, March 18, 2006, and David Reilly, "Checks on Internal Controls Pay Off," *The Wall Street Journal*, May 8, 2006, C3.

in different industries that have common ownership interests and, in some instances, shared management. Firms in an industrial group are linked by a major lender, typically a bank, which often also has a significant ownership interest, along with other firms in the group. The objective of an industrial group is to create an organization that ties together all the functions of production and sales from start to finish. Thus, an industrial group encompasses firms involved in manufacturing, financing, marketing, and distribution of products, which include suppliers of raw materials, production organizations, retail stores, and creditors. A portion of the stocks of firms that are members of an industrial group might be traded publicly, but the lead company, which is typically a major creditor, controls the management of the entire group. Industrial groups are most prominent in Asian countries. In Japan, an industrial group is called a *keiretsu,* while it is called a *chaebol* in Korea. Well-known *keiretsus* include Mitsubishi, Toshiba, and Toyota, while Samsung and Hyundai probably are the most recognizable *chaebols*. The success of industrial groups in Japan and Korea has inspired the formation of similar organizations in developing countries in Latin America and Africa as well as in other parts of Asia.

The differences in ownership concentration of non-U.S. firms might cause the behavior of managers, and thus the goals they pursue, to differ. For instance, often it is argued that the greater concentration of ownership of non-U.S. firms permits managers to focus more on long-term objectives, especially wealth maximization, than on short-term earnings, because these firms have easier access to credit in times of financial difficulty. In other words, creditors who also are owners generally have greater interest in supporting both short-term and long-term survival. On the other hand, it also has been argued that the ownership structures of non-U.S. firms create an environment where it is difficult to change managers, especially if they are significant stockholders. Such entrenchment could be detrimental to firms if management is inefficient. Whether the ownership structure of non-U.S. firms is an advantage or a disadvantage is debatable. What we do know is that the greater concentration of ownership in non-U.S. firms permits greater monitoring and control by individuals or groups than do the more dispersed ownership structures of U.S. firms.

multinational companies
Firms that operate in two or more countries.

1-5a Multinational Corporations

Large firms, both in the United States and in other countries, generally do not operate in a single country; rather, they conduct business throughout the world. Because large **multinational companies** are involved in all phases of the production process, from extraction of raw materials, through the manufacturing process, to distribution to consumers throughout the world, managers of such firms face a wide range of issues that are not present when a company operates in a single country.

U.S. and foreign companies "go international" for the following major reasons:

1. ***To seek new markets***—After a company has saturated its home market, growth opportunities often are better in foreign markets. As a result, such homegrown firms as Coca-Cola and McDonald's have aggressively expanded into overseas markets, and foreign firms such as Sony and Toshiba are major competitors in the U.S. consumer electronics market.
2. ***To seek raw materials***—Many U.S. oil companies, such as ExxonMobil, have major subsidiaries around the world to ensure they have continued access to the basic resources needed to sustain their primary lines of business.
3. ***To seek new technology***—No single nation holds a commanding advantage in all technologies, so companies scour the globe for leading scientific and design ideas. For example, Xerox has introduced more than 80 different office copiers in the United States that were engineered and built by its Japanese joint venture, Fuji Xerox.
4. ***To seek production efficiency***—Companies in countries where production costs are high tend to shift production to low-cost countries. The ability to shift production from country to country has important implications for labor costs in all countries. For example, when Xerox threatened to move its copier rebuilding work to Mexico, its union in Rochester, New York, agreed to work rule and productivity improvements that kept the operation in the United States.
5. ***To avoid political and regulatory hurdles***—Many years ago, Japanese auto companies moved production to the United States to get around U.S. import quotas. Now, Honda, Nissan, and Toyota all assemble automobiles or trucks in the United States. Similarly, one of the factors that prompted U.S. pharmaceutical maker SmithKline and U.K. drug company Beecham to merge in 1989 was the desire to avoid licensing and regulatory

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delays in their largest markets. Now, GlaxoSmithKline, as the company is known, can identify itself as an inside player in both Europe and the United States.

The substantial growth that has occurred in multinational business during the past few decades has created an increasing degree of mutual influence and interdependence among business enterprises and nations, to which the United States is not immune. Political and social developments that influence the world economy also influence U.S. businesses and financial markets, and vice versa.

1-5b Multinational Versus Domestic Managerial Finance

In theory, the concepts and procedures discussed in the remaining chapters of this book are valid for both domestic and multinational operations. However, several obstacles associated with the international environment increase the complexity of the manager's task in a multinational corporation, and they often force the manager to change the way alternative courses of action are evaluated and compared. Six major factors distinguish managerial finance as practiced by firms operating entirely within a single country from management by firms that operate in several different countries:

1. ***Different currency denominations***—Cash flows in various parts of a multinational corporate system often are denominated in different currencies. Hence, an analysis of **exchange rates** and the effects of fluctuating currency values must be included in all multinational financial analyses.

2. ***Economic and legal ramifications***—Each country in which the firm operates has its own political and economic institutions, and institutional differences among countries can cause significant problems when a firm tries to coordinate and control the worldwide operations of its subsidiaries. For example, differences in tax laws among countries can cause after-tax consequences that differ substantially depending on where a transaction occurs. In addition, differences in legal systems of host nations complicate many matters, from the simple recording of a business transaction to the role played by the judiciary in resolving conflicts. Such differences can restrict a multinational corporation's flexibility to deploy resources as it wishes, and can even make procedures illegal in one part of the company that are required in another part. These differences also make it difficult for executives trained in one country to operate effectively in another.

3. ***Language differences***—The ability to communicate is critical in all business transactions. Persons born and educated in the United States often are at a disadvantage because they generally are fluent only in English, whereas European and Asian businesspeople usually are fluent in several languages, including English. As a result, it is often easier for international companies to invade U.S. markets than it is for American firms to penetrate international markets.

4. ***Cultural differences***—Even within geographic regions long considered fairly homogeneous, different countries have distinctive cultural heritages that shape values and influence the role of business in the society. Multinational corporations find that such matters as

exchange rates The prices at which the currency of one country can be converted into the currencies of other countries.

defining the appropriate goals of the firm, attitudes toward risk taking, dealing with employees, and the ability to curtail unprofitable operations can vary dramatically from one country to the next.

5. ***Role of governments***—Most traditional models in finance assume the existence of a competitive marketplace in which the terms of trade are determined by the participants. The government, through its power to establish basic ground rules, is involved in this process, but its participation is minimal. Thus, the market provides both the primary barometer of success and the indicator of the actions that must be taken to remain competitive. This view of the process is reasonably correct for the United States and a few other major industrialized nations, but it does not accurately describe the situation in most of the world. Frequently, the terms under which companies compete, the actions that must be taken or avoided, and the terms of trade on various transactions are determined by direct negotiation between the host government and the multinational corporation rather than in the marketplace. This is essentially a political process, and it must be treated as such.

6. ***Political risk***—The main characteristic that differentiates a nation from a multinational corporation is that the nation exercises sovereignty over the people and property in its territory. Hence, a nation is free to place constraints on the transfer of corporate resources and even to *expropriate*—that is, take for public use—the assets of a firm without compensation. This is *political risk*, and it tends to be a given rather than a variable that can be changed by negotiation. Political risk varies from country to country, and it must be addressed explicitly in any multinational financial analysis. Another aspect of political risk is terrorism against U.S. firms or executives abroad. For example, in the past, U.S. executives have been abducted and held for ransom in several South American and Middle Eastern countries.

These six factors complicate managerial finance within multinational firms, and they increase the risks these firms face. However, prospects for high returns often make it worthwhile for firms to accept these risks and to learn how to minimize or at least live with them.

ETHICAL DILEMMA

CHANCES ARE WHAT THEY DON'T KNOW WON'T HURT THEM!

Futuristic Electronic Technologies (FET) recently released a new advanced electronic micro system to be used by financial institutions, large corporations, and governments to process and store financial data, such as taxes and automatic payroll payments. Even though FET developed the technology used in the creation of the product, FET's competitors are expected to possess similar technology soon. To beat the competition to the market, FET introduced its new micro system earlier than originally planned. In fact, laboratory testing had not been fully completed before the product reached the market. The tests are complete now, and the final results suggest the micro system might be flawed with respect to how some data are retrieved and processed. The tests are not conclusive, though, and even if additional testing proves a flaw does exist, according to FET, it is of minuscule importance because the problem seems to occur for only one out of 10 million retrieval and processing attempts. The financial ramifications associated with the flaw are unknown at this time.

Assume that you are one of FET's senior executives whose annual salary is based on the performance of the firm's common stock. You realize that if FET recalls the affected micro system, the stock price will suffer; thus, your salary for the year will be less than you expected. To complicate matters, you just purchased an expensive house based on your salary expectations for the next few years—expectations that will not be realized unless the new micro system is a success for FET.

As one of the senior executives, you will help determine what course of action FET will follow with respect to the micro system. What should you do? Should you encourage FET to recall the micro system until further testing is completed? Or can you suggest another course of action?

STUDY TOOLS 1

LOCATED AT BACK OF THE TEXTBOOK

- ☐ Practice problem solutions can be found in Appendix B.
- ☐ A tear-out Chapter Review card is located at the back of the textbook.

INCLUDED IN MINDTAP

- ☐ Review Key Term flashcards.
- ☐ Watch Quick Lessons of key concepts.
- ☐ Work practice problems and complete homework assignments and quizzes.

KEY MANAGERIAL FINANCE CONCEPTS

To conclude this chapter, we summarize some key concepts.

- Financial decisions deal with cash flows, both inflows and outflows.
- All else equal, investors prefer (1) more value rather than less value, (2) to receive cash sooner rather than later, and (3) less risk rather than more risk.
- The three principal forms of business organization in the United States are the (1) proprietorship, (2) partnership, and (3) corporation.
- The primary goal of the financial manager should be to maximize the value of the firm, which generally is measured by the firm's stock price.
- The managers of a firm are the decision-making agents of its owners (i.e., the stockholders in a corporation). When managers do not make decisions that are in the best interests of the owners, agency problems exist. Agency problems can be mitigated by rewarding managers for making decisions that help maximize the firm's value.
- Firms that are ethical and have good governance policies generally perform better than firms that are less ethical or have poor governance policies.
- Firms "go international" for a variety of reasons, including to operate in new markets, to search for raw materials, to attain production efficiency, and to avoid domestic regulations.
- Foreign firms generally are less open—that is, have fewer owners (stockholders)—than U.S. firms.
- Managerial finance in multinational firms is more complicated than in purely domestic firms because several obstacles exist with international trade.

