Chapter 2

The Firm and Its Goals

Learning Objectives

Upon completion of this chapter, readers should be able to:

- Understand the reasons for the existence of firms and the meaning of transaction costs.
- Explain the economic goals of the firm and optimal decision making.
- Describe the meaning of the "principal-agent" problem.
- Distinguish between "profit maximization" and the "maximization of the wealth of shareholders."
- Demonstrate the usefulness of Market Value Added® and Economic Value Added.®

The Situation

Bob Burns looked over the last few numbers provided to him in the consultant's report on the bottled water industry, closed the binder and turned to Nicole Goodman, Global Foods' vice president of marketing. "Looking back, our decision to get into the soft drink industry was a good one, but we need to get into new products and market segments in order to support our growth strategy. Our growth in bottled water has slowed because competition continues to be tough and because consumers are starting to resist paying for high priced alternatives to tap water."

"I just happened to be reading a report from the people from *Food Science and Safety* about the growing popularity of energy drinks. They say it is a fast growing product in a key market segment: 18- to 34-year-olds. Why don't we go into this market?"[1]

"I hate to say this, Bob, but it may be a case of 'too little, too late,'" said Nicole. "Established brands such as Red Bull have been around for a long time and dominate this market space. Red Bull is particularly popular in Asia, which as you know is a rapidly growing region for our soft drink products."

"I'm not prepared to give up so easily, Nicole. The fact that energy drinks are popular in growth markets in Asia is all the more reason for us to consider getting into this business. And I really like the fact that this product is so popular among young people. We have good distribution channels, bottling know-how, and marketing savvy. This business is close to our core competency and it is still growing. We have told analysts that we expect double-digit growth of our top line as well as our bottom line. At our upcoming shareholder meeting, our shareholders and the analysts will be expecting to hear our plans for further business expansion. In the past, we did it with the help of soft drinks and bottled water. Now it is time to grow our entire beverage division with the help of energy drinks."

[1] M. A. Heckman, et al., "Energy Drinks: An Assessment of the Market Size, Consumer Demographics, Ingredients Profile, Functionality, and Regulation in the United States," *Food Science and Food Safety*, Volume 9, 2010.

INTRODUCTION

Chapter 1 explains that managerial economics deals primarily with the problem of deciding how best to allocate a firm's scarce resources among competing uses. The best or optimal decision is the one that enables the firm to meet its desired objectives most closely. This chapter elaborates on the process of making decisions under conditions of scarcity by discussing the goals of a firm and the economic significance of the optimal decision. An online appendix explains the role of marginal analysis in economic decision making. This appendix also presents a review of the mathematics used in this text to illustrate key economic concepts and methods of analysis.

The major portion of this chapter is devoted to a discussion of the goals of the firm. However, to carry on this discussion sensibly, we must first define and explain *the firm.*

THE FIRM

The traditional (neoclassical) theory of economics defined the **firm** as a collection of resources that is transformed into products demanded by consumers. The costs at which the firm produces are governed by the available technology, and the amount it produces and the prices at which it sells are influenced by the structure of the markets in which it operates. The difference between the revenue it receives and the costs it incurs is *profit.* It is the aim of the firm to maximize its profit.

The preceding theory assumes the existence of the firm. But this leaves the reason for its existence unanswered. Why does a firm perform certain functions internally and others through the market? It appears that the size of the firm is not determined strictly by technological considerations. Then why are some firms small and others large?

Answers to the preceding questions began to appear in 1937 when Ronald Coase postulated that a company compares costs of organizing an activity internally with the cost of using the market system for its transactions.[2]

If there were no costs of dealing with the outside market, a firm would be organized so all its transactions would be with the outside. However, it is incorrect to assume the marketplace does not involve any costs. In dealing through the market, the firm incurs **transaction costs**.

Transaction costs are incurred when a company enters into a contract with other entities. These costs include the original investigation to find the outside firm, followed by the cost of negotiating a contract, and later, enforcing the contract and coordinating transactions. Transaction costs are influenced by uncertainty, frequency of recurrence, and asset specificity.[3]

Uncertainty, the inability to know the future perfectly, increases transaction costs because it is not possible to include all contingencies in a contract, particularly a long-term contract. Frequent transactions also tend to make it necessary for explicit contracts to exist.

But probably the most important of these characteristics is asset specificity. If a buyer contracts for a specialized product with just one seller, and furthermore, if the product necessitates the use of some specialized machinery, the two parties become tied to one another. In this case, future changes in market conditions (or in production technology) may lead to **opportunistic behavior**, where one of the parties seeks to take advantage of the other. In such cases, transaction costs will be very high.

[2]The seminal work in this area was by Ronald H. Coase in "The Nature of the Firm," *Economica,* 4 (1937), pp. 386–405, reprinted in R. H. Coase, *The Firm, the Market and the Law,* Chicago: University of Chicago Press, 1988, pp. 33–55. Coase was awarded the Nobel Prize in Economics in 1991.
[3]Much of this discussion is based on Oliver E. Williamson, "Transaction-Cost Economics: The Governance of Contractual Relations," *Journal of Law and Economics,* 22 (October 1979), pp. 233–61.

When transaction costs are high, a company may choose to provide the service or product itself. However, carrying out operations internally creates its own costs. A major cost is that, in hiring workers to do the work within the firm, the firm incurs monitoring and supervision costs to ensure the work is done efficiently. Quite possibly, employees who work for a fixed wage or salary may have less incentive to work efficiently than an outside contractor.

Employers will try to decrease monitoring costs by using incentives to increase employees' output. Among such incentives are bonuses, benefits, and perquisites ("perks"). Another popular incentive is to provide workers with the possibility of stock ownership, using stock options and employee stock plans. Stock ownership is also used to attract new employees. Such employees will, of course, benefit when the company is profitable and its stock increases in value. However, incentives come with a price tag.

