

Introduction to Corporate Finance

OPENING CASE

In 2008 and 2009, the U.S. government set up the \$700 billion Troubled Asset Relief Program (TARP) to help companies avoid bankruptcy due to the severe financial turmoil. The loans to companies such as Bank of America and General Motors created unique governance problems. One such that received special attention was executive compensation. In June 2009, Kenneth Feinberg was appointed as a Special Master for Compensation (better known as the “Pay Czar”) and given broad powers over executive compensation for firms participating in the TARP program.

In October 2009, Mr. Feinberg capped the salaries at the seven largest TARP companies at \$500,000. This group’s annualized total pay would be 50 percent lower than a year before through reduced bonuses and options. Interestingly, 80 of the 136 employees affected actually had their base salaries increased, including an average base salary increase of about 87 percent at Citigroup.

Some outside experts argued that the pay cuts were overstated. Many employees continued to receive seven-figure pay packages, including one who received \$9.9 million. Of the 136 employees whose paychecks were reviewed, 29 were on track to collect total 2009 pay of at least \$5 million. The discrepancy arose because the pay cut calculation depended in part on departures of certain highly paid employees from the previous year.

The Pay Czar’s role in setting compensation limits is an unusual case in the U.S. of direct government involvement in corporate decisions. Understanding how a corporation sets executive pay, and the role of shareholders in that process, takes us into issues involving the corporate form of organization, corporate goals, and corporate control, all of which we cover in this chapter.

1.1 WHAT IS CORPORATE FINANCE?

Suppose you decide to start a firm to make tennis balls. To do this you hire managers to buy raw materials, and you assemble a workforce that will produce and sell finished tennis balls. In the language of finance, you make an investment in assets such as inventory, machinery, land, and labor. The amount of cash you invest in assets must be matched by an equal amount of cash raised by financing. When you begin to sell tennis balls, your firm

will generate cash. This is the basis of value creation. The purpose of the firm is to create value for you, the owner. The value is reflected in the framework of the simple balance sheet model of the firm.

The Balance Sheet Model of the Firm

Suppose we take a financial snapshot of the firm and its activities at a single point in time. Figure 1.1 shows a graphic conceptualization of the balance sheet, and it will help introduce you to corporate finance.

The assets of the firm are on the left side of the balance sheet. These assets can be thought of as current and fixed. *Fixed assets* are those that will last a long time, such as buildings. Some fixed assets are tangible, such as machinery and equipment. Other fixed assets are intangible, such as patents and trademarks. The other category of assets, *current assets*, comprises those that have short lives, such as inventory. The tennis balls that your firm has made, but has not yet sold, are part of its inventory. Unless you have overproduced, they will leave the firm shortly.

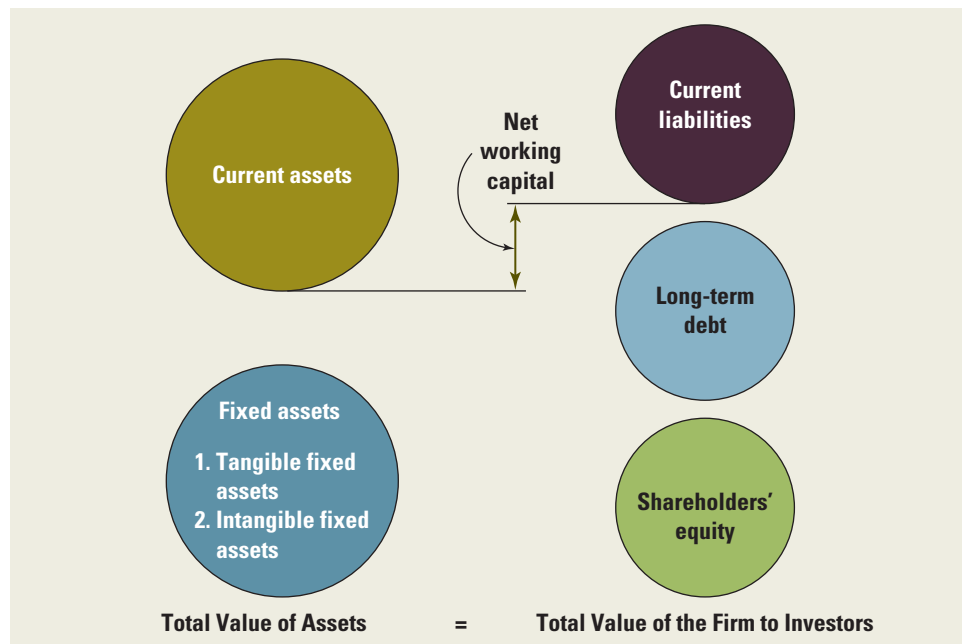
Before a company can invest in an asset, it must obtain financing, which means that it must raise the money to pay for the investment. The forms of financing are represented on the right side of the balance sheet. A firm will issue (sell) pieces of paper called *debt* (loan agreements) or *equity shares* (stock certificates). Just as assets are classified as long-lived or short-lived, so too are liabilities. A short-term debt is called a *current liability*. Short-term debt represents loans and other obligations that must be repaid within one year. Long-term debt is debt that does not have to be repaid within one year. Shareholders' equity represents the difference between the value of the assets and the debt of the firm. In this sense, it is a residual claim on the firm's assets.

From the balance sheet model of the firm, it is easy to see why finance can be thought of as the study of the following three questions:

1. In what long-lived assets should the firm invest? This question concerns the left side of the balance sheet. Of course the types and proportions of assets the firm needs tend to be set by the nature of the business. We use the term **capital budgeting** to describe the process of making and managing expenditures on long-lived assets.

FIGURE 1.1

The Balance Sheet Model of the Firm



2. How can the firm raise cash for required capital expenditures? This question concerns the right side of the balance sheet. The answer to this question involves the firm's **capital structure**, which represents the proportions of the firm's financing from current liabilities, long-term debt, and equity.
3. How should short-term operating cash flows be managed? This question concerns the upper portion of the balance sheet. There is often a mismatch between the timing of cash inflows and cash outflows during operating activities. Furthermore, the amount and timing of operating cash flows are not known with certainty. Financial managers must attempt to manage the gaps in cash flow. From a balance sheet perspective, short-term management of cash flow is associated with a firm's **net working capital**. Net working capital is defined as current assets minus current liabilities. From a financial perspective, short-term cash flow problems come from the mismatching of cash inflows and outflows. This is the subject of short-term finance.

The Financial Manager

In large firms, the finance activity is usually associated with a top officer of the firm, such as the vice president and chief financial officer, and some lesser officers. Figure 1.2

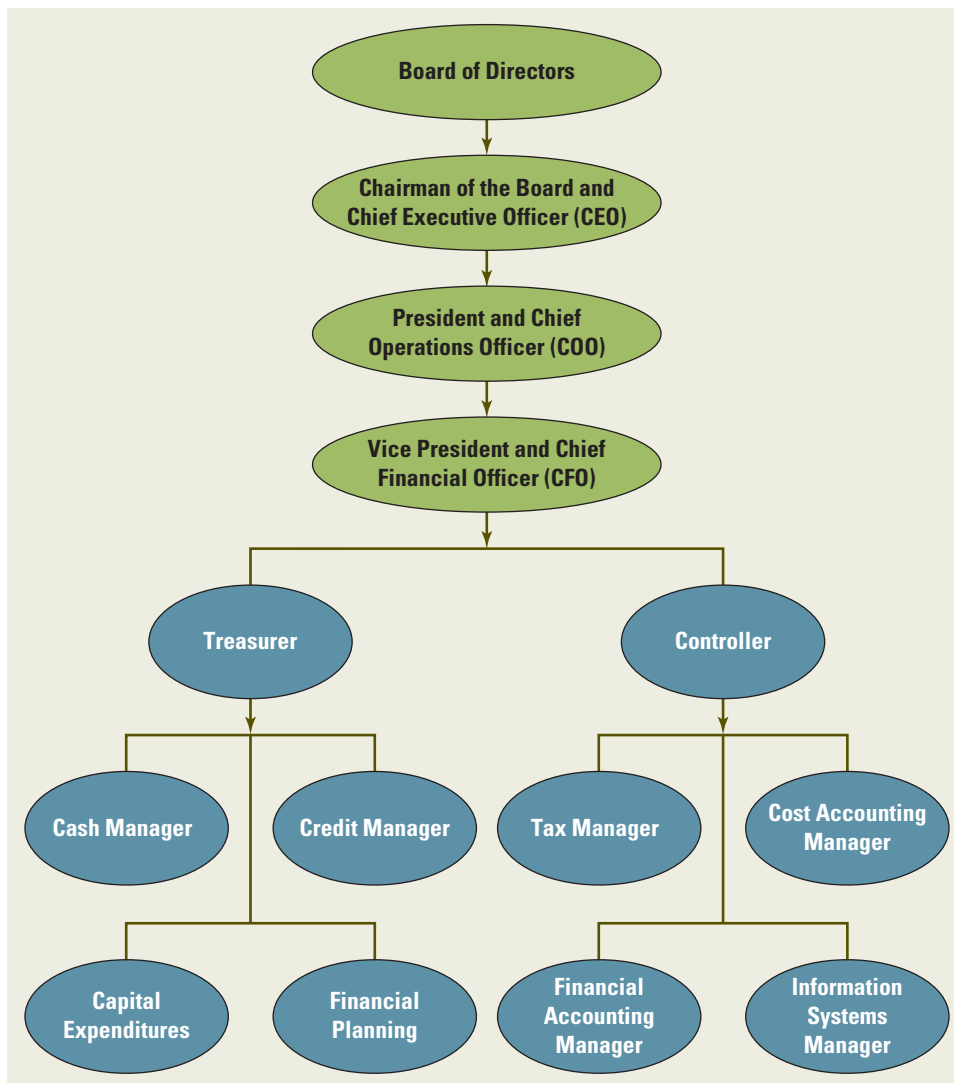


FIGURE 1.2

Hypothetical Organization Chart

depicts a general organizational structure emphasizing the finance activity within the firm. Reporting to the chief financial officer are the treasurer and the controller. The treasurer is responsible for handling cash flows, managing capital expenditure decisions, and making financial plans. The controller handles the accounting function, which includes taxes, cost and financial accounting, and information systems.

1.2 THE CORPORATE FIRM

The firm is a way of organizing the economic activity of many individuals. A basic problem of the firm is how to raise cash. The corporate form of business—that is, organizing the firm as a corporation—is the standard method for solving problems encountered in raising large amounts of cash. However, businesses can take other forms. In this section we consider the three basic legal forms of organizing firms, and we see how firms go about the task of raising large amounts of money under each form.

The Sole Proprietorship

A **sole proprietorship** is a business owned by one person. Suppose you decide to start a business to produce mousetraps. Going into business is simple: You announce to all who will listen, “Today, I am going to build a better mousetrap.”

Most large cities require that you obtain a business license. Afterward, you can begin to hire as many people as you need and borrow whatever money you need. At year-end all the profits and the losses will be yours.

