

Goals and Governance of the Corporation

LEARNING OBJECTIVES

After studying this chapter, you should be able to:

- 1-1 Give examples of the investment and financing decisions that financial managers make.
- 1-2 Distinguish between real and financial assets.
- 1-3 Cite some of the advantages and disadvantages of organizing a business as a corporation.
- 1-4 Describe the responsibilities of the CFO, treasurer, and controller.
- 1-5 Explain why maximizing market value is the natural financial goal of the corporation.
- 1-6 Understand what is meant by “agency problems,” and cite some of the ways that corporate governance helps mitigate agency problems.
- 1-7 Explain why unethical behavior does not maximize market value.

RELATED WEBSITES FOR THIS CHAPTER CAN BE FOUND IN CONNECT.



To grow from small beginnings to a major corporation, FedEx needed to make good investment and financing decisions.
Frank Kovalchek via Alaskan Dude/Flickr/CC BY 2.0

To carry on business, a corporation needs an almost endless variety of assets. Some are tangible assets such as plant and machinery, office buildings, and vehicles; others are intangible assets such as brand names and patents. Corporations finance these assets by borrowing, by reinvesting profits back into the firm, and by selling additional shares to the firm's shareholders.

Financial managers, therefore, face two broad questions. First, what investments should the corporation make? Second, how should it pay for these investments? *Investment decisions* spend money. *Financing decisions* raise money for investment.

We start this chapter with examples of recent investment and financing decisions by major U.S. and foreign corporations. We review what a corporation is and describe the roles of its top financial managers. We then turn to the financial goal of the corporation, which is usually expressed as *maximizing value*, or at least

adding value. Financial managers add value whenever the corporation can invest to earn a higher return than its shareholders can earn for themselves.

But managers are human beings; they cannot be perfect servants who always and everywhere maximize value. We will consider the conflicts of interest that arise in large corporations and how corporate governance helps to align the interests of managers and shareholders.

If we ask managers to maximize value, can the corporation also be a good citizen? Won't the managers be tempted to try unethical or illegal financial tricks? They may sometimes be tempted, but wise managers realize that such tricks are not just dishonest; they almost always destroy value, not increase it. More challenging are the gray areas where the line between ethical and unethical financial actions is hard to draw.

Finally, we look ahead to the rest of this book and look back to some entertaining snippets of financial history.

Investment and Financing Decisions

Fred Smith is best known today as the founder of FedEx. But in 1965 he was still a sophomore at Yale, where he wrote an economics term paper arguing that delivery systems were not keeping up with increasing needs for speed and dependability.¹ He later joined his stepfather at a struggling equipment and maintenance firm for air carriers. He observed firsthand the difficulties of shipping spare parts on short notice. He saw the need for an integrated air and ground delivery system with a central hub that could connect a large number of points more efficiently than a point-to-point delivery system. In 1971, at the age of 27, Smith founded Federal Express.

Like many start-up firms, Federal Express flirted again and again with failure. Smith and his family had an inheritance of a few million dollars, but this was far from enough. The young company needed to purchase and retrofit a small fleet of aging Dassault Falcon jets; build a central-hub facility; and hire and train pilots, delivery, and office staff. The initial source of capital was short-term bank loans. Because of the company's shaky financial position, the bank demanded that the planes be used as collateral and that Smith personally guarantee the loan with his own money.

In April 1973, the company went live with a fleet of 14 jets, servicing 25 U.S. cities out of its Memphis hub. By then, the company had spent \$25 million and was effectively flat broke, without enough funds to pay for its weekly delivery of jet fuel. In desperation, it managed to acquire a bank loan for \$23.7 million. This loan had to be backed by a guarantee from General Dynamics, which in return acquired an option to buy the company. (Today, General Dynamics must regret that it never exercised this option.)

In November of that year, the company finally achieved some financial stability when it raised \$24.5 million from venture capitalists, investment firms that provide funds and advice to young companies in return for a partial ownership share. Eventually, venture capitalists invested about \$90 million in Federal Express.

In 1977, private firms were allowed for the first time to compete with the Postal Service in package delivery. Federal Express responded by expanding its operations. It acquired seven Boeing 727s, each with about seven times the capacity of the Falcon jets. To pay for these new investments, Federal Express raised about \$19 million by selling shares of stock to the general public in an *initial public offering (IPO)*. The new stockholders became part-owners of the company in proportion to the number of shares they purchased.

From this point on, success followed success, and the company invested heavily to expand its air fleet as well as its supporting infrastructure. It introduced an automated shipping system and a bar-coded tracking system. In 1994, it launched its fedex.com website for online package tracking. It opened several new hubs across the United States as well as in Canada, France, the Philippines, and China. In 2007, FedEx (as the company was now called) became the world's largest airline measured by number of planes. FedEx also invested in other companies, capped by the acquisition of Kinko's for \$2.4 billion in 2004. By 2016, FedEx had 325,000 employees, annual revenue of \$49 billion, and a stock market value of almost \$40 billion. Its name had become a verb—to “FedEx a package” was to ship it overnight.

Even in retrospect, FedEx's success was hardly a sure thing. Fred Smith's idea was inspired, but its implementation was complex and difficult. FedEx had to make *good investment decisions*. In the beginning, these decisions were constrained by lack of financing. For example, used Falcon jets were the only option, given the young company's precarious financial position. At first it could service only a short list of the major cities. As the company grew, its investment decisions became more complex. Which type of planes should it buy? When should it expand coverage to Europe and

¹ Legend has it that Smith received a grade of C on this paper. In fact, he doesn't remember the grade.

Asia? How many operations hubs should it build? What computer and tracking systems were necessary to keep up with the increasing package volume and geographic coverage? Which companies should it acquire as it expanded its range of services?

FedEx also needed to make *good financing decisions*. For example, how should it raise the money it needed for investment? In the beginning, these choices were limited to family money and bank loans. As the company grew, its range of choices expanded. Eventually it was able to attract funding from venture capitalists, but this posed new questions. How much cash did the firm need to raise from the venture capitalists? How big a share in the firm would the venture capitalists demand in return? The initial public offering of stock prompted similar questions. How many shares should the company try to sell? At what price? As the company grew, it raised more funds by borrowing money from its banks and by selling publicly traded bonds to investors. At each point, it needed to decide on the proper form and terms of financing as well as the amounts to be raised.

In short, FedEx needed to be *good at finance*. It had a head start over potential competitors, but a series of bad financial decisions would have sunk the company. No two companies' histories are the same, but, like FedEx, all successful companies must make good investment and financing decisions. And, as with FedEx, those decisions range from prosaic and obvious to difficult and strategically crucial.

Let's widen our discussion. Table 1.1 gives an example of a recent investment and financing decision for 11 corporations. Seven are U.S. corporations. Four are foreign: Virgin Atlantic's headquarters are in London, TransCanada's in Calgary, LVMH's in Paris,² and Vale's in Rio de Janeiro. We have chosen very large public corporations that you are likely to be familiar with. You may have flown with Virgin Atlantic, shopped at Walmart, or posted a picture on Facebook.

TABLE 1.1 Examples of recent investment and financing decisions by major public corporations

Company	Recent Investment Decisions	Recent Financing Decisions
Entergy	Purchased the Union Power generating station near El Dorado, Arkansas, for \$948 million.	Entergy's Arkansas subsidiary issued \$325 million of bonds maturing in 2026.
ExxonMobil	Cut total capital investment for 2016 to \$34 billion, down 12% because of plummeting oil prices.	Eliminated share repurchases for 2016, thus reducing payout to stockholders.
Facebook	Spent \$60 million to acquire Pebbles, an Israeli company developing virtual reality software.	Financed capital investment and acquisitions with operating cash flow.
Ford	Announced plan to invest \$1 billion to build an assembly plant in Mexico.	Ford's credit subsidiary issued \$3.5 billion in long-term debt.
John Deere	Total capital investment fell to \$655 million, after completing investments for producing clean-burning diesel engines.	Maintained credit lines with banks that allowed it to borrow up to \$7.2 billion.
LVMH	Acquired Luxola, a Singapore cosmetics e-commerce start-up.	Repaid €750 million in debt issued in 2009 and 2011.
Procter & Gamble	Spent \$2.0 billion on research and development in 2015.	Spent \$4.6 billion to repurchase its common stock.
TransCanada	Announced purchase of Columbia Pipeline Group for \$10.2 billion.	Will pay Columbia shareholders in cash and also assume \$2.8 billion of existing Columbia debt.
Vale	Started up the Caue Itabirito iron-ore project after capital investment of \$927 million.	Announced plan to issue at least \$750 million of 30-year debt.
Virgin Atlantic Airlines	Ordered 12 new Airbus A350-1000 planes.	Used value of its landing slots at London's Heathrow Airport as collateral for a £220 million bond issue.
Walmart	Announced plans to open more than 200 new stores in 2016.	Raised its annual dividend to \$2.00 a share.

² LVMH (Moët Hennessy Louis Vuitton) markets perfumes and cosmetics, wines and spirits, leather goods, watches, and other luxury products. And, yes, we know what you are thinking, but “LVMH” really is short for “Moët Hennessy Louis Vuitton.”

Take a look at the decisions now. We think you will agree that they appear sensible—at least there is nothing obviously wrong with them. But if you are new to finance, it may be difficult to think about why these companies made these decisions and not others.

The Investment (Capital Budgeting) Decision

Investment decisions, such as those shown in Table 1.1, are also called **capital budgeting** or **capital expenditure (CAPEX) decisions**. Some of the investments in the table, such as Walmart's new stores or Virgin Atlantic's new planes, involve tangible assets—assets that you can touch and kick. Others involve intangible assets, such as research and development (R&D), advertising, and the design of computer software. For example, major pharmaceutical manufacturers invest billions every year on R&D for new drugs.

Most of the investments in Table 1.1 have long-term consequences. For example, the planes acquired by Virgin Atlantic may still be flying 20 or 30 years from now. Other investments may pay off in only a few months. For example, with the approach of the Christmas holidays, Walmart spends nearly \$50 billion to stock up its warehouses and retail stores. As the goods are sold over the following months, the company recovers its investment in these inventories.

The world of business can be intensely competitive, and corporations prosper only if they can keep launching new products or services. In some cases, the costs and risks of doing so are amazingly large. For example, the cost of developing the Gorgon natural gas field in Australia has been estimated at \$54 billion. It's not surprising that this cost is being shared among several major energy companies. But do not think of companies as making billion-dollar investments on a daily basis. Most investment decisions are smaller, such as the purchase of a truck, machine tool, or computer system. Corporations make thousands of such investments each year. The cumulative amount of these small expenditures can be just as large as the occasional jumbo investments, such as those shown in Table 1.1.

Not all investments succeed. In October 2011 Hewlett-Packard (HP) paid \$11.1 billion to acquire the British software company Autonomy. Just 13 months later, HP wrote down the value of this investment by \$8.8 billion. HP claimed that it was misled by improper accounting at Autonomy. Nevertheless, the Autonomy acquisition was a disastrous investment for HP. HP's CEO was fired in short order.

There are no free guarantees in finance. But you can tilt the odds in your favor if you learn the tools of investment analysis and apply them intelligently. We cover these tools in detail later in this book.

The Financing Decision

The financial manager's second main responsibility is to raise the money that the firm requires for its investments and operations. This is the **financing decision**. When a company needs to raise money, it can invite investors to put up cash in exchange for a share of future profits, or it can promise to pay back the investors' cash plus a fixed rate of interest. In the first case, the investors receive shares of stock and become shareholders, part-owners of the corporation. The investors in this case are referred to as **equity investors**, who contribute **equity financing**. In the second case, the investors are lenders, that is, **debt investors**, who one day must be repaid. The choice between debt and equity financing is often called the **capital structure decision**. Here "capital" refers to the firm's sources of long-term financing. A firm that is seeking to raise long-term financing is said to be "raising capital."