The trade-off between external transaction costs and the cost of internal operations can be shown on the simple graph in Figure 2.1. When a company operates at the vertical axis, all its operations are conducted with the outside. As we move to the right on this graph, the firm substitutes internal for external operations. The cost of external transactions decreases, while the cost of internal operations increases. The total cost is the vertical summation of the two costs, and it decreases at first as the company finds that internalizing some operations is efficient. However, as more of the operations are internalized, some efficiency is lost, and the total cost begins to rise again. The company will choose to allocate its resources between external transactions and internal operations so the total cost is at a minimum, which in this case will occur about midway between the two extremes.

If transaction costs for a specific product or service are higher than the costs of carrying on the activity internally, then a company benefits from performing this particular task in-house. An independent firm may not find it profitable to produce a product if only a few customers demand it. However, as markets expand, the demand for a product or service, which may have been limited in the past, now expands. This will permit new firms to specialize in activities that previously had to be performed by the firm that needed this task to be performed. Thus new companies and industries come into existence. This is true not only in the case of products, but also for services that at one time were performed by the firm itself and are now produced by

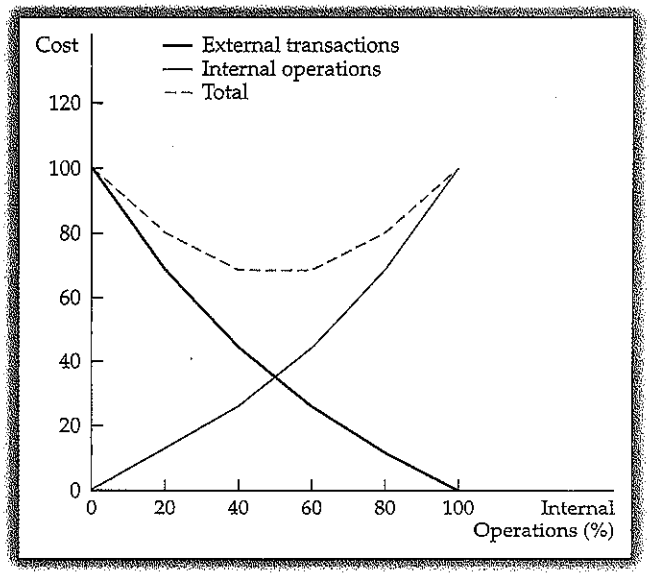

Figure 2.1
Trade-off Between Transaction Costs and Internal Operating Costs

independent firms—for example, cleaning services, security services, and cafeterias are often now run by specialized firms. Another example would be the college bookstore that is operated by one of the large companies in the book industry. This idea is actually rather old. It really started with Adam Smith, who stated that "the division of labor is limited by the extent of the market." George Stigler discussed this point in a 1951 article, and concluded that as industries expand, companies that previously had produced everything internally will tend to experience "vertical disintegration."[4] What has happened, of course, is that transaction costs have decreased and that the possibility of "opportunistic behavior" has also diminished.

Although the outsourcing of peripheral, noncore activities has been around for a long time, the outsourcing of a business's core activities is a somewhat more recent activity. In the past we have seen the outsourcing of private-label or house-brand merchandise. However, now the outsourcing of highly technical products and services is widespread. But outsourcing cannot only occur within a given country. When production of goods and services is transferred to another country, we call it offshoring. Transferring production of manufactured goods to foreign countries has been going on for a long time. Now, because of great advances in information technology and communication, offshoring of technical services, including call centers, accounting, human resources and legal services, and even engineering and research, have become quite common. The question of the benefits of offshoring has been a very controversial topic among economists and it has also become a political issue.

By transferring various services from developed economies to developing countries where costs are lower, developed economies become more competitive, which tends to increase their gross domestic product (GDP). Further, developing countries gain employment and production and this tends to increase their GDP.

However, there are some disadvantages for the developed economies: for example, a potential loss of jobs, and also the question of the quality of products and services as well as the decreased amount of control that the originating countries incur. In addition, the offshoring of technical work and knowledge may erode the developed countries' competitive advantage.

While we read about offshoring in the press almost every day, there are some small signs of certain operations returning to the United States as well as to other developed countries, a phenomenon called reshoring. There are several reasons for this trend.

Wages in developing countries have been rising. This is particularly true of China, where wages are reported to have been rising by 15 percent per year, even though they are still quite low compared to wages in developed countries. In addition, the decrease in the value of the dollar has increased the cost of importing. Increases in energy costs have made it more expensive to ship products from faraway countries. Communications and quality control have often been instrumental in increasing costs. The lead time for orders from foreign countries is longer. Due to great improvements in technology in U.S. manufacturing, there has been a significant increase in productivity, thus making U.S. production more competitive.

However, reshoring has been quite limited so far and probably has had very little effect on employment in U.S. manufacturing. There is another facet that must be considered. While costs have been rising in some of the countries to which products and services have been offshored, there are still many countries where production has remained quite inexpensive. So, while some of the countries may be losing their

[4]George J. Stigler, "The Division of Labor Is Limited by the Extent of the Market," *Journal of Political Economy*, 59 (June 1951), pp. 185–93.

advantage, production of goods and services will shift to the still-low-cost countries rather than back to the high-wage economies.[5]

Coase and the Internet

When Ronald Coase wrote his article in 1937, he and the rest of the world knew nothing about the advent of the Internet in the last years of the twentieth century. However, his contribution to economic theory turns out to have great relevance to today's business transactions over the Internet. If you should surf the Internet and type in the following keywords, "Transaction costs Coase Internet" you will get a large number of hits attesting to today's popularity of Coase's ideas.

The basic idea of the trade-off between the costs of internal operations and external transactions remains as valid as ever. But the revolutionary event that occurred in recent years is that the Internet has caused transaction costs to decrease drastically, making it easier and more efficient for companies to curtail their own operations and farm out much of the work they would have been performing to outside companies that specialize in specific operations.

As mentioned previously, transaction costs include the cost of search and investigation, contract negotiations, and coordination or enforcement. How has the Internet affected these transactions and their costs?