Here are some factors that are important in considering a sole proprietorship:

1. The sole proprietorship is the cheapest business to form. No formal charter is required, and few government regulations must be satisfied for most industries.
2. A sole proprietorship pays no corporate income taxes. All profits of the business are taxed as individual income.
3. The sole proprietorship has unlimited liability for business debts and obligations. No distinction is made between personal and business assets.
4. The life of the sole proprietorship is limited by the life of the sole proprietor.
5. Because the only money invested in the firm is the proprietor’s, the equity money that can be raised by the sole proprietor is limited to the proprietor’s personal wealth.

The Partnership

Any two or more people can get together and form a **partnership**. Partnerships fall into two categories: (1) general partnerships and (2) limited partnerships.

In a *general partnership* all partners agree to provide some fraction of the work and cash and to share the profits and losses. Each partner is liable for all of the debts of the partnership. A partnership agreement specifies the nature of the arrangement. The partnership agreement may be an oral agreement or a formal document setting forth the understanding.

Limited partnerships permit the liability of some of the partners to be limited to the amount of cash each has contributed to the partnership. Limited partnerships usually require that (1) at least one partner be a general partner and (2) the limited partners do not participate in managing the business. Here are some things that are important when considering a partnership:

1. Partnerships are usually inexpensive and easy to form. Written documents are required in complicated arrangements. Business licenses and filing fees may be necessary.

2. General partners have unlimited liability for all debts. The liability of limited partners is usually limited to the contribution each has made to the partnership. If one general partner is unable to meet his or her commitment, the shortfall must be made up by the other general partners.
3. The general partnership is terminated when a general partner dies or withdraws (but this is not so for a limited partner). It is difficult for a partnership to transfer ownership without dissolving. Usually all general partners must agree. However, limited partners may sell their interest in a business.
4. It is difficult for a partnership to raise large amounts of cash. Equity contributions are usually limited to a partner's ability and desire to contribute to the partnership. Many companies, such as Apple Computer, start life as a proprietorship or partnership, but at some point they choose to convert to corporate form.
5. Income from a partnership is taxed as personal income to the partners.
6. Management control resides with the general partners. Usually a majority vote is required on important matters, such as the amount of profit to be retained in the business.

It is difficult for large business organizations to exist as sole proprietorships or partnerships. The main advantage to a sole proprietorship or partnership is the cost of getting started. Afterward, the disadvantages, which may become severe, are (1) unlimited liability, (2) limited life of the enterprise, and (3) difficulty of transferring ownership. These three disadvantages lead to (4) difficulty in raising cash.

The Corporation

Of the forms of business enterprises, the **corporation** is by far the most important. It is a distinct legal entity. As such, a corporation can have a name and enjoy many of the legal powers of natural persons. For example, corporations can acquire and exchange property. Corporations can enter contracts and may sue and be sued. For jurisdictional purposes the corporation is a citizen of its state of incorporation (it cannot vote, however).

Starting a corporation is more complicated than starting a proprietorship or partnership. The incorporators must prepare articles of incorporation and a set of bylaws. The articles of incorporation must include the following:

1. Name of the corporation.
2. Intended life of the corporation (it may be forever).
3. Business purpose.
4. Number of shares of stock that the corporation is authorized to issue, with a statement of limitations and rights of different classes of shares.
5. Nature of the rights granted to shareholders.
6. Number of members of the initial board of directors.

The bylaws are the rules to be used by the corporation to regulate its own existence, and they concern its shareholders, directors, and officers. Bylaws range from the briefest possible statement of rules for the corporation's management to hundreds of pages of text.

In its simplest form, the corporation comprises three sets of distinct interests: the shareholders (the owners), the directors, and the corporation officers (the top management). Traditionally, the shareholders control the corporation's direction, policies, and activities. The shareholders elect a board of directors, who in turn select top management. Members of top management serve as corporate officers and manage the operations of the corporation in the best interest of the shareholders. In closely held corporations with few shareholders,

there may be a large overlap among the shareholders, the directors, and the top management. However, in larger corporations, the shareholders, directors, and the top management are likely to be distinct groups.

The potential separation of ownership from management gives the corporation several advantages over proprietorships and partnerships:

1. Because ownership in a corporation is represented by shares of stock, ownership can be readily transferred to new owners. Because the corporation exists independently of those who own its shares, there is no limit to the transferability of shares as there is in partnerships.
2. The corporation has unlimited life. Because the corporation is separate from its owners, the death or withdrawal of an owner does not affect the corporation's legal existence. The corporation can continue on after the original owners have withdrawn.
3. The shareholders' liability is limited to the amount invested in the ownership shares. For example, if a shareholder purchased \$1,000 in shares of a corporation, the potential loss would be \$1,000. In a partnership, a general partner with a \$1,000 contribution could lose the \$1,000 plus any other indebtedness of the partnership.

Limited liability, ease of ownership transfer, and perpetual succession are the major advantages of the corporate form of business organization. These give the corporation an enhanced ability to raise cash.

There is, however, one great disadvantage to incorporation. The federal government taxes corporate income (the states do as well). This tax is in addition to the personal income tax that shareholders pay on dividend income they receive. This is double taxation for shareholders when compared to taxation on proprietorships and partnerships. Table 1.1 summarizes our discussion of partnerships and corporations.

Today all 50 states have enacted laws allowing for the creation of a relatively new form of business organization, the limited liability company (LLC). The goal of this

TABLE 1.1
A Comparison of Partnerships and Corporations

	CORPORATION	PARTNERSHIP
Liquidity and marketability	Shares can be exchanged without termination of the corporation. Common stock can be listed on a stock exchange.	Units are subject to substantial restrictions on transferability. There is usually no established trading market for partnership units.
Voting rights	Usually each share of common stock entitles the holder to one vote per share on matters requiring a vote and on the election of the directors. Directors determine top management.	Some voting rights by limited partners. However, general partners have exclusive control and management of operations.
Taxation	Corporations have double taxation: Corporate income is taxable, and dividends to shareholders are also taxable.	Partnerships are not taxable. Partners pay personal taxes on partnership profits.
Reinvestment and dividend payout	Corporations have broad latitude on dividend payout decisions.	Partnerships are generally prohibited from reinvesting partnership profits. All profits are distributed to partners.
Liability	Shareholders are not personally liable for obligations of the corporation.	Limited partners are not liable for obligations of partnerships. General partners may have unlimited liability.
Continuity of existence	Corporations may have a perpetual life.	Partnerships have limited life.

TABLE 1.2

International Corporations

COMPANY	COUNTRY OF ORIGIN	TYPE OF COMPANY	
		IN ORIGINAL LANGUAGE	INTERPRETATION
Bayerische Motoren Werke (BMW) AG	Germany	Aktiengesellschaft	Corporation
Dornier GmbH	Germany	Gesellschaft mit Beschränkter Haftung	Limited liability company
Rolls-Royce PLC	United Kingdom	Public limited company	Public Ltd. Company
Shell UK Ltd.	United Kingdom	Limited	Corporation
Unilever NV	Netherlands	Naamloze Vennootschap	Joint stock company
Fiat SpA	Italy	Società per Azioni	Joint stock company
Volvo AB	Sweden	Aktiebolag	Joint stock company
Peugeot SA	France	Société Anonyme	Joint stock company

entity is to operate and be taxed like a partnership but retain limited liability for owners, so an LLC is essentially a hybrid of partnership and corporation. Although states have differing definitions for LLCs, the more important scorekeeper is the Internal Revenue Service (IRS). The IRS will consider an LLC a corporation, thereby subjecting it to double taxation, unless it meets certain specific criteria. In essence, an LLC cannot be too corporation-like, or it will be treated as one by the IRS. LLCs have become common. For example, Goldman, Sachs and Co., one of Wall Street's last remaining partnerships, decided to convert from a private partnership to an LLC (it later "went public," becoming a publicly held corporation). Large accounting firms and law firms by the score have converted to LLCs.

To find out more about LLCs, visit www.incorporate.com.

A Corporation by Another Name . . .

The corporate form of organization has many variations around the world. The exact laws and regulations differ from country to country, of course, but the essential features of public ownership and limited liability remain. These firms are often called *joint stock companies*, *public limited companies*, or *limited liability companies*, depending on the specific nature of the firm and the country of origin.

Table 1.2 gives the names of a few well-known international corporations, their countries of origin, and a translation of the abbreviation that follows each company name.

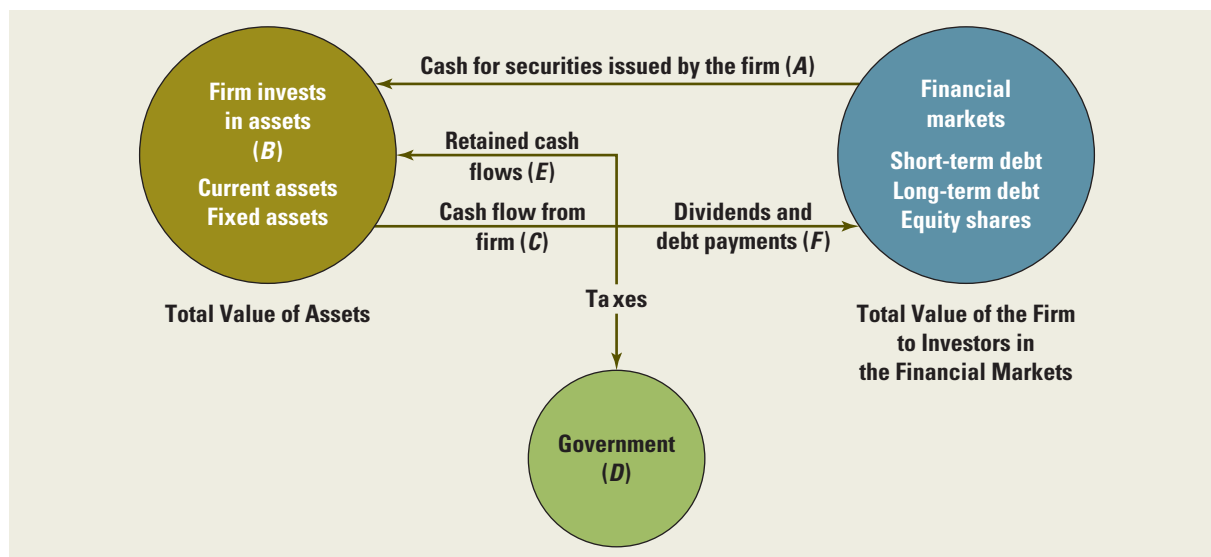
1.3 THE IMPORTANCE OF CASH FLOWS

The most important job of a financial manager is to create value from the firm's capital budgeting, financing, and net working capital activities. How do financial managers create value? The answer is that the firm should create more cash flow than it uses.

The cash flows paid to bondholders and stockholders of the firm should be greater than the cash flows put into the firm by the bondholders and stockholders. To see how this is done, we can trace the cash flows from the firm to the financial markets and back again.

FIGURE 1.3

Cash Flows between the Firm and the Financial Markets



The interplay of the firm's activities with the financial markets is illustrated in Figure 1.3. The arrows in Figure 1.3 trace cash flow from the firm to the financial markets and back again. Suppose we begin with the firm's financing activities. To raise money, the firm sells debt and equity shares to investors in the financial markets. This results in cash flows from the financial markets to the firm (A). This cash is invested in the investment activities (assets) of the firm (B) by the firm's management. The cash generated by the firm (C) is paid to shareholders and bondholders (F). The shareholders receive cash in the form of dividends; the bondholders who lent funds to the firm receive interest and, when the initial loan is repaid, principal. Not all of the firm's cash is paid out. Some is retained (E), and some is paid to the government as taxes (D).