Notice the essential difference between the investment and financing decisions. When the firm invests, it acquires **real assets**, which are then used to produce the firm's goods and services. The firm finances its investment in real assets by issuing **financial assets** to investors. A share of stock is a financial asset, which has value as a

claim on the firm's real assets and on the income that those assets will produce. A bank loan is a financial asset also. It gives the bank the right to get its money back plus interest. If the firm's operations can't generate enough income to repay the bank, the bank can force the firm into bankruptcy and stake a claim on its real assets. Financial assets that can be purchased and traded by investors in public markets are called **securities**. The shares of stock issued by the public corporations in Table 1.1 are all securities. Entergy's 10-year bond in Table 1.1 is a security. But a bank loan from JPMorgan to Entergy is not called a security unless the bank resells the loan to public investors.

The firm can issue an almost endless variety of financial assets. Suppose it decides to borrow. It can issue debt to investors, or it can borrow from a bank. It can borrow for 1 year or 20 years. If it borrows for 20 years, it can reserve the right to pay off the debt early if interest rates fall. It can borrow in Paris, receiving and promising to repay euros, or it can borrow dollars in New York. (As Table 1.1 shows, Ford chose to borrow U.S. dollars, but it could have borrowed euros or Japanese yen instead.)

In some ways, financing decisions are less important than investment decisions. Financial managers say that "value comes mainly from the investment side of the balance sheet." Also, the most successful corporations sometimes have the simplest financing strategies. Take Microsoft as an example. It is one of the world's most valuable corporations. In early 2016, Microsoft shares traded for \$53 each. There were 7.91 billion shares outstanding. Therefore Microsoft's market value—its **market capitalization** or **market cap**—was $53 \times 7.91 = \$419$ billion. Where did this market value come from? It came from Microsoft's products, from its brand name and worldwide customer base, from its R&D, and from its ability to make profitable future investments. It did not come from sophisticated financing. Microsoft's financing strategy is very simple: It finances almost all investment by retaining and reinvesting operating cash flow.

Financing decisions may not add much value compared to good investment decisions, but they can destroy value if they are stupid or ambushed by bad news. For example, when a consortium of investment companies bought the energy giant TXU in 2007, the company took on an additional \$40 billion in debt. This may not have been a stupid decision, but it did prove fatal. The consortium did not foresee the expansion of shale gas production and the resulting sharp fall in natural gas and electricity prices, and in April 2014 the company (renamed Energy Future Holdings) was bankrupt.

1.1 Self-Test

Are the following capital budgeting or financing decisions? (Hint: In one case the answer is "both.")

- Intel decides to spend \$7 billion to develop a new microprocessor factory.
- BMW borrows 350 million euros (€350 million) from Deutsche Bank.
- Royal Dutch Shell constructs a pipeline to bring natural gas onshore from a production platform in Australia.
- Avon spends €200 million to launch a new range of cosmetics in European markets.
- Pfizer issues new shares to buy a small biotech company.

We have emphasized the financial manager's responsibility for two decisions:

The investment decision = purchase of real assets

The financing decision = sale of financial assets

But this is an oversimplification because the financial manager is also involved in many other day-to-day activities that are essential to the smooth operation of a business.

For example, if the firm sells goods or services on credit, it needs to make sure that its customers pay on time. Corporations that operate internationally must constantly transfer cash from one currency to another. And the manager must keep an eye on the risks that the firm runs and ensure that they don't land the firm in a pickle.

1.2 Self-Test

Which of the following are financial assets, and which are real assets?

- A patent.
- A share of stock issued by Wells Fargo Bank.
- A blast furnace in a steelmaking factory.
- A mortgage loan taken out to help pay for a new home.
- After a successful advertising campaign, potential customers trust FedEx to deliver packages promptly and reliably.
- An IOU ("I owe you") from your brother-in-law.

1.2 What Is a Corporation?

We have been referring to "corporations." But before going too far or too fast, we need to offer some basic definitions.

corporation
A business organized as a separate legal entity owned by stockholders.

A **corporation** is a distinct, permanent legal entity. Suppose you decide to create a new corporation.³ You would work with a lawyer to prepare *articles of incorporation*, which set out the purpose of the business and how it is to be financed, managed, and governed. These articles must conform to the laws of the state in which the business is incorporated. For many purposes, the corporation is considered a resident of its state. For example, it can enter into contracts, borrow or lend money, and sue or be sued. It pays its own taxes (but it cannot vote!).

A corporation's owners are called *shareholders* or *stockholders*.⁴ The shareholders do not directly own the business's real assets (factories, oil wells, stores, etc.). Instead they have indirect ownership via financial assets (the shares of the corporation).

limited liability
The owners of a corporation are not personally liable for its obligations.

A corporation is legally distinct from the shareholders. Therefore, the shareholders have **limited liability** and cannot be held personally responsible for the corporation's debts. When the U.S. financial corporation Lehman Brothers failed in 2008, no one demanded that its stockholders put up more money to cover Lehman's massive debts. Shareholders can lose their entire investment in a corporation, but no more.

Example 1.1

Business Organization

Suppose you buy a building and open a restaurant. You have invested in the building itself, kitchen equipment, dining-room furnishings, plus various other assets. If you do not incorporate, you own these assets personally, as the *sole proprietor* of the business. If you have borrowed money from a bank to start the business, then you are personally responsible for this debt. If the business loses money and cannot pay the bank, then the bank can demand

³ In the United States, corporations are identified by the label "Corporation," "Incorporated," or "Inc.," as in *Caterpillar Inc.* The United Kingdom identifies public corporations by "plc" (short for "Public Limited Corporation"). French corporations have the suffix "SA" ("Société Anonyme"). The corresponding labels in Germany are "GmbH" ("Gesellschaft mit beschränkter Haftung") and "AG" ("Aktiengesellschaft").

⁴ "Shareholder" and "stockholder" mean exactly the same thing and are used interchangeably.

that you raise cash by selling other assets—your car or house, for example—in order to repay the loan. But if you incorporate the restaurant business, and then the corporation borrows from the bank, your other assets are shielded from the restaurant's debts. Of course, incorporation also means that the bank will be more cautious in lending, because the bank will have no recourse to your other assets.⁵

Notice that if you incorporate your business, you exchange direct ownership of its real assets (the building, kitchen equipment, etc.) for indirect ownership via financial assets (the shares of the new corporation). ■

When a corporation is first established, its shares may be privately owned by a small group of investors, perhaps the company's managers and a few backers. In this case, the shares are not publicly traded and the company is *closely held*. Eventually, when the firm grows and new shares are issued to raise additional capital, its shares are traded in public markets such as the New York Stock Exchange. Such corporations are known as *public companies*. Most well-known corporations in the United States are public companies with widely dispersed shareholdings. In other countries, it is more common for large corporations to remain in private hands, and many public companies may be controlled by just a handful of investors.

A large public corporation may have hundreds of thousands of shareholders, who together own the business. An individual may have 100 shares, receive 100 votes, and be entitled to a tiny fraction of the firm's income and value. On the other hand, a pension fund or insurance company may own millions of shares, receive millions of votes, and have a correspondingly large stake in the firm's performance.

Public shareholders cannot possibly manage or control the corporation directly. Instead, they elect a *board of directors*, who in turn appoint the top managers and monitor their performance. This *separation of ownership and control* gives corporations permanence. Even if managers quit or are dismissed, the corporation survives. Today's stockholders can sell all their shares to new investors without disrupting the operations of the business. Corporations can, in principle, live forever, and in practice they may survive many human lifetimes. One of the oldest corporations is the Hudson's Bay Company, which was formed in 1670 to profit from the fur trade between northern Canada and England. The company still operates as one of Canada's leading retail chains.

The separation of corporate ownership and control can also have a downside, for it can open the door for managers and directors to act in their own interests rather than in the stockholders' interest. We return to this problem later in the chapter.

There are other disadvantages to being a corporation. One is the cost, in both time and money, of managing the corporation's legal machinery. These costs are particularly burdensome for small businesses.

There is also an important tax drawback to corporations in the United States. Because the corporation is a separate legal entity, it is taxed separately. So corporations pay tax on their profits, and shareholders are taxed again when they receive dividends from the company or sell their shares at a profit. By contrast, income generated by businesses that are not incorporated is taxed just once as personal income.⁶

Other Forms of Business Organization

Corporations do not have to be prominent, multinational businesses such as those listed in Table 1.1. You can organize a local plumbing contractor or barber shop as a corporation if you want to take the trouble. But most corporations are larger

⁵ The bank may ask you to put up personal assets as collateral for the loan to your restaurant corporation. But it has to ask and get your agreement. It doesn't have to ask if your business is a sole proprietorship.

⁶ The U.S. tax system is somewhat unusual in this respect. To avoid taxing the same income twice, many other countries give shareholders at least some credit for the taxes that the corporation has already paid.

BEYOND THE PAGE



S-corporations

mhhe.com/brealey9e

businesses or businesses that aspire to grow. Small "mom-and-pop" businesses are usually organized as sole proprietorships.

What about the middle ground? What about businesses that grow too large for sole proprietorships but don't want to reorganize as corporations? For example, suppose you wish to pool money and expertise with some friends or business associates. You can form a partnership and enter into a partnership agreement that sets out how decisions are to be made and how profits are to be split up. Partners, like sole proprietors, face unlimited liability. If the business runs into difficulties, each partner can be held responsible for all the business's debts.

Partnerships have a tax advantage. Partnerships, unlike corporations, do not have to pay income taxes. The partners pay personal income taxes on their shares of the profits.

Some businesses are hybrids that combine the tax advantage of a partnership with the limited liability advantage of a corporation. In a *limited partnership*, partners are classified as general or limited. General partners manage the business and have unlimited personal liability for its debts. Limited partners are liable only for the money they invest and do not participate in management.

Many states allow *limited liability partnerships (LLPs)* or *limited liability companies (LLCs)*. These are partnerships in which all partners have limited liability. Another variation on the theme is the *professional corporation (PC)*, which is commonly used by doctors, lawyers, and accountants. In this case, the business has limited liability, but the professionals can still be sued personally, for example, for malpractice.

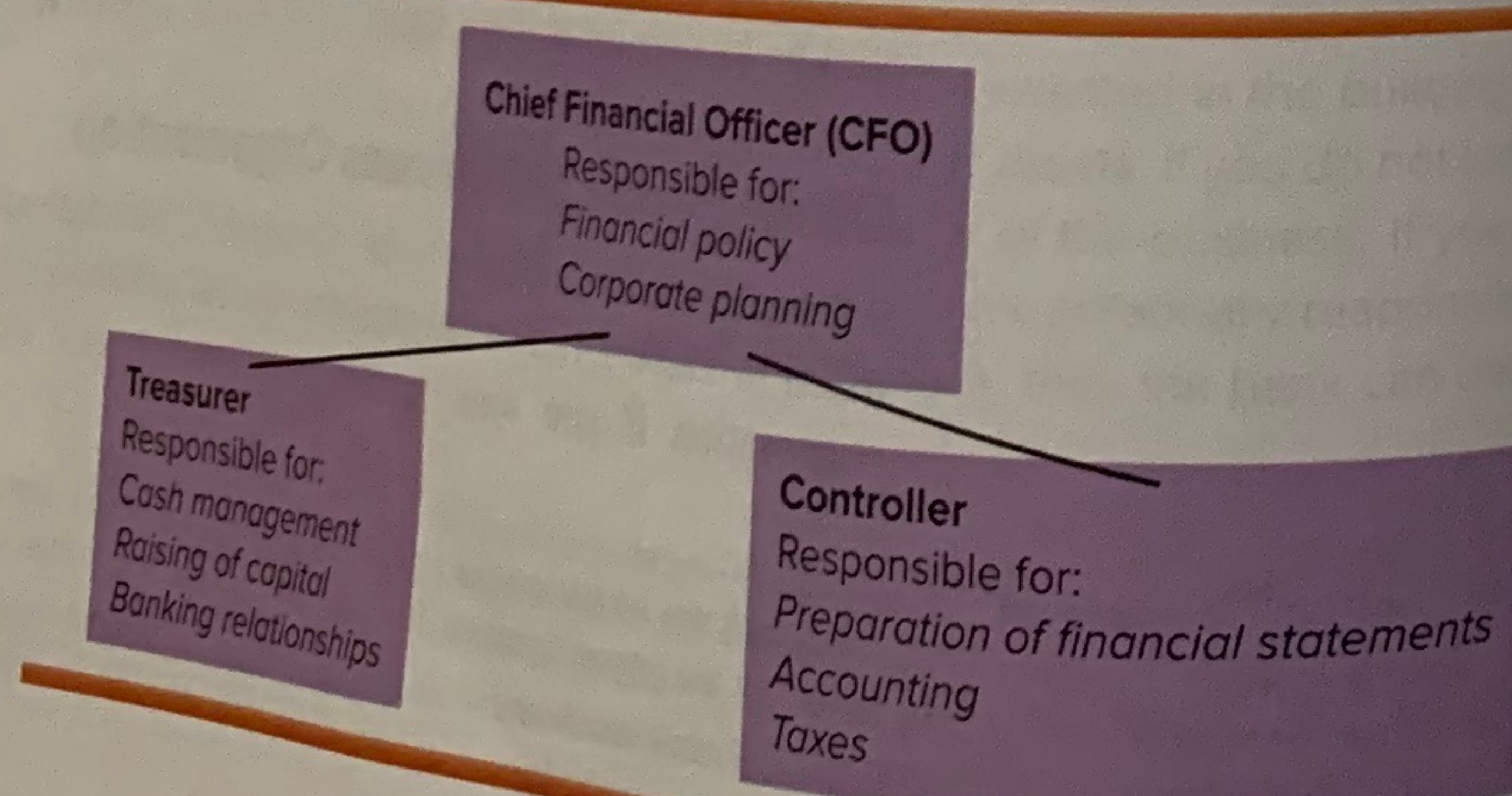
Most large investment banks such as Morgan Stanley and Goldman Sachs started life as partnerships. But eventually these companies and their financing requirements grew too large for them to continue as partnerships, and they reorganized as corporations. The partnership form of organization does not work well when ownership is widespread and separation of ownership and management is essential.