Search and investigation have been made significantly easier. Potential suppliers can be quickly and easily identified. Information on their reliability and credit standing is readily available, and so are evaluations of their financial conditions. "Online clearing houses . . . permit a purchaser to contract for price, quality and delivery dates with few clicks of the mouse," making contracting a much easier task. As far as coordinating costs are concerned, it is now much more simple to follow a shipment as it progresses toward its location, and to take action in real time, if this should become necessary.[6]

Although Coase has stated that he is not paying much attention to e-commerce, he believes that understanding transaction costs in the new economy "enables you to have more specialization and greater production, because you are more efficient. You'll get more small firms as a result, but large firms will also get larger, because they can concentrate on core activities and contract out what they can't do well."[7]

We end this discussion with the conclusion that a firm will trade off costs incurred in conducting transactions with the outside market with the costs of internalizing such transactions in order to minimize the combination of the two. This is consistent with the overall economic goals of the firm, the subject to which we turn next.

THE ECONOMIC GOAL OF THE FIRM AND OPTIMAL DECISION MAKING

Every business has a goal. Most students would assert that the primary goal of a business is to earn a certain amount of profit (i.e., to "make money"), and, in fact, the economic theory of the firm—the foundation on which much of managerial economics

[5]Much of the material on reshoring has been obtained from the following sources: Stan Abrams, "Thoughts on the Reshoring Mini-Wave," *Business Insider,* July 6, 2011; Bob Adelmann, "ReShoring: American Manufacturing Jobs Come Home," *The New American,* October 18, 2011; Peter Marsh, "China labour costs push jobs back to US," *Financial Times,* October 6, 2011; Tom Leunig, "Stop thinking of 'reshoring' jobs from China. It just won't happen," *Financial Times (USA),* October 31, 2011.

[6]This section, including the direct quotation, is based on Don Tapscott, David Ticoll, and Alex Lowy, "Internet Nirvana," *eCompany Now,* December 2000, pp. 98ff.

[7]Bob Tedeschi, "Coase's Ideas Flourish in the Internet Economy," *New York Times,* October 2, 2000.

rests—assumes the principal objective of a firm is to maximize its profits (or minimize its losses).[8] Thus, throughout this text, unless otherwise stated, we assume this same objective, known among economists as the **profit maximization hypothesis.**

To be sure, there are other goals that a firm can pursue, relating to market share, revenue growth, profit margin, return on investment, technology, customer satisfaction, and shareholder value (i.e., maximizing the price of its stock). It is crucial to be precisely aware of a firm's goals. Different goals can lead to very different managerial decisions given the same limited amount of resources. For example, if the main goal of the firm is to maximize market share rather than profit, the firm might decide to reduce its prices. If the main goal is to provide the most technologically advanced products, the firm might well decide to allocate more resources to research and development. The added research and development expenses would most likely reduce the amount of profit the firm earns in the short run but may result in increased profits over time as the company increases its technological lead over its competitors. If the main goal of the firm is to carry a complete line of products and services, it may choose to sell certain products even though they might not be earning a profit.

Given the goal (or goals) that the firm is pursuing, we can say that the **optimal decision** in managerial economics is one that brings the firm closest to this goal. For example, as you see in Chapter 8, to maximize its profit (or minimize its loss), a firm should price its product at a level where the revenue earned on the last unit of a product sold (called *marginal revenue*) is equal to the additional cost of making this last unit (called *marginal cost*). In other words, the optimal price equates the firm's marginal revenue with its marginal cost.

One additional concept should be presented in our discussion of a firm's goals. In economics, a distinction is made between the "short-run" time period and the "long-run" time period. As explained in greater detail in later sections of this text (see Chapters 3, 6, and 7), these time periods actually have nothing directly to do with calendar time. During the short run, we assume a firm can vary the amount of certain resources (e.g., labor hours) but must operate with a fixed amount of at least one of its resources (e.g., factory space). Theoretically, in the long run, a firm is able to vary the quantities of all resources being used. In this text, we look at both short-run and long-run decisions made by the firm. We assume a company's goal is to maximize profits both in the short and long run. However, it must be understood that a business will, at times, sacrifice profitability in the short run with the anticipation of maximized long-run profits.

GOALS OTHER THAN PROFIT

Economic Goals

The concept of profit maximization has been attacked as incomplete by many writers. They point out that companies may have other economic objectives, such as those mentioned previously.

For the time being, we omit discussion of the objective of "value" or "shareholder wealth" maximization and consider some of the other alternatives concerning a company's activity during a single period of time (such as a year). It is readily

[8] As we will see in Chapter 8, a firm may lose money in the short run and still be better off than it would be if it were to shut down operations, as long as its losses are less than its fixed costs. However, if it is going to lose money, from an economic standpoint it is optimal to minimize its losses.

admitted that profit maximization is a rather vague term. How does a company know that its profits in a given period are the largest they can be? Or, more correctly (from an ex ante, or planning, viewpoint), how does a company know that the actions it is taking in this time frame will result, if all goes as expected, in the greatest possible profit?

Let us look at the objectives set out by a company's CEO (or a committee representing the company's top management). It is not unusual for the CEO or his or her representatives, having decided on the achievable results for the next fiscal period, to distribute objectives to the various operating heads at the beginning of the planning cycle. Now imagine this memorandum from the firm's CEO to the general manager of one of the company's operating units:

> Dear Alex,
>
> We have had a pretty good year in 2012, and we believe that 2013 should be even better.
>
> I am therefore issuing the following objective for your unit in 2013. Take any and all actions that will ensure your profit is maximized.
>
> Corporate management is confident that you will not disappoint us. We know that the objective we have given you is challenging. We also are convinced that it is achievable.
>
> ERIC, CEO

This memorandum is obviously an extreme simplification, but what is Alex to do with his marching orders to maximize profit? What resources does he have to do this? How can his performance be measured at the end of the year? What is his maximum profit?