Over time, if the cash paid to shareholders and bondholders (F) is greater than the cash raised in the financial markets (A), value will be created.

Identification of Cash Flows Unfortunately, it is sometimes not easy to observe cash flows directly. Much of the information we obtain is in the form of accounting statements, and much of the work of financial analysis is to extract cash flow information from accounting statements. The following example illustrates how this is done.

EXAMPLE 1.1

Accounting Profit versus Cash Flows

The Midland Company refines and trades gold. At the end of the year, it sold 2,500 ounces of gold for \$1 million. The company had acquired the gold for \$900,000 at the beginning of the year. The company paid cash for the gold when it was purchased. Unfortunately it has yet to collect from the customer to

(continued)

whom the gold was sold. The following is a standard accounting of Midland's financial circumstances at year-end:

THE MIDLAND COMPANY Accounting View Income Statement Year Ended December 31	
Sales	\$1,000,000
— Costs	<u>— 900,000</u>
Profit	\$ 100,000

By generally accepted accounting principles (GAAP), the sale is recorded even though the customer has yet to pay. It is assumed that the customer will pay soon. From the accounting perspective, Midland seems to be profitable. However, the perspective of corporate finance is different. It focuses on cash flows:

THE MIDLAND COMPANY Financial View Income Statement Year Ended December 31	
Cash inflow	\$ 0
Cash outflow	<u>— 900,000</u>
	—\$ 900,000

The perspective of corporate finance is interested in whether cash flows are being created by the gold trading operations of Midland. Value creation depends on cash flows. For Midland, value creation depends on whether and when it actually receives \$1 million.

Timing of Cash Flows The value of an investment made by a firm depends on the timing of cash flows. One of the most important principles of finance is that individuals prefer to receive cash flows earlier rather than later. One dollar received today is worth more than one dollar received next year.

EXAMPLE 1.2

Cash Flow Timing

The Midland Company is attempting to choose between two proposals for new products. Both proposals will provide additional cash flows over a four-year period and will initially cost \$10,000. The cash flows from the proposals are as follows:

YEAR	NEW PRODUCT A	NEW PRODUCT B
1	\$ 0	\$ 4,000
2	0	4,000
3	0	4,000
4	<u>20,000</u>	<u>4,000</u>
Total	\$20,000	\$16,000

At first it appears that new product A would be best. However, the cash flows from proposal B come earlier than those of A. Without more information, we cannot decide which set of cash flows would create the most value for the bondholders and shareholders. It depends on whether the value of getting cash from B up front outweighs the extra total cash from A. Bond and stock prices reflect this preference for earlier cash, and we will see how to use them to decide between A and B.

Risk of Cash Flows The firm must consider risk. The amount and timing of cash flows are not usually known with certainty. Most investors have an aversion to risk.

EXAMPLE 1.3

Risk

The Midland Company is considering expanding operations overseas. It is evaluating Europe and Japan as possible sites. Europe is considered to be relatively safe, whereas operating in Japan is seen as very risky. In both cases the company would close down operations after one year.

After doing a complete financial analysis, Midland has come up with the following cash flows of the alternative plans for expansion under three scenarios—pessimistic, most likely, and optimistic:

	PESSIMISTIC	MOST LIKELY	OPTIMISTIC
Europe	\$75,000	\$100,000	\$125,000
Japan	0	150,000	200,000

If we ignore the pessimistic scenario, perhaps Japan is the best alternative. When we take the pessimistic scenario into account, the choice is unclear. Japan appears to be riskier, but it also offers a higher expected level of cash flow. What is risk and how can it be defined? We must try to answer this important question. Corporate finance cannot avoid coping with risky alternatives, and much of our book is devoted to developing methods for evaluating risky opportunities.

1.4 THE GOAL OF FINANCIAL MANAGEMENT

Assuming that we restrict our discussion to for-profit businesses, the goal of financial management is to make money or add value for the owners. This goal is a little vague, of course, so we examine some different ways of formulating it to come up with a more precise definition. Such a definition is important because it leads to an objective basis for making and evaluating financial decisions.

Possible Goals

If we were to consider possible financial goals, we might come up with some ideas like the following:

- Survive.
- Avoid financial distress and bankruptcy.
- Beat the competition.
- Maximize sales or market share.
- Minimize costs.
- Maximize profits.
- Maintain steady earnings growth.

These are only a few of the goals we could list. Furthermore, each of these possibilities presents problems as a goal for the financial manager.

For example, it's easy to increase market share or unit sales: All we have to do is lower our prices or relax our credit terms. Similarly, we can always cut costs simply by doing away with things such as research and development. We can avoid bankruptcy by never borrowing any money or never taking any risks, and so on. It's not clear that any of these actions are in the stockholders' best interests.

Profit maximization would probably be the most commonly cited goal, but even this is not a precise objective. Do we mean profits this year? If so, then we should note that actions such as deferring maintenance, letting inventories run down, and taking other short-run cost-cutting measures will tend to increase profits now, but these activities aren't necessarily desirable.

The goal of maximizing profits may refer to some sort of "long-run" or "average" profits, but it's still unclear exactly what this means. First, do we mean something like accounting net income or earnings per share? As we will see in more detail in the next chapter, these accounting numbers may have little to do with what is good or bad for the firm. We are actually more interested in cash flows. Second, what do we mean by the long run? As a famous economist once remarked, in the long run, we're all dead! More to the point, this goal doesn't tell us what the appropriate trade-off is between current and future profits.

The goals we've listed here are all different, but they tend to fall into two classes. The first of these relates to profitability. The goals involving sales, market share, and cost control all relate, at least potentially, to different ways of earning or increasing profits. The goals in the second group, involving bankruptcy avoidance, stability, and safety, relate in some way to controlling risk. Unfortunately, these two types of goals are somewhat contradictory. The pursuit of profit normally involves some element of risk, so it isn't really possible to maximize both safety and profit. What we need, therefore, is a goal that encompasses both factors.

The Goal of Financial Management

The financial manager in a corporation makes decisions for the stockholders of the firm. So, instead of listing possible goals for the financial manager, we really need to answer a more fundamental question: From the stockholders' point of view, what is a good financial management decision?

If we assume that stockholders buy stock because they seek to gain financially, then the answer is obvious: Good decisions increase the value of the stock, and poor decisions decrease the value of the stock.

From our observations, it follows that the financial manager acts in the shareholders' best interests by making decisions that increase the value of the stock. The appropriate goal for the financial manager can thus be stated quite easily:

The goal of financial management is to maximize the current value per share of the existing stock.

The goal of maximizing the value of the stock avoids the problems associated with the different goals we listed earlier. There is no ambiguity in the criterion, and there is no short-run versus long-run issue. We explicitly mean that our goal is to maximize the *current* stock value.

If this goal seems a little strong or one-dimensional to you, keep in mind that the stockholders in a firm are residual owners. By this we mean that they are entitled only to what is left after employees, suppliers, and creditors (and everyone else with legitimate claims) are paid their due. If any of these groups go unpaid, the stockholders get nothing. So if the stockholders are winning in the sense that the leftover, residual portion is growing, it must be true that everyone else is winning also.

Because the goal of financial management is to maximize the value of the stock, we need to learn how to identify investments and financing arrangements that favorably impact the value of the stock. This is precisely what we will be studying. In the previous section we emphasized the importance of cash flows in value creation. In fact, we could have defined

corporate finance as the study of the relationship between business decisions, cash flows, and the value of the stock in the business.

A More General Goal

If our goal is as stated in the preceding section (to maximize the value of the stock), an obvious question comes up: What is the appropriate goal when the firm has no traded stock? Corporations are certainly not the only type of business; and the stock in many corporations rarely changes hands, so it's difficult to say what the value per share is at any particular time.

Business ethics are considered at www.business-ethics.com.

As long as we are considering for-profit businesses, only a slight modification is needed. The total value of the stock in a corporation is simply equal to the value of the owners' equity. Therefore, a more general way of stating our goal is as follows: Maximize the value of the existing owners' equity.

With this in mind, we don't care whether the business is a proprietorship, a partnership, or a corporation. For each of these, good financial decisions increase the value of the owners' equity, and poor financial decisions decrease it. In fact, although we choose to focus on corporations in the chapters ahead, the principles we develop apply to all forms of business. Many of them even apply to the not-for-profit sector.

Finally, our goal does not imply that the financial manager should take illegal or unethical actions in the hope of increasing the value of the equity in the firm. What we mean is that the financial manager best serves the owners of the business by identifying goods and services that add value to the firm because they are desired and valued in the free marketplace.

1.5 THE AGENCY PROBLEM AND CONTROL OF THE CORPORATION

The processes, policies, laws, and institutions that direct a company's actions are all included under the broad category of corporate governance. Corporate governance can also include the relationships among various stakeholders including shareholders, management, employees, the board of directors, suppliers, and the community at large, among others. As such, corporate governance is a wide-ranging topic.

We've seen that the financial manager acts in the best interests of the stockholders by taking actions that increase the value of the stock. However, in large corporations, ownership can be spread over a huge number of stockholders. This dispersion of ownership arguably means that management effectively controls the firm. In this case, will management necessarily act in the best interests of the stockholders? Put another way, might not management pursue its own goals at the stockholders' expense?

Corporate governance varies quite a bit around the world. For example, in most countries other than the U.S. and the U.K., publicly traded companies are usually controlled by one or more large shareholders. Moreover, in countries with limited shareholder protection, when compared to countries with strong shareholder protection like the U.S. and the U.K., large shareholders may have a greater opportunity to take advantage of minority shareholders. Research shows that a country's investor protection framework is important to understanding a firms' cash holdings and dividend payouts. For example, studies find that shareholders do not highly value cash holdings in firms in countries with low investor protection when compared to firms in the U.S. where investor protection is high.¹

¹See, for example, "Investor Protection and Corporate Valuation," by Rafael La Porta, Florencio Lopez-De-Silanes, Andrei Shleifer, and Robert Vishny, *Journal of Finance* 57 (2002), pp. 1147–1170; and "Cash Holdings, Dividend Policy, and Corporate Governance: A Cross-Country Analysis," by Lee Pinkowitz, René M. Stulz, and Rohan Williamson, *Journal of Applied Corporate Finance*, Vol. 19, No. 1 (2007), pp. 81–87.

In the basic corporate governance setup, the shareholders elect the board of directors who in turn appoint the top corporate managers, such as the CEO. The CEO is usually a member of the board of directors. One aspect of corporate governance that has received attention recently concerns the chair of a firm's board of directors. In a large number of U.S. corporations, the CEO and the board chair are the same person. An argument can be made that combining the CEO and board chair positions can contribute to poor corporate governance. When comparing the corporate governance of the U.S. and the U.K., an edge is often given to the U.K. in governance partially because over 90 percent of U.K. companies are chaired by outside directors rather than the CEO.² This is a contentious issue confronting many U.S. corporations. For example, in May 2008, 19 institutional investors, including some of ExxonMobil's largest shareholders and members of the founding Rockefeller family, supported a resolution to split the jobs of CEO and board chair. About 40 percent of the shareholders voted for the split.