1.3 Who Is the Financial Manager?

What do financial managers do for a living? That simple question can be answered in several ways. We can start with financial managers' job titles. Most large corporations have a **chief financial officer (CFO)**, who oversees the work of all financial staff. As you can see from Figure 1.1, the CFO is deeply involved in financial policy and financial planning and is in constant contact with the chief executive officer (CEO) and other top management. The CFO is the most important financial voice of the corporation and explains earnings results and forecasts to investors and the media.

chief financial officer (CFO)
Supervises all financial functions and sets overall financial strategy.

FIGURE 1.1 Financial managers in large corporations



treasurer

Responsible for financing, cash management, and relationships with banks and other financial institutions.

controller

Responsible for budgeting, accounting, and taxes.

BEYOND THE PAGE



The role of the corporate treasurer

mhhe.com/brealey9e

1.3 Self-Test

Fritz and Frieda went to business school together 10 years ago. They have just been hired by a midsize corporation that wants to bring in new financial managers. Fritz studied finance, with an emphasis on financial markets and institutions. Frieda majored in accounting and became a CPA 5 years ago. Who is more suited to be treasurer and who controller? Briefly explain.

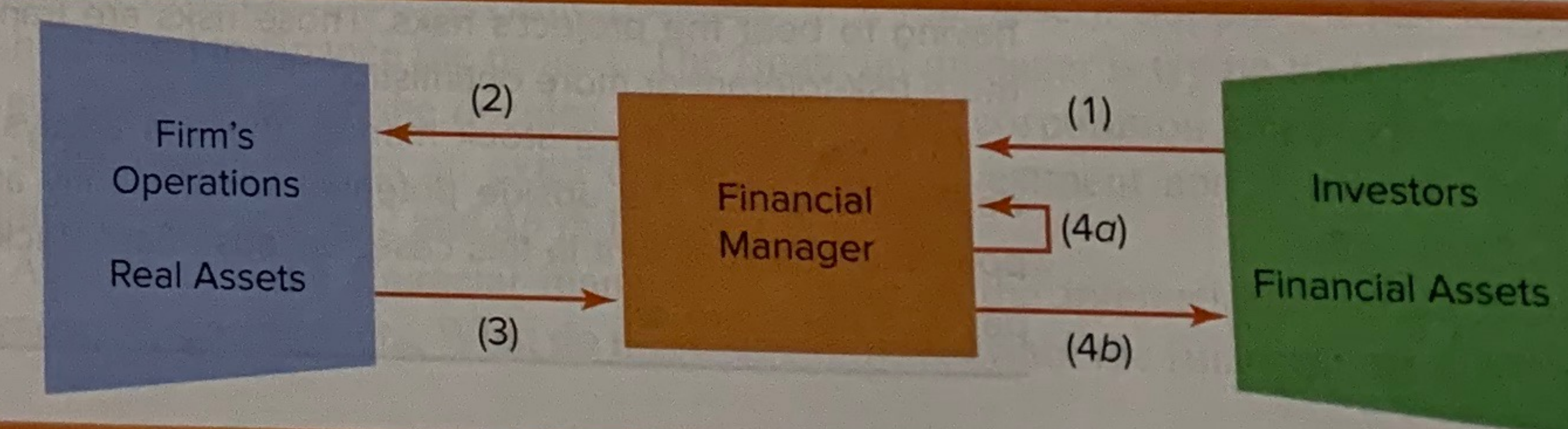
In large corporations, financial managers are responsible for organizing and supervising the capital budgeting process. However, major capital investment projects are so closely tied to plans for product development, production, and marketing that managers from these other areas are inevitably drawn into planning and analyzing the projects. If the firm has staff members specializing in corporate planning, they are naturally involved in capital budgeting too. For this reason, we will use the term *financial manager* to refer to anyone responsible for an investment or financing decision. Often we will use the term collectively for all the managers drawn into such decisions.

Now let's go beyond job titles. What is the essential role of the financial manager? Figure 1.2 gives one answer. The figure traces how money flows from investors to the corporation and back again to investors. The flow starts when cash is raised from investors (arrow 1 in the figure). The cash could come from banks or from securities sold to investors in financial markets. The cash is then used to pay for the real assets (investment projects) needed for the corporation's business (arrow 2). Later, as the business operates, the assets generate cash inflows (arrow 3). That cash is either reinvested (arrow 4a) or returned to the investors who furnished the money in the first place (arrow 4b). Of course, the choice between arrows 4a and 4b is constrained by the promises made when cash was raised at arrow 1. For example, if the firm borrows money from a bank at arrow 1, it must repay this money plus interest at arrow 4b.

You can see examples of arrows 4a and 4b in Table 1.1. Facebook financed its investments by reinvesting earnings (arrow 4a). Procter & Gamble decided to return cash to shareholders by buying back its stock (arrow 4b). It could have chosen instead to pay the money out as additional cash dividends, also on arrow 4b.

Notice how the financial manager stands between the firm and outside investors. On the one hand, the financial manager is involved in the firm's operations,

FIGURE 1.2 Flow of cash between investors and the firm's operations. Key: (1) Cash raised by selling financial assets to investors; (2) cash invested in the firm's operations; (3) cash generated by the firm's operations; (4a) cash reinvested; (4b) cash returned to investors.



particularly by helping to make good investment decisions. On the other hand, he or she deals with financial institutions and other investors and with financial markets such as the New York Stock Exchange. We say more about these financial institutions and markets in the next chapter.

1.4 Goals of the Corporation

Shareholders Want Managers to Maximize Market Value

For small corporations, shareholders and management may be one and the same. But for large corporations, separation of ownership and management is a practical necessity. For example, Walmart has nearly 300,000 shareholders. There is no way that these shareholders can be actively involved in management; it would be like trying to run New York City by town meetings. Authority has to be delegated.

How can shareholders effectively delegate decision making when they all have different tastes, wealth, time horizons, personal opportunities, and tolerance for risk? Delegation can work only if the shareholders have a common goal. Fortunately there is a natural financial objective on which almost all shareholders can agree: Maximize the current market value of shareholders' investment in the firm.

This simple, unqualified goal makes sense when the shareholders have access to well-functioning financial markets and institutions. Access gives them the flexibility to manage their own savings and consumption plans, leaving the corporation's financial managers with only one task, to increase market value. For example, a corporation's roster of shareholders will usually include both risk-averse and risk-tolerant investors. You might expect the risk-averse to say, "Sure, maximize value, but don't touch too many high-risk projects." Instead, they say, "Risky projects are okay, provided that expected profits are more than enough to offset the risks. If this firm ends up too risky for my taste, I'll adjust my investment portfolio to make it safer." For example, the risk-averse shareholder can shift more of his or her portfolio to safe assets, such as U.S. government bonds. Shareholders can also just say good-bye, selling off shares of the risky firm and buying shares in a safer one. If the risky investments increase market value, the departing shareholders are better off than they would be if the risky investments were turned down.

BEYOND THE PAGE

Foundations of the NPV rule
mhhe.com/brealey9e

Example

1.2 ▶

Value Maximization

Fast-Track Wireless shares trade for \$20. It has just announced a "bet the company" investment in a high-risk, but potentially revolutionary, WhyFi technology. Investors note the risk of failure but are even more impressed with the technology's upside. They conclude that the possibility of very high future profits justifies a higher share price. The price goes up to \$23.

Caspar Milquetoast, a thoughtful but timid shareholder, notes the downside risks and decides that it's time for a change. He sells out to more risk-tolerant investors. But he sells at \$23 per share, not \$20. Thus he captures the value added by the WhyFi project without having to bear the project's risks. Those risks are transferred to other investors, who are more risk-tolerant or more optimistic.

In a well-functioning stock market, there is always a pool of investors ready to bear downside risks if the upside potential is sufficiently attractive. We know that the upside potential was sufficient in this case, because Fast-Track stock attracted investors willing to pay \$23 per share. ■

The same principles apply to the timing of a corporation's cash flows, as the following Self-Test illustrates.

1.4 Self-Test

Rhonda and Reggie Hotspur are working hard to save for their children's college education. They don't need more cash for current consumption but will face big tuition bills in 2025. Should they therefore avoid investing in stocks that pay generous current cash dividends? (Hint: Are they required to spend the dividends on current consumption?) Explain briefly.

Sometimes you hear managers speak as if the corporation has other goals. For example, they may say that their job is to "maximize profits." That sounds reasonable. After all, don't shareholders want their company to be profitable? But taken literally, profit maximization is not a well-defined corporate objective. Here are two reasons:

1. Maximize profits? Which year's profits? A corporation may be able to increase current profits by cutting back on outlays for maintenance or staff training, but that will not add value unless the outlays were wasteful in the first place. Shareholders will not welcome higher short-term profits if long-term profits are damaged.
2. A company may be able to increase future profits by cutting this year's dividend and investing the freed-up cash in the firm. That is not in the shareholders' best interest if the company earns only a very low rate of return on the extra investment.

Maximizing—or at least maintaining—value is necessary for the long-run survival of the corporation. Suppose, for example, that its managers forget about value and decide that the only goal is to increase the market share of its products. So the managers cut prices aggressively to attract new customers, even when this leads to continuing losses. As losses mount, the corporation finds it more and more difficult to borrow money and sooner or later cannot pay existing debts. Nor can it raise new equity financing if shareholders see that new equity investment will follow previous investments down the drain.

This firm's managers would probably pay the price for this business malpractice. For example, outside investors would see an opportunity for easy money. They could buy the firm from its current shareholders, toss out the managers, and reemphasize value rather than market share. The investors would profit from the increase in value under new management.

Managers who pursue goals that destroy value often end in early retirement—another reason that the natural financial goal of the corporation is to maximize market value.

The Investment Trade-Off Okay, let's take the objective as maximizing market value, or at least adding market value. But why do some investments increase market value, while others reduce it? The answer is given by Figure 1.3, which sets out the fundamental trade-off for corporate investment decisions. The corporation has a proposed investment project (the purchase of a real asset). Suppose it has sufficient cash on hand to finance the project. The financial manager is trying to decide whether to go ahead. If he or she decides not to invest, the corporation can pay out the cash to shareholders, say as an extra dividend. (The investment and dividend arrows in Figure 1.3 are arrows 2 and 4b in Figure 1.2.)