Now let us look at another "objective" memorandum:

> Dear Alex,
>
> We have had a pretty good year in 2012, and we expect that 2013 should be even better. We are assigning specific objectives to each of our operating units in such a way that the total result will be a financial posture consistent with our economic and industry forecasts, our available resources, and good increases in productivity. With this in mind, we want you to build your 2013 plan to correspond to the following objectives for your unit:
>
> 1. Your revenue should increase by 10 percent from 2012.
> 2. The profit margin of your unit should increase from 8 percent to 9 percent, and your return on assets should be 10 percent.
> 3. Your division will receive $10 million of company funds for expansion projects whose minimum internal rate of return should be 12 percent.
> 4. The head count of your unit can increase by no more than 2 percent.
>
> Corporate management is confident that you will not disappoint us. We know that the objective we have given you is challenging. We also are convinced that it is achievable.
>
> ERIC, CEO

Assuming that this memorandum makes more sense (which it certainly should, for otherwise our point has been lost), does this mean that the company's objective is not really profit maximization, but rather a growth rate, a profit margin, or a return on its assets? This is what many writers on this subject say.

Such a conclusion is, however, misleading. Any of these measures in itself is incomplete, and each should be seen as a realistic target consistent with the ultimate objective of maximizing the firm's overall profits. Management, in this example, advised by its expert staff regarding the company's economic environment, competition, technological advances, and market potential, has come to the conclusion that maximum profits can be achieved by the combination of growth and profit measures included in its memorandum.

Thus, the specific objectives assigned to an operating unit are really proxies for the overall objective of profit maximization. The achievement of these proxies is also measurable at the end of the fiscal period; the division executive's performance and contribution toward the company's profits can be evaluated, and rewards in terms of bonuses or incentive plans can then be determined.

Noneconomic Objectives

In this complex world, companies may have objectives that are not strictly economic or at least do not appear to be governed by economic thinking. Indeed, some large companies have published statements of principles that, if accepted at face value, would indicate that making profits is the last thing for which they strive. Profits may be mentioned as only one of several objectives, and they may actually be listed last. Furthermore, the statements do not mention any maximum but rather concentrate on such measures as "adequate" or "reasonable" return to stockholders. Such modesty is certainly more palatable to the public. What, then, are some of the guiding principles such companies publish?

1. Provide a good place for our employees to work.
2. Provide good products/services to our customers.
3. Act as a good citizen in our society.

These actions are costly, and at first glance may seem to interfere with profit maximization. However, consider the following: Satisfied employees not only tend to be more productive, but will remain with the company longer, thus decreasing expensive labor turnover. Without satisfied customers, a company will not remain in business. Supporting good causes, such as charitable and other nonprofit organizations, will create goodwill and ultimately potential sales. Therefore, it would be worthwhile for a company to spend resources on such **noneconomic objectives** consistent with increases in revenues and profit. If this is the case, then attaining these objectives is not incompatible with profit maximization, and indeed, these objectives could be classified as economic.

We could enlarge this discussion of so-called noneconomic objectives, but the point has been made. Today's markets and institutions constrain companies in many ways that did not exist in the past. Therefore, companies must concern themselves with creating employee and customer satisfaction and maintaining social responsibility to a much higher degree than in the past. But these considerations do not contradict the profit maximization principle. If companies were maximizers in the past, under less restrictive conditions, they are still maximizers today but have to operate within the requirements imposed by current standards and the costs that accompany them.

DO COMPANIES REALLY TRY TO *MAXIMIZE* PROFITS?

There still remains for us to discuss a major criticism, that has been leveled at the view of profit maximization as a company's primary objective.

The argument is that today's corporations do not maximize. Instead, their aim is to "satisfice." To understand this argument, we have to consider two parts of this idea:

1. The position and power of stockholders in today's corporation
2. The position and power of professional management in today's corporation

Years ago the owner or owners of a business also managed it. Businesses were predominantly quite small and lent themselves to being operated as individual proprietorships, partnerships, or small, closely held corporations. Modern businesses, particularly medium-size or large corporations, of course, cannot be managed by the owners, who are the shareholders and number in the thousands or even hundreds of thousands. Many stockholders own only minute pieces of a corporation. Furthermore, stockholders tend to diversify their holdings; thus, they may hold small interests in many different corporations. The argument asserts that most stockholders are not well informed on how well a corporation can do and will be satisfied with an adequate dividend and some reasonable growth. Because they own different stocks, poor performance on one of their holdings may be offset by some of their other assets. The stockholder is more concerned with the portfolio of stocks than with any individual stock. Shareholders may not be capable of knowing whether corporate management is doing its best for them, and they actually may not be very concerned as long as they receive what they consider a satisfactory return on their investment—hence "**satisficing**."

Second, in a modern corporation professional managers—the chair of the board, the president, a group of vice presidents, and other high-level managers—direct the operations of a company. Although they are overseen by a board of directors (which often includes a large number of insiders), they are responsible for major decision making. It is claimed by a number of writers that managers (who commonly hold a relatively small number of shares) have their own objectives, which do not include maximization of shareholder earnings. Indeed, it is often said that managers tend to be more conservative—that is, risk averse—than stockholders would be because their jobs will most likely be safer if they turn in a competent and steady, if unspectacular, performance. They could probably benefit stockholders in the long run by taking some well-calculated risks. However, they may be too cautious to do so, and thus they miss opportunities. They fear that they may not survive the reverses that could result from risk taking. If stockholders need only be satisfied, this may be the appropriate way for management to go.

Management's interests may actually be contrary to those of stockholders. For instance, management may be more interested in revenue growth than profits. Why? It has been claimed that management remuneration tends to be a function of revenue size rather than profits. Several studies have been made on this subject, but the evidence is considerably less than overwhelming. Also, company management may be more interested in maximizing its own income, may indulge in various perquisites, and in general may not act in the best interest of the widely dispersed, somewhat disinterested and lethargic stockholder population. The divergence in the objectives between owners and management has been the subject of much discussion in economic

literature and is known as the "principal-agent" problem or simply as the "agency problem."[9]

The two sides in this relationship tend to complement one another. The owners of the corporation—the stockholders—are not interested in maximization, or even if they are, they are not well informed and have too little power. The corporation's management, whose selfish motives lead them to act in their own favor when stockholder and management goals differ, will manage in a way that serves their interest, while keeping the stockholder satisfied with adequate return and moderate growth.