PROBLEMS

1-1 What is finance? What types of decisions do people in finance make? **(LO 1-1)**

1-2 Why should persons who pursue careers in business have a basic understanding of finance even if their jobs are in areas other than finance, such as marketing or information systems? **(LO 1-1)**

1-3 What does it mean to maximize the value of a corporation? **(LO 1-3)**

1-4 In general terms, how is value measured? What three factors determine value? How does each factor affect value? **(LO 1-3)**

1-5 What is the difference between stock price maximization and profit maximization? Under what conditions might profit maximization not lead to stock price maximization? **(LO 1-3)**

1-6 What are some actions stockholders can take to ensure that management's interests and the interests of stockholders align? What are some other factors that might influence management's actions? **(LO 1-3)**

1-7 If you were the owner of a proprietorship, would you make decisions to maximize the value of your business or your personal satisfaction? **(LO 1-2 & LO 1-3)**

1-8 Suppose you are the president of a large corporation. How do you think the stockholders will react if you decide to substantially increase the proportion of the company's assets that is financed with debt. **(LO 1-3)**

1-9 What is corporate governance? How does corporate governance affect the returns generated for stockholders? **(LO 1-4)**

1-10 Why do U.S. corporations go international? **(LO 1-5)**

1-11 What are some factors that make financial decision making more complicated for firms that operate in foreign countries than for purely domestic firms? **(LO 1-5)**

1-12 Describe the four general areas included in the study of finance. Why is it important for a person who works in the financial markets to understand the responsibilities of a person who works in managerial finance? **(LO 1-1)**

1-13 Describe the major differences among the three primary forms of business organization (proprietorship, partnership, and corporation). **(LO 1-2)**

1-14 Why do you think hybrid forms of business, such as limited liability partnerships (LLP) and limited liability companies (LLC), have evolved over time? **(LO 1-2)**

1-15 What does it mean to be ethical in business dealings? Should unethical business behavior be encouraged by business owners (stockholders) if such behavior increases the value of the stock they own? **(LO 1-3 & LO 1-4)**

1-16 Can a firm sustain its operations by maximizing stockholders' wealth at the expense of other stakeholders? **(LO 1-3)**

1-17 Compared to the ownership structure of U.S. firms, which are "open" companies, what are some advantages of the ownership structure of foreign firms, many of which are "closed" companies? Can you think of any disadvantages? **(LO 1-5)**

1-18 Should stockholder wealth maximization be thought of as a long-term goal or a short-term goal? Why? **(LO 1-3)**

1-19 Discuss the possibility of agency problems in a business that is a (a) proprietorship, (b) partnership with five partners, and (c) corporation with 100,000 stockholders. **(LO 1-3)**

1-20 Discuss the validity of the following statement: "When a firm's stock price falls, it is evidence that the firm's managers are not acting in the best interests of the shareholders." **(LO 1-3)**

1-21 Why do most firms form as proprietorships or partnerships when they first start doing business and then change to the corporate form of business when they grow larger? **(LO 1-2)**

1-22 Would the management of a firm in an oligopolistic industry or in a highly competitive industry be more likely to engage in "socially conscious" practices? Explain your reasoning. **(LO 1-3)**

1-23 Why do U.S. corporations build manufacturing plants abroad when they could build them at home? **(LO 1-5)**

1-24 What is an agency problem? What actions might be taken to mitigate the potential for agency problems in a large, publicly-traded corporation? **(LO 1-3)**

1-25 How can knowledge of finance concepts help you make personal financial decisions you will confront in life? **(LO 1-1)**

INTEGRATIVE PROBLEM

Marty Kimble, who "retired" many years ago after winning a huge lottery jackpot, wants to start a new company that will sell authentic sports memorabilia. He plans to name the company Pro Athlete Remembrances, or PAR for short. Marty is still in the planning stages, so he has a few questions about how PAR should be organized when he starts the business and what he should do if the company becomes very successful in the future. Marty has little knowledge of finance concepts. To answer his questions and learn more about finance in general, Mr. Kimble has hired Sunshine Business Consultants (SBC). Assume you are a new employee of SBC and your boss asked you to answer the following questions for Mr. Kimble.

a. What is finance? Why is the finance function important to the success of a business?

b. Why is it important for persons who work in other areas in a business to have an understanding of finance? Do you think it is more important for Marty Kimble to have a basic understanding of all the areas in a business than a person who works for a large national corporation?

c. What are the alternative forms of business organization? What are the advantages and disadvantages of each?

d. What form of business organization do you recommend Mr. Kimble use when starting PAR? Why?

e. Assume PAR is organized as a proprietorship when it starts business. If PAR becomes extremely successful and grows substantially, would you recommend Mr. Kimble change the business organization to either a partnership or a corporation? Explain your answer.

f. What goal should Mr. Kimble pursue when operating PAR?

g. Assume PAR is organized as a proprietorship when it starts business and that Mr. Kimble plans to convert the business to a corporation at some point in the future. What are some potential problems that Mr. Kimble as one of the owners might face after converting to a corporation? Discuss some solutions to these potential problems.

h. Mr. Kimble would like PAR to grow so that at some point in the future the company can conduct business in other countries. Why do firms "go global"?

i. Discuss any differences and problems Mr. Kimble should be aware of when conducting business in foreign markets.

PART 2

2 Analysis of Financial Statements

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LEARNING OUTCOMES

After studying this chapter, you will be able to . . .

- 2-1 **Describe the basic financial information that is produced by corporations, and explain how the firm's stakeholders use such information.**
- 2-2 **Describe the financial statements corporations publish and the information each statement provides.**
- 2-3 **Describe how ratio analysis should be conducted and why the results of such an analysis are important to both managers and investors.**
- 2-4 **Discuss potential problems (caveats) associated with financial statement analysis.**

Check out STUDY TOOLS at the end of this chapter

Financial statement analysis involves evaluation of a firm's financial position to identify its current strengths and weaknesses and to suggest actions the firm might pursue to take advantage of those strengths and correct any weaknesses to accomplish its goal of wealth maximization. In this chapter, we discuss how to evaluate a firm's current financial position to make informed decisions about the direction in which the firm is headed in the future. In later chapters, we examine actions a firm can take to improve its financial position in the future, thereby increasing the price of its stock.

2-1 FINANCIAL REPORTS

Of the various reports corporations provide to their stockholders, the **annual report** probably is the most important. This report provides two types of information:

1. ***Discussion of operations***—describes the firm's operating results during the past year and discusses new developments that will affect future operations.
2. ***Basic financial statements***—include (a) the balance sheet, (b) the income statement, (c) the statement of cash flows, and (d) the statement of retained earnings. Taken together, these statements give an accounting picture of the firm's operations and its financial position. Detailed data are provided for the two most recent years, along with historical summaries of key operating statistics for the past 5 to 10 years.[1]

The quantitative and verbal information contained in the annual report are equally important. The financial statements indicate what actually happened to the firm's financial position and to its earnings and dividends over the past few years, whereas the verbal statements attempt to explain both why things turned out the way they did and how management expects the firm to perform in the future. To illustrate how annual reports can prove helpful, we will use data taken from a fictitious company called Unilate Textiles. Unilate is a manufacturer and distributor of a wide variety of textiles and clothing items that was formed in 1990 in North Carolina. The company has grown steadily and has earned a reputation for selling quality products.

[1] Firms also provide quarterly reports, but they are much less comprehensive than the annual reports. In addition, larger publicly-traded firms file even more detailed statements that give breakdowns for each major division or subsidiary with the Securities and Exchange Commission (SEC). These reports, called *10-K reports,* are made available to stockholders upon request to a company's corporate secretary. Many companies also post these reports on their websites. Finally, many larger firms also publish *statistical supplements* that give financial statement data and key ratios going back 10 to 20 years.

In the most recent annual report, management reported that earnings were lower than forecasted due to losses associated with a poor cotton crop and from increased costs caused by a three-month employee strike and a retooling of the factory. Management then went on to paint a more optimistic picture for the future, stating that full operations had been resumed, several unprofitable businesses had been eliminated, and profits were expected to rise during the next year. Of course, an increase in profitability might not occur, and analysts should compare management's past statements with subsequent results to determine whether this optimism is justified. In any event, *investors use the information contained in an annual report to form expectations about future earnings and dividends.* Clearly, then, investors are quite interested in a company's annual report.

Because this book is intended to provide an introduction to managerial finance, Unilate's financial statements are constructed so they are simple and straightforward. At this time, the company uses only debt and common stock to finance its assets—that is, Unilate does not have outstanding preferred stock or other financing instruments. Moreover, the company has only the basic assets required to conduct business, including cash and marketable securities, accounts receivable, inventory, and ordinary fixed assets. In other words, Unilate does not have items that require complex accounting applications.

2-2 FINANCIAL STATEMENTS

Before we evaluate Unilate's financial position to form an opinion about its future prospects, let's take a look at the financial statements the company publishes in its annual report.

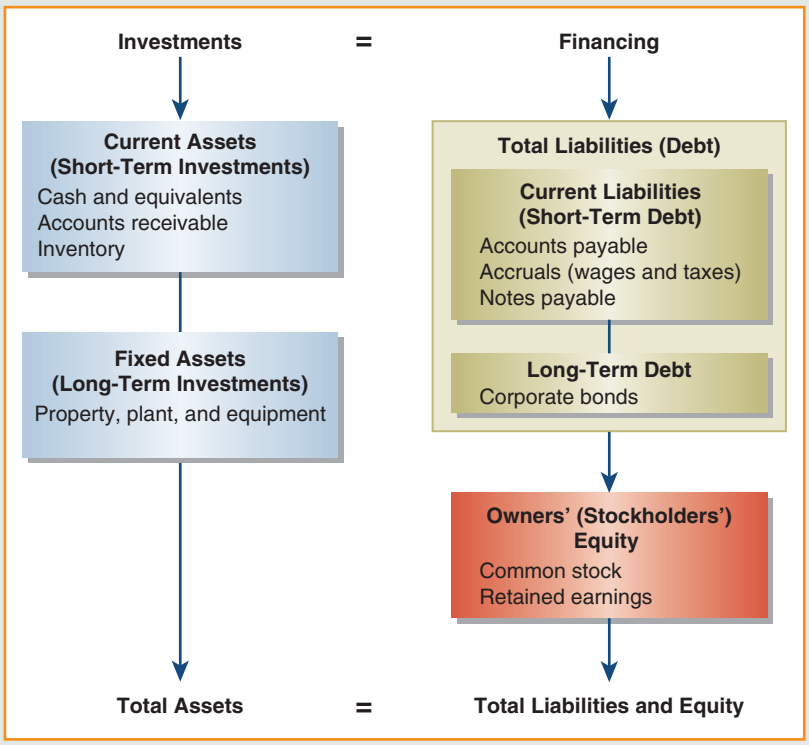
annual report A report issued by a corporation to its stockholders that contains basic financial statements as well as the opinions of management about the past year's operations and the firm's future prospects.

2-2a The Balance Sheet

The **balance sheet** represents a picture taken *at a specific point in time (date)* that shows a firm's assets and how those assets are financed (amounts of debt and equity). Figure 2.1 shows the general set up for a simple balance sheet. Table 2.1 shows Unilate's balance sheets on December 31 for the years 2021 and 2022. December 31 is the end of the fiscal year, which is when Unilate "takes a snapshot" of its existing assets, liabilities, and owners' (stockholders') equity to construct the balance sheet. In this section, we concentrate on the more recent balance sheet—that is, December 31, 2022.

Assets, which represent the firm's investments, are classified as either short-term (current) or long-term (see Figure 2.1). Current assets generally include items that the firm expects to liquidate and thus convert into cash within one year, whereas long-term, or fixed, assets include investments that help generate cash flows over longer periods. As Table 2.1 shows, at the end of 2022, Unilate's current assets, which include cash and equivalents, accounts receivable (amounts due from customers), and inventory, totaled $465 million; its long-term assets, which include the building and equipment used to manufacture the textile products it sells, had a net value on the balance sheet equal to $380 million. Thus, its total assets were $845 million.

FIGURE 2.1 SIMPLE BALANCE SHEET FORMAT



To finance its assets, a firm uses debt, equity (stock), or both forms of financing. Debt represents the loans the firm has outstanding, and it generally is divided into two categories—short-term debt and long-term debt (see Figure 2.1). Short-term debt, which is labeled "Current liabilities," represents debt that is due to be paid off within one year, and includes accounts payable (amounts owed to suppliers), accruals (amounts owed to employees and state and federal governments), and notes payable (amounts owed to banks). Table 2.1 shows that Unilate's short-term debt totaled $130 million in 2022. Long-term debt includes the bonds and similar debt instruments the firm has issued in previous years that are paid off over periods longer than one year. At the end of 2022, Unilate had outstanding bonds equal to $300 million. In combination, the total amount of debt, both long-term and short-term, Unilate used to finance its assets was $430 million. Thus, according to Table 2.1, about 51 percent of the firm's assets were financed using debt, most of which (70 percent of total liabilities) was in the form of long-term bonds.