Assume that the financial manager is acting in the interests of the corporation's owners, its stockholders. What do these stockholders want the financial manager to do?

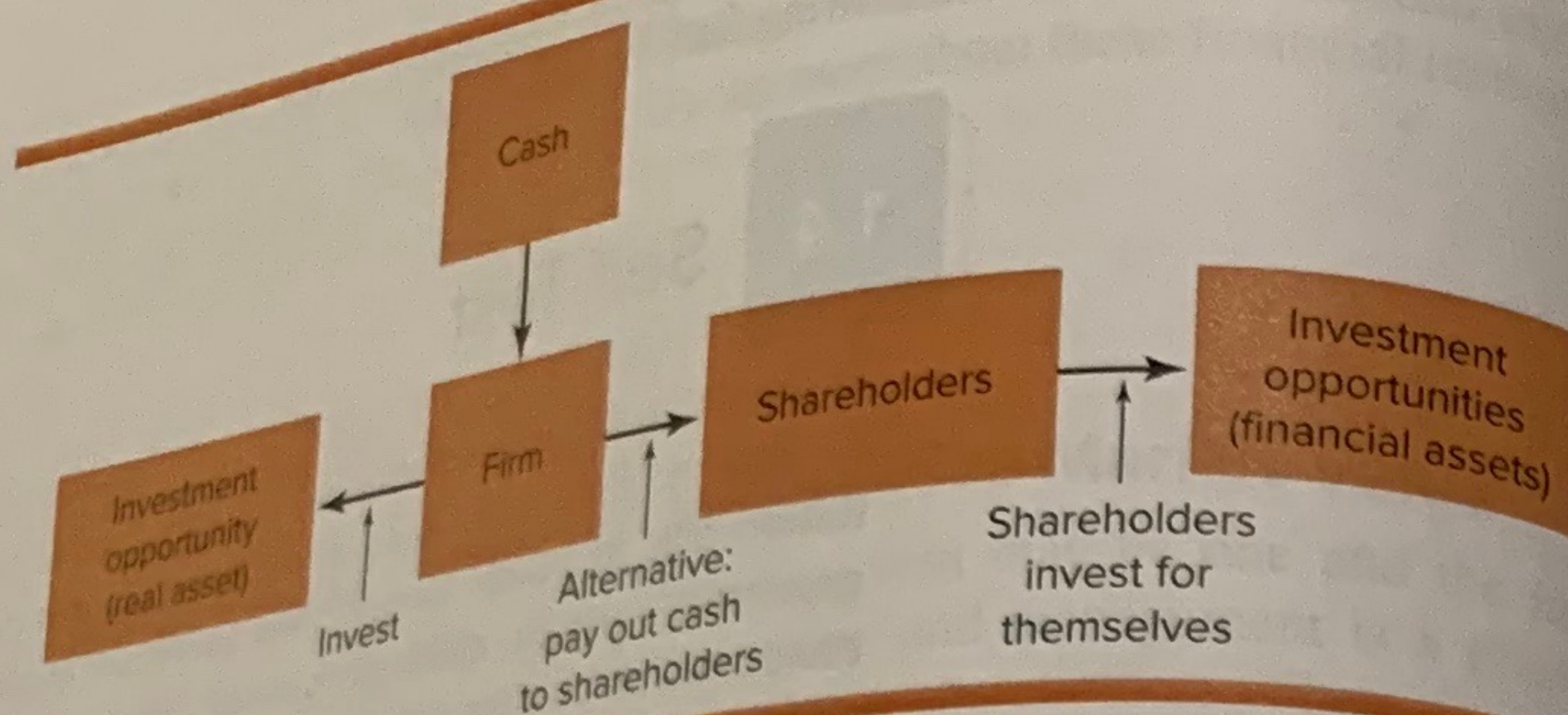
BEYOND THE PAGE



B-corporations

mhhe.com/brealey9e

FIGURE 1.3 The firm can either keep and reinvest cash or return it to investors. (Arrows represent possible cash flows or transfers.) If cash is reinvested, the opportunity cost is the expected rate of return that shareholders could have obtained by investing in financial assets.



The answer depends on the rate of return on the investment project and on the rate of return that stockholders can earn by investing in financial markets. If the return offered by the investment project is higher than the rate of return that shareholders can get by investing on their own, then the shareholders would vote for the investment project. If the investment project offers a lower return than shareholders can achieve on their own, the shareholders would vote to cancel the project and take the cash instead.

Figure 1.3 could apply to Virgin Atlantic's decisions to invest in new aircraft. Suppose the company has cash set aside to buy five more Airbus A350-1000s. It could go ahead with the purchase, or it could choose to cancel the investment and instead pay out the cash to its stockholders. If it pays out the cash, the stockholders could then invest for themselves.

Suppose that Virgin's investment in new planes is just about as risky as the stock market and that investment in the stock market offers a 10% expected rate of return. If the new planes offer a superior rate of return, say 20%, then Virgin's stockholders would be happy to let the company keep the cash and invest it in the new planes. If the planes offer only a 5% return, then the stockholders are better off with the cash and without the new project; in that case, the financial manager should turn down the project.

As long as a corporation's proposed investments offer higher rates of return than its shareholders can earn for themselves in the stock market (or in other financial markets), its shareholders will applaud the investments and the market value of the firm will increase. But if the company earns an inferior return, shareholders boo, market value falls, and stockholders clamor to get their money back so that they can invest on their own.

In our example, the minimum acceptable rate of return on Virgin's new aircraft is 10%. This minimum rate of return is called the **hurdle rate** or **opportunity cost of capital**. It is called an *opportunity cost* of capital because it depends on the alternative investment opportunities available to shareholders in financial markets. Whenever a corporation invests cash in a new project, its shareholders lose the opportunity to invest the cash on their own. Corporations increase value by accepting investment projects that earn more than the opportunity cost of capital.

Figure 1.3, which compares rates of return on investment projects with the opportunity cost of capital, illustrates a general principle: A corporation should direct cash to investments that *add market value*, compared with the investments that shareholders could make on their own.⁷

⁷ We have mentioned 5% or 20% as possible future rates of return on Virgin Atlantic's new planes. We will see in Chapter 8 that future rates of return are sometimes difficult to calculate and interpret. The general principle always holds, however. In Chapters 8 and 9 we show you how to apply the principle by calculating the net present value (NPV) of investment projects.

opportunity cost of capital
Expected rate of return given up by investing in a project rather than in the capital market.

Notice that the opportunity cost of capital depends on the risk of the proposed investment project. Why? It's not just because shareholders are risk-averse. It's also because shareholders have to trade off risk against return when they invest on their own. The safest investments, such as U.S. government debt, offer low rates of return. Investments with higher expected rates of return—the stock market, for example—are riskier and sometimes deliver painful losses. (The U.S. stock market fell 38% in 2008, for example.) Other investments are riskier still. For example, high-tech growth stocks offer the prospect of higher rates of return than typical stocks but are also more volatile than typical stocks.

Managers look to the financial markets to measure the opportunity cost of capital for the firm's investment projects. They can observe the opportunity cost of capital for safe investments by looking up current interest rates on safe debt securities. For risky investments, the opportunity cost of capital has to be estimated. We start to tackle this task in Chapter 11.

1.5 Self-Test

Investing \$100,000 in additional raw materials, mostly palladium, should allow Cryogenic Concepts to increase production and earn an additional \$112,000 next year. This payoff could cover the investment, plus a 12% return. Palladium is traded in commodity markets. The CFO has studied the history of returns from investments in palladium and believes that investors in the precious metal can reasonably expect a 15% return. What is the opportunity cost of capital? Is Cryogenic's proposed investment in palladium a good idea? Why or why not?

1.5

Agency Problems, Executive Compensation, and Corporate Governance

Sole proprietors face no conflicts in financial management. They are both owners and managers, reaping the rewards of good decisions and hard work and suffering when they make bad decisions or slack off. Their personal wealth is tied to the value of their businesses.

In most large corporations, the owners are mostly outside investors, and so the managers may be tempted to act in their own interests rather than maximize shareholder value. For example, they may shy away from valuable but risky investment projects because they worry more about job security than maximizing value. They may build empires by overaggressive investment or overconfident acquisitions of other companies.

The temptation for such value-destroying actions arises because the managers are not the shareholders, but *agents* of the shareholders. Therefore, the actions are called **agency problems**. Losses in value from agency problems—or from costs incurred to mitigate the problems—are called **agency costs**.

Agency problems sometimes lead to outrageous behavior. When Dennis Kozlowski, the former CEO of Tyco, threw a \$2 million birthday bash for his wife, he charged half the cost to the company. Conrad Black, the former boss of Hollinger International, used the company jet for a trip with his wife to Bora Bora. These, of course, are extreme examples. The agency problems encountered in the ordinary course of business are often subtle and mundane. But agency problems do arise whenever managers think just a little less hard about spending money that is not their own.

agency problem

Managers are agents for stockholders and are tempted to act in their own interests rather than maximizing value.

agency cost

Value lost from agency problems or from the cost of mitigating agency problems.

stakeholder
Anyone with a financial
interest in the corporation.

Think of the corporation's value as a pie that is divided among several classes of claimants. These include managers and workers as well as shareholders and lenders. The government is a claimant, too, because it taxes sales and profits. The claimants are called **stakeholders** because each has a stake in the firm. Agency problems arise whenever the stakeholders' interests do not coincide.

1.6 Self-Test

What are agency problems and agency costs? Give two or three examples of decisions by managers that can lead to agency costs.

Agency problems are controlled in practice in three ways. First, corporations set up internal controls and decision-making procedures to prevent wasteful spending and discourage careless investment. We discuss the controls and procedures in several later chapters. For example, Chapters 8, 9, and 10 cover procedures for disciplined, value-maximizing capital investment decisions. Second, corporations try to design compensation schemes that align managers' and shareholders' interests. Third, the corporations are constrained by corporate governance. We comment on compensation and governance here.

Executive Compensation

The compensation packages of top executives are almost always tied to the financial performance of their companies. The package typically includes a fixed base salary plus an annual award tied to earnings or other measures of financial performance. The more senior the manager, the smaller the base salary as a fraction of total compensation. Also, compensation is not all in cash, but partly in shares. The shares are usually *restricted stock*, which the manager is required to hold onto while employed by the corporation.⁸ Many corporations also include stock options in compensation packages. Stock options, which we cover in Chapter 23, give especially powerful incentives to maximize stock price per share.

The upside compensation potential for a few top managers is enormous. For example, Larry Ellison, CEO of the business software giant Oracle, received total compensation of \$64 million for 2015. Only \$1 of that amount was base salary. The rest came from grants of stock and options. The options will be worthless if Oracle's stock price falls from its 2015 level but will pay off handsomely if the price rises. In addition, as a founder of Oracle, Ellison owns shares worth \$49 billion. No one can say for certain how hard Ellison would have worked with a different compensation package, but one thing is clear: He has a huge personal stake in Oracle's market value.

Well-designed compensation schemes alleviate agency problems by encouraging managers to maximize shareholder wealth. But some schemes are not well designed; they reward managers even when value is destroyed. For example, during Robert Nardelli's 6-year tenure as CEO, Home Depot's stock price fell by 20% while shares of its rival Lowe's nearly doubled. When Nardelli was ousted in January 2007, he received a farewell package worth \$210 million. Needless to say, many shareholders were livid.

In 2010, the Dodd-Frank financial reform law gave U.S. shareholders the right to express their opinion on executive compensation through nonbinding "say on pay" votes at 1- or 3-year intervals. (Shareholders of U.K. companies have a similar right.)

⁸ Most restricted stock does not "vest" immediately. Suppose the vesting period is 3 years. If the manager quits or is fired in year 2, the restricted stock stays behind. Vesting gives the managers an incentive to stay at the corporation, in this example, for at least 3 years.