Like all ideas presented by intelligent people, this one probably contains a certain amount of truth. Each of the points seems eminently reasonable and, for all we know, could be valid over limited periods of time. However, let us look at some of the realities of life and some recent events in the business world that tend to contradict this argument.

You, the reader of this book, may be among that group of far-flung stockholders owning a hundred shares in a company with millions of shares outstanding. However, particularly in the case of large corporations, much of the outstanding stock is held by institutions in professionally managed accounts. Among these are banks that manage large pension funds, insurance companies with their extensive portfolios, and mutual funds. These organizations employ expert analysts (who are only human, and therefore, at least occasionally make mistakes) who study companies and pass judgment on the quality of their management and their promise for the future. Of course, they deal mostly with stock prices, but after all, stock prices are a reflection of a company's profitability.[10] These analysts make recommendations to their management on which stocks to buy and which to sell. Companies that underperform would be weeded out of these institutional portfolios, with a consequent drop in their stock prices.

Now, what happens when certain stocks tend to underperform in the market? They become targets for takeovers by others. We really do not have to belabor this point because anyone reading the business sections of daily newspapers or other business publications is very much aware of recent events in the takeover and buyout arenas. In addition to the accumulation of stock and subsequent tender offers by outside financiers, we have also witnessed the existence of proxy fights by dissident large stockholders. Thus, it appears that management in today's corporation is not insulated from outside pressures. Management is constrained to act in agreement with stockholders, who look for increases in stock values and returns and who act to "punish" the managements of those companies that appear to underperform.

Another argument leads to a similar conclusion. Competitive pressures also act to stimulate management to performance. If a company's results lag behind those of competitors, those lethargic stockholders who do not challenge the company directly will tend to sell its shares and turn to those companies providing better returns and better prospects of returns. The price of the company's stock will suffer relative to prices of the others; such a scenario will not go unnoticed in financial markets.

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[9]A formal theory dealing with the potential conflicts between shareholders and management was developed by Michael C. Jensen and William H. Meckling in their article "Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure" (*Journal of Financial Economics,* October 1976, pp. 350–60). These conflicts arise whenever managers own less than 100 percent of the stock, which is, of course, the predominant situation in today's large corporation. To ensure managers act on behalf of the stockholder, the latter will have to incur "agency costs," which are expenditures to monitor managers' actions, to structure the organization in such a way as to limit management's action, and so forth.

[10]The connection between profits and stock prices is examined in the next section, when we expand the maximization principle to include the wealth of stockholders.

Company management will come under the gun to improve performance, and ultimately management may be replaced because of pressure by outside board members, a successful proxy fight, or even a takeover. A very vocal and sometimes effective advocate of shareholder rights has been the California Public Employees' Retirement System (Calpers). With about $236 billion in assets as of March 31, 2012, it has demonstrated that changes in corporate governance can be accomplished. Calpers reviews the performance of companies in its investment portfolio and selects companies that have performed poorly and for which it may seek a change in corporate governance.[11] Until 2010, Calpers published a "Focus List" naming companies that performed poorly. Now, instead of publishing such a list, it requests meetings with representatives of these companies to suggest specified reforms.

The Sarbanes-Oxley Act was passed in 2002 in response to a number of corporate scandals. The act sets new, stricter standards on the behavior of public corporations and accounting firms. Since then, shareholders have become much more active in proposing changes in corporate policies in proxies that are to be considered at annual stockholder meetings. Several of these reforms, such as changing the way by which directors are elected and stockholders casting nonbinding votes on executive pay, have received much greater consideration and in some cases actually were adopted.[12]

In addition, there is the managerial labor market. Managers who have performed well for their stockholders will most likely be in greater demand and will be better compensated than managers with mediocre records.

Management has another, more direct, motivation to act in concert with the objectives of stockholders. Parts—frequently large parts—of an executive's remuneration are tied to performance in terms of operating profits for the corporation or for units supervised by the particular executive.[13] Furthermore, an executive's compensation package is usually enhanced by the issuance of stock options. Because the value of stock options depends on the price of the company's stock, which in turn is a function of the company's profit performance, self-serving company managers may find that their objectives (less than miraculously) coincide with those of the stockholders.

Profit Maximization, Restated

It is readily agreed that the existence of the profit maximization objective can never be proven conclusively. We must note, however, that lack of financial success by a company is not necessarily a contravention of the principle. The best of plans may go awry, and management's judgment certainly is not error-proof. Under certain circumstances, the aim for loss minimization may replace the goal of profit maximization, but this too supports our basic premise. As difficult as it is to point to acts of profit maximization by management, none of the alternative constructions lends itself as well as a yardstick by which to measure business activity. As long as a corporation strives to do better—that is, prefers higher profits to lower profits and lower costs to higher costs, and acts consistently in those directions—the assumption of profit maximization serves as a better basis for judging a company's decisions than any of the other purported objectives. Incidentally, this "striving to do better" can include a multitude of decisions, including those that lead to a revenue increase greater than a cost increase, a revenue decrease smaller than a cost decrease, or a constant revenue with decreased costs. All these decisions involve an increase in profits.

[11]Much information about Calpers can be obtained by visiting www.calpers.org or www.calpers.ca.gov.
[12]Jena McGregor, "Activist Investors Get More Respect," *BusinessWeek*, June 11, 2007, pp. 34–35.
[13]The fact that these performance incentives may be tied to near-term profits can create a problem because the executive's horizon may be shortened.