Agency Relationships

The relationship between stockholders and management is called an *agency relationship*. Such a relationship exists whenever someone (the principal) hires another (the agent) to represent his or her interests. For example, you might hire someone (an agent) to sell a car that you own while you are away at school. In all such relationships there is a possibility of a conflict of interest between the principal and the agent. Such a conflict is called an **agency problem**.

Suppose you hire someone to sell your car and you agree to pay that person a flat fee when he or she sells the car. The agent's incentive in this case is to make the sale, not necessarily to get you the best price. If you offer a commission of, say, 10 percent of the sales price instead of a flat fee, then this problem might not exist. This example illustrates that the way in which an agent is compensated is one factor that affects agency problems.

Management Goals

To see how management and stockholder interests might differ, imagine that a firm is considering a new investment. The new investment is expected to favorably impact the share value, but it is also a relatively risky venture. The owners of the firm will wish to take the investment (because the stock value will rise), but management may not because there is the possibility that things will turn out badly and management jobs will be lost. If management does not take the investment, then the stockholders may lose a valuable opportunity. This is one example of an *agency cost*.

More generally, the term *agency costs* refers to the costs of the conflict of interest between stockholders and management. These costs can be indirect or direct. An indirect agency cost is a lost opportunity, such as the one we have just described.

Direct agency costs come in two forms. The first type is a corporate expenditure that benefits management but costs the stockholders. Perhaps the purchase of a luxurious and unneeded corporate jet would fall under this heading. The second type of direct agency cost is an expense that arises from the need to monitor management actions. Paying outside auditors to assess the accuracy of financial statement information could be one example.

It is sometimes argued that, left to themselves, managers would tend to maximize the amount of resources over which they have control or, more generally, corporate power or wealth. This goal could lead to an overemphasis on corporate size or growth. For example, cases in which management is accused of overpaying to buy up another company just to

²"U.S. Corporate Governance: Accomplishments and Failings, a Discussion with Michael Jensen and Robert Monks" (moderated by Ralph Walkling), *Journal of Applied Corporate Finance*, Vol. 20, No. 1 (Winter 2008), pp. 28–46.

increase the size of the business or to demonstrate corporate power are not uncommon. Obviously, if overpayment does take place, such a purchase does not benefit the stockholders of the purchasing company.

Our discussion indicates that management may tend to overemphasize organizational survival to protect job security. Also, management may dislike outside interference, so independence and corporate self-sufficiency may be important goals.

Do Managers Act in the Stockholders' Interests?

Whether managers will, in fact, act in the best interests of stockholders depends on two factors. First, how closely are management goals aligned with stockholder goals? This question relates, at least in part, to the way managers are compensated. Second, can managers be replaced if they do not pursue stockholder goals? This issue relates to control of the firm. As we will discuss, there are a number of reasons to think that, even in the largest firms, management has a significant incentive to act in the interests of stockholders.

Managerial Compensation Management will frequently have a significant economic incentive to increase share value for two reasons. First, managerial compensation, particularly at the top, is usually tied to financial performance in general and often to share value in particular. For example, managers are frequently given the option to buy stock at a bargain price. The more the stock is worth, the more valuable is this option. In fact, options are often used to motivate employees of all types, not just top management. According to *The New York Times*, in 2009, Alan Mulally, CEO of Ford Motor, made \$1,400,003 in salary and \$16 million in bonuses tied to financial performance. As mentioned, many firms also give managers an ownership stake in the company by granting stock or stock options. In 2009, the total compensation of Jay L. Johnson, CEO of General Dynamics, was reported by *The New York Times* to be \$12.8 million. His base salary was \$1.1 million with bonuses of \$2.5 million, stock option grants of \$5.8 million, and restricted stock grants of \$2.9 million. Although there are many critics of the high level of CEO compensation, from the stockholders' point of view, sensitivity of compensation to firm performance is usually more important.

The second incentive managers have relates to job prospects. Better performers within the firm will tend to get promoted. More generally, managers who are successful in pursuing stockholder goals will be in greater demand in the labor market and thus command higher salaries.

In fact, managers who are successful in pursuing stockholder goals can reap enormous rewards. For example, the best-paid executive in 2008 was Larry Ellison, the CEO of Oracle; according to *The New York Times*, he made about \$84.5 million. By way of comparison, J. K. Rowling made \$300 million and Rachael Ray made about \$18 million. Over the period of 2004–2008, Ellison made \$944 million.³

Control of the Firm Control of the firm ultimately rests with stockholders. They elect the board of directors, who, in turn, hire and fire management.

An important mechanism by which unhappy stockholders can replace existing management is called a *proxy fight*. A proxy is the authority to vote someone else's stock. A proxy fight develops when a group solicits proxies in order to replace the existing board and thereby replace existing management. In 2002, the proposed merger between HP and Compaq triggered one of the most widely followed, bitterly contested, and expensive proxy fights in history, with an estimated price tag of well over \$100 million.

³This raises the issue of the level of top management pay and its relationship to other employees. According to *The New York Times*, the average CEO compensation was greater than 180 times the average employee compensation in 2007 and only 90 times in 1994. However, there is no precise formula that governs the gap between top management compensation and that of employees.

Another way that management can be replaced is by takeover. Firms that are poorly managed are more attractive as acquisitions than well-managed firms because a greater profit potential exists. Thus, avoiding a takeover by another firm gives management another incentive to act in the stockholders' interests. Unhappy prominent shareholders can suggest different business strategies to a firm's top management. This was the case with Carl Icahn and Motorola. Carl Icahn specializes in takeovers. His stake in Motorola reached 7.6 percent ownership in 2008, so he was a particularly important and unhappy shareholder. This large stake made the threat of a shareholder vote for new board membership and a takeover more credible. His advice was for Motorola to split its poorly performing handset mobile phone unit from its home and networks business and create two publicly traded companies—a strategy the company adopted.

Until recently, proxy fights were fairly rare. For example, from January to October 2009, only 75 proxy contests occurred in the U.S. As the HP/Compaq proxy fight shows, expenses in a proxy fight can become large, and the cost is often the reason given for so few proxy fights. Also, outsiders waging the proxy fight must cover their own expenses, while the current directors use company finances to back their bid to retain board seats. In October 2009, HealthSouth became the first company to adopt a corporate bylaw that would reimburse proxy contestants for “reasonable” costs, provided that they had won at least 40 percent of the votes cast. Although not yet approved by the Securities and Exchange Commission, these “proxy access” rules are likely to result in more proxy contests.

Conclusion The available theory and evidence are consistent with the view that stockholders control the firm and that stockholder wealth maximization is the relevant goal of the corporation. Even so, there will undoubtedly be times when management goals are pursued at the expense of the stockholders, at least temporarily.

Stakeholders

Our discussion thus far implies that management and stockholders are the only parties with an interest in the firm's decisions. This is an oversimplification, of course. Employees, customers, suppliers, and even the government all have a financial interest in the firm.

Taken together, these various groups are called **stakeholders** in the firm. In general, a stakeholder is someone other than a stockholder or creditor who potentially has a claim on the cash flows of the firm. Such groups will also attempt to exert control over the firm, perhaps to the detriment of the owners.

1.6 REGULATION

Until now, we have talked mostly about the actions that shareholders and boards of directors can take to reduce the conflicts of interest between themselves and management. We have not talked about regulation.⁴ Until recently the main thrust of federal regulation has been to require that companies disclose all relevant information to investors and potential investors. Disclosure of relevant information by corporations is intended to put all investors on a level information playing field and, thereby to reduce conflicts of interest. Of course, regulation imposes costs on corporations and any analysis of regulation must include both benefits and costs. Our nearby *The Real World* box discusses some of the costs exchange-listed companies face arising from disclosure requirements.

⁴At this stage in our book, we focus on the regulation of corporate governance. We do not talk about many other regulators in financial markets such as the Federal Reserve Board. In Chapter 8, we discuss the nationally recognized statistical rating organizations (NRSROs) in the U.S. They are Fitch Ratings, Moody's, and Standard & Poor's. Their ratings are used by market participants to help value securities such as corporate bonds. Many critics of the rating agencies blame the 2007–2009 subprime credit crisis on weak regulatory oversight of these agencies.



SARBANES-OXLEY

In response to corporate scandals at companies such as Enron, WorldCom, Tyco, and Adelphia, Congress enacted the Sarbanes-Oxley Act in 2002. The act, better known as “Sarbox,” is intended to protect investors from corporate abuses. For example, one section of Sarbox prohibits personal loans from a company to its officers, such as the ones that were received by WorldCom CEO Bernie Ebbers.

One of the key sections of Sarbox took effect on November 15, 2004. Section 404 requires, among other things, that each company’s annual report must have an assessment of the company’s internal control structure and financial reporting. The auditor must then evaluate and attest to management’s assessment of these issues.

Sarbox contains other key requirements. For example, the officers of the corporation must review and sign the annual reports. They must explicitly declare that the annual report does not contain any false statements or material omissions; that the financial statements fairly represent the financial results; and that they are responsible for all internal controls. Finally, the annual report must list any deficiencies in internal controls. In essence, Sarbox makes company management responsible for the accuracy of the company’s financial statements.

Of course, as with any law, there are costs. Sarbox has increased the expense of corporate audits, sometimes dramatically. In 2004, the average compliance cost was \$4.51 million. By 2007, the average compliance cost had fallen to \$1.7 million, so the burden seems to be dropping, but it is still not trivial, particularly for a smaller firm. This added expense has led to several unintended results. For example, in 2003, 198 firms delisted their shares from exchanges, or “went dark,” and about the same number delisted in 2004. Both numbers were up from 30 delistings in 1999. Many of the companies that delisted stated the reason was to avoid the cost of compliance with Sarbox. And not only small companies delist because of Sarbox; in September 2009, German insurer Allianz applied to delist its shares from the New York Stock Exchange. The company estimated that canceling its listings outside of its home exchange of Frankfurt could save 5 million euros (\$8.1 million) per year.

A company that goes dark does not have to file quarterly or annual reports. Annual audits by independent auditors are not required, and executives do not have to certify the accuracy of the financial statements, so the savings can be huge. Of course, there are costs. Stock prices typically fall when a company announces it is going dark. Further, such companies will typically have limited access to capital markets and usually will have a higher interest cost on bank loans.

Sarbox has also probably affected the number of companies choosing to go public in the United States. For example, when Peach Holdings, based in Boynton Beach, Florida, decided to go public in 2006, it shunned the U.S. stock markets, instead choosing the London Stock Exchange’s Alternative Investment Market (AIM). To go public in the United States, the firm would have paid a \$100,000 fee, plus about \$2 million to comply with Sarbox. Instead, the company spent only \$500,000 on its AIM stock offering. Overall, the European exchanges had a record year in 2006, with 651 companies going public, while the U.S. exchanges had a lackluster year, with 224 companies going public.

The Securities Act of 1933 and the Securities Exchange Act of 1934

The Securities Act of 1933 (the 1933 Act) and the Securities Exchange Act of 1934 (the 1934 Act) provide the basic regulatory framework in the United States for the public trading of securities.