Most votes have endorsed compensation policy, but occasionally shareholders refuse. For example, in 2011 Hewlett-Packard's shareholders voted against a \$40 million compensation package for its new CEO. When there is a "no" vote, the company generally changes the pay package to make it less generous; other companies look anxiously over their shoulders to check that their compensation package is not next in the spotlight.

Corporate Governance

Financial markets and institutions are supposed to direct financing to firms that can invest to add value. But financing moves from investors to firms only if investors are protected and if agency problems within firms are absent or at least tolerable. Thus there is a need for a system of **corporate governance** so that money can flow to the right firms at the right times. "Corporate governance" refers to the laws, regulations, institutions, and corporate practices that protect shareholders and other investors. When scandals happen, we say that corporate governance has broken down. When corporations compete to deliver value to shareholders, we are comforted that corporate governance is working properly.

Good corporate governance relies in part on well-designed management compensation packages. Other elements of good corporate governance include the following.

Legal Requirements Good governance requires laws and regulations that protect investors from self-dealing by insiders. CEOs and financial managers have a fiduciary duty to stockholders. That is, they are required to act fairly and responsibly in the stockholders' interests. If they don't, they may end up in jail like Tyco's Dennis Kozlowski and Hollinger's Conrad Black.

Boards of Directors The board of directors appoints top managers, including the CEO and CFO, and must approve important financial decisions. For example, only the board has legal authority to approve a dividend or a public issue of securities. The board approves compensation schemes and awards to top management. Boards usually delegate decision making for small and medium-size investments, but the authority to approve large investments is almost never delegated.

The board of directors is elected by shareholders and is supposed to represent their interests. Boards have been portrayed as passive supporters of top management, but the balance has tipped toward independence. The Sarbanes-Oxley Act of 2002 (SOX) requires that more directors be independent—that is, not affiliated with management. The majority of directors are now independent. Boards must also meet in executive sessions with the CEO not present. SOX also requires CEOs and CFOs to sign off personally on the corporation's accounting procedures and results.

Activist Shareholders Institutional shareholders, including pension funds, have become more active in monitoring management and pushing for changes. CEOs have been forced out as a result, including the CEOs of JCPenney, Procter & Gamble, Barnes & Noble, Citigroup, Yahoo!, and Carnival. Boards outside the United States, which have traditionally been more management-friendly, have also become more willing to replace underperformers. The list of foreign companies with CEO departures includes Barclays, Carrefour, Siemens, Barrick, and Rio Tinto.

Although U.S. corporations typically have thousands of individual shareholders, they often also have *blockholders*, that is, investors who own 5%, 10%, or more of outstanding shares. The blockholders may include wealthy individuals or families—for example, descendants of a founder. They may also include other corporations, pension funds, or foundations.⁹ When a 5% blockholder calls, the CFO answers.

⁹ A large block of shares may give effective control even when there is no majority owner. For example, Larry Ellison's billion-plus shares give him a 25% stake in Oracle. Barring some extreme catastrophe, this holding means that he can run the company as long as he wants to.

Disgruntled shareholders can also take the “Wall Street Walk” by selling out and moving on to other investments. The Wall Street Walk can send a powerful message. If enough shareholders bail out, the stock price tumbles, which damages top managers’ compensation and reputation.

Takeovers The Wall Street Walk also opens the door for takeovers. The further the stock price falls, the easier it is for another company to buy up the majority of shares and take over. The old management team is then likely to find itself out on the street. We discuss takeovers in Chapter 21.

Information for Investors Corporate governance can’t work unless outside investors get detailed, up-to-date information. If a firm is transparent—if investors can see its true profitability and prospects—then problems will show up right away in a falling stock price. That in turn generates extra scrutiny from security analysts, bond rating agencies, and banks and other lenders, who keep an eagle eye on the progress of their borrowers. The U.S. Securities and Exchange Commission (SEC) sets accounting and reporting standards for public companies. We cover accounting and finance in Chapter 3.

Chapter 1 is not the right place for a worldwide tour of corporate governance. But be aware that governance laws, regulations, and practice vary. The differences are more dramatic in continental Europe and Japan than in Canada, the United Kingdom, Australia, and other English-speaking countries. In Germany, for example, banks often control large blocks of stock and can push hard for changes in the management or strategy of poorly performing companies. (Banks in the United States are prohibited from large or permanent holdings of the stock of nonfinancial corporations.) Large German firms also have two boards of directors: the supervisory board (*Aufsichtsrat*) and the management board (*Vorstand*). Half of the supervisory board’s members are elected by employees. Some French firms also have two boards, one including employee representatives.

1.6 The Ethics of Maximizing Value

Shareholders want managers to maximize the market value of their shares. But perhaps this begs the question: Is it desirable for managers to act in the narrow, selfish interest of their shareholders? Does a focus on shareholder value mean that the managers must act as greedy mercenaries riding roughshod over widows and orphans?

Most of this book is devoted to financial policies that increase value. None of these policies requires galloping over widows and orphans. In most instances, there is little conflict between doing well (maximizing value) and doing good. The first step in doing well is doing good by your customers. Here is how Adam Smith put the case in 1776:

It is not from the benevolence of the butcher, the brewer, or the baker, that we expect our dinner, but from their regard to their own interest. We address ourselves, not to their humanity but to their self-love, and never talk to them of our own necessities but of their advantages.¹⁰

Profitable firms are those with satisfied customers and loyal employees; firms with dissatisfied customers and a disgruntled workforce will probably end up with declining profits and a low stock price.¹¹

Of course, ethical issues do arise in business as in other walks of life. When the stakes are high, it is often tempting for managers to cut corners. Laws and regulations seek to prevent managers from undertaking dishonest actions. But written rules and laws can help only so much. In business, as in other day-to-day affairs, there are also

¹⁰ Adam Smith, *An Inquiry into the Nature and Causes of the Wealth of Nations* (New York: Random House, 1937; first published 1776), p. 14.

¹¹ Shareholders value integrity. Firms that are regarded as trustworthy by their employees and that are voted as good places to work tend to be more highly valued by investors and to perform better. See A. Edmans, “Does the Stock Market Fully Value Intangibles? Employee Satisfaction and Equity Prices,” *Journal of Financial Economics* 101, no. 3 (September 2011), pp. 621–640; and L. Guiso, P. Sapienza, and L. Zingales, “The Value of Corporate Culture,” *Journal of Financial Economics* 117, no. 1 (July 2015), pp. 60–76.

BEYOND THE PAGE



Things are not always fair in love or business

mhhe.com/brealey9e

unwritten rules of behavior. They are reinforced because good managers know that their firm’s reputation is one of its most important assets, and therefore playing fair and keeping one’s word are simply good business practices. Thus financial deals are regularly sealed by a handshake, and each side knows that the other will not renege later if things turn sour.

Reputation is particularly important in finance. If you buy a well-known brand in a supermarket, you can be fairly sure of what you are getting. But in financial transactions, the other party often has more information than you, and it is less easy to be sure of the quality of what you are buying. Therefore, honest financial firms seek to build long-term relationships with their customers and to establish a name for fair dealing and financial integrity. Major banks and securities firms protect their reputations.

When something happens to undermine reputations, the costs can be enormous. Volkswagen (VW) is a recent case in point. VW had installed secret software that cut back pollution from its diesel cars, but only when the cars were tested. Actual pollution in regular driving was much higher—and far in excess of legal maximums. Discovery of the software scandal in 2015 caused a tidal wave of opprobrium. VW’s stock price dropped by 35%. Its CEO was fired. VW diesel vehicles piled up unsold on car dealers’ lots. Potential fines imposed by the U.S. and European governments could be enormous. VW set aside \$7.3 billion to cover costs and losses, but some analysts viewed this amount as much too low.

Charlatans and swindlers sometimes prey on individual investors, especially in booming markets. (It’s only “when the tide goes out that you learn who’s been swimming naked.”¹²) The tide went out in 2008 and a number of frauds were exposed. One notorious example was the Ponzi scheme run by the disgraced financier Bernard Madoff (pronounced “Made-off”).¹³ Individuals and institutions invested around \$20 billion with Madoff and were told that their investments had grown to \$65 billion. That figure turned out to be completely fictitious. (It’s not clear what Madoff did with all this money, but much of it was apparently paid out to early investors in the scheme to create an impression of superior investment performance.) With hindsight, the investors should not have trusted Madoff or the financial advisers who steered money to him.

Madoff’s Ponzi scheme was (we hope) a once-in-a-lifetime event. (Ponzi schemes pop up frequently, but few have approached the scope and duration of Madoff’s.) It was astonishingly unethical and illegal and was bound to end in tears. Needless to say, it was not designed to add value for investors.

BEYOND THE PAGE



Business culture and unethical behavior

mhhe.com/brealey9e

BEYOND THE PAGE



The Great Albanian Ponzi Scheme

mhhe.com/brealey9e

1.7 Self-Test

Without knowing anything about the personal ethics of the owners, which company would you trust more to keep its word in a business deal?

- Harry’s Hardware has been in business for 50 years. Harry’s grandchildren, now almost adults, plan to take over and operate the business. Successful hardware stores depend on long-term loyal customers.
- Victor’s Videos just opened for business. It rents a storefront in a strip mall and has financed its inventory with a bank loan. Victor has little of his own money invested in the business. Video shops usually command little customer loyalty.

¹² The quotation is from Warren Buffett’s annual letter to the shareholders of Berkshire Hathaway, March 2008.

¹³ Ponzi schemes are named after Charles Ponzi, who founded an investment company in 1920 that promised investors unbelievably high returns. He was soon deluged with funds from investors in New England, taking in \$1 million during one 3-hour period. Ponzi invested only about \$30 of the money that he raised. But he used part of the cash provided by later investors to pay generous dividends to the original investors, thus promoting the illusion of high profits and quick payoffs. Within months the scheme collapsed and Ponzi started a 5-year prison sentence.

Short-Selling

Investors who take short positions are betting that securities will fall in price. Usually they do this by borrowing the security, selling it for cash, and then waiting in the hope that they will be able to buy it back cheaply.* In 2007, hedge fund manager John Paulson took a huge short position in mortgage-backed securities. The bet paid off, and that year Paulson's trade made a profit of \$1 billion for his fund.[†]

Was Paulson's trade unethical? Some believe not only that he was profiting from the misery that resulted from the crash in mortgage-backed securities, but that his short trades accentuated the collapse. It is certainly true that short-sellers have never been popular. For example, following the crash of 1929, one commentator compared short-selling to the ghouliness of "creatures who, at all great earthquakes and fires, spring up to rob broken homes and injured and dead humans."

Short-selling in the stock market is the Wall Street Walk on steroids. Not only do short-sellers sell all the shares they may have previously owned, but they borrow more shares and sell them too, hoping to buy them back for less when the stock price falls. Poorly performing companies are natural targets for short-sellers, and the companies' incumbent managers naturally complain, often bitterly. Governments sometimes listen to such complaints. For example, in 2008 the U.S. government temporarily banned short sales of financial stocks in an attempt to halt their decline.

But defendants of short-selling argue that selling securities that one believes are overpriced is no less legitimate than buying those that appear underpriced. The object of a well-functioning market is to set the correct stock prices, not always higher prices. Why impede short-selling if it conveys truly bad news, puts pressure on poor performers, and helps corporate governance work?

Corporate Raiders

In the movie *Pretty Woman*, Richard Gere plays the role of an asset stripper, Edward Lewis. He buys companies, takes them apart, and sells the bits for more than he paid for the total package. In the movie *Wall Street*, Gordon Gekko buys a failing airline, Blue Star, in order to break it up and sell the bits. Real corporate raiders may not be as ruthless as Edward Lewis or Gordon Gekko, but they do target companies whose assets can be profitably split up and redeployed.

This has led some to complain that raiders seek to carve up established companies, often leaving them with heavy debt burdens, basically in order to get rich quick. One German politician has likened them to "swarms of locusts that fall on companies, devour all they can, and then move on."