Equity represents stockholders' ownership, which, unlike debt, does not have to be paid off. Total equity is the amount that would be paid to stockholders if the firm's assets could be sold at the values reported on the balance sheet and its debt could be paid off in the amounts reported on the balance sheet. Thus, the firm's **stockholders' equity**, or **net worth**, equals total assets minus total liabilities. Table 2.1 shows that Unilate's net worth was $415 million at the end of 2022, which, based on the amounts shown on the balance sheet, implies that stockholders would receive $415 million if Unilate were to liquidate its assets and pay off all its outstanding debt. However, because the firm probably would not be able to sell all the assets at the values shown on the

balance sheet A statement that shows the firm's financial position—assets and liabilities and equity—at a specific point in time.

stockholders' equity (net worth) The funds provided by common stockholders—common stock, paid-in capital, and retained earnings; equals total assets minus total liabilities.

Table 2.1

Unilate Textiles: December 31 Balance Sheets ($ millions, except per-share data)

	2022		2021	
	Amount	Percentage of Total Assets	Amount	Percentage of Total Assets
Assets				
Cash and equivalents	$ 15.0	1.8%	$ 40.0	5.3%
Accounts receivables	180.0	21.3	160.0	21.3
Inventory	270.0	32.0	200.0	26.7
Total current assets	$465.0	55.0%	$400.0	53.3%
Net plant and equipment[a]	380.0	45.0	350.0	46.7
Total assets	$845.0	100.0%	$750.0	100.0%
Liabilities and Equity				
Accounts payable	$ 30.0	3.6%	$ 15.0	2.0%
Accruals	60.0	7.1	55.0	7.3
Notes payable	40.0	4.7	35.0	4.7
Total current liabilities	$130.0	15.4%	$105.0	14.0%
Long-term bonds	300.0	35.5	255.0	34.0
Total liabilities (debt)	$430.0	50.9%	$360.0	48.0%
Common stock (25 million shares)	130.0	15.4	130.0	17.3
Retained earnings	285.0	33.7	260.0	34.7
Total common equity	$415.0	49.1%	$390.0	52.0%
Total liabilities and equity	$845.0	100.0%	$750.0	100.0%
Book value per share = (Common equity)/Shares	$16.60		$15.60	
Market value per share (stock price)	$23.00		$25.00	
Additional Information				
Net working capital = Current assets − Current liabilities	$335.0		$295.0	
Net worth = Total assets − Total liabilities	415.0		390.0	
[a]Breakdown of net plant and equipment account:				
Gross plant and equipment	$680.0		$600.0	
Less: Accumulated depreciation	(300.0)		(250.0)	
Net plant and equipment	$380.0		$350.0	

balance sheet, common stockholders actually would receive some amount different (higher or lower) from that shown in the equity section if the firm were actually liquidated. Thus, the risk of asset value fluctuations (both positive and negative) is borne by the stockholders.

Note that in Table 2.1, the assets are listed in order of their liquidity, or the length of time it typically takes to convert them to cash. The claims (liabilities and equity) are listed in the order in which they must be paid. For example, accounts payable generally must be paid within 30 to 45 days, accruals are payable within 60 to 90 days, and so on, down to the stockholders' equity accounts, which represent ownership that never needs to be repaid.

Often assets, liabilities, and equity are reported both in dollars and as a percentage of total assets, as shown in Table 2.1. This type of balance sheet is termed a **common size balance sheet** because it can be easily compared with

common size balance sheet Dollar amounts on the balance sheet are stated as percentages of total assets.

statements of larger or smaller firms or with those of the same firm over time.

Some additional points about the balance sheet are worth noting.

1. ***Cash and equivalents versus other assets***—Although the assets are all stated in terms of dollars, only the "Cash and equivalents" account represents actual money that can be spent. The other noncash assets should produce cash over time, but they do not represent cash in hand. The amount of cash they would bring in if sold today could be either higher or lower than the values that are reported on the balance sheet.

2. ***Accounting alternatives***—Not every firm uses the same method to determine the account balances shown on the balance sheet. For instance, Unilate uses the FIFO (first-in, first-out) method to determine the inventory value shown on its balance sheet. It could have used the LIFO (last-in, first-out) method instead. During a period of rising prices, when compared to LIFO, FIFO will produce a higher balance sheet inventory value but a lower cost of goods sold, and thus a higher net income (less expensive goods are "used" first).

   In some cases, a company might use one accounting method to construct financial statements provided to stockholders and another accounting method for tax purposes, internal reports, and so forth. For example, a company generally uses the most accelerated method permissible to calculate depreciation for tax purposes because accelerated methods lower taxable income in the early years of the asset's life (i.e., the depreciation expense is higher), which means lower taxes are paid. The same company might use straight-line depreciation for constructing financial statements reported to stockholders because this method results in a higher net income. There is nothing illegal or unethical about this practice, but when evaluating firms, users of financial statements must be aware that more than one accounting alternative is available for constructing financial statements.

3. ***Breakdown of the common equity account***—The equity section of Unilate's balance sheet contains two accounts: common stock and retained earnings. The amount shown in the **retained earnings** account represents the total amount of income that has been saved by the firm (i.e., not paid out as dividends) to reinvest in assets since the company started business. According to Table 2.1, Unilate has kept $285 million of all the income generated since it was formed in 1990. This amount could have been paid to stockholders as dividends over the years, but Unilate instead decided to use these funds to finance growth in assets. Stockholders generally do not mind when a company retains earnings (i.e., does not pay dividends) as long as they expect the stock price to increase as the result of the reinvestment of the earnings in the firm.

retained earnings The amount of the firm's earnings that has been reinvested in the firm rather than paid out as dividends.

The common stock account shows the amount stockholders paid to the company when it issued stock to raise funds. Unilate issued 25 million shares of stock at $5.20 per share to raise $130 million when it started business in 1990. No stock has been issued since. Thus, Unilate's stockholders provided the company with $130 million of funds to invest in its assets. Because Unilate's common stock does not have a par value, the entire amount of the issue is reported in the "Common stock" account.

The common equity section sometimes includes three accounts: common stock at par, paid-in capital, and retained earnings. For example, if Unilate's common stock had a par value equal to $2 per share, then the funds raised through the stock issue would have to be reported in two accounts: "Common stock at par" and "Paid-in capital." The amount reported in the "Common stock at par" account would equal the total value of the stock issue stated in terms of its par value, and it would be computed as follows:

$$\begin{aligned}\text{Common stock at par} &= \text{Total shares issued} \times \text{Per share par value}\\ &= 25{,}000{,}000 \times \$2\\ &= \$50{,}000{,}000\end{aligned}$$

The amount paid above the par value is reported in the "Paid-in capital" account. In this case, because the total value of the stock Unilate issued in 1990 was $130 million, the remaining $80 million (=$130 million − $50 million) would be reported in the "Paid-in capital" account.

The breakdown of the common equity accounts shows whether the company actually earned the funds reported in its equity accounts or generated the funds mainly from selling (issuing) stock. This information is important to both creditors and stockholders. For instance, a potential creditor would be interested in

the amount of money the owners (stockholders) put up, and stockholders would want to know the form of stockholders' funds.

4. ***Book values versus market values***—The values, or accounting numbers, that are reported on the balance sheet are called *book values*, and they are generated using generally accepted accounting principles (GAAP). In many cases, the book values of the assets are not the same as the prices (values) for which they can actually be sold in the marketplace. For example, when Unilate built its original distribution center in 1995, the value of the building was $90 million, which represented its market value at that time. Today, the book value of the building is $24 million because $66 million has been depreciated over the years. However, the appraised (market) value of the building is $58 million.

   The **book values** of assets often are not equal to their **market values**, especially for long-term assets. On the other hand, because most debt represents a contractual obligation to pay a certain amount at a specific time, the book values of a firm's debt generally are either equal to or very close to the market values of those liabilities. The equity section of the balance sheet, which represents the book value of the firm's equity, must equal the book value of assets minus the book value of liabilities (see Figure 2.1 and Table 2.1).

5. ***The time dimension***—The balance sheet can be thought of as a snapshot of the firm's financial position *at a particular point in time*. The balance sheet changes every day as inventories are increased or decreased, as fixed assets are added or retired, as liabilities are incurred or paid off, and so on. Companies whose businesses are seasonal experience especially large changes in their balance sheets during the year. As a result, firms' balance sheets will change over the year, depending on the date on which the statements are constructed.

2-2b The Income Statement

The **income statement**, which is also referred to as the *profit and loss statement*, presents the results of business operations *during a specified period of time* such as a quarter or a year. It summarizes the revenues generated and the expenses incurred by the firm during the accounting period. Table 2.2 gives the 2021 and 2022 income statements for Unilate Textiles. Net sales are shown at the top of the statement, followed by various costs, including income taxes, which are subtracted to determine the net income (earnings) available to common stockholders. A report on earnings and dividends per share appears at the bottom of the statement. In business, earnings per share (EPS) is called "the bottom line" because EPS is often considered the most important item on the income statement. Unilate earned $2.16 per share in 2022, down from $2.36 in 2021, but it still raised the per-share dividend from $1.08 to $1.16.

Should Firms with Identical Assets/Operations Report the Same Net Income? The obvious answer appears to be yes. However, although two firms have identical operating structures—that is, facilities, employees, and production methods—they might be financed differently. For example, one firm might be financed with a substantial amount of debt, whereas the other firm is financed only with stock. Interest payments to debt holders are tax deductible; dividend payments to stockholders are not. The firm that is financed with debt will have greater tax-deductible expenses as a result of the interest expense and thus will report a lower net income than the firm that is financed with equity only. For this reason, when comparing the operations of two firms, analysts often examine the *net operating income (NOI)*, also known as the *earnings before interest and taxes (EBIT)*, because this figure represents the result of normal operations before considering the effects of the firm's financing choices (financial structure). Unilate's EBIT was $130 million in 2022. A firm that has the same operating structure (and follows the same accounting procedures) as Unilate should have reported EBIT equal to $130 million as well, even if it does not use the same amount of debt as Unilate does to finance its assets.

Does Net Income Determine Value? Investors often focus on the net income when determining how well a firm has performed during a particular time period. However, *if investors are concerned with whether management is pursuing the goal of maximizing the firm's stock price, net income might not be the appropriate measure to examine.*

Recall from your accounting courses that, for most corporations, the income statement is generated using both the accrual method of

book values Amounts reported in financial statements—accounting numbers.

market values Values of items—such as assets, liabilities, and equities—in the marketplace outside the firm.

income statement A statement summarizing the firm's revenues and expenses over an accounting period, generally one quarter or one year.