The 1933 Act focuses on the issuing of new securities. Basically, the 1933 Act requires a corporation to file a registration statement with the Securities and Exchange Commission (SEC) that must be made available to every buyer of a new security. The intent of the registration statement is to provide potential stockholders with all the necessary information to make a reasonable decision. The 1934 Act extends the disclosure requirements of the 1933 Act to securities trading in markets after they have been issued. The 1934 Act establishes the SEC and covers a large number of issues including corporate

reporting, tender offers, and insider trading. The 1934 Act requires corporations to file reports to the SEC on an annual basis (Form 10K), on a quarterly basis (Form 10Q), and on a monthly basis (Form 8K).

As mentioned, the 1934 Act deals with the important issue of insider trading. Illegal insider trading occurs when any person who has acquired nonpublic, special information (i.e., inside information) buys or sells securities based upon that information. One section of the 1934 Act deals with insiders such as directors, officers, and large shareholders, while another deals with any person who has acquired inside information. The intent of these sections of the 1934 Act is to prevent insiders or persons with inside information from taking unfair advantage of this information when trading with outsiders.

To illustrate, suppose you learned that ABC firm was about to publicly announce that it had agreed to be acquired by another firm at a price significantly greater than its current price. This is an example of inside information. The 1934 Act prohibits you from buying ABC stock from shareholders who do not have this information. This prohibition would be especially strong if you were the CEO of the ABC firm. Other kinds of a firm's inside information could be knowledge of an initial dividend about to be paid, the discovery of a drug to cure cancer, or the default of a debt obligation.

A recent example of insider trading involved Raj Rajaratnam, founder of the Galleon Group, a hedge fund that managed more than \$7 billion. Rajaratnam was arrested in October 2009 on insider trading charges involving several public companies. For example, he was accused of receiving inside information regarding Intel Capital's decision to invest in Clearwire before the investment was made public. Conversations between Rajaratnam and Rajiv Goel, managing director at Intel Capital, included a discussion of the future price of Clearwire and whether Intel would provide additional capital to the company.

SUMMARY AND CONCLUSIONS

This chapter introduced you to some of the basic ideas in corporate finance:

1. Corporate finance has three main areas of concern:
 - a. *Capital budgeting*: What long-term investments should the firm take?
 - b. *Capital structure*: Where will the firm get the short-term and long-term financing to pay for its investments? Also, what mixture of debt and equity should it use to fund operations?
 - c. *Working capital management*: How should the firm manage its everyday financial activities?
2. The goal of financial management in a for-profit business is to make decisions that increase the value of the stock, or, more generally, increase the value of the equity.
3. The corporate form of organization is superior to other forms when it comes to raising money and transferring ownership interests, but it has the significant disadvantage of double taxation.
4. There is the possibility of conflicts between stockholders and management in a large corporation. We called these conflicts *agency problems* and discussed how they might be controlled and reduced.
5. The advantages of the corporate form are enhanced by the existence of financial markets.

Of the topics we've discussed thus far, the most important is the goal of financial management: maximizing the value of the stock. Throughout the text we will be analyzing many different financial decisions, but we will always ask the same question: How does the decision under consideration affect the value of the stock?

CONCEPT QUESTIONS

1. **Forms of Business** What are the three basic legal forms of organizing a business? What are the advantages and disadvantages of each? What business form do most start-up companies take? Why?
2. **Goal of Financial Management** What goal should always motivate the actions of the firm's financial manager?
3. **Agency Problems** Who owns a corporation? Describe the process whereby the owners control the firm's management. What is the main reason that an agency relationship exists in the corporate form of organization? In this context, what kinds of problems can arise?
4. **Not-for-Profit Firm Goals** Suppose you were the financial manager of a not-for-profit business (a not-for-profit hospital, perhaps). What kinds of goals do you think would be appropriate?
5. **Goal of the Firm** Evaluate the following statement: Managers should not focus on the current stock value because doing so will lead to an overemphasis on short-term profits at the expense of long-term profits.
6. **Ethics and Firm Goals** Can our goal of maximizing the value of the stock conflict with other goals, such as avoiding unethical or illegal behavior? In particular, do you think subjects like customer and employee safety, the environment, and the general good of society fit in this framework, or are they essentially ignored? Try to think of some specific scenarios to illustrate your answer.
7. **International Firm Goal** Would our goal of maximizing the value of the stock be different if we were thinking about financial management in a foreign country? Why or why not?
8. **Agency Problems** Suppose you own stock in a company. The current price per share is \$25. Another company has just announced that it wants to buy your company and will pay \$35 per share to acquire all the outstanding stock. Your company's management immediately begins fighting off this hostile bid. Is management acting in the shareholders' best interests? Why or why not?
9. **Agency Problems and Corporate Ownership** Corporate ownership varies around the world. Historically, individuals have owned the majority of shares in public corporations in the United States. In Germany and Japan, however, banks, other large financial institutions, and other companies own most of the stock in public corporations. Do you think agency problems are likely to be more or less severe in Germany and Japan than in the United States? Why? In recent years, large financial institutions such as mutual funds and pension funds have been becoming the dominant owners of stock in the United States, and these institutions are becoming more active in corporate affairs. What are the implications of this trend for agency problems and corporate control?
10. **Executive Compensation** Critics have charged that compensation to top management in the United States is simply too high and should be cut back. For example, focusing on large corporations, Ray Irani of Occidental Petroleum has been one of the best compensated CEOs in the United States, earning about \$223 million in 2008 alone and \$744 million over the 2004–2008 period. Are such amounts excessive? In answering, it might be helpful to recognize that superstar athletes such as Tiger Woods, top people in entertainment such as Oprah Winfrey and Jerry Bruckheimer, and many others at the peak of their respective fields can earn at least as much, if not a great deal more.

WHAT'S ON THE WEB?

- 1. Listing Requirements** This chapter discussed some of the listing requirements for the NYSE and NASDAQ. Find the complete listing requirements for the New York Stock Exchange at www.nyse.com and NASDAQ at www.nasdaq.com. Which exchange has more stringent listing requirements? Why don't the exchanges have the same listing requirements?
- 2. Business Formation** As you may (or may not) know, many companies incorporate in Delaware for a variety of reasons. Visit Bizfilings at www.bizfilings.com to find out why. Which state has the highest fee for incorporation? For an LLC? While at the site, look at the FAQ section regarding corporations and LLCs.



EAST COAST YACHTS

In 1969, Tom Warren founded East Coast Yachts. The company's operations are located near Hilton Head Island, South Carolina, and the company is structured as a sole proprietorship. The company has manufactured custom midsize, high-performance yachts for clients, and its products have received high reviews for safety and reliability. The company's yachts have also recently received the highest award for customer satisfaction. The yachts are primarily purchased by wealthy individuals for pleasure use. Occasionally, a yacht is manufactured for purchase by a company for business purposes.

The custom yacht industry is fragmented, with a number of manufacturers. As with any industry, there are market leaders, but the diverse nature of the industry ensures that no manufacturer dominates the market. The competition in the market, as well as the product cost, ensures that attention to detail is a necessity. For instance, East Coast Yachts will spend 80 to 100 hours on hand-buffing the stainless steel stem-iron, which is the metal cap on the yacht's bow that conceivably could collide with a dock or another boat.

Several years ago, Tom retired from the day-to-day operations of the company and turned the operations of the company over to his daughter, Larissa. Because of the dramatic changes in the company, Larissa has approached you to help manage and direct the company's growth. Specifically, she has asked you to answer the following questions.

1. What are the advantages and disadvantages of changing the company organization from a sole proprietorship to an LLC?
2. What are the advantages and disadvantages of changing the company organization from a sole proprietorship to a corporation?
3. Ultimately, what action would you recommend the company undertake? Why?

CLOSING CASE

Financial Statements and Cash Flow

OPENING CASE

In November 2009, mortgage giant Fannie Mae announced that it was reviewing a potential write-off of \$5.2 billion in low-income housing tax credits. A so-called write-off occurs when a company decides that the reported value of one or more of its assets is too high and needs to be reduced to more accurately represent the company's finances. In Fannie Mae's case, the write-off came about because Fannie Mae owned potentially valuable tax credits, but the company was unlikely to be profitable enough to use them, so their value was overstated. Fannie Mae's case was unique because the Treasury Department would not allow Fannie Mae to sell the tax credits, an option the company had explored.

While Fannie Mae's write-off is large, the record holder is media giant Time Warner, which took a charge of \$45.5 billion in the fourth quarter of 2002. This enormous write-off followed an earlier, even larger, charge of \$54 billion.

So, did the stockholders in these companies lose billions of dollars when these assets were written off? Fortunately for them, the answer is probably not. Understanding why ultimately leads us to the main subject of this chapter, that all-important substance known as *cash flow*.

2.1 THE BALANCE SHEET

The **balance sheet** is an accountant's snapshot of the firm's accounting value on a particular date, as though the firm stood momentarily still. The balance sheet has two sides: On the left are the *assets* and on the right are the *liabilities* and *stockholders' equity*. The balance sheet states what the firm owns and how it is financed. The accounting definition that underlies the balance sheet and describes the balance is

$$\text{Assets} = \text{Liabilities} + \text{Stockholders' equity}$$

We have put a three-line equality in the balance equation to indicate that it must always hold, by definition. In fact, the stockholders' equity is *defined* to be the difference between the assets and the liabilities of the firm. In principle, equity is what the stockholders would have remaining after the firm discharged its obligations.

TABLE 2.1

The Balance Sheet of the U.S. Composite Corporation

U.S. COMPOSITE CORPORATION Balance Sheet 2009 and 2010 (in \$ millions)					
ASSETS	2009	2010	LIABILITIES (DEBT) AND STOCKHOLDERS' EQUITY	2009	2010
Current assets:			Current liabilities:		
Cash and equivalents	\$ 107	\$ 140	Accounts payable	\$ 197	\$ 213
Accounts receivable	270	294	Notes payable	53	50
Inventories	280	269	Accrued expenses	205	223
Other	50	58	Total current liabilities	<u>\$ 455</u>	<u>\$ 486</u>
Total current assets	<u>\$ 707</u>	<u>\$ 761</u>			
Fixed assets:			Long-term liabilities:		
Property, plant, and equipment	\$ 1,274	\$1,423	Deferred taxes	\$ 104	\$ 117
Less accumulated depreciation	460	550	Long-term debt*	458	471
Net property, plant, and equipment	<u>\$ 814</u>	<u>\$ 873</u>	Total long-term liabilities	<u>\$ 562</u>	<u>\$ 588</u>
Intangible assets and others	221	245			
Total fixed assets	<u>\$ 1,035</u>	<u>\$1,118</u>	Stockholders' equity:		
			Preferred stock	\$ 39	\$ 39
			Common stock (\$1 par value)	32	55
			Capital surplus	327	347
			Accumulated retained earnings	347	390
			Less treasury stock†	20	26
			Total equity	<u>\$ 725</u>	<u>\$ 805</u>
Total assets	<u>\$1,742</u>	<u>\$1,879</u>	Total liabilities and stockholders' equity‡	<u>\$1,742</u>	<u>\$1,879</u>

*Long-term debt rose by \$471 million — 458 million = \$13 million. This is the difference between \$86 million new debt and \$73 million in retirement of old debt.

†Treasury stock rose by \$6 million. This reflects the repurchase of \$6 million of U.S. Composite's company stock.