But sometimes raids can enhance shareholder value. For example, in 2012 and 2013, Relational Investors teamed up with the California State Teachers' Retirement System (CSTRS, a pension fund) to try to force Timken Co. to split into two separate companies, one for its steel business and one for its industrial bearings business. Relational and CSTRS believed that Timken's combination of unrelated businesses was uncused and inefficient. Timken management responded that breakup would "deprive our shareholders of long-run value—all in an attempt to create illusory short-term gains through financial engineering." But Timken's stock price rose at the prospect of a breakup, and a nonbinding shareholder vote on Relational's proposal attracted a 53% majority. Finally in 2014 Timken spun off its steel business in a new corporation, Timken Steel.

How do you draw the ethical line in such examples? Was Relational Investors a "raider" (sounds bad) or an "activist investor" (sounds good)? Breaking up a portfolio of businesses can create difficult adjustments and job losses. Some stakeholders lose. But shareholders and the overall economy can gain if businesses are managed more efficiently.

Tax Avoidance

In 2012 it was revealed that during the 14 years that Starbucks had operated in the United Kingdom, it paid hardly any taxes. Public outrage led to a boycott of Starbucks shops, and the company responded by promising that it would voluntarily pay to the taxman about \$16 million more than it was required to pay by law. Several months later, a U.S. Senate committee investigating tax avoidance by U.S. technology firms reported that Apple had used a "highly questionable" web of offshore entities to avoid billions of dollars of U.S. taxes.

Multinational companies, such as Starbucks and Apple, could reduce their tax bills using legal techniques with exotic names such as the "Dutch Sandwich," "Double Irish," and "Check-the-Box." But the public outcry over the revelations suggested that many believed that use of these techniques, though legal, was unethical. If they were unethical, that leaves an awkward question: How do companies decide which tax schemes are ethical and which are not? Can a company act in shareholders' interest if it voluntarily pays more taxes than it is legally obligated to pay?

*We need not go into the mechanics of short sales here, but note that the seller is obligated to buy back the security, even if its price skyrockets far above what he or she sold it for. As the saying goes, "He who sells what isn't his'n, buys it back or goes to prison."

†The story of Paulson's trade is told in G. Zuckerman, *The Greatest Trade Ever* (Broadway Business, 2009). The trade was controversial for reasons beyond short-selling. Scan the nearby Beyond the Page icon "Goldman Sachs causes a ruckus" to learn more.

BEYOND THE PAGE



Goldman Sachs causes a ruckus

mhhe.com/brealey9e

It is not always easy to know what is ethical behavior, and there can be many gray areas. The nearby box presents three ethical controversies in finance. Think about where you stand on these issues and where you would draw the ethical line.

1.7

Careers in Finance

Well over 1 million people work in the financial services industry in the United States, and many others work as financial managers in corporations. We can't tell you what each one does all day, but we can give you some idea of the variety of careers in finance. The nearby box summarizes the experience of a small sample of recent graduates.¹⁴

We explained earlier that corporations face two principal financial decisions: the investment decision and the financing decision. Therefore, as a newly recruited financial analyst, you may help to analyze a major new investment project. Or you may instead help to raise the money to pay for it, perhaps by negotiating a bank loan or by arranging to lease the plant and equipment. Other financial analysts work on short-term finance, managing collection and investment of the company's cash or checking whether customers are likely to pay their bills. Financial analysts are also involved in monitoring and controlling risk. For example, they may help to arrange insurance for the firm's plant and equipment, or they may assist with the purchase and sale of options, futures, and other exotic tools for managing risk.

Instead of working in the finance department of a corporation, you may join a financial institution. The largest employers are banks. Banks collect deposits and relend the cash to corporations and individuals. If you join a bank, you may start in a branch office, where individuals and small businesses come to deposit cash or to seek a loan. You could also work in the head office, helping to analyze a \$500 million loan to a large corporation.

Banks do many things in addition to lending money, and they probably provide a greater variety of jobs than other financial institutions. For example, if you work in the cash management department of a large bank, you may help companies to transfer huge sums of money electronically as wages, taxes, and payments to suppliers. Banks also buy and sell foreign exchange, so you could find yourself working in front of one of those computer screens in a foreign exchange trading room. Another glamorous bank job is in the derivatives group, which helps companies to manage their risk by buying and selling options, futures, and so on. This is where the mathematicians and the computer buffs thrive.

Investment banks, such as Goldman Sachs or Morgan Stanley, help companies sell their securities to investors. They also have large corporate finance departments that assist firms in mergers and acquisitions. When firms issue securities or try to take over another firm, a lot of money is at stake and the firms may need to move fast. Thus, working for an investment bank can be a high-pressure activity with long hours. It can also pay very well.

The insurance industry is another large employer. Much of the insurance industry is involved in designing and selling insurance policies on people's lives and property, but businesses are also major customers. So, if you work for an insurance company or a large insurance broker, you could find yourself arranging insurance on a Boeing 787 in the United States or an oil rig in Indonesia.

Life insurance companies are major lenders to corporations and to investors in commercial real estate. (Life insurance companies deploy the insurance premiums received from policyholders into medium- or long-term loans; banks specialize in shorter-term financing.) So you could end up negotiating a \$50 million loan for construction of a new shopping center or investigating the creditworthiness of a family-owned manufacturing company that has applied for a loan to expand production.

Then there is the business of "managing money," that is, deciding which companies' shares to invest in or how to balance investment in shares with safer securities, such as the bonds (debt securities) issued by the U.S. Treasury. Take mutual funds, for example. A mutual fund collects money from individuals and invests in a portfolio of

¹⁴ The careers are fictitious but based on the actual experiences of several of the authors' students.

Susan Webb, Research Analyst, Mutual Fund Group

After majoring in biochemistry, I joined the research department of a large mutual fund group. Because of my background, I was assigned to work with the senior pharmaceutical analyst. I start the day by reading *The Wall Street Journal* and reviewing the analyses that come in each day from stockbroking firms. Sometimes we need to revise our earnings forecasts and meet with the portfolio managers to discuss possible trades. The remainder of my day is spent mainly in analyzing companies and developing forecasts of revenues and earnings. I meet frequently with pharmaceutical managers in stockbroking firms, and we regularly visit company management. In the evenings I study for the Chartered Financial Analyst (CFA) exam. I did not study finance at college, so this is quite challenging. I hope eventually to move from a research role to become a portfolio manager.

Richard Gradley, Project Finance, Large Energy Company

After leaving college, I joined the finance department of a large energy company. I spent my first year helping to analyze capital investment proposals. I then moved to the project finance group, which is responsible for analyzing independent power projects around the world. Recently, I have been involved in a proposal to set up a company that would build and operate a large new electricity plant in southeast Asia. We built a spreadsheet model of the project to make sure that it was viable. We had to check that the contracts with the builders, operators, suppliers, and so on, were all in place before we could arrange bank financing for the project.

Albert Rodriguez, European Markets Group, Major New York Bank

I joined the bank after majoring in finance. I spent the first 6 months in the bank's training program, rotating among departments. I was assigned to the European markets team just before the 2010 Greek crisis, when worries about a possible default caused interest rates on Greek government debt to jump to more than 4% above the rate on comparable German government debt. Those rates soon went much higher! There was a lot of activity, with everyone trying to figure out whether Greece might be forced to abandon the euro and how this would affect our business. My job is largely concerned with analyzing economies and assessing the prospects for bank business. There are plenty of opportunities to work abroad, and I hope to spend some time in Madrid or one of our other European offices.

Sherry Solera, Branch Manager, Regional Bank

I took basic finance courses in college, but nothing specific for banking. I started here as a teller. I was able to learn about banking through the bank's training program and also by evening courses at a local college. Last year I was promoted to branch manager. I oversee the branch's operations and help customers with a wide variety of problems. I'm also spending more time on credit analysis of business loan applications. I want to expand the branch's business customers, but not by making loans to shaky companies.

stocks or bonds. A financial analyst in a mutual fund analyzes the prospects for the securities and works with the investment manager to decide which should be bought and sold. Many other financial institutions also contain investment management departments. For example, you might work as a financial analyst in the investment department of an insurance company. (Insurance companies also invest in traded securities.) Or you could be a financial analyst in the trust department of a bank that manages money for retirement funds, universities, and charities.

Stockbroking firms help investment management companies and private individuals to invest in securities. They employ sales staff and dealers who make the trades. They also employ financial analysts to analyze the securities and help customers to decide which to buy or sell.

Investment banks and stockbroking firms are largely headquartered in New York, as are many of the large commercial banks. Insurance companies and investment management companies tend to be more scattered. For example, some of the largest insurance companies are headquartered in Hartford, Connecticut, and many investment management companies are located in Boston. Of course, some U.S. financial institutions have large businesses outside the United States. Finance is a global business. So you may spend some time working in a branch overseas or making the occasional trip to one of the other major financial centers, such as London, Tokyo, Hong Kong, or Singapore.

1.8 Preview of Coming Attractions

This book covers investment decisions, then financing decisions, and finally a variety of planning issues that require an understanding of both investment and financing. But first there are three further introductory chapters that should be helpful to readers who

are making a first acquaintance with financial management. Chapter 2 is an overview of financial markets and institutions. Chapter 3 reviews the basic concepts of accounting, and Chapter 4 demonstrates the techniques of financial statement analysis.

We have said that the financial manager's task is to make investment and financing decisions that add value for the firm's shareholders. But that statement opens up a treasure chest of follow-up questions that will occupy us from Chapter 4 onward:

- *How do I calculate the value of a stream of future cash flows?* A dollar that you receive today is worth more than the promise of a dollar in 10 or 20 years' time. So, when measuring the effect of a new project on firm value, the financial manager needs to recognize the *timing* of the cash flows. In Chapters 5 through 10, we show how to calculate the present value of an investment that produces a stream of future cash flows. We begin by calculating the present value of bonds and stocks and then look at how to value the cash flows resulting from capital investment projects. Present value is a workhorse concept of corporate finance that shows up in almost every chapter.
- *How do I measure risk?* In Chapters 5 through 10, we largely ignore the issue of risk. But risky cash flows are less valuable than safe ones. In Chapters 11, 12, and 13, we look at how to measure risk and how it affects present values.
- *Where does financing come from?* Broadly speaking, it comes from borrowing or from cash invested or reinvested by stockholders. But financing can get complicated when you get down to specifics. Chapter 14 gives an overview of the sources of finance. Chapters 15, 16, and 17 then look at how companies sell their securities to investors, the choice between debt and equity, and the decision to pay out cash to stockholders.
- *How do I ensure that the firm's financial decisions add up to a sensible whole?* There are two parts to this question. The first is concerned with making sure that the firm can finance its future growth strategy. This is the role of long-term planning. The second is concerned with ensuring that the firm has a sensible plan for managing and financing its short-term assets such as cash, inventories, and money due from customers. We cover long- and short-term planning in Chapters 18, 19, and 20.
- *What about some of those other responsibilities of the financial manager that you mentioned earlier?* Not all of the financial manager's responsibilities can be classified simply as an investment decision or a financing decision. In Chapters 21 through 24, we review four such topics. First we look at mergers and acquisitions. Then we consider international financial management. All the financial problems of doing business at home are present overseas, but the international financial manager faces the additional complications created by multiple currencies, different tax systems, and special regulations imposed by foreign institutions and governments. Finally, we look at risk management and the specialized securities, including futures and options, which managers can use to hedge or lay off risks.

That's enough material to start, but as you reflect on this chapter, you can see certain themes emerging that you will encounter again and again throughout this book:

1. Corporate finance is about adding value.
2. The opportunity cost of capital sets the standard for investments.
3. A safe dollar is worth more than a risky one.
4. Smart investment decisions create more value than smart financing decisions.
5. Good governance matters.

1.9 Snippets of Financial History

Now let's lighten up a little. In this book we are going to describe how financial decisions are made today. But financial markets also have an interesting history. Look at the nearby box, which lays out bits of this history, starting in prehistoric times, when the growth of bacteria anticipated the mathematics of compound interest, and continuing nearly to the present. We have keyed each of these episodes to the chapter of the book that discusses its topic.