Table 2.2

Unilate Textiles: Income Statements for Years Ending December 31 ($ millions, except per share data)[a]

	2022		2021	
	Amount	Percentage of Total Sales	Amount	Percentage of Total Sales
Net sales	$1,500.0	100.0%	$1,435.0	100.0%
Variable operating costs (82% of sales)	(1,230.0)	(82.0)	(1,176.7)	(82.0)
Gross profit	$ 270.0	18.0%	$ 258.3	18.0%
Fixed operating costs, except depreciation	(90.0)	(6.0)	(85.0)	(5.9)
Earnings before interest, taxes, depreciation, and amortization (EBITDA)	$ 180.0	12.0%	$ 173.3	12.1%
Depreciation	(50.0)	(3.3)	(40.0)	(2.8)
Net operating income (NOI) = Earnings before interest and taxes (EBIT)	$ 130.0	8.7%	$ 133.3	9.3%
Interest	(40.0)	(2.7)	(35.0)	(2.4)
Earnings before taxes (EBT)	$ 90.0	6.0%	$ 98.3	6.9%
Taxes (40%)	(36.0)	(2.4)	(39.3)	(2.7)
Net income	$ 54.0	3.6%	$ 59.0	4.1%
Preferred dividends	0.0		0.0	
Earnings available to common stockholders (EAC)	$ 54.0		$ 59.0	
Common dividends	(29.0)		(27.0)	
Addition to retained earnings	$ 25.0		$ 32.0	
***Per share data* (25,000,000 shares):**				
Earnings per share = (EAC)/Shares	$ 2.16		$ 2.36	
Dividends per share = (Common dividends)/Shares	$ 1.16		$ 1.08	

[a]The parentheses indicate a negative value.

accounting and the matching principle. That is, according to the accrual method, revenues are recognized when they are earned, not when the cash is received, and expenses are recognized when they are incurred, not when the cash is paid. And, applying the matching principle, expenses are matched with corresponding revenues at the time the revenues are earned. As a result, not all of the amounts shown on the income statement represent cash flows. However, as we mentioned in Chapter 1, the value of an investment, such as the firm's stock price, is determined by the cash flows it generates. Therefore, although the firm's net income is important, cash flows are even more important because cash is needed to continue normal business operations, including the payment of financial obligations, the purchase of assets, and the payment of dividends. As a result, in finance we focus on *cash flows* rather than net income.

One item on Unilate's income statement that we know is a noncash item is *depreciation*. The cash payment for a fixed asset, such as a building, occurs when the asset is originally purchased. However, because the asset is used to generate revenues and its life extends for more than one year, depreciation is the method used to match the expense associated with the decrease in the value of the asset to the years in which revenues are generated by its use. For example, Table 2.2 shows that Unilate's net income for 2022 was $54 million and the depreciation expense for the year was $50 million. Because depreciation was not an expense that required a cash payment during the year, Unilate's net cash flow must be at least $50 million higher than the $54 million reported as net income. If the only noncash item on its income statement is depreciation, then the net cash flow Unilate generated in 2022 was $104 million.

When a firm sells all its products for cash and pays cash for all the expenses reported on its income statement except depreciation and amortization, its net cash flow can be computed using Equation 2.1:

Equation 2.1

$$\text{Net cash flow} = \text{Net income} + \text{Depreciation and amortization}$$

$$= \$54 \text{ million} + \$50 \text{ million}$$

$$= \$104 \text{ million}$$

Managers and analysts often use this equation to estimate the net cash flow generated by a firm, even when some customers have not paid for their purchases or the firm has not paid all the bills for supplies, employees' salaries, and the like. In such cases, Equation 2.1 often is used to get a rough estimate of the firm's net cash flow. To get a better estimate of net cash flow, as well as to examine in detail which of the firm's actions provided cash and which actions used cash, a statement of cash flows should be constructed. We discuss the statement of cash flows in the next section.

For our purposes, it is useful to divide cash flows into two categories: (1) operating cash flows and (2) other cash flows. **Operating cash flows** arise from normal operations, and they represent, in essence, the difference between cash collections and cash expenses, including taxes paid, that are associated with the manufacture and sale of inventory. Other cash flows arise from borrowing, from the purchase or sale of fixed assets, from the sale or repurchase of common stock, and from paying dividends. Our focus here is on operating cash flows.

We know operating cash flows can differ from **accounting profits** (or operating income) when a firm sells on credit, some operating expenses are not cash costs, or both situations occur. For example, we know depreciation and amortization expenses represent costs that do not use cash in the current period. For this reason, analysts often compute a firm's *earnings before interest, taxes, depreciation, and amortization (EBITDA)* when evaluating its operations. Because both depreciation, which recognizes the decline in the values of long-term tangible assets (buildings, equipment, and so forth), and amortization, which recognizes the decline in the values of intangible assets (patents, trademarks, and so forth) are noncash expenses, EBITDA provides an indication of the cash flows that are generated by normal operations. Unilate's EBITDA was $180 million in 2022. This is higher than the reported EBIT of $130 million because the depreciation expense was $50 million. Unilate has no amortization expense.

2-2c Statement of Cash Flows

The **statement of cash flows** is designed to show how the firm's operations have affected its cash position by examining the firm's investment decisions (uses of cash) and financing decisions (sources of cash) during a particular accounting period. The information contained in the statement of cash flows can help answer questions such as the following: Is the firm generating the cash needed to purchase additional fixed assets for growth? Does it have excess cash flows that can be used to repay debt or to invest in new products? Because this information is useful for both financial managers and investors, the statement of cash flows is an important part of the annual report.

Constructing a statement of cash flows is relatively easy. First, to some extent, the income statement shows the cash flow effects of a firm's operations. For example, Unilate reported its 2022 net income as $54 million, which we know includes a $50 million depreciation expense that is a noncash operating cost. As reported earlier, if the $50 million depreciation expense is added back to the $54 million net income, we can estimate that the cash flow generated from normal operations is $104 million. For most firms,

Mattz90/Shutterstock.com

operating cash flows Those cash flows that arise from normal operations; the difference between cash collections and cash expenses associated with the manufacture and sale of inventory.

accounting profits A firm's net income as reported on its income statement.

statement of cash flows A statement that reports the effects of a firm's operating, investing, and financing activities on cash flows over an accounting period.

however, some of the reported revenues have not been collected, and some of the reported expenses have not been paid at the time the income statement is constructed. To adjust the estimate of cash flows obtained from the income statement and account for cash flow effects not reflected in the income statement, we must examine changes in the balance sheet accounts during the period in question. To accomplish this, we look at changes in the balance sheet accounts from the beginning of the year to the end of the year to identify which items provided cash (*sources*) and which items used cash (*uses*) during the year. To determine whether a change in a balance sheet account was a source of cash or a use of cash, we follow these simple rules:

Sources of Cash	Uses of Cash
Decrease in an Asset Account	***Increase in an Asset Account***
Selling inventory or collecting receivables provides cash.	Buying fixed assets or buying more inventory uses cash.
Increase in a Liability or Equity Account	***Decrease in a Liability or Equity Account***
Borrowing funds or issuing stock provides cash.	Paying off a loan or buying back stock uses cash.

Using these rules, we can identify which changes in Unilate's balance sheet accounts provided cash during 2022 and which changes used cash. Table 2.3 shows the results of this exercise. Note that changes in the balance sheet accounts "used" a net $100 million in cash; the accounts' changes provided $70 million, but used $170 million. Earlier we estimated that, ignoring the balance sheet effects, a $104 million cash flow was generated from income. However, because $29 million was paid in common stock dividends, the net effect of the activities shown on the income statement was $75 million ($104 million − $29 million). When we combine this effect with the cash flow effects from the balance sheet (shown in Table 2.3), the overall net effect was a $25 million decrease in the cash account—that is, −$25 million = $75 million − $100 million.

Using the information provided in Tables 2.2 and 2.3, we constructed the Statement of Cash Flows shown in Table 2.4.[2] Each cash flow effect shown in Table 2.4 is classified as resulting from (1) operations, (2) long-term investments, or (3) financing activities. Operating cash flows are those associated with the production and sale of goods and services. The estimate of cash flows obtained from the income statement is the primary operating cash flow, but changes in accounts payable, accounts receivable,

[2]The cash flow statement is presented in either of two formats. The method used here is called the *indirect method*. Cash flows from operations are calculated by starting with net income, adding back expenses not paid out of cash, and subtracting revenues that do not provide cash. With the *direct method*, operating cash flows are found by summing all revenues that provide cash and then subtracting all expenses that are paid in cash. Both formats produce the same result, and both are accepted by the Financial Accounting Standards Board (FASB).

Table 2.3

Unilate Textiles: Cash Sources and Uses from Balance Sheet Accounts, 2022 ($ million)

	Account Balances as of:		Change	
	12/31/22	12/31/21	Sources	Uses
Balance Sheet Effects (Adjustments)				
Cash and equivalents[a]	$ 15.0	$ 40.0	—	
Accounts receivable	180.0	160.0		$ 20.0
Inventory	270.0	200.0		70.0
Gross plant and equipment	680.0	600.0		80.0
Accounts payable	30.0	15.0	$15.0	
Accruals	60.0	55.0	5.0	
Notes payable	40.0	35.0	5.0	
Long-term bonds	300.0	255.0	45.0	
Common stock (25 million shares)	130.0	130.0		
Total balance sheet effects			$70.0	$170.0

[a]Because we are trying to account for the change in the "Cash and equivalents" account, the change is identified as neither a source nor a use in this table.

Table 2.4

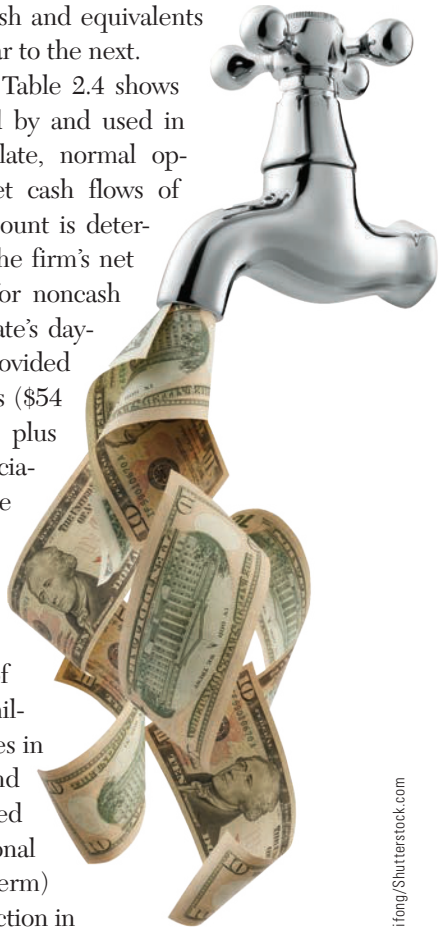
Unilate Textiles: Statement of Cash Flows for the Period Ending December 31, 2022 ($ millions)

	Cash Flows	Net Amounts
Cash Flows from Operating Activities		
Net income	$ 54.0	
Additions (adjustments) to net income		
Depreciation[a]	50.0	
Increase in accounts payable	15.0	
Increase in accruals	5.0	
Subtractions (adjustments) from net income		
Increase in accounts receivable	(20.0)	
Increase in inventory	(70.0)	
Net cash flow from operations		$ 34.0
Cash Flows from Long-Term Investing Activities		
Acquisition of fixed assets[b]		$ (80.0)
Cash Flows from Financing Activities		
Increase in notes payable	$ 5.0	
Increase in bonds	45.0	
Dividend payment	(29.0)	
Net cash flow from financing		$ 21.0
Net change in cash		$ (25.0)
Cash at the beginning of the year		40.0
Cash at the end of the year		$ 15.0

[a]Depreciation is a noncash expense that was deducted when calculating net income. It must be added back to show the correct cash flow from operations.

[b]See footnote a in Table 2.1.

inventories, and accruals are also classified as operating cash flows because these accounts are directly affected by the firm's day-to-day operations. Investment cash flows arise from the purchase or sale of plant, property, or equipment. Financing cash inflows result when the firm issues debt or common stock; financing cash outflows occur when the firm pays dividends, repays debt (loans), or repurchases stock. The cash inflows and outflows from these three activities are summed to determine their effect on the firm's liquidity position, which is measured by the change in the cash and equivalents account from one year to the next.