‡U.S. Composite reports \$43 million in new equity. The company issued 23 million shares at a price of \$1.87. The par value of common stock increased by \$23 million, and capital surplus increased by \$20 million.

Table 2.1 gives the 2009 and 2010 balance sheets for the fictitious U.S. Composite Corporation. The assets in the balance sheet are listed in order by the length of time it normally would take an ongoing firm to convert them to cash. The asset side depends on the nature of the business and how management chooses to conduct it. Management must make decisions about cash versus marketable securities, credit versus cash sales, whether to make or buy commodities, whether to lease or purchase items, the types of business in which to engage, and so on. The liabilities and the stockholders' equity are listed in the order in which they would typically be paid over time.

The liabilities and stockholders' equity side reflects the types and proportions of financing, which depend on management's choice of capital structure, as between debt and equity and between current debt and long-term debt.

When analyzing a balance sheet, the financial manager should be aware of three concerns: accounting liquidity, debt versus equity, and value versus cost.

Accounting Liquidity

Accounting liquidity refers to the ease and quickness with which assets can be converted to cash. *Current assets* are the most liquid and include cash and those assets that will be turned into cash within a year from the date of the balance sheet. *Accounts receivable* are

Two excellent sources for company financial information are finance.yahoo.com and money.cnn.com.

amounts not yet collected from customers for goods or services sold to them (after adjustment for potential bad debts). *Inventory* is composed of raw materials to be used in production, work in process, and finished goods. *Fixed assets* are the least liquid kind of assets. Tangible fixed assets include property, plant, and equipment. These assets do not convert to cash from normal business activity, and they are not usually used to pay expenses such as payroll.

Some fixed assets are not tangible. Intangible assets have no physical existence but can be very valuable. Examples of intangible assets are the value of a trademark or the value of a patent. The more liquid a firm's assets, the less likely the firm is to experience problems meeting short-term obligations. Thus, the probability that a firm will avoid financial distress can be linked to the firm's liquidity. Unfortunately, liquid assets frequently have lower rates of return than fixed assets; for example, cash generates no investment income. To the extent a firm invests in liquid assets, it sacrifices an opportunity to invest in more profitable investment vehicles.

Debt versus Equity

Liabilities are obligations of the firm that require a payout of cash within a stipulated time period. Many liabilities involve contractual obligations to repay a stated amount and interest over a period. Thus, liabilities are debts and are frequently associated with nominally fixed cash burdens, called *debt service*, that put the firm in default of a contract if they are not paid. *Stockholders' equity* is a claim against the firm's assets that is residual and not fixed. In general terms, when the firm borrows, it gives the bondholders first claim on the firm's cash flow.¹ Bondholders can sue the firm if the firm defaults on its bond contracts. This may lead the firm to declare itself bankrupt. Stockholders' equity is the residual difference between assets and liabilities:

$$\text{Assets} - \text{Liabilities} = \text{Stockholders' equity}$$

This is the stockholders' share in the firm stated in accounting terms. The accounting value of stockholders' equity increases when retained earnings are added. This occurs when the firm retains part of its earnings instead of paying them out as dividends.

Value versus Cost

The accounting value of a firm's assets is frequently referred to as the *carrying value* or the *book value* of the assets.² Under **generally accepted accounting principles (GAAP)**, audited financial statements of firms in the United States carry the assets at cost.³ Thus the terms *carrying value* and *book value* are unfortunate. They specifically say "value," when in fact the accounting numbers are based on cost. This misleads many readers of financial statements to think that the firm's assets are recorded at true market values. *Market value* is the price at which willing buyers and sellers would trade the assets. It would be only a coincidence if accounting value and market value were the same. In fact, management's job is to create value for the firm that exceeds its cost.

Many people use the balance sheet, but the information each may wish to extract is not the same. A banker may look at a balance sheet for evidence of accounting liquidity and working capital. A supplier may also note the size of accounts payable and therefore the

¹Bondholders are investors in the firm's debt. They are creditors of the firm. In this discussion, the term *bondholder* means the same thing as *creditor*.

²Confusion often arises because many financial accounting terms have the same meaning. This presents a problem with jargon for the reader of financial statements. For example, the following terms usually refer to the same thing: assets minus liabilities, net worth, stockholders' equity, owners' equity, book equity, and equity capitalization.

³Generally, GAAP require assets to be carried at the lower of cost or market value. In most instances, cost is lower than market value. However, in some cases when a fair market value can be readily determined, the assets have their value adjusted to the fair market value.

general promptness of payments. Many users of financial statements, including managers and investors, want to know the value of the firm, not its cost. This information is not found on the balance sheet. In fact, many of the true resources of the firm do not appear on the balance sheet: good management, proprietary assets, favorable economic conditions, and so on. Henceforth, whenever we speak of the value of an asset or the value of the firm, we will normally mean its market value. So, for example, when we say the goal of the financial manager is to increase the value of the stock, we mean the market value of the stock.

EXAMPLE 2.1

Market Value versus Book Value

The Cooney Corporation has fixed assets with a book value of \$700 and an appraised market value of about \$1,000. Net working capital is \$400 on the books, but approximately \$600 would be realized if all the current accounts were liquidated. Cooney has \$500 in long-term debt, both book value and market value. What is the book value of the equity? What is the market value?

We can construct two simplified balance sheets, one in accounting (book value) terms and one in economic (market value) terms:

COONEY CORPORATION Balance Sheets Market Value versus Book Value					
	Assets		Liabilities and Shareholders' Equity		
	BOOK	MARKET		BOOK	MARKET
Net working capital	\$ 400	\$ 600	Long-term debt	\$ 500	\$ 500
Net fixed assets	700	1,000	Shareholders' equity	600	1,100
	<u>\$1,100</u>	<u>\$1,600</u>		<u>\$1,100</u>	<u>\$1,600</u>

In this example, shareholders' equity is actually worth almost twice as much as what is shown on the books. The distinction between book and market values is important precisely because book values can be so different from true economic value.

2.2 THE INCOME STATEMENT

The **income statement** measures performance over a specific period of time, say, a year. The accounting definition of income is:

$$\text{Revenue} - \text{Expenses} = \text{Income}$$

If the balance sheet is like a snapshot, the income statement is like a video recording of what the people did between two snapshots. Table 2.2 gives the income statement for the U.S. Composite Corporation for 2010.

The income statement usually includes several sections. The operations section reports the firm's revenues and expenses from principal operations. One number of particular importance is earnings before interest and taxes (EBIT), which summarizes earnings before taxes and financing costs. Among other things, the nonoperating section of the income statement includes all financing costs, such as interest expense. Usually a second section reports as a separate item the amount of taxes levied on income. The last item on the income statement is the bottom line, or net income. Net income is frequently expressed per share of common stock, that is, earnings per share.

TABLE 2.2

The Income Statement
of the U.S. Composite
Corporation

U.S. COMPOSITE CORPORATION Income Statement 2010 (in \$ millions)	
Total operating revenues	\$2,262
Cost of goods sold	1,655
Selling, general, and administrative expenses	327
Depreciation	90
Operating income	\$ 190
Other income	29
Earnings before interest and taxes (EBIT)	\$ 219
Interest expense	49
Pretax income	\$ 170
Taxes	84
Current: \$71	
Deferred: \$13	
Net income	\$ 86
Addition to retained earnings:	\$ 43
Dividends:	43

Note: There are 29 million shares outstanding. Earnings per share and dividends per share can be calculated as follows:

$$\begin{aligned}
 \text{Earnings per share} &= \frac{\text{Net income}}{\text{Total shares outstanding}} \\
 &= \frac{\$86}{29} \\
 &= \$2.97 \text{ per share} \\
 \text{Dividends per share} &= \frac{\text{Dividends}}{\text{Total shares outstanding}} \\
 &= \frac{\$43}{29} \\
 &= \$1.48 \text{ per share}
 \end{aligned}$$

When analyzing an income statement, the financial manager should keep in mind GAAP, noncash items, time, and costs.

Generally Accepted Accounting Principles

Revenue is recognized on an income statement when the earnings process is virtually completed and an exchange of goods or services has occurred. Therefore, the unrealized appreciation from owning property will not be recognized as income. This provides a device for smoothing income by selling appreciated property at convenient times. For example, if the firm owns a tree farm that has doubled in value, then, in a year when its earnings from other businesses are down, it can raise overall earnings by selling some trees. The matching principle of GAAP dictates that revenues be matched with expenses. Thus, income is reported when it is earned, or accrued, even though no cash flow has necessarily occurred (for example, when goods are sold for credit, sales and profits are reported).

Noncash Items

The economic value of assets is intimately connected to their future incremental cash flows. However, cash flow does not appear on an income statement. There are several **noncash items** that are expenses against revenues, but that do not affect cash flow. The most important of these is *depreciation*. Depreciation reflects the accountant's estimate of the cost of

equipment used up in the production process. For example, suppose an asset with a five-year life and no resale value is purchased for \$1,000. According to accountants, the \$1,000 cost must be expensed over the useful life of the asset. If straight-line depreciation is used, there will be five equal installments and \$200 of depreciation expense will be incurred each year. From a finance perspective, the cost of the asset is the actual negative cash flow incurred when the asset is acquired (that is, \$1,000, *not* the accountant's smoothed \$200-per-year depreciation expense).

Another noncash expense is *deferred taxes*. Deferred taxes result from differences between accounting income and true taxable income.⁴ Notice that the accounting tax shown on the income statement for the U.S. Composite Corporation is \$84 million. It can be broken down as current taxes and deferred taxes. The current tax portion is actually sent to the tax authorities (for example, the Internal Revenue Service). The deferred tax portion is not. However, the theory is that if taxable income is less than accounting income in the current year, it will be more than accounting income later on. Consequently, the taxes that are not paid today will have to be paid in the future, and they represent a liability of the firm. This shows up on the balance sheet as deferred tax liability. From the cash flow perspective, though, deferred tax is not a cash outflow.

In practice, the difference between cash flows and accounting income can be quite dramatic, so it is important to understand the difference. For example, Sirius XM Radio reported a net loss of about \$413 million for the third quarter of 2009. That sounds bad, but Sirius XM also reported a positive cash flow of \$116 million from operating activities for the same quarter!

Time and Costs

It is often useful to think of all of future time as having two distinct parts, the *short run* and the *long run*. The short run is that period of time in which certain equipment, resources, and commitments of the firm are fixed; but the time is long enough for the firm to vary its output by using more labor and raw materials. The short run is not a precise period of time that will be the same for all industries. However, all firms making decisions in the short run have some fixed costs, that is, costs that will not change because of fixed commitments. In real business activity, examples of fixed costs are bond interest, overhead, and property taxes. Costs that are not fixed are variable. Variable costs change as the output of the firm changes; some examples are raw materials and wages for laborers on the production line.

In the long run, all costs are variable. Financial accountants do not distinguish between variable costs and fixed costs. Instead, accounting costs usually fit into a classification that distinguishes product costs from period costs. Product costs are the total production costs incurred during a period—raw materials, direct labor, and manufacturing overhead—and are reported on the income statement as cost of goods sold. Both variable and fixed costs are included in product costs. Period costs are costs that are allocated to a time period; they are called *selling, general, and administrative expenses*. One period cost would be the company president's salary.