Date unknown Compound Growth Bacteria start to propagate by subdividing. They thereby demonstrate the power of compound growth. (Chapter 5)

c. 1800 B.C. Interest Rates In Babylon, Hammurabi's Code established maximum interest rates on loans. Borrowers often mortgaged their property and sometimes their spouses, but lenders were obliged to return spouses in good condition within 3 years. (Chapter 6)

c. 1000 B.C. Options One of the earliest recorded options is described by Aristotle. The philosopher Thales knew by the stars that there would be a great olive harvest, so, having a little money, he bought options for the use of olive presses. When the harvest came, Thales was able to rent the presses at great profit. Today financial managers need to be able to evaluate options to buy or sell a wide variety of assets. (Chapter 23)

15th century International Banking Modern international banking had its origins in the great Florentine banking houses. But the entire European network of the Medici empire employed only 57 people in eight offices. Today the London-based bank HSBC has around 260,000 employees in 71 different countries. (Chapter 14)

1650 Futures Futures markets allow companies to protect themselves against fluctuations in commodity prices. During the Tokugawa era in Japan, feudal lords collected rents in the form of rice, but often they wished to trade their future rice deliveries. Rice futures therefore came to be traded on what was later known as the Dojima Rice Market. Rice futures are still traded, but now companies can also trade in futures on a range of items from pork bellies to stock market indexes. (Chapter 24)

17th century Joint Stock Corporations Although investors have for a long time combined together as joint owners of an enterprise, the modern corporation with a large number of stockholders originated with the formation in England of trading firms like the East India Company (est. 1599). (Chapter 15)

17th century Money America has been in the forefront in the development of new types of money. Early settlers often used a shell known as wampum. For example, Peter Stuyvesant raised a loan in wampum, and in Massachusetts it was legal tender. Unfortunately, the enterprising settlers found that with a little dye the relatively common white wampum shells could be converted profitably into the more valuable black ones, which confirmed Gresham's law that bad money drives out good. The first issue of paper money in America was by the Massachusetts Bay Colony in 1690, and other colonies soon set their printing presses to producing money. In 1862 Congress agreed to an issue of paper money that would be legal tender. These notes, printed in green ink, immediately became known as "greenbacks." (Chapters 19, 20)

1720 New-Issue Speculation From time to time investors have been tempted by speculative new issues. During the South Sea Bubble in England, one company was launched to develop perpetual motion. Another enterprising individual announced a company "for carrying on an

undertaking of great advantage but nobody to know what it is." Within 5 hours he had raised £2,000; within 6 hours he was on his way out of the country. Readers nearly two centuries later could only wonder at the naïve or foolhardy investors in these ventures—that is, until they had a chance to participate in the follies unearthed by the financial crisis of 2008–2009. (Chapter 2)

1792 Formation of the New York Stock Exchange The New York Stock Exchange (NYSE) was founded in 1792 when a group of brokers met under a buttonwood tree* and arranged to trade shares with one another at agreed rates of commission. Today the NYSE is the largest stock exchange in the world, trading on average about 1.5 billion shares a day. (Chapter 7)

1929 Stock Market Crashes Common stocks are risky investments. In September 1929 stock prices in the United States reached an all-time high, and the economist Irving Fisher forecast that they were at "a permanently high plateau." Some 3 years later, stock prices were almost 90% lower, and it was to be a quarter of a century before the prices of September 1929 were seen again. Eighty years later, history came close to repeating itself. After stock prices peaked in July 2007, they slumped over the next 20 months by 54%. (Chapter 11)

1960s Eurodollar Market In the 1950s the Soviet Union transferred its dollar holdings from the United States to a Russian-owned bank in Paris. This bank was best known by its telex address, eurobank, and consequently dollars held outside the United States came to be known as eurodollars. In the 1960s, U.S. taxes and regulation made it much cheaper to borrow and lend dollars in Europe than in the United States, and a huge market in eurodollars arose. (Chapter 14)

1971 Corporate Bankruptcies Every generation of investors is shocked and surprised by a major corporate bankruptcy. In 1971 the Penn Central Railroad, a pillar of American industry, suddenly collapsed. At that time, it was the largest corporate bankruptcy in history. In 2008, the investment bank Lehman Brothers smashed Penn Central's record. (Chapter 16)

1972 Financial Futures Financial futures allow companies to protect themselves against fluctuations in interest rates, exchange rates, and so on. It is said that they originated from a remark by the economist Milton Friedman that he was unable to profit from his view that sterling (the U.K. currency) was overpriced. The Chicago Mercantile Exchange founded the first financial futures market. Today futures exchanges trade 6 billion contracts a year of financial futures. (Chapter 24)

1986 Capital Investment Decisions The largest investment project undertaken by a single private company was the construction of the tunnel under the English Channel. This started in 1986 and was completed in 1994 at a total cost of \$15 billion. The cost of the Gorgon natural gas project in Australia is estimated at \$54 billion. (Chapters 8, 9)

1988 Mergers The 1980s saw a wave of takeovers culminating in the \$25 billion takeover of RJR Nabisco. Over a

period of 6 weeks, three groups battled for control of the company. As one of the contestants put it, "We were charging through the rice paddies, not stopping for anything and taking no prisoners." The takeover was the largest in history and generated almost \$1 billion in fees for the banks and advisers. (Chapter 21)

1993 Inflation Financial managers need to recognize the effect of inflation on interest rates and on the profitability of the firm's investments. In the United States inflation has been relatively modest, but some countries have suffered from hyperinflation. In Hungary after World War II, the government issued banknotes worth 1,000 trillion pengoes. In Yugoslavia in October 1993, prices rose by nearly 2,000% and a dollar bought 105 million dinars. The inflation rate in Venezuela in late 2015 was about 180%. (Chapter 5)

1780 and 1997 Inflation-Indexed Debt In 1780, Massachusetts paid Revolutionary War soldiers with interest-bearing notes rather than its rapidly eroding currency. Interest and principal payments on the notes were tied to the subsequent rate of inflation. After a 217-year hiatus, the U.S. Treasury issued inflation-indexed notes called TIPS (Treasury Inflation Protected Securities). Many other countries, including Britain and Israel, had done so previously. (Chapter 6)

1993 Controlling Risk When a company fails to keep close tabs on the risks being taken by its employees, it can get into serious trouble. This was the fate of Barings, a 220-year-old British bank that numbered the queen among its clients. In 1993 it discovered that Nick Leeson, a trader in its Singapore office, had hidden losses of \$1.3 billion (£869 million) from unauthorized bets on the Japanese equity market. The losses wiped out Barings and landed Leeson in jail, with a 6-year sentence. In 2008 a rogue trader at Morgan Stanley established a new record by losing \$9 billion on unauthorized deals. (Chapter 24)

1999 The Euro Large corporations do business in many currencies. In 1999 a new currency came into existence when 11 European countries adopted the euro in place of their separate currencies. They have since been joined by

eight other countries. This is not the first time that different countries have agreed on a common currency. In 1865 France, Belgium, Switzerland, and Italy came together in the Latin Monetary Union, and they were joined by Greece and Romania the following year. Members of the European Monetary Union (EMU) hope that the euro will be a longer-lasting success than this earlier experiment. As we write this in early 2016, the euro appears to have weathered the worst of the crisis caused by the Greek government's debt default. (Chapter 23)

2002 Financial Scandals A seemingly endless series of financial and accounting scandals climaxed in this year. Resulting bankruptcies included the icons Enron (and its accounting firm, Arthur Andersen), WorldCom, and the Italian food company Parmalat. Congress passed the Sarbanes-Oxley Act to increase the accountability of corporations and executives. (Chapters 1, 14)

2007–2009 Subprime Mortgages Subprime mortgages are housing loans made to homeowners with shaky credit standing. After a decade in which housing prices had consistently gone up, lenders became complacent about the risks of these home loans and progressively loosened lending standards. When housing prices stalled and interest rates increased in 2007, many of these loans went bad. Some large banks such as Lehman Brothers went to the wall, while others such as Wachovia and Merrill Lynch were rescued with the aid of government money. (Chapters 2, 14)

2011 Defaults on Sovereign Debt By 2010 the Greek government had amassed a huge \$460 billion of debt. Other eurozone governments and the International Monetary Fund (IMF) rushed to Greece's aid, but their assistance was insufficient, and in 2011 the Greek government defaulted on \$100 billion of debt. It was the largest-ever sovereign default. Investors nervously eyed other highly indebted eurozone countries. (Chapter 2)

* The American sycamore, *Planatus occidentalis*.

SUMMARY

What are the two major decisions made by financial managers? (LO1-1)

Financial management can be broken down into (1) the investment or **capital budgeting decision** and (2) the **financing decision**. The firm has to decide (1) which real assets to invest in and (2) how to raise the funds necessary to pay for those investments.

What does "real asset" mean? (LO1-2)

Real assets include all assets used in the production or sale of the firms' products or services. They can be tangible (plant and equipment, for example) or intangible (patents or trademarks, for example). In contrast, **financial assets** (such as stocks or bonds) are claims on the income generated by real assets.

What are the advantages and disadvantages of forming a corporation? (LO1-3)

Corporations are distinct, permanent legal entities. They allow for separation of ownership and control, and they can continue operating without disruption even as management or ownership changes. They provide **limited liability** to their owners. On the other hand

Who are the principal financial managers in a corporation? (LO1-4)

Why does it make sense for corporations to maximize shareholder wealth? (LO1-5)

What is the fundamental trade-off in investment decisions? (LO1-5)

How do corporations ensure that managers act in the interest of stockholders? (LO1-6)

Is value maximization ethical? (LO1-7)

managing the corporation's legal machinery is costly. Also, corporations are subject to double taxation, because they pay taxes on their profits and the shareholders are taxed again when they receive dividends or sell their shares at a profit.

Almost all managers are involved to some degree in investment decisions, but some managers specialize in finance, for example, the treasurer, controller, and CFO. The **treasurer** is most directly responsible for raising capital and maintaining relationships with banks and investors that hold the firm's securities. The **controller** is responsible for preparing financial statements and managing budgets. In large firms, a **chief financial officer** oversees both the treasurer and the controller and is involved in financial policymaking and corporate planning.

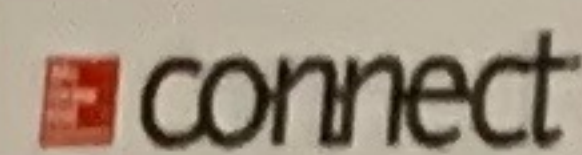
Value maximization is the natural financial goal of the firm. Shareholders can invest or consume the increased wealth as they wish, provided that they have access to well-functioning financial markets.

Companies either can invest in real assets or can return the cash to shareholders, who can invest it for themselves. The return that shareholders can earn for themselves is called the **opportunity cost of capital**. Companies create value for shareholders whenever they can earn a higher return on their investments than the opportunity cost of capital.

Conflicts of interest between managers and stockholders can lead to **agency problems** and **agency costs**. Agency problems are kept in check by financial controls, by well-designed compensation packages for managers, and by effective corporate governance.

Shareholders do not want the maximum possible stock price; they want the maximum honest price. But there need be no conflict between value maximization and ethical behavior. The surest route to maximum value starts with products and services that satisfy customers. A good reputation with customers, employees, and other stakeholders is important for the firm's long-run profitability and value.