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The top part of Table 2.4 shows cash flows generated by and used in operations. For Unilate, normal operations provided net cash flows of $34 million. This amount is determined by adjusting the firm's net income to account for noncash items. In 2022, Unilate's day-to-day operations provided $104 million of funds ($54 million net income plus $50 million depreciation), but the increase in inventories and investment in receivables during the year accounted for a combined use of funds equal to $90 million, whereas increases in accounts payable and accruals only provided $20 million in additional operating (short-term) funds. The second section in Table 2.4 shows the company's long-term investing activities. Unilate purchased fixed assets totaling $80 million, which was its only investment activity during the year. Unilate's financing activities, shown in the bottom section of Table 2.4, included borrowing from banks (notes payable), selling new bonds, and paying dividends to its common stockholders. The company raised $50 million by borrowing, but it paid $29 million in dividends, so its net inflow of funds from financing activities was $21 million.

When we total all the sources of cash and the uses of cash, we see that Unilate had a $25 million cash shortfall (deficit) during the year—that is, Unilate's cash outflows were $25 million greater than its cash inflows. It met this shortfall by drawing down its cash and equivalents from $40 million to $15 million, as shown in the firm's balance sheet (Table 2.1).

Unilate's statement of cash flows should raise some concerns for its financial manager and outside analysts. The company spent $80 million on new fixed assets and it paid out another $29 million in dividends. These cash outlays were covered by the $34 million in cash that was generated from operations, by borrowing heavily, by selling off marketable securities (cash equivalents), and by

Table 2.5

Unilate Textiles: Statement of Retained Earnings for the Period Ending December 31, 2022 ($ millions)

Balance of retained earnings, December 31, 2021	$260.0
Add: 2022 net income	54.0
Less: 2022 dividends paid to stockholders	(29.0)
Balance of retained earnings, December 31, 2022	$285.0

drawing down the company's bank account. Obviously, this situation cannot continue indefinitely. We will consider some actions the financial manager might recommend later in this chapter.

2-2d Statement of Retained Earnings

Changes in the common equity accounts between balance sheet dates are reported in the **statement of retained earnings**. Unilate's statement is shown in Table 2.5. Of the $54 million that it earned, Unilate decided to pay $29 million in dividends to stockholders and to keep (retain) $25 million for reinvestment in the business. Thus, the balance sheet item called "Retained earnings" increased from $260 million at the end of 2021 to $285 million at the end of 2022.

It is important to understand that the retained earnings account represents a *claim against assets,* not assets per se. Firms retain earnings primarily to expand their businesses, which means funds are invested in plant and equipment, in inventories, and so forth, but *not* necessarily in a bank account (cash). As a result, *the amount of retained earnings as reported on the balance sheet does not represent cash and is not "available" for the payment of dividends or anything else.*[3]

statement of retained earnings A statement reporting the change in the firm's retained earnings as a result of the income generated and retained during the year. The balance sheet figure for retained earnings is the sum of the earnings retained for each year the firm has been in business.

liquid asset An asset that can be easily converted into cash without significant loss of the amount originally invested.

2-3 FINANCIAL STATEMENT (RATIO) ANALYSIS

As we discovered in previous sections, financial statements provide information about a firm's position at a specific point in time, as well as its operating activities over some past period. Nevertheless, the real value of financial statements lies in the fact they can be used to help predict the firm's financial position in the future and to determine expected earnings and dividends. From an investor's standpoint, *predicting the future is the purpose of financial statement analysis;* from management's standpoint, *financial statement analysis is useful both as a way to anticipate future conditions and, more importantly, as a starting point for planning actions that will influence the firm's future course of events.*

The first step in a financial analysis typically includes an evaluation of the firm's ratios, which are designed to show relationships between financial statement accounts *within* firms and *between* firms. Translating accounting numbers into relative values, or *ratios*, allows us to compare the financial position of one firm with the financial position of another firm, even if their sizes are significantly different.

Table 2.6 shows the solutions for various ratios for Unilate Textiles in 2022. In this section, we discuss the five categories of ratios shown in this table and evaluate Unilate's financial results in relation to the industry averages. Note that all dollar amounts used in the ratio calculations given in the table are in millions, except where per-share values are used. Also note that there are literally hundreds of ratios used by management, creditors, and stockholders to evaluate firms; we show only a few of the most-often used ratios in Table 2.6.

2-3a Liquidity Ratios

A **liquid asset** is one that can be easily converted to cash without significant loss of its original value. Converting assets—especially current assets such as inventory and receivables—to cash is the primary means by which a firm obtains the funds needed to pay its current bills. Therefore, a firm's *liquidity position* deals with the

[3]A positive number in the retained earnings account indicates only that in the past the firm has distributed less income to stockholders (i.e., paid lower dividends) than it has earned. Even though a company reports record earnings and shows an increase in the retained earnings account, it still might be short of cash. The same situation holds for individuals. You might own a new BMW (no loan), lots of clothes, and an expensive sound system and therefore have a high net worth. If you had only $0.23 in your pocket plus $5.00 in your checking account, you would still be short of cash.

Table 2.6

Unilate Textiles: Summary of Financial Ratios, 2022 ($ million, except per-share dollars)

Ratio	Formula for Calculation	Calculation	Ratio Value	Industry Average	Comment
Liquidity					
Current	$= \frac{\text{Current assets}}{\text{Current liabilities}}$	$\frac{\$465.0}{\$130.0}$	3.6×	4.1×	Low
Quick	$= \frac{\text{Current assets} - \text{Inventory}}{\text{Current liabilities}}$	$\frac{\$195.0}{\$130.0}$	1.5×	2.1×	Low
Asset Management					
Inventory turnover	$= \frac{\text{Cost of goods sold}}{\text{Inventory}}$	$\frac{\$1,230.0}{\$270.0}$	4.6×	7.4×	Low
Days sales outstanding (DSO)	$= \frac{\text{Accounts receivable}}{[(\text{Annual sales})/360]}$	$\frac{\$180.0}{\$4.17}$	43.2 days	32.1 days	Poor
Fixed assets turnover	$= \frac{\text{Sales}}{\text{Net fixed assets}}$	$\frac{\$1,500.0}{\$380.0}$	3.9×	4.0×	OK
Total assets turnover	$= \frac{\text{Sales}}{\text{Total assets}}$	$\frac{\$1,500.0}{\$845.0}$	1.8×	2.1×	Low
Debt Management					
Debt ratio (% debt)	$= \frac{\text{Total liabilities}}{\text{Total assets}}$	$\frac{\$430.0}{\$845.0}$	50.9%	42.0%	Poor
Times interest earned (TIE)	$= \frac{\text{EBIT}}{\text{Interest charges}}$	$\frac{\$130.0}{\$40.0}$	3.3×	6.5×	Low
Fixed charge coverage[a]	$= \frac{\text{EBIT} + \text{Lease payments}}{\text{Interest charges} + \text{Lease payments} + \left[\frac{\text{Sinking fund payments}}{(1 - \text{Tax rate})}\right]}$	$\frac{\$140.0}{\$63.33}$	2.2×	5.8×	Low
Profitability					
Net profit margin	$= \frac{\text{Net income}}{\text{Sales}}$	$\frac{\$54.0}{\$1,500.0}$	3.6%	4.9%	Poor
Return on assets (ROA)	$= \frac{\text{Net income}}{\text{Total assets}}$	$\frac{\$54.0}{\$845.0}$	6.4%	10.3%	Poor
Return on equity (ROE)	$= \frac{\text{Net income}}{\text{Common equity}}$	$\frac{\$54.0}{\$415.0}$	13.0%	17.7%	Poor
Market Value					
Price/Earnings (P/E)	$= \frac{\text{Market price per share}}{\text{Earnings per share}}$	$\frac{\$23.00}{\$2.16}$	10.6×	15.0×	Low
Market/Book (M/B)	$= \frac{\text{Market price per share}}{\text{Book value per share}}$	$\frac{\$23.00}{\$16.60}$	1.4×	2.5×	Low

[a]The values given in the numerator and the denominator reflect the lease payments and sinking fund payments Unilate must make each year.

question of how well the company is able to meet its current obligations, which include amounts owed to suppliers (accounts payable), amounts owed to employees (wages payable), and so forth. Short-term, or *current*, assets are more easily converted to cash (more liquid) than are long-term assets. In general, then, one firm is considered more liquid than another firm if it has a greater proportion of its total assets in the form of current assets.

According to its balance sheet, Unilate has debts totaling $130 million that must be paid off within the coming year—that is, its current liabilities equal $130 million. Will it have trouble satisfying those obligations? A full liquidity analysis requires the use of cash budgets (described in Chapter 15). Nevertheless, by relating the amount of cash and other current assets to the firm's current obligations, ratio analysis provides a quick, easy-to-use measure of liquidity. Two commonly used **liquidity ratios** are discussed next.

$$\text{Current ratio} = \frac{\text{Current assets}}{\text{Current liabilities}}$$

Current assets normally include cash and equivalents, accounts receivable, and inventories, and current liabilities consist of accounts payable, short-term notes payable, long-term debt that matures in the current period (current maturities of long-term debt), accrued taxes, and other accrued expenses (principally wages). Because the current ratio provides the best single indicator of the extent to which the claims of short-term creditors are covered by assets that are expected to be converted to cash fairly quickly (i.e., current assets), it is the most commonly used measure of short-term solvency. When a company experiences financial difficulty, it pays its bills (e.g., accounts payable) more slowly, borrows more from its bank, and so forth. If current liabilities are rising more rapidly than current assets, the current ratio will fall, which could suggest future trouble.

$$\text{Quick ratio} = \frac{\text{Current assets} - \text{Inventories}}{\text{Current liabilities}}$$

Inventories typically are the least liquid of a firm's current assets, so they are the assets on which losses are most likely to occur in the event of an "emergency" liquidation. Therefore, having a measure of the firm's ability to pay off short-term obligations without relying on the sale of inventories is important.

liquidity ratios Ratios that show the relationship of a firm's cash and other current assets to its current liabilities; they provide an indication of the firm's ability to meet its current obligations.

asset management ratios A set of ratios that measure how effectively a firm is managing its assets.

Evaluation. The values in Table 2.6 show that Unilate's liquidity ratios are below the industry averages, which suggests that Unilate's liquidity position currently is weaker than average. Even so, with a current ratio of 3.6×, Unilate could liquidate current assets at only 28 percent of book value and still pay off its current creditors in full.[4] Unfortunately, the value of the quick ratio suggests that Unilate's level of inventories is high relative to the rest of the industry. Even so, if the accounts receivable can be collected, the company can pay off its current liabilities even without having to liquidate its inventory. To get a better idea of why Unilate is in this position, we must examine its asset management ratios.

2-3b Asset Management Ratios

Firms invest in assets to generate revenues both in the current period and in future periods. To purchase their assets, Unilate and other companies must borrow or obtain funds from other sources. Everything else equal, if firms have too many assets, their interest expenses will be too high; hence, their profits will be depressed. On the other hand, because production is affected by the capacity of assets, if assets are too low, profitable sales might be lost due to the firm's inability to manufacture enough products.

Asset management ratios measure how effectively the firm is managing its assets. These ratios are designed to answer the following question: Does the total amount of each type of asset as reported on the balance sheet seem reasonable, too high, or too low in view of current and projected sales levels? A few asset management ratios are discussed in this section.

$$\text{Inventory turnover} = \frac{\text{Cost of goods sold}}{\text{Inventory}}$$

Inventory turnover provides an indication of how well the firm is managing its inventory.[5] On average, each item of Unilate's inventory is sold and restocked, or turned over, 4.6 times per year (every 78 days), which is considerably lower than the industry average of 7.4 times (every 49 days).[6] This ratio suggests that Unilate is holding excess stocks of

[4]Unilate's current ratio is 3.577, and 1/3.577 = 0.2796, which is 28 percent when rounded to two decimal places. Note that 0.2796 ($465.0) = $130, which is the amount of current liabilities.