2.3 TAXES

Taxes can be one of the largest cash outflows that a firm experiences. For example, for the fiscal year 2009, ExxonMobil's earnings before taxes were about \$34.8 billion. Its tax bill, including all taxes paid worldwide, was a whopping \$15.1 billion, or about 43.4 percent of its pretax earnings. The size of the tax bill is determined through the tax

⁴One situation in which taxable income may be lower than accounting income is when the firm uses accelerated depreciation expense procedures for the IRS but uses straight-line procedures allowed by GAAP for reporting purposes.

TABLE 2.3
Corporate Tax Rates

TAXABLE INCOME	TAX RATE
\$ 0–50,000	15%
50,001–75,000	25
75,001–100,000	34
100,001–335,000	39
335,001–10,000,000	34
10,000,001–15,000,000	35
15,000,001–18,333,333	38
18,333,334+	35

code, an often amended set of rules. In this section, we examine corporate tax rates and how taxes are calculated.

If the various rules of taxation seem a little bizarre or convoluted to you, keep in mind that the tax code is the result of political, not economic, forces. As a result, there is no reason why it has to make economic sense.

Corporate Tax Rates

Corporate tax rates in effect for 2010 are shown in Table 2.3. A peculiar feature of taxation instituted by the Tax Reform Act of 1986 and expanded in the 1993 Omnibus Budget Reconciliation Act is that corporate tax rates are not strictly increasing. As shown, corporate tax rates rise from 15 percent to 39 percent, but they drop back to 34 percent on income over \$335,000. They then rise to 38 percent and subsequently fall to 35 percent.

According to the originators of the current tax rules, there are only four corporate rates: 15 percent, 25 percent, 34 percent, and 35 percent. The 38 and 39 percent brackets arise because of “surcharges” applied on top of the 34 and 35 percent rates. A tax is a tax, however, so there are really six corporate tax brackets, as we have shown.

Average versus Marginal Tax Rates

In making financial decisions, it is frequently important to distinguish between average and marginal tax rates. Your **average tax rate** is your tax bill divided by your taxable income, in other words, the percentage of your income that goes to pay taxes. Your **marginal tax rate** is the tax you would pay (in percent) if you earned one more dollar. The percentage tax rates shown in Table 2.3 are all marginal rates. Put another way, the tax rates apply to the part of income in the indicated range only, not all income.

The difference between average and marginal tax rates can best be illustrated with a simple example. Suppose our corporation has a taxable income of \$200,000. What is the tax bill? Using Table 2.3, we can figure our tax bill as:

$$\begin{aligned}
 &.15(\$ 50,000) &&= \$ 7,500 \\
 &.25(\$ 75,000 - 50,000) &&= 6,250 \\
 &.34(\$ 100,000 - 75,000) &&= 8,500 \\
 &.39(\$ 200,000 - 100,000) &&= 39,000 \\
 &&&\underline{\underline{\$61,250}}
 \end{aligned}$$

Our total tax is thus \$61,250.

In our example, what is the average tax rate? We had a taxable income of \$200,000 and a tax bill of \$61,250, so the average tax rate is $\$61,250 / \$200,000 = 30.625\%$. What is the

The IRS has a great
Web site!
(www.irs.gov)

marginal tax rate? If we made one more dollar, the tax on that dollar would be 39 cents, so our marginal rate is 39 percent.

EXAMPLE 2.2

Deep in the Heart of Taxes

Algernon, Inc., has a taxable income of \$85,000. What is its tax bill? What is its average tax rate? Its marginal tax rate?

From Table 2.3, we see that the tax rate applied to the first \$50,000 is 15 percent; the rate applied to the next \$25,000 is 25 percent, and the rate applied after that up to \$100,000 is 34 percent. So Algernon must pay $.15 \times \$50,000 + .25 \times 25,000 + .34 \times (85,000 - 75,000) = \$17,150$. The average tax rate is thus $\$17,150/\$85,000 = 20.18\%$. The marginal rate is 34 percent because Algernon's taxes would rise by 34 cents if it had another dollar in taxable income.

Table 2.4 summarizes some different taxable incomes, marginal tax rates, and average tax rates for corporations. Notice how the average and marginal tax rates come together at 35 percent.

With a *flat-rate* tax, there is only one tax rate, so the rate is the same for all income levels. With such a tax, the marginal tax rate is always the same as the average tax rate. As it stands now, corporate taxation in the United States is based on a modified flat-rate tax, which becomes a true flat rate for the highest incomes.

In looking at Table 2.4, notice that the more a corporation makes, the greater is the percentage of taxable income paid in taxes. Put another way, under current tax law, the average tax rate never goes down, even though the marginal tax rate does. As illustrated, for corporations, average tax rates begin at 15 percent and rise to a maximum of 35 percent.

It will normally be the marginal tax rate that is relevant for financial decision making. The reason is that any new cash flows will be taxed at that marginal rate. Because financial decisions usually involve new cash flows or changes in existing ones, this rate will tell us the marginal effect of a decision on our tax bill.

There is one last thing to notice about the tax code as it affects corporations. It's easy to verify that the corporate tax bill is just a flat 35 percent of taxable income if our taxable income is more than \$18.33 million. Also, for the many midsize corporations with taxable incomes in the range of \$335,000 to \$10,000,000, the tax rate is a flat 34 percent. Because we will normally be talking about large corporations, you can assume that the average and marginal tax rates are 35 percent unless we explicitly say otherwise.

Before moving on, we should note that the tax rates we have discussed in this section relate to federal taxes only. Overall tax rates can be higher once state, local, and any other taxes are considered.

(1) TAXABLE INCOME	(2) MARGINAL TAX RATE	(3) TOTAL TAX	(3)/(1) AVERAGE TAX RATE
\$ 45,000	15%	\$ 6,750	15.00%
70,000	25	12,500	17.86
95,000	34	20,550	21.63
250,000	39	80,750	32.30
1,000,000	34	340,000	34.00
17,500,000	38	6,100,000	34.86
50,000,000	35	17,500,000	35.00
100,000,000	35	35,000,000	35.00

TABLE 2.4

Corporate Taxes and Tax Rates

2.4 NET WORKING CAPITAL

Net working capital is current assets minus current liabilities. Net working capital is positive when current assets are greater than current liabilities. This means the cash that will become available over the next 12 months will be greater than the cash that must be paid out. The net working capital of the U.S. Composite Corporation is \$275 million in 2010 and \$252 million in 2009:

	Current assets (\$ millions)	–	Current liabilities (\$ millions)	=	Net working capital (\$ millions)
2010	\$761	–	\$486	=	\$275
2009	707	–	455	=	252

In addition to investing in fixed assets (i.e., capital spending), a firm can invest in net working capital. This is called the **change in net working capital**. The change in net working capital in 2010 is the difference between the net working capital in 2010 and 2009; that is, \$275 million – 252 million = \$23 million. The change in net working capital is usually positive in a growing firm.

2.5 FINANCIAL CASH FLOW

Perhaps the most important item that can be extracted from financial statements is the actual **cash flow** of the firm. There is an official accounting statement called the *statement of cash flows*. This statement helps to explain the change in accounting cash and equivalents, which for U.S. Composite is \$33 million in 2010. (See Section 2.6.) Notice in Table 2.1 that cash and equivalents increase from \$107 million in 2009 to \$140 million in 2010. However, we will look at cash flow from a different perspective, the perspective of finance. In finance, the value of the firm is its ability to generate financial cash flow. (We will talk more about financial cash flow in Chapter 8.)

The first point we should mention is that cash flow is not the same as net working capital. For example, increasing inventory requires using cash. Because both inventories and cash are current assets, this does not affect net working capital. In this case, an increase in a particular net working capital account, such as inventory, is associated with decreasing cash flow.

Just as we established that the value of a firm's assets is always equal to the value of the liabilities and the value of the equity, the cash flows received from the firm's assets (that is, its operating activities), $CF(A)$, must equal the cash flows to the firm's creditors, $CF(B)$, and equity investors, $CF(S)$:

$$CF(A) = CF(B) + CF(S)$$

The first step in determining cash flows of the firm is to figure out the *cash flow from operations*. As can be seen in Table 2.5, operating cash flow is the cash flow generated by business activities, including sales of goods and services. Operating cash flow reflects tax payments, but not financing, capital spending, or changes in net working capital.

	IN \$ MILLIONS
Earnings before interest and taxes	\$219
Depreciation	90
Current taxes	–71
Operating cash flow	<u>\$238</u>

Another important component of cash flow involves *changes in fixed assets*. For example, when U.S. Composite sold its power systems subsidiary in 2010, it generated \$25 in

U.S. COMPOSITE CORPORATION Financial Cash Flow 2010 (in \$ millions)	
Cash Flow of the Firm	
Operating cash flow (Earnings before interest and taxes plus depreciation minus taxes)	\$238
Capital spending (Acquisitions of fixed assets minus sales of fixed assets)	− 173
Additions to net working capital	− 23
Total	<u>\$ 42</u>
Cash Flow to Investors in the Firm	
Debt (Interest plus retirement of debt minus long-term debt financing)	\$ 36
Equity (Dividends plus repurchase of equity minus new equity financing)	6
Total	<u>\$ 42</u>

TABLE 2.5

Financial Cash Flow
of the U.S. Composite
Corporation

cash flow. The net change in fixed assets equals the acquisition of fixed assets minus sales of fixed assets. The result is the cash flow used for capital spending:

Acquisition of fixed assets	\$198	
Sales of fixed assets	− 25	
Capital spending	<u>\$173</u>	(\$149 + 24 = Increase in property, plant, and equipment + Increase in intangible assets)

We can also calculate capital spending simply as:

$$\begin{aligned}
 \text{Capital spending} &= \text{Ending net fixed assets} - \text{Beginning net fixed assets} \\
 &\quad + \text{Depreciation} \\
 &= \$1,118 - 1,035 + 90 \\
 &= \$173
 \end{aligned}$$

Cash flows are also used for making investments in net working capital. In U.S. Composite Corporation in 2010, *additions to net working capital* are:

Additions to net working capital	\$23
----------------------------------	------

Note that this \$23 is the change in net working capital we previously calculated.

Total cash flows generated by the firm's assets are the sum of:

Operating cash flow	\$238
Capital spending	− 173
Additions to net working capital	− 23
Total cash flow of the firm	<u>\$ 42</u>

The total outgoing cash flow of the firm can be separated into cash flow paid to creditors and cash flow paid to stockholders. The cash flow paid to creditors represents a regrouping of the data in Table 2.5 and an explicit recording of interest expense. Creditors are paid an amount generally referred to as *debt service*. Debt service is interest payments plus repayments of principal (that is, retirement of debt).

An important source of cash flow is the sale of new debt. U.S. Composite's long-term debt increased by \$13 million (the difference between \$86 million in new debt and

\$73 million in retirement of old debt).⁵ Thus, an increase in long-term debt is the net effect of new borrowing and repayment of maturing obligations plus interest expense.