However, maximizing profits in the very short term (e.g., 1 year) can always be accomplished by management. If, for instance, revenue in the coming year is expected to decline, a company can keep up its profits by cutting expenses. If management seeks to do this without an immediate further reaction on revenue, it can eliminate some development projects. The effect of a lack of new products will not be felt right away, but the shortsightedness of this management decision will come home to roost in a few years. This is the decision area in which the objective of period profit maximization can be attacked more logically. Profit maximization for one period is an incomplete measure from the viewpoint of a business organization that is expected to operate into the infinite—or at least the foreseeable—future.

MAXIMIZING THE WEALTH OF STOCKHOLDERS

Because period profit maximization is an extremely useful way to look at day-to-day decision making in the firm, we use it as our model throughout most of this book. However, there is another view of maximization that is usually adopted in finance textbooks and that takes into consideration a stream of earnings over time. This concept includes not only the evaluation of a stream of cash flows; it also considers the all-important idea of the time value of money.[14] Because it is an obvious fact that a dollar earned in the future is worth less than a dollar earned today, the future streams must be discounted to the present. Both the shape of these streams through time and the interest rate at which they are discounted affect the value of the stockholders' wealth today. The discount rate in particular is affected by risk, so risk becomes another component of the valuation of the business. Financial theorists differentiate various types of risk, with the two major types commonly identified as business risk and financial risk.

Business risk involves variation in returns due to the ups and downs of the economy, the industry, and the firm. This is the kind of risk that attends all business organizations, although to varying degrees. Some businesses are relatively stable from period to period, whereas others incur extreme fluctuations in their financial returns. For instance, public utilities (i.e., suppliers of electricity and gas, as well as the operating telephone companies) tend to have more stable earnings over time than do industrial companies, particularly those in industries that are highly cyclical (e.g., steel, automobiles, and capital goods), or companies in high-tech fields.

Financial risk concerns the variation in returns that is induced by leverage. *Leverage* signifies the proportion of a company financed by debt. Given a certain degree of leverage, the earnings accruing to stockholders will fluctuate with total profits (before the deduction of interest and taxes). The higher the leverage, the greater the potential fluctuations in stockholder earnings. Thus, financial risk moves directly with a company's leverage.

How do we obtain a measure of stockholders' wealth? We do so by discounting to the present the cash streams that stockholders expect to receive out into the future. Because we know today's price of a company's stock, we can—given the expected dividends to be received by the stockholders—determine the discount rate the investment community applies to the particular stock. This discount rate includes the pure time value of money and the premiums for the two categories of risk. The dividend stream is used to represent the receipts of stockholders because that is all they really receive from the company. Of course, a stockholder also looks for a capital gain, but selling the stock at some point involves someone else buying it; thus, this

TVM

[14]Time value of money and discounting of cash flows is discussed in greater detail in the appendix found on the Companion Website.

payment represents only a trade, an exchange of funds. However, dividends represent the returns on the stock generated by the corporation. In equation form, we have the following:

$$P = \frac{D_1}{(1+k)} + \frac{D_2}{(1+k)^2} + \frac{D_3}{(1+k)^3} + \ldots + \frac{D_n}{(1+k)^n}$$

where P = present price of stock
D = dividends received per year (in year 1, year 2, . . . year n)
k = discount rate applied by financial community, often referred to as cost of equity capital of a company

If it is assumed that the corporation will have an infinitely long life and dividends will remain the same year after year, then the price of each share of stock can be calculated as a perpetuity with the following formula:

$$P = D/k$$

Investors, however, will usually expect dividends to rise. In the case where dividends grow at a constant rate each year, the formula for share price becomes

$$P = D_1/(k - g)$$

where D_1 = dividend to be paid during coming year
g = annual constant growth rate of dividend expressed as a percentage[15]

Multiplying P by the number of shares outstanding gives the total value of the company's common equity.[16]

A simple example will help clarify the previous equation. Assume that a company expects to pay a dividend of $4 in the coming year, and expects dividends to grow at 5 percent each year. The rate at which stockholders discount their cash flows (which is really the rate of return stockholders require to earn from this stock) is 12 percent. There are 1 million shares outstanding. We would expect the price of each share to be

$$P = 4/(0.12 - 0.05) = 4/.07 = \$57.14$$

The value of the company's stock would be $57.14 million. This is the expected market value given the variables that we have assumed. However, this may not be the maximum value the company could achieve. The variables in the equation may have to change. Because k is a function of the company's level of risk (both business and financial), the company may be able to decrease k by lowering the riskiness of its operations or by changing its leverage. It can affect g and D by retaining more or less of its earnings. By retaining a larger portion of its earnings and devoting a smaller portion of its earnings to dividends, the company may be able to increase its growth rate, g.

Thus, under this construction, maximizing the wealth of the shareholder means that a company tries to manage its business in such a way that the dividends over time paid from its earnings and the risk incurred to bring about the stream of dividends always create the highest price and thereby the maximum value for the company's stock.

This **wealth maximization** hypothesis tends to weaken even further the management versus stockholder argument. Corporate executives, for whom stock options

[15]The derivation of these formulas is discussed in greater detail in Chapter 12.
[16]The value of a company's equity can also be obtained by calculating the present value of the expected stream of "free cash flows." However, when free cash flow is correctly constructed, it is essentially equal to dividends paid. This subject is discussed at greater length in Appendix 12A when the calculation of the value of a corporation is presented.

represent a significant portion of remuneration, now have an even greater incentive to aim at results that conform to the objectives of the stockholders.

This is a rather complex if quite obvious development of the maximization principle. As stated previously, we work primarily with the profit maximization hypothesis because it is quite sufficient for most of our purposes. We return to the wealth maximization rule in Chapter 12 when we discuss a company's investment and replacement decisions involving expenditures for which the resulting payoffs flow into the corporation over a considerable period of time. In that chapter, we also briefly discuss how the market tends to determine the rate of return it requires from a company (and thus sets the discount rate k, the company's cost of capital). In Chapter 12, we also examine the question of risk and uncertainty and attempt to find ways to deal with it.