[5]*Turnover* is a term that originated many years ago with the old Yankee peddler, who would load up his wagon with goods, then go off on his route to peddle his wares. The merchandise was his working capital because it was what he actually sold, or turned over, to produce his profits. His turnover was the number of trips he took each year. Annual sales divided by inventory equaled turnover, or trips per year. If the peddler made 10 trips per year, stocked 100 pans, and made a gross profit of $5 per pan, his annual gross profit would be 100 × $5 × 10 = $5,000. If the peddler went faster and made 20 trips per year, his gross profit would double, other things held constant.

[6]Some compilers of financial ratio statistics, such as Dun & Bradstreet, use the ratio of sales to inventories carried at cost to depict inventory turnover. If this form of the inventory turnover ratio is used, the true turnover will be overstated, because sales are given at market prices, whereas inventories are carried at cost.

inventory, some of which might be damaged or obsolete goods (e.g., styles and patterns of textiles from previous years) that are not actually worth their stated value.

You should use care when calculating and using the inventory turnover ratio because purchases of inventory (and thus the cost of goods sold) occur over the entire year, whereas the inventory figure applies to one point in time (perhaps December 31). For this reason, it is better to use an average inventory measure.[7] If the firm's business is highly seasonal, or if a strong upward or downward sales trend has occurred during the year, it is essential to make such an adjustment. To maintain comparability with industry averages, however, we did not use the average inventory figure in our computations.

$$\text{Days sales outstanding (DSO)} = \frac{\text{Accounts receivable}}{\text{[Annual sales/360]}}$$

DSO, also called the *average collection period (ACP)*, is used to evaluate the firm's ability to collect its credit sales in a timely manner.[8] The DSO represents the average length of time the firm must wait after making a credit sale before receiving cash—that is, its average collection period. Unilate has about 43 days of sales outstanding, which is much higher than both the 32-day industry average and the company's sales terms, which call for payment within 30 days.

$$\text{Fixed assets turnover} = \frac{\text{Sales}}{\text{Net fixed assets}}$$

Fixed assets turnover measures how effectively the firm uses its plant and equipment to help generate sales. Unilate's ratio of 3.9× is nearly equal to the industry average of 4.0×, indicating that the firm is using its fixed assets about as efficiently as the other members of its industry. Unilate seems to have neither too many nor too few fixed assets in relation to similar firms.

$$\text{Total assets turnover} = \frac{\text{Sales}}{\text{Total assets}}$$

This ratio measures the turnover of all of the firm's total assets. Unilate's ratio (1.8×) is somewhat lower than the industry average (2.1×), indicating the company is not generating a sufficient volume of business given its total investment in assets. To become more efficient, Unilate should increase its sales, dispose of some assets, or pursue a combination of these steps.

Evaluation. Our examination of Unilate's asset management ratios shows that its fixed assets turnover ratio is very close to the industry average, but its total assets turnover is below average. The fixed assets turnover ratio excludes current assets, whereas the total assets turnover ratio includes them. Therefore, comparison of these ratios confirms our conclusion from the analysis of the liquidity ratios: Unilate seems to have a liquidity problem. The fact that the company's inventory turnover ratio and average collection period are worse than the industry averages suggests, at least in part, that the firm might have problems with inventory and receivables management. Slow sales and tardy collections of credit sales suggest that Unilate might rely more heavily on external funds, such as loans, than the average firm in the industry to pay current obligations. Examining Unilate's debt management ratios will help us determine whether this assessment actually is the case.

2-3c Debt Management Ratios

The extent to which a firm uses debt financing has three important implications:

1. By raising funds through debt, the firm avoids diluting stockholder ownership.
2. Creditors look to the equity, or owner-supplied funds, to provide a margin of safety. If the stockholders have provided only a small proportion of the total financing, the risks of the enterprise are borne mainly by its creditors.
3. If the firm earns more on investments financed with borrowed funds than it pays in interest, the return on the owners' capital is magnified, or *leveraged*.

Financial leverage, or borrowing, affects the expected rate of return realized by stockholders for two reasons. First, the interest on debt is tax deductible, whereas dividends are not, so paying interest lowers the firm's tax bill, everything else being equal. Second, if the firm has healthy operations, it typically invests the funds it borrows at a rate of return that is greater than the interest rate on its debt. In combination with the tax advantage debt offers compared to stock, the

financial leverage The use of debt financing.

[7]Preferably, the average inventory value should be calculated by dividing the sum of the monthly figures during the year by 12. If monthly data are not available, you could add the beginning-of-year and end-of-year figures and divide by 2; this calculation will adjust for growth but not for seasonal effects. Using this approach, Unilate's average inventory for 2022 would be $235 = ($200 + $270)/2, and its inventory turnover would be 5.2 = $1,230/$235, which still is well below the industry average.

[8]To compute DSO using this equation, we must assume that all of the firm's sales are on credit. We usually compute DSO in this manner because information on credit sales is rarely available. Because not all firms have the same percentage of credit sales, the days sales outstanding could be misleading. Also, note that by convention, much of the financial community uses 360 rather than 365 as the number of days in the year for computations such as this. The DSO is discussed further in Chapters 14 and 15.

higher investment rate of return produces a magnified positive return to the stockholders. Under these conditions, leverage works to the advantage of the firm and its stockholders. Unfortunately, however, financial leverage is a double-edged sword. When the firm experiences poor business conditions, typically sales are lower and costs are higher than expected, but the cost of borrowing, which generally is contractually fixed, still must be paid. Therefore, the required interest payments might impose a very significant burden on a firm that has liquidity problems. In fact, if the interest payments are high enough, a firm with a positive operating income could end up with a negative return to stockholders. Under these conditions, leverage works to the detriment of the firm and its stockholders.

In general, then, we can conclude that firms with relatively high debt ratios have higher expected returns when business is normal or good, but are exposed to greater risk of loss when business is poor. Conversely, firms with low debt ratios are less risky, but they also forgo the opportunity to leverage up their returns on equity. The prospects of high returns are desirable, but the average investor is averse to risk. Therefore, decisions about the use of debt require firms to balance the desire for higher expected returns against the increased risk that results from using more debt. Determining the optimal amount of debt for a given firm is a complicated process, and we will defer discussion of this topic until Chapter 12. Here, we will simply look at two procedures analysts use to examine the firm's debt in a financial statement analysis: (1) examining balance sheet ratios to determine the extent to which borrowed funds have been used to finance assets and (2) evaluating income statement ratios to determine how well operating profits can cover fixed financing charges such as interest. These two sets of ratios are complementary, so analysts use both types. A few **debt management ratios** are discussed next.

$$\text{Debt ratio} = \frac{\text{Total liabilities}}{\text{Total assets}}$$

The debt ratio measures the percentage of the firm's assets financed by borrowing (loans). Total liabilities (debt) include both current liabilities and long-term debt. Thus, (1 − Debt ratio) represents the proportion of the firm's funds that is provided by stockholders. Creditors prefer low debt ratios, because the lower the ratio, the greater the cushion against creditors' losses in the event of liquidation of the firm. The owners, on the other hand, can benefit from leverage because it magnifies earnings, thereby increasing the return to stockholders. However, too much debt often leads to financial difficulty, which eventually could cause bankruptcy.

debt management ratios
Ratios that provide an indication of how much debt the firm has and whether the firm can take on more debt.

$$\text{Times interest earned (TIE)} = \frac{\text{EBIT}}{\text{Interest charges}}$$

The TIE ratio measures the extent to which a firm's operating earnings—before interest and taxes (EBIT), also known as *net operating income (NOI)*—can decline before these earnings are no longer sufficient to cover annual interest costs. In other words, the TIE ratio indicates how well the firm's required interest payments are covered by the operating income it generates. Failure to meet this obligation can bring legal action by the firm's creditors, possibly resulting in bankruptcy. Note that EBIT, rather than net income, is used in the numerator because interest is paid from EBIT, which are pre-tax dollars.

$$\text{Fixed charge coverage ratio} = \frac{\text{EBIT} + \text{Lease payments}}{\left(\text{Interest charges}\right) + \left(\text{Lease payments}\right) + \left(\frac{\text{Sinking fund payments}}{1 - \text{Tax rate}}\right)}$$

This ratio is similar to the TIE ratio, but it is more inclusive because it recognizes that many firms lease rather than buy long-term assets and they also must make sinking fund (required) payments.[9] Leasing is widespread in certain industries, making this ratio preferable to the TIE ratio for many purposes. Because sinking fund payments are paid with after-tax dollars, whereas interest and lease payments are paid with pre-tax dollars, to be consistent, we must convert the sinking fund payments to pre-tax dollars, which is accomplished by dividing the after-tax payment by (1 − Tax rate). In the numerator of the fixed charge coverage ratio, the lease payments are added to EBIT because we want to determine the firm's ability to cover all its fixed financing charges from the income generated before any fixed financing charges are considered (deducted). Because the EBIT figure represents the firm's operating income net of (after subtracting) lease payments, the lease payments must be added back.

Evaluation. Our examination of Unilate's debt management ratios indicates that the company has a debt ratio that is higher than the industry average (51 percent

[9]Generally, a *long-term lease* is defined as one that extends for more than one year. Thus, rent incurred under a six-month lease would not be included in the fixed charge coverage ratio, but rental payments under a one-year or longer lease would be defined as a fixed charge and would be included. A *sinking fund* is a required annual payment designed to reduce the balance owed on a bond or the amount of preferred stock a firm has outstanding.

YuRi Photolife/Shutterstock.com

versus 42 percent), and it has coverage ratios that are substantially lower than the industry averages ($TIE_{Unilate}$ = 3.3×; $TIE_{Industry}$ = 6.5×). This finding suggests that Unilate is in a somewhat dangerous position with respect to leverage (debt). In fact, the firm might have difficulty borrowing additional funds until its debt position improves. In the worst case, if the company cannot pay its current obligations, it might be forced into bankruptcy. To see how Unilate's debt position has affected its profits, we next examine its profitability ratios.

2-3d Profitability Ratios

Profitability is the net result of a number of policies and decisions. The ratios examined thus far provide some information about the way the firm is operating, but the **profitability ratios** discussed in this section show the combined effects of liquidity management, asset management, and debt management on operating results and the firm's ability to generate income.

$$\text{Net profit margin} = \frac{\text{Net profit}}{\text{Sales}}$$

The net profit margin measures the profit (earnings) per dollar of sales; that is, the percentage of each $1 of sales that remains after all expenses, including taxes, are paid.

$$\text{Return on total assets (ROA)} = \frac{\text{Net income}}{\text{Total assets}}$$

ROA provides an indication of the return the firm generates on its investment in assets; that is, the average percentage return that is generated on funds provided by all shareholders (both creditors and stockholders).

$$\text{Return on equity (ROE)} = \frac{\text{Net income}}{\text{Common equity}}$$

ROE, or the *rate of return on stockholders' investment*, measures the percentage return the firm generates on the funds provided only by common stockholders (the owners of the firm).