QUESTIONS AND PROBLEMS



- Vocabulary Check.** Choose the term within the parentheses that best matches each of the following descriptions. (LO1-1-LO1-7)
 - Expenditure on research and development (*financing decision / investment decision*)
 - A bank loan (*real asset / financial asset*)
 - Listed on a stock exchange (*closely held corporation / public corporation*)
 - Has limited liability (*partnership / corporation*)
 - Responsible for bank relationships (*the treasurer / the controller*)
 - Agency cost (*the cost resulting from conflicts of interest between managers and shareholders / the amount charged by a company's agents such as the auditors and lawyers*)
- Financial Decisions.** Which of the following are investment decisions, and which are financing decisions? (LO1-1)
 - Should we stock up with inventory ahead of the holiday season?
 - Do we need a bank loan to help buy the inventory?
 - Should we develop a new software package to manage our inventory?
 - With a new automated inventory management system, it may be possible to sell off our Birdlip warehouse.
 - With the savings we make from our new inventory system, it may be possible to increase our dividend.
 - Alternatively, we can use the savings to repay some of our long-term debt.
- Financial Decisions.** What is the difference between capital budgeting decisions and capital structure decisions? (LO1-1)

- Real versus Financial Assets.** Which of the following are real assets, and which are financial? (LO1-2)
 - A share of stock
 - A personal IOU
 - A trademark
 - A truck
 - Undeveloped land
 - The balance in the firm's checking account
 - An experienced and hardworking sales force
 - A bank loan agreement
- Real and Financial Assets.** Read the following passage and fit each of the following terms into the most appropriate space: *financing, real, bonds, investment, executive airplanes, financial, capital budgeting, brand names*. (LO1-2)

Companies usually buy _____ assets. These include both tangible assets such as _____ and intangible assets such as _____. To pay for these assets, they sell _____ assets such as _____. The decision about which assets to buy is usually termed the _____ or _____ decision. The decision about how to raise the money is usually termed the _____ decision.
- Corporations.** Choose in each case the type of company that best fits the description. (LO1-3)
 - The business is owned by a small group of investors. (*private corporation / public corporation*)
 - The business does not pay income tax. (*private corporation / partnership*)
 - The business has limited liability. (*sole proprietorship / public corporation*)
 - The business is owned by its shareholders. (*partnership / public corporation*)
- Corporations.** What do we mean when we say that corporate income is subject to *double taxation*? (LO1-3)
- Corporations.** Which of the following statements always apply to corporations? (LO1-3)
 - Unlimited liability
 - Limited life
 - Ownership can be transferred without affecting operations
 - Managers can be fired with no effect on ownership
- Corporations.** What is limited liability, and who benefits from it? (LO1-3)
- Corporations.** Which of the following are correct descriptions of large corporations? (LO1-3)
 - Managers no longer have the incentive to act in their own interests.
 - The corporation survives even if managers are dismissed.
 - Shareholders can sell their holdings without disrupting the business.
 - Corporations, unlike sole proprietorships, do not pay tax; instead, shareholders are taxed on any dividends they receive.
- Corporations.** Is limited liability always an advantage for a corporation and its shareholders? (*Hint: Could limited liability reduce a corporation's access to financing?*) (LO1-3)
- Financial Managers.** Which of the following statements more accurately describes the treasurer than the controller? (LO1-4)
 - Monitors capital expenditures to make sure that they are not misappropriated
 - Responsible for investing the firm's spare cash
 - Responsible for arranging any issue of common stock
 - Responsible for the company's tax affairs
- Financial Managers.** Explain the differences between the CFO's responsibilities and the treasurer's and controller's responsibilities. (LO1-4)
- Goals of the Firm.** Give an example of an action that might increase short-run profits but at the same time reduce stock price and the market value of the firm. (LO1-5)
- Cost of Capital.** Why do financial managers refer to the *opportunity cost* of capital? How would you find the opportunity cost of capital for a safe investment? (LO1-5)
- Goals of the Firm.** You may have heard big business criticized for focusing on short-term performance at the expense of long-term results. Explain why a firm that strives to maximize

- stock price should be less subject to an overemphasis on short-term results than one that simply maximizes profits. (LO1-5)
17. **Goals of the Firm.** Fritz is risk-averse and is content with a relatively low but safe return on his investments. Frieda is risk-tolerant and seeks a very high rate of return on her invested savings. Yet both shareholders will applaud a high-risk capital investment if it offers a superior rate of return. Why? What is meant by "superior"? (LO1-5)
18. **Goals of the Firm.** We claim that the goal of the firm is to maximize current market value. Could the following actions be consistent with that goal? (LO1-5)
- The firm adds a cost-of-living adjustment to the pensions of its retired employees.
 - The firm reduces its dividend payment, choosing to reinvest more earnings in the business.
 - The firm buys a corporate jet for its executives.
 - The firm drills for oil in a remote jungle. The chance of finding oil is only 1 in 5.
19. **Goals of the Firm.** Fill in the blanks in the following passage by choosing the most appropriate term from the following list (some of the terms may be used more than once or not used at all): expected return, financial assets, lower, market value, higher, opportunity cost of capital, real assets, dividend, shareholders. (LO1-5)
- Shareholders want managers to maximize the _____ of their investments. The firm faces a trade-off. Either it can invest its cash in _____ or it can give the cash back to _____ in the form of a(n) _____ and they can invest it in _____. Shareholders want the company to invest in _____ only if the _____ is _____ than they could earn for themselves in equivalent risk investments. The return that shareholders could earn for themselves is therefore the _____ for the firm.
20. **Goals of the Firm.** Explain why each of the following may not be appropriate corporate goals. (LO1-5)
- Increase market share
 - Minimize costs
 - Underprice any competitors
 - Expand profits
21. **Goals of the Firm.** We can imagine the financial manager doing several things on behalf of the firm's stockholders. For example, the manager might do the following:
- Make shareholders as wealthy as possible by investing in real assets.
 - Modify the firm's investment plan to help shareholders achieve a particular time pattern of consumption.
 - Choose high- or low-risk assets to match shareholders' risk preferences.
 - Help balance shareholders' checkbooks.
- However, in well-functioning capital markets, shareholders will vote for only one of these goals. Which one will they choose? (LO1-5)
22. **Cost of Capital.** British Quince comes across an average-risk investment project that offers a rate of return of 9.5%. This is less than the company's normal rate of return, but one of Quince's directors notes that the company can easily borrow the required investment at 7%. "It's simple," he says. "If the bank lends us money at 7%, then our cost of capital must be 7%. The project's return is higher than the cost of capital, so let's move ahead." How would you respond? (LO1-5)
23. **Cost of Capital.** In a stroke of good luck, your company has uncovered an opportunity to invest for 10 years at a guaranteed 6% rate of return. How would you determine the opportunity cost of capital for this investment? (LO1-5)
24. **Cost of Capital.** Pollution Busters Inc. is considering a purchase of 10 additional carbon sequestrators for \$100,000 apiece. The sequestrators last for only 1 year before becoming saturated. Then the carbon is sold to the government. (LO1-5)
- Suppose the government guarantees the price of carbon. At this price, the payoff after 1 year is \$115,000 for sure. How would you determine the opportunity cost of capital for this investment?
 - Suppose instead that the sequestered carbon has to be sold on the London Carbon Exchange. Carbon prices have been extremely volatile, but Pollution Busters' CFO learns that average rates of return from investments on that exchange have been about 20%. She thinks this is a

- reasonable forecast for the future. What is the opportunity cost of capital in this case? Is the purchase of additional sequestrators a worthwhile capital investment?
25. **Goals of the Firm.** It is sometimes suggested that instead of seeking to maximize shareholder value and, in the process, pursuing profit, the firm should seek to maximize the welfare of all its stakeholders, such as its employees, its customers, and the community in which it operates. How far would this objective conflict with one of maximizing shareholder value? Do you think such an objective is feasible or desirable? (LO1-5)
26. **Agency Issues.** Many firms have devised defenses that make it much more costly or difficult for other firms to take them over. How might such takeover defenses affect the firm's agency problems? Are managers of firms with formidable takeover defenses more or less likely to act in the firm's interest rather than their own? (LO1-6)
27. **Agency Issues.** Sometimes lawyers work on a contingency basis. They collect a percentage of their clients' settlements instead of receiving fixed fees. Why might clients prefer this arrangement? Would the arrangement mitigate an agency problem? Explain. (LO1-6)
28. **Agency Issues.** One of the "Finance through the Ages" episodes that we cited is the 1993 collapse of Barings Bank, when one of its traders lost \$1.3 billion. Traders are compensated in large part according to their trading profits. How might this practice have contributed to an agency problem? (LO1-6)
29. **Agency Issues.** When a company's stock is widely held, it may not pay an individual shareholder to spend time monitoring managers' performance and trying to replace poor performers. Explain why. Do you think that a bank that has made a large loan to the company is in a different position? (LO1-6)
30. **Agency Issues.** Company A pays its managers a fixed salary. Company B ties compensation to the performance of the stock. Which company's compensation package would most effectively mitigate conflicts of interest between managers and shareholders? (LO1-6)
31. **Corporate Governance.** How do clear and comprehensive financial reports promote effective corporate governance? (LO1-6)
32. **Corporate Governance.** Some commentators have claimed that the U.S. system of corporate governance is "broken" and needs thorough reform. What do you think? Do you see systematic failures in corporate governance or just a few "bad apples"? (LO1-6)
33. **Agency Issues.** Which of the following forms of compensation is most likely to align the interests of managers and shareholders? (LO1-6)
- A fixed salary
 - A salary linked to company profits
 - A salary that is paid partly in the form of the company's shares
34. **Agency Costs.** What are agency costs? List some ways by which agency costs are mitigated. (LO1-6)
35. **Reputation.** As you drive down a deserted highway, you are overcome with a sudden desire for a hamburger. Fortunately, just ahead are two hamburger outlets; one is owned by a national brand, and the other appears to be owned by "Joe." Which outlet has the greater incentive to serve you cat meat? Why? (LO1-7)
36. **Ethics.** In some countries, such as Japan and Germany, corporations develop close long-term relationships with one bank and rely on that bank for a large part of their financing needs. In the United States, companies are more likely to shop around for the best deal. Do you think that this practice is more or less likely to encourage ethical behavior on the part of the corporation? (LO1-7)
37. **Ethics.** Is there a conflict between "doing well" and "doing good"? In other words, are policies that increase the value of the firm (doing well) necessarily at odds with socially responsible policies (doing good)? When there are conflicts, how might government regulations or laws tilt the firm toward doing good? For example, how do taxes or fees charged on pollutants affect the firm's decision to pollute? Can you cite other examples of "incentives" used by governments to align private interests with public ones? (LO1-7)
38. **Ethics.** Look at some of the practices described in the Finance in Practice box on ethic disputes in finance. What, if any, do you believe are the ethical issues involved? (LO1-7)

SOLUTIONS TO SELF-TEST QUESTIONS

- 1.1
 - a. The development of a microprocessor is a capital budgeting decision. The investment of \$1 billion will purchase a real asset, the microprocessor design and production facilities.
 - b. The bank loan is a financing decision. This is how BMW will raise money for its investment.
 - c. Capital budgeting.
 - d. Capital budgeting. The marketing campaign should generate a real, though intangible, asset.
 - e. Both. The acquisition is an investment decision. The decision to issue shares is a financing decision.
- 1.2
 - a. A real asset. Real assets can be intangible assets.
 - b. Financial.
 - c. Real.
 - d. Financial.
 - e. Real.
 - f. Financial.
- 1.3 Fritz would more likely be the treasurer and Frieda the controller. The treasurer raises money from the financial markets and requires a background in financial institutions. The controller requires a background in accounting.
- 1.4 There is no reason for the Hotspurs to avoid high-dividend stocks, even if they wish to invest for tuition bills in the distant future. Their concern should be only with the risk and expected return of the shares. If a particular stock pays a generous cash dividend, they always have the option of reinvesting the dividend in that stock or, for that matter, in other securities. The dividend payout does not affect their ability to redirect current investment income to their future needs as they plan for their anticipated tuition bills.
- 1.5 Because investors can reasonably expect a 15% return in other investments in palladium, the firm should take this as the opportunity cost of capital for its proposed investment. Although the project is expected to show an accounting profit, its expected return is only 12%. Therefore, the firm should reject the project: Its expected return is less than the 15% expected return offered by equivalent-risk investments.
- 1.6 Agency problems arise when managers and shareholders have different objectives. Managers may empire-build with excessive investment and growth. Managers may be unduly risk-averse, or they may try to take excessive salaries or perquisites.
- 1.7 Harry's has a far bigger stake in the reputation of its business than Victor's. The store has been in business for a long time. The owners have spent years establishing customer loyalty. In contrast, Victor's has just been established. The owner has little of his own money tied up in the firm, and so has little to lose if the business fails. In addition, the nature of the business results in little customer loyalty. Harry's is probably more reliable.