Market Value Added and Economic Value Added

Various publications have measured the wealth of stockholders by taking the price per share quoted in the stock market pages and multiplying it by the number of shares outstanding. The product is, of course, the current value of the shares, and thus reflects the value of the company accorded to it by the market. However, such a measure does not show the wealth that has been created by the company. After all, suppose the stockholders had contributed more capital than the stock was worth currently. Then, actually, the company would have "destroyed" some of the stockholders' wealth. What is really important is how much the stockholders' investment is worth today relative to what they have contributed to the corporation in originally buying the stock and then having earnings retained by the corporation for reinvestment.

A relatively new measure has become popular with the financial community as well as with many corporations. It is called **Market Value Added (MVA®)** and has been developed by the consulting firm of Stern Stewart.[17] (The firm is now called EVA Dimensions, LLC.) MVA represents the difference between the market value of the company and the capital that investors have paid into the company.

The market value of the company includes the value of both equity and debt. The capital includes the book value of debt and equity on the company's balance sheet plus a number of adjustments that increase the basic number. Among these adjustments is the inclusion of research and development (R&D) expense (which accountants treat as expense). Prior years' R&D is cumulated and amortized over a number of years. Another item that is included is the amortization of goodwill. Thus, in the end, the contributed capital of the corporation will turn out to be larger than merely the book value of equity and debt. Although the market value of a corporation will always be positive, the MVA may be positive or negative, depending on whether the market value of the company is greater than the capital that investors contributed. Where a corporation's market value is less than the contributed capital, investors' wealth has actually been "destroyed."

A recent ranking of 3,000 corporations based on 2011 stock prices showed Apple at the top, with an MVA of $423 billion, followed by Exxon (at $222 billion), Microsoft (at $184 billion), and IBM (at $162 billion). At the other end of the scale were the American International Group, Citigroup, and Bank of America, which actually showed negative MVAs.[18]

Basically, MVA is a forward-looking measure. If market value reflects the financial markets' appraisal of a company's future cash streams, then MVA represents the

[17]This concept was originally introduced in 1990. See G. Bennett Stewart III, "Announcing the Stern Stewart Performance 1,000: A New Way of Viewing Corporate America," *Journal of Applied Corporate Finance*, Summer 1990, pp. 38–59.

[18]"Ranking of Companies by MVA," EVA Dimensions LLC, 2011. Such a measure favors large companies and penalizes smaller companies. To show the relative market value added, one could divide the MVA by the company's annual revenue.

financial markets' assessment of the company's future net cash flows (i.e., after subtracting the investments the company must make to achieve those cash streams).

Another measurement developed by Stern Stewart is **Economic Value Added (EVA®)**. EVA is calculated as follows:

$$\text{EVA} = (\text{Return on Total Capital} - \text{Cost of Capital}) \times \text{Total Capital}$$

Actually, the calculation of return on capital (profit divided by capital) is nothing new. However, EVA subtracts an estimated cost of capital from return. If the resulting number is positive, then the company has earned more than its investors require, and thus will add to investors' wealth. In contrast, if cost is greater than return, then value is being destroyed. While EVA can be calculated for past periods to see how a company has been performing, it can also be used in evaluating future plans.

To avoid distortions created by accounting conventions, Stern Stewart makes numerous adjustments to the return and capital numbers. Actually, EVA could be said to be very much like "economic profits," which are mentioned briefly in the next section of this chapter and are discussed thoroughly in Chapter 9. However, when these numbers are calculated they are generally based on past results and do not necessarily say anything about a company's future profitability. Still, "Stern Stewart says that there is a close correlation between EVA and MVA—if managers improve EVA, the company's MVA is highly likely to improve too."[19]

Over the last few years, many companies have begun emphasizing the EVA measure over more traditional measures such as earnings per share and return on equity, as have money managers such as Oppenheimer, Calpers, and others.[20]

EVA Dimensions has also added a new measure, called EVA Momentum. It basically measures the growth rate of EVA by dividing the change in EVA for a given period by the company's sales at the beginning of the period.

ECONOMIC PROFITS

Throughout this chapter, we use the term *profit* and assume it has some kind of meaning. But we have not defined it. We only said that profit—and its maximization—is uppermost in the company owner's and manager's minds. In a way, profit is easy to define. Every company that closes its books annually and whose accountants construct a statement of earnings (whether this company is public so everybody can see the published statement and its "bottom line," or whether it is private) knows its profits. The accountants report the level of profits, and they also affirm that everything in the financial statements has been done in conformance with generally accepted accounting principles (GAAP).

Unfortunately, things are not quite that simple. Profits as reported on an earnings statement are not necessarily definitive. Accountants have certain amounts of freedom in recording items leading to the "bottom line."[21] A few examples will suffice:

1. There are different ways of recording depreciation. In the past, the straight-line method, the sum-of-the-years'-digits method, the declining balance method, and probably others

[19]"A Star to Sail By?" *The Economist,* August 2, 1997, p. 54.

[20]S. Tully, "America's Greatest Wealth Creators," *Fortune,* November 9, 1998, p. 195. The following articles discuss how companies use the EVA concept: "Stern Stewart EVA™ Roundtable," *Journal of Applied Corporate Finance,* Summer 1994, pp. 46–70; S. Milunovich and A. Tsuei, "EVA® in the Computer Industry," *Journal of Applied Corporate Finance,* Spring 1996, pp. 104–15; A. Jackson, "The How and Why of EVA® at CS First Boston," *Journal of Applied Corporate Finance,* Spring 1996, pp. 98–103.

[21]Some writers in this field have said that accountants take too many liberties. Professor Abraham Briloff has written a number of books and articles on this subject.

have been used. Under present tax law, the Modified Accelerated Cost Recovery System (MACRS) is most frequently employed.

2. There are various ways of recording inventories, the famous FIFO (first-in, first-out) and LIFO (last-in, first-out) being just two alternatives.
3. Amortization of such items as goodwill and patents can be recorded differently.

This is just a small sample of the better-known alternative treatments by accountants, and any of these are in conformance with GAAP. Moreover, the tax return that a company completes and sends to the IRS may be quite different from the published statement of a public company.