Evaluation. Unilate's net profit margin of 3.6 percent is lower than the industry average of 4.9 percent, indicating that its sales might be too low, its costs might be too high, or both conditions exist. Recall that, according to its debt ratio, Unilate has a greater proportion of debt than the industry average, and its TIE ratio shows that the company is not covering its interest payments as well as other firms in the industry. This partly explains why Unilate's profit margin is low. To see this fact, we can compute the ratio of EBIT (operating income) to sales, which is called the *operating profit margin*. Unilate's operating profit margin of 8.7 percent (= $130.0/$1,500.0) is exactly the same as the industry average, so the cause of its low net profit margin is the relatively high interest attributable to the firm's higher-than-average use of debt. Unilate's high use of debt has also depressed its ROA and ROE, both of which are much lower than the industry's measures. ($ROA_{Unilate}$ = 6.4% and $ROA_{Industry}$ = 10.3%; $ROE_{Unilate}$ = 13.0% and $ROE_{Industry}$ = 17.7%).

Our examination of Unilate's profitability ratios shows the company's operating results have suffered due to its poor liquidity position, its poor asset management, and its above-average debt. In the final group of ratios, we examine Unilate's market value ratios to see how investors feel about the company's current financial position.

2-3e Market Value Ratios

The **market value ratios** relate the firm's stock price to its earnings and book value per share. These ratios give management an indication of what *investors* think of the company's future prospects based on its past performance. If the firm's liquidity ratios, asset management ratios, debt management ratios, and profitability ratios are all good, then its market value ratios will be high and its stock price will probably be as high as can be expected. Of course, the opposite also is true.

$$\text{Price/Earnings (P/E) ratio} = \frac{\text{Market price per share}}{\text{Earnings per share}}$$

The P/E ratio shows how much investors are willing to pay for the firm's stock for each dollar of reported profits. Because Unilate's stock sells for $23.00 per share and its EPS is $2.16, its P/E ratio is 10.6.

profitability ratios A group of ratios showing the effect of liquidity, asset management, and debt management on operating results.

market value ratios A set of ratios that relate the firm's stock price to its earnings and book value per share.

Other things hold constant, P/E ratios are higher for firms with high growth prospects and lower for riskier firms. Because Unilate's P/E ratio is lower than that of other textile manufacturers (10.6× versus 15.0×), it suggests that the company is regarded as being somewhat riskier than most of its competitors, as having poorer growth prospects, or both. From our analysis of its debt management ratios, we know that Unilate has higher-than-average risk associated with leverage. However, we do not know whether its growth prospects are poor.

$$\text{Market/Book (M/B) ratio} = \frac{\text{Market price per share}}{\text{Book value per share}}$$

The market-to-book ratio gives another indication of how investors regard the company. The stocks of companies with relatively high rates of return on equity generally sell at higher multiples of book value than do those with low returns.

Evaluation. Unilate's P/E and M/B ratios (10.6× and 1.4×, respectively) are much lower than the industry averages (15.0× and 2.5×, respectively). Investors are willing to pay less for Unilate's book value than for that of an average textile manufacturer. This finding should not be surprising because, as we discovered previously, Unilate has generated below-average returns with respect to both total assets and common equity. In general, our examination of Unilate's market value ratios indicates that investors are not excited about the future prospects of the company's common stock as an investment. Perhaps they believe Unilate is headed toward serious financial difficulties, maybe even bankruptcy, unless the firm takes actions to correct its liquidity and asset management problems and to improve its leverage position. One approach used to determine the direction in which a firm is headed is to evaluate the trends of the ratios over the past few years and thereby answer the following question: Is the firm's financial position improving or deteriorating?

2-3f Comparative Ratios (Benchmarking) and Trend Analysis

comparative ratio analysis An analysis based on a comparison of a firm's ratios with those of other firms in the same industry at the same point in time.

trend analysis An evaluation of changes (trends) in a firm's financial position over a period of time, perhaps five years.

Our analysis of Unilate's ratios indicates that the firm's current financial position is poor compared to the industry norm. The type of analysis we completed in the previous sections is called **comparative ratio analysis**—that is, the ratios calculated for Unilate were compared with those of other firms in the same industry at the same point in time.[10] Comparative ratio analysis indicates how well the firm performed in the most recent accounting period, but it does not tell us whether the company is in a better or a worse financial position now than it was in previous years.

To forecast the direction in which the firm is headed, we must analyze trends in ratios. By examining the paths taken in the past, **trend analysis** provides information about whether the firm's financial position is more likely to improve or to deteriorate in the future. A simple approach to trend analysis is to construct graphs containing both the firm's ratios and the industry averages for the past five years. Using this approach, we can examine both the direction of the movement in, and the relationships between, the firm's ratios and the industry averages. If we were to graphically compare Unilate's ratios from 2022 with those from 2017–2021, we would discover that Unilate's financial position has deteriorated, not strengthened, over this period. This is not a good trend.

2-3g Summary of Ratio Analysis: The DuPont Analysis

Management and analysts often evaluate ratios using the DuPont approach, named after the company whose managers developed the evaluation technique. The idea is to attain greater detail by dissecting a single ratio into two or more related ratios. For example, using the basic DuPont approach we can compute the return on assets (ROA) by multiplying the net profit margin by total assets turnover as shown in Equation 2.2:

Equation 2.2

$$\begin{aligned}\text{ROA} &= \text{Net profit margin} \times \text{Total assets turnover} \\ &= \frac{\text{Net income}}{\text{Sales}} \times \frac{\text{Sales}}{\text{Total assets}} \\ &= \frac{\text{Net income}}{\text{Total assets}}\end{aligned}$$

In 2022, Unilate made a profit of 3.6 percent, or 3.6 cents, on each dollar of sales, and assets were turned over 1.8 times during the year, which indicates that every $1 invested in assets generated $1.80 in sales. The company earned a return of 6.4 percent on its assets.

[10]Comparative ratios for a large number of industries are available from several sources, including Dun & Bradstreet (D&B), Robert Morris Associates, the U.S. Department of Commerce, and trade associations. There are often definitional differences in the ratios presented by different sources; so before using any source, verify the exact definitions of the ratios to ensure consistency with your work.

Applying the DuPont equation, ROA can be restated as follows:

$$\text{ROA} = \frac{\$54}{\$1{,}500} \times \frac{\$1{,}500}{\$845} = 0.036 \times 1.775$$
$$= 0.0639 = 6.4\%$$

If the company were financed only with common equity—that is, if it had no debt—the ROA and the ROE would be the same, because total assets would equal the amount of common equity such that

$$\text{ROA} = \frac{\text{Net income}}{\text{Total assets}} = \frac{\text{Net income}}{\text{Common Equity}} = \text{ROE}$$

However, nearly 51 percent of Unilate's capital (funding) consists of debt. Because ROA shows the average return earned by both debt holders and stockholders (i.e., all investors), ROE, which shows the return to common stockholders only, must be greater than the ROA of 6.4 percent. To translate the ROA into the ROE, we must multiply ROA by the *equity multiplier*, which is the number of times by which the total assets exceed the amount of common equity. (It is also the inverse of the proportion of total assets that is financed with equity.) Using this approach, we can write ROE as shown in Equation 2.3:

Equation 2.3

$$\text{ROE} = \text{ROA} \times \text{Equity multiplier}$$
$$= \frac{\text{Net income}}{\text{Total assets}} \times \frac{\text{Total assets}}{\text{Common equity}}$$

$$= 6.4\% \times \frac{\$845.0}{\$415.0}$$
$$= 6.4\% \times 2.036 = 13.0\%$$

We can combine Equations 2.2 and 2.3 to form the *extended DuPont equation*, which is written as shown in Equation 2.4:

Equation 2.4

$$\text{ROE} = \left[\left(\begin{matrix}\text{Profit}\\ \text{margin}\end{matrix}\right) \times \left(\begin{matrix}\text{Total assets}\\ \text{turnover}\end{matrix}\right)\right] \times \left(\begin{matrix}\text{Equity}\\ \text{multiplier}\end{matrix}\right)$$
$$= \left[\frac{\text{Net income}}{\text{Sales}} \times \frac{\text{Sales}}{\text{Total assets}}\right] \times \frac{\text{Total assets}}{\text{Common equity}}$$

$$= 3.6\% \times 1.775 \times 2.036 = 13.0\%$$

Our previous evaluations showed that Unilate's ROE is lower than that for the industry because Unilate's profit margin and total assets turnover (efficiency) are lower than the industry's. Unilate's management can use the DuPont analysis to evaluate ways to improve the firm's performance. Focusing on the net profit margin, Unilate's marketing personnel can study the effects of raising prices (or lowering them to increase volume); of selling new products or moving into markets with higher profit margins; and so forth. The company's cost accountants can study various expense items and, working with engineers, purchasing agents, and other operating personnel, seek ways of holding down costs. To improve the turnover of assets, Unilate's financial analysts, working with both production and marketing personnel, can investigate ways of minimizing its investment in various types of assets. At the same time, its treasury staff can analyze the effects of alternative financing strategies, seeking to hold down interest expense and the risk of debt while still using leverage to increase the rate of return on equity.

2-4 USES AND LIMITATIONS OF RATIO ANALYSIS

Although ratio analysis can provide useful information concerning a company's operations and financial condition, it does have inherent problems and limitations that necessitate care and judgment. Some potential caveats (concerns) follow.

1. Many large firms operate a number of divisions in very different industries. In such cases, it is difficult to develop a meaningful set of industry averages for comparative purposes. Consequently, general ratio analysis tends to be more useful for small, narrowly focused firms than for large, multidivisional ones.
2. Most firms want to be better than average, so merely attaining average performance is not necessarily good. As a target for high-level performance, it is best to focus on the industry leaders' ratios. Thus, the industry average is not a magic number that all firms should strive to maintain. If a firm's ratios are far removed from the average for its peers or the industry, however, an analyst should question why this deviation has occurred.
3. Inflation might distort firms' balance sheets. Because many recorded values reported on the balance sheet are historical, they could be substantially different from the "true" values in the marketplace. For example, everything else the same, if we are comparing an old

firm that acquired its fixed assets many years ago at low prices with a new company that acquired its fixed assets recently, we probably would find the old firm has a higher fixed assets turnover ratio because the book values of its assets are lower. Furthermore, because inflation affects both depreciation charges and inventory costs, it also affects profits. For these reasons, a ratio analysis for one firm over time, or a comparative analysis of firms of different ages, must be carefully interpreted.

4. Seasonal factors can distort a ratio analysis. For example, the inventory turnover ratio for a textile firm will be radically different if the balance sheet figure used for inventory is the one just before the fall fashion season rather than the one just after the close of the season. You can minimize this problem by using monthly averages for inventory (and receivables) when calculating ratios such as turnover.

5. Firms can employ **window-dressing techniques** to make their financial statements look stronger. To illustrate, consider a Chicago builder that borrowed on a five-year basis on December 30, 2021, held the proceeds of the loan as cash for a few days, and then paid off the loan ahead of time on January 2, 2022. This activity improved the company's current and quick ratios, and it made the firm's year-end 2021 balance sheet look good. The improvement was strictly window dressing, however; one week later, the balance sheet was back at the old level.

6. Different accounting practices can distort comparisons. As noted earlier, inventory valuation and depreciation methods can affect financial statements. The fact that different methods can be used to measure the same event makes comparisons among firms difficult.

7. It is difficult to generalize about whether a particular ratio is "good" or "bad." For example, a high current ratio might indicate either a strong liquidity position, which is good, or excessive cash, which is bad (because excess cash in the bank is a nonearning asset). Similarly, a high fixed asset turnover ratio might denote either a firm that uses its assets efficiently or one that is undercapitalized and cannot afford to buy enough assets to produce sufficient amounts of its product to satisfy customers' demands.

8. A firm might have some ratios that look good and others that look bad, making it difficult to tell whether the company is, on balance, strong or weak. Statistical procedures can be used to analyze the net effects of a set of ratios and thereby clarify the situation. No matter what method is used to interpret ratios, however, you should perform a complete analysis of the firm's financial statements before reaching conclusions. Do not form opinions about a firm's financial position based on only a few ratios.

window-dressing techniques
Techniques employed by firms to make their financial statements look better than they actually are.