CASH FLOW PAID TO CREDITORS (in \$ millions)	
Interest	\$ 49
Retirement of debt	73
Debt service	122
Proceeds from long-term debt sales	— 86
Total	<u>\$ 36</u>

Cash flow paid to creditors can also be calculated as:

$$\begin{aligned}
 \text{Cash flow paid to creditors} &= \text{Interest paid} - \text{Net new borrowing} \\
 &= \text{Interest paid} - (\text{Ending long-term debt} \\
 &\quad - \text{Beginning long-term debt}) \\
 &= \$49 - (471 - 458) \\
 &= \$36
 \end{aligned}$$

Cash flow of the firm also is paid to the stockholders. It is the net effect of paying dividends plus repurchasing outstanding shares of stock and issuing new shares of stock.

CASH FLOW TO STOCKHOLDERS (in \$ millions)	
Dividends	\$43
Repurchase of stock	6
Cash to stockholders	49
Proceeds from new stock issue	—43
Total	<u>\$ 6</u>

In general, cash flow to stockholders can be determined as:

$$\begin{aligned}
 \text{Cash flow to stockholders} &= \text{Dividends paid} - \text{Net new equity raised} \\
 &= \text{Dividends paid} - (\text{Stock sold} \\
 &\quad - \text{Stock repurchased})
 \end{aligned}$$

To determine stock sold, notice that the common stock and capital surplus accounts went up by a combined $\$23 + 20 = \43 , which implies that the company sold \$43 million worth of stock. Second, Treasury stock went up by \$6, indicating that the company bought back \$6 million worth of stock. Net new equity is thus $\$43 - 6 = \37 . Dividends paid were \$43, so the cash flow to stockholders was:

$$\text{Cash flow to stockholders} = \$43 - (43 - 6) = \$6,$$

which is what we previously calculated.

Some important observations can be drawn from our discussion of cash flow:

1. Several types of cash flow are relevant to understanding the financial situation of the firm. **Operating cash flow**, defined as earnings before interest and depreciation minus taxes, measures the cash generated from operations not counting capital spending or working capital requirements. It is usually positive; a firm is in trouble if operating cash flow is negative for a long time because the firm is

⁵New debt and the retirement of old debt are usually found in the “notes” to the balance sheet.

not generating enough cash to pay operating costs. **Total cash flow of the firm** includes adjustments for capital spending and additions to net working capital. It will frequently be negative. When a firm is growing at a rapid rate, the spending on inventory and fixed assets can be higher than cash flow from sales.

2. Net income is not cash flow. The net income of the U.S. Composite Corporation in 2010 was \$86 million, whereas cash flow was \$42 million. The two numbers are not usually the same. In determining the economic and financial condition of a firm, cash flow is more revealing.

A firm's total cash flow sometimes goes by a different name, **free cash flow**. Of course, there is no such thing as "free" cash (we wish!). Instead, the name refers to cash that the firm is free to distribute to creditors and stockholders because it is not needed for working capital or fixed asset investments. We will stick with "total cash flow of the firm" as our label for this important concept because, in practice, there is some variation in exactly how free cash flow is computed; different users calculate it in different ways. Nonetheless, whenever you hear the phrase "free cash flow," you should understand that what is being discussed is cash flow from assets or something quite similar.

2.6 THE ACCOUNTING STATEMENT OF CASH FLOWS

As previously mentioned, there is an official accounting statement called the statement of cash flows. This statement helps explain the change in accounting cash, which for U.S. Composite is \$33 million in 2010. It is very useful in understanding financial cash flow.

The first step in determining the change in cash is to figure out cash flow from operating activities. This is the cash flow that results from the firm's normal activities producing and selling goods and services. The second step is to make an adjustment for cash flow from investing activities. The final step is to make an adjustment for cash flow from financing activities. Financing activities are the net payments to creditors and owners (excluding interest expense) made during the year.

The three components of the statement of cash flows are determined below.

Cash Flow from Operating Activities

To calculate cash flow from operating activities we start with net income. Net income can be found on the income statement and is equal to \$86 million. We now need to add back noncash expenses and adjust for changes in current assets and liabilities (other than cash and notes payable). The result is cash flow from operating activities.

U.S. COMPOSITE CORPORATION Cash Flow from Operating Activities 2010 (in \$ millions)	
Net income	\$ 86
Depreciation	90
Deferred taxes	13
Change in assets and liabilities	
Accounts receivable	— 24
Inventories	11
Accounts payable	16
Accrued expense	18
Other	— 8
Cash flow from operating activities	<u>\$202</u>



PUTTING A SPIN ON CASH FLOWS

One of the reasons why cash flow analysis is popular is the difficulty in manipulating, or spinning, cash flows. GAAP accounting principles allow for significant subjective decisions to be made regarding many key areas. The use of cash flow as a metric to evaluate a company comes from the idea that there is less subjectivity involved, and, therefore, it is harder to spin the numbers. But several recent examples have shown that companies can still find ways to do it.

In November 2009, the SEC settled charges against SafeNet, Inc. and some of its former officers, employees, and accountants, in connection with earnings management and options backdating schemes. This case represented the SEC's first enforcement action brought under Regulation G of Sarbox. Of course other companies have spun financial results without legal action. For example, in March 2007, rental car company Avis Budget Group was forced to revise its first quarter 2007 operating cash flow by more than \$45 million. The company had improperly classified the cash flow as an operating cash flow rather than an investing cash flow. This maneuver had the effect of increasing operating cash flows and decreasing investing cash flows by the same amount.

Tyco used several ploys to alter cash flows. For example, the company purchased more than \$800 million of customer security alarm accounts from dealers. The cash flows from these transactions were reported in the financing activity section of the accounting statement of cash flows. When Tyco received payments from customers, the cash inflows were reported as operating cash flows. Another method used by Tyco was to have acquired companies prepay operating expenses. In other words, the company acquired by Tyco would pay vendors for items not yet received. In one case, the payments totaled more than \$50 million. When the acquired company was consolidated with Tyco, the prepayments reduced Tyco's cash outflows, thus increasing the operating cash flows.

Dynegy, the energy giant, was accused of engaging in a number of complex "round trip trades." The round trip trades essentially involved the sale of natural resources to a counterparty, with the repurchase of the resources from the same party at the same price. In essence, Dynegy would sell an asset for \$100, and immediately repurchase it from the buyer for \$100. The problem arose with the treatment of the cash flows from the sale. Dynegy treated the cash from the sale of the asset as an operating cash flow, but classified the repurchase as an investing cash outflow. The total cash flows of the contracts traded by Dynegy in these round trip trades totaled \$300 million.

Adelphia Communications was another company that apparently manipulated cash flows. In Adelphia's case, the company capitalized the labor required to install cable. In other words, the company classified this labor expense as a fixed asset. While this practice is fairly common in the telecommunications industry, Adelphia capitalized a higher percentage of labor than is common. The effect of this classification was that the labor was treated as an investment cash flow, which increased the operating cash flow.

In each of these examples, the companies were trying to boost operating cash flows by shifting cash flows to a different heading. The important thing to notice is that these movements don't affect the total cash flow of the firm, which is why we recommend focusing on this number, not just operating cash flow.

We should also note that, for 2008, the total number of financial restatements fell nearly 30 percent from 2007, which had itself experienced a 31 percent decline in restatements from 2006. While this is a positive trend, restatements due to cash flow misclassification increased in prevalence over the same period.

Cash Flow from Investing Activities

Cash flow from investing activities involves changes in capital assets: acquisition of fixed assets and sales of fixed assets (i.e., net capital expenditures). The result for U.S. Composite is below.

U.S. COMPOSITE CORPORATION Cash Flow from Investing Activities 2010 (in \$ millions)	
Acquisition of fixed assets	—\$198
Sales of fixed assets	25
Cash flow from investing activities	—\$173

Cash Flow from Financing Activities

Cash flows to and from creditors and owners include changes in equity and debt.

U.S. COMPOSITE CORPORATION Cash Flow from Financing Activities 2010 (in \$ millions)	
Retirement of long-term debt	—\$73
Proceeds from long-term debt sales	86
Change in notes payable	— 3
Dividends	— 43
Repurchase of stock	— 6
Proceeds from new stock issue	43
Cash flow from financing activities	\$ 4

The statement of cash flows is the addition of cash flows from operations, cash flows from investing activities, and cash flows from financing activities, and is produced in Table 2.6. When we add all the cash flows together, we get the change in cash on the balance sheet of \$33 million.

U.S. COMPOSITE CORPORATION Statement of Cash Flows 2010 (in \$ millions)	
Operations	
Net income	\$ 86
Depreciation	90
Deferred taxes	13
Changes in assets and liabilities	
Accounts receivable	— 24
Inventories	11
Accounts payable	16
Accrued expenses	18
Other	— 8
Total cash flow from operations	\$202
Investing activities	
Acquisition of fixed assets	—\$198
Sales of fixed assets	25
Total cash flow from investing activities	—\$173
Financing activities	
Retirement of long-term debt	—\$ 73
Proceeds from long-term debt sales	86
Change in notes payable	— 3
Dividends	— 43
Repurchase of stock	— 6
Proceeds from new stock issue	43
Total cash flow from financing activities	\$ 4
Change in cash (on the balance sheet)	\$ 33

TABLE 2.6

Statement of Consolidated Cash Flows of the U.S. Composite Corporation

There is a close relationship between the official accounting statement called the statement of cash flows and the total cash flow of the firm used in finance. Going back to the previous section, you should note a slight conceptual problem here. Interest paid should really go under financing activities, but unfortunately that is not how the accounting is handled. The reason is that interest is deducted as an expense when net income is computed. As a consequence, a primary difference between the accounting cash flow and the financial cash flow of the firm (see Table 2.5) is interest expense. *The Real World* box on page 32 discusses some ways in which companies have attempted to “spin the numbers” in the accounting statement of cash flows.

SUMMARY AND CONCLUSIONS

Besides introducing you to corporate accounting, the purpose of this chapter has been to teach you how to determine cash flow from the accounting statements of a typical company.

1. Cash flow is generated by the firm and paid to creditors and shareholders. It can be classified as:
 - a. Cash flow from operations.
 - b. Cash flow from changes in fixed assets.
 - c. Cash flow from changes in working capital.
2. Calculations of cash flow are not difficult, but they require care and particular attention to detail in properly accounting for noncash expenses such as depreciation and deferred taxes. It is especially important that you do not confuse cash flow with changes in net working capital and net income.

CONCEPT QUESTIONS

1. **Liquidity** What does liquidity measure? Explain the trade-off a firm faces between high liquidity and low liquidity levels.
2. **Accounting and Cash Flows** Why is it that the revenue and cost figures shown on a standard income statement may not be representative of the actual cash inflows and outflows that occurred during the period?
3. **Accounting Statement of Cash Flows** Looking at the accounting statement of cash flows, what does the bottom line number mean? How useful is this number for analyzing a company?
4. **Cash Flows** How do financial cash flows and the accounting statement of cash flows differ? Which is more useful when analyzing a company?
5. **Book Values versus Market Values** Under standard accounting rules, it is possible for a company's liabilities to exceed its assets. When this occurs, the owners' equity is negative. Can this happen with market values? Why or why not?
6. **Cash Flow from Assets** Suppose a company's cash flow from assets was negative for a particular period. Is this necessarily a good sign or a bad sign?
7. **Operating Cash Flow** Suppose a company's operating cash flow was negative for several years running. Is this necessarily a good sign or a bad sign?
8. **Net Working Capital and Capital Spending** Could a company's change in net working capital be negative in a given year? (Hint: Yes.) Explain how this might come about. What about net capital spending?