Ratio analysis is useful, but analysts should be aware of these concerns and make adjustments as necessary. When conducted in a mechanical, unthinking manner, this type of analysis is dangerous. Used intelligently and with good judgment, however, it can provide useful insights into a firm's operations. Probably *the most important and most difficult input to successful financial statement (ratio) analysis is the judgment used when interpreting the results to reach an overall conclusion about the firm's future financial position.*

2-4a Accounting in an International Setting

Traditionally, the manner in which firms have recorded and reported their financial activities has varied substantially from one country to the next. As more firms have gone "global," however, there has been increasing pressure for countries to adopt a standardized reporting system that allows companies, investors, and regulators to compare financial statements produced by companies around the world. The push to develop international accounting standards is not new; it actually started in the mid-1970s. But it wasn't until the early 2000s that the movement toward general acceptance of such an accounting system made substantial progress. In 2001, the International Accounting Standards Board (IASB) was created to develop and approve a set of common international accounting rules referred to as the International Financial Reporting Standards (IFRS).[11] Proponents of IFRS argue that using one set of accounting standards will improve global financial reporting and the ability to monitor firms, no matter their country of origin.

Today more than 160 countries either require or recommend that firms operating within their borders follow IFRS. Even with its acceptance worldwide, it is interesting that publicly traded companies in the United States are not required to use IFRS. In 2007, the Securities and Exchange Commission (SEC), which oversees the financial reporting of publicly-traded companies in the United States, allowed publicly-traded foreign companies to use IFRS rather than the Generally Accepted Accounting Principles (GAAP) used

in the United States when submitting their financial statements if IFRS was the accounting system used in their home country. Since then, the SEC has publicly announced its support for IFRS numerous times (e.g., in 2010, 2016, and 2017). But at the time we write this book in 2020, the SEC has not required U.S. firms to use IFRS when filing their financial statements. Even so, it appears there is a good chance firms that are publicly traded in the United States will be required to adopt IFRS in the near future. And, as a result of the movement to require firms throughout the world, especially multinational firms, to adhere to IFRS, it is clear that financial statements produced by American companies in the future will have a different (perhaps simpler) form than described in this chapter.

[11]More information about International Financial Reporting Standards (IFRS) can be found on the IFRS website, which is located at http://ifrs.org.

ETHICAL DILEMMA

HOCUS-POCUS—LOOK, AN INCREASE IN SALES!

Dynamic Energy Wares (DEW) manufactures and distributes products that are used to save energy and to help reduce and reverse the harmful environmental effects of atmospheric pollutants. DEW relies on a relatively complex distribution system to get the products to its customers. Large companies, which account for nearly 30 percent of the firm's total sales, purchase directly from DEW. Smaller companies and retailers that sell to individuals are required to make their purchases from one of the 50 independent distributors that are contractually obligated to exclusively sell DEW's products.

DEW's accountants just finished constructing the firm's financial statements for the third quarter of the fiscal year, which ended three weeks ago. The results are terrible. Profits are down 30 percent from this time last year, when a downturn in sales began. Profits are depressed primarily because DEW continues to lose market share to a competitor that entered the field nearly two years ago.

Senior management has decided it needs to take action to boost sales in the fourth quarter so that year-end profits will be "more acceptable." Starting immediately, DEW will (1) eliminate all direct sales, which means that large companies must purchase products from DEW's distributors, just as the smaller companies and retailers do; (2) require distributors to maintain certain minimum inventory levels, which are much higher than previous levels; and (3) form a task force to study and propose ways the firm can recapture its lost market share.

The financial manager, who is your boss, asked you to attend a hastily called meeting of DEW's distributors to announce the implementation of these operational changes. At the meeting, the distributors will be informed they must increase inventory to the required minimum level before the end of DEW's current fiscal year (in two months) or face losing the distributorship. According to your boss, the reason for this requirement is to ensure distributors can meet the increased demand they will face when the large companies are no longer permitted to purchase directly from DEW. The sales forecast you have been developing over the past few months, however, indicates that distributors' sales are expected to decline by almost 10 percent during the next year. As a consequence, the added inventories might be extremely burdensome to the distributors. When you approached your boss to discuss this potential problem, she said, "Tell the distributors not to worry! We won't require payment for six months, and any inventory that remains unsold after nine months can be returned. But they must take delivery of the inventory within the next two months."

It appears the actions implemented by DEW will produce favorable year-end sales for the current fiscal year. Do you agree with the decisions made by DEW's senior management? Will you be comfortable announcing the changes to DEW's distributors? How would you respond to a distributor who says, "DEW doesn't care about us! The company just wants to look good no matter who gets hurt—that's unethical"? What will you say to your boss? Will you attend the distributors' meeting?

STUDY TOOLS 2

LOCATED AT BACK OF THE TEXTBOOK

- ☐ Practice problem solutions can be found in Appendix B.
- ☐ A tear-out Chapter Review card is located at the back of the textbook.

INCLUDED IN MINDTAP

- ☐ Review Key Term flashcards.
- ☐ Watch Quick Lessons of key concepts.
- ☐ Work practice problems and complete homework assignments and quizzes.

KEY FINANCIAL STATEMENT ANALYSIS CONCEPTS

To conclude this chapter, we summarize some financial statement analysis concepts that were discussed.

- The information provided in financial reports is used by the firm's managers, its creditors and stockholders, potential creditors and stockholders, and other stakeholders and interested parties.
- If a financial analyst could use only one of the financial statements mentioned in this chapter, he or she probably would choose the statement of cash flows because it provides information about how a firm generated funds during the year and how those funds were used.
- Although ratio analysis provides information about a firm's current financial position, *the primary purpose of such an analysis is to provide an indication of the direction the firm's operations are headed in the future.*
- When evaluating the financial position of a firm, an analyst must be aware that different accounting techniques exist to measure the same event; that the firm might use techniques to "dress up" its financial statements; that the effects of inflation can distort values from different time periods; and so forth.
- The most important ingredient in financial statement analysis is the judgment the analyst uses when interpreting the results of the computations.

PRACTICE PROBLEMS

2-1 Crooked Golf's most recent income statement shows net income was $90,000, depreciation was $25,000, and taxes were $60,000. What was Crooked Golf's net cash flow? **(LO 2-2)**

2-2 Legacy Cleaning has a debt ratio equal to 40 percent, total assets equal to $750,000, return on assets (ROA) of 6 percent, and total assets turnover equal to 3.0. (a) If it has no preferred stock, what amount of common equity does Legacy have? (b) What is Legacy's net profit margin? **(LO 2-3)**

2-3 At the end of the year, Water Works International (WWI) had $10,000 in total assets. Its total assets turnover was 2.5 and its return on assets (ROA) was 4 percent. What were WWI's (a) sales revenues and (b) net profit margin? **(LO 2-3)**

2-4 Last year Delightful Desserts had a quick ratio of 1.8, a current ratio of 5.0, an inventory turnover of 7, total current assets of $340,000, and cash and equivalents of $43,000. If the cost of goods sold equaled 80 percent of sales, what were Bailey's annual sales and days' sales outstanding (DSO)? **(LO 2-3)**

2-5 North/South Airlines generated the following information from its financial statements: (1) P/E ratio equals 15.0, (2) common stock market price per share is $30, (3) fixed assets turnover equals 8.0, (4) current ratio equals 5.0, (5) current liabilities equal $300,000, (6) net profit margin equals 4 percent, and (7) 60,000 shares of common stock are outstanding. What are North/South's (a) return on assets (ROA) and (b) total assets turnover? **(LO 2-3)**

PROBLEMS

2-1 What kind of financial information is a publicly-traded company required to provide to its stockholders? Which financial statement do you think provides the best information for investors? **(LO 2-1)**

2-2 Differentiate (compare) among the information that is provided in each of the following financial statements: (1) balance sheet, (2) income statement, and (3) statement of cash flows. **(LO 2-2)**

2-3 Discuss some of the limitations associated with performing ratio (financial statement) analysis. What is the most important ingredient (input) in completing ratio analysis? Explain why. **(LO 2-4)**

2-4 Describe changes in balance sheet accounts that constitute sources of funds. What changes are considered uses of funds? **(LO 2-2)**

2-5 If a corporation reports $75 million of retained earnings on its balance sheet, could the board of directors declare a $75 million cash dividend without any qualms? Explain why or why not. **(LO 2-2)**

2-6 Robust Robots (RR) recently issued 100,000 shares of common stock at $7 per share. The stock has a par value equal to $3 per share. What amount of the $700,000 that RR raised should be reported in the "Common stock at par" account, and what amount should be reported in the "Paid-in capital" account? **(LO 2-2)**

2-7 A-2 Ad's most recent income statement shows that net income was $42,000, depreciation was $100,000, and taxes were $28,000. What was A-2 Ad's net cash flow? **(LO 2-2)**

2-8 HighTech Wireless just published its current income statement, which shows net income equal to $240,000. The statement also shows that operating expenses were $500,000 before including depreciation, depreciation was $100,000, and the tax rate was 40 percent. If HighTech has no debt, what were its sales revenues? What was its net cash flow? **(LO 2-2)**

2-9 Credit Card of America (CCA) has a current ratio of 3.5 and a quick ratio of 3.0. If its total current assets equal $73,500, what are CCA's (a) current liabilities and (b) inventory? **(LO 2-3)**

2-10 At the end of the year, Wrinkle Free Laundry (WFL) had $150,000 in total assets. (a) If WFL's total assets turnover was 2.0, what were its sales revenues? (b) If WFL's return on assets was 6 percent, what were its net income *and* net profit margin? **(LO 2-3)**

2-11 The balance sheet for Panoramic Open Pictures (POP) shows $300,000 in total assets and $200,000 in total liabilities. POP's return on assets (ROA) is 5 percent. Compute POP's (a) net income for the year and (b) its return on equity (ROE). POP has no preferred stock. **(LO 2-3)**

2-12 Sunny Lawns has a debt ratio equal to 70 percent, total assets equal to $1 million, return on assets (ROA) equal to 15.9 percent, and total assets turnover of 2.5. (a) If it has no preferred stock, what amount of common equity does Sunny have? (b) What is Sunny's net profit margin? **(LO 2-3)**

2-13 At the end of the year, Universal Utilities (UU) had $1.5 million in total assets. Its total assets turnover was 1.4, and its return on assets (ROA) was 7.14 percent. What were UU's (a) sales revenues and (b) net profit margin? **(LO 2-3)**

2-14 Last year, Jumpin' Trampolines (JT) had a quick ratio of 1.0, a current ratio of 1.8, an inventory turnover of 3.5, total current assets of $67,500, and cash and equivalents of $15,000. If the cost of goods sold equaled 70 percent of sales, what were JT's annual sales and DSO? **(LO 2-3)**

2-15 Wiley's Wilderness pays 6 percent interest on its outstanding debt, which equals $200,000. The company's sales are $540,000, its tax rate is 40 percent, and its net profit margin is 4 percent. (a) What is Wiley's TIE? (b) If Wiley's wants to maintain a TIE equal to 6.0, what must its sales equal? **(LO 2-3)**

2-16 The most recent balance sheet of Infinity Information Systems (IIS) shows that the company has $35 million of common equity and 7 million shares of common stock outstanding. The company's common stock has a market value equal to $8 per share. IIS's net income was $14 million. What are IIS's (a) P/E ratio and (b) M/B ratio? **(LO 2-3)**

2-17 ViewPoint Security's financial statements, which were constructed a few days ago, report the company has $1 million of common equity with 500,000 shares of common stock outstanding and its net income was $2.1 million. If ViewPoint's