As if the question of what accounting profits really are were not enough, the economist compounds this problem even further. Everybody agrees that profit equals revenue minus costs (and expenses). But economists do not agree with accountants on the concept of costs. An accountant reports costs on a historical basis. The economist, however, is concerned with the costs that a business considers in making decisions, that is, future costs. We concern ourselves with this concept more thoroughly later in this book, but we must touch on the subject now, albeit briefly. Basically, economists deal with something they call *opportunity costs* or *alternative costs*. This means that the cost of a resource is what a business must pay for it to attract it into its employ or, put differently, what a business must pay to keep this resource from finding employment elsewhere. To get down to specific examples, we can mention the following:

1. ***Historical costs versus replacement costs:*** To an economist, the replacement cost of a piece of machinery (and, therefore, the level of periodic depreciation on the replacement cost) is important, whereas an accountant measures cost—and depreciation—on a historical basis.
2. ***Implicit costs and normal profits:***
   a. The owners' time and interest on the capital they contribute are usually counted as profit in a partnership or a single proprietorship. However, the owners could work for someone else instead and invest their funds elsewhere. So these two items are really costs to the business and not profit.
   b. The preceding item is not relevant in the case of a corporation because even top executives are salaried employees, and interest on corporate debt is deducted as an expense before profits are calculated. However, the payments made to the owners/stockholders—dividends—are not part of cost; they are recorded as a distribution of profits. But surely part of the shareholders' return is similar to the interest on debt because stockholders could have invested their funds elsewhere and required a certain return in order to leave the investment with the corporation. Thus, on this account, corporate profits as recorded by accountants tend to be overstated.

It appears, therefore, that an economist includes costs that would be excluded by an accountant. Indeed, the economist refers to the second category of costs—which are essential to obtain and keep the owners' resources in the business—as **normal profits**, which represent the return that these resources demand to remain committed to a particular firm.

Thus, **economic costs** include not only the historical costs and explicit costs recorded by the accountants, but also the replacement costs and implicit costs (normal profits) that must be earned on the owners' resources. In the rest of this book, profits are considered to be **economic profits**, which are defined as total revenue minus all the economic costs we describe in this section.

GLOBAL APPLICATION

The model of a firm's goals discussed in this chapter applies predominantly to firms operating in the United States and possibly the United Kingdom. However, one must ask whether profit maximization or shareholder wealth maximization is also valid for other countries. It is often said that for many reasons (e.g., political, cultural, legal, and institutional), firms in other countries pursue goals that include the interests of other groups, such as labor, community, government, and so on, in addition to interests of stockholders. In some countries, for instance, labor unions are represented on the board of directors. Thus, it may be necessary to consider such interests in our discussions. However, even if such considerations are important, it is possible for us to treat them as constraints on the actions of a firm. Even if profit or shareholder wealth maximization is not the only objective, as long as firms attempt to take actions that will improve their earnings—within specific constraints—our maximization model can still be used.[22] It is important to recognize, however, that multinational firms (e.g., a U.S. parent corporation operating in many different countries through subsidiaries or branches) will encounter restrictions and complications, which they must consider in doing business abroad. We list these and explain them briefly:[23]

1. Foreign currencies and their exchange rates must be considered. Thus, revenues, costs, and other cash flows that are denominated in other currencies must be translated into domestic currencies, and their potential changes must be analyzed for their impact on the business. Under certain circumstances, a profitable activity abroad can become unprofitable from the viewpoint of the domestic parent corporation.
2. Legal differences must be taken into account. Dissimilarities in tax laws can have important consequences on results of transactions between the domestic parent corporation and its foreign subsidiary. Differences in legal systems make the tasks of executives considerably more complex.
3. Most Americans have in the past mastered only their own language, and thus, are often at a disadvantage when dealing with their multilingual counterparts in other countries.
4. The differences in cultural environments influence the defining of business goals and attitudes toward risk. Thus, such differences can greatly affect the way business is conducted.
5. The role of government in defining the rules under which companies operate varies from country to country. Although in some countries market competition prevails, in others the political process dictates the behavior of firms in much greater detail.
6. Corporations operating in different countries may be restricted from transferring corporate resources out of the country and may even face the danger of expropriation. This is political risk, which must be included in any economic analysis of a company's prospects.[24]

The points just discussed, as well as others, must always be considered by companies doing business abroad. Although some of the differences may have adverse effects on

[22]It is interesting to note that, in an interview, Heinrich von Pierer, then chief executive officer of the German electronics firm Siemens, stressed "German corporate values as concern with quality, reliability and long-term thinking." He also made the following statement: " . . . if people think that German businesses have an aversion to shareholder value, we are not a very good representative of such companies. . . . To improve profitability and market capitalisation is the main goal." Peter Marsh, "A Conglomerate with an Air of Confidence," *Financial Times*, January 21, 2002.

[23]We discuss some of these subjects at greater length in Chapter 13.

[24]The preceding points can be found in Eugene F. Brigham and Phillip R. Daves, *Intermediate Financial Management*, Thomson Southwestern, 2004, pp. 211–212.

a company, participation in a global market is a necessity for most large (and even small) firms today. Profitability, and even survival, can depend on a company entering global markets and competing worldwide.

The Solution

It was a lively stockholder meeting. Bob Burns was somewhat worried about what the reactions from the audience would be regarding his decision to go into the energy drink market. But he knew that he would have to be convincing because this move was an essential part of the company's growth strategy. After covering the results for the most recent fiscal year, Bob continued:

"In recent years, we've experienced some tough going largely due to the recession brought on by the 2008 financial crisis. Throughout this period, your management has maintained as its primary objective to continue to increase the value of your investment in the company. We are well aware that the price of our stock has not been increasing at the rate it did prior to the recession. However, throughout this period we have remained committed to a long-run increase in the price of our stock. To accomplish this goal, we need to return to the double-digit annual increase in revenue as well as profit.

"As part of this growth strategy, we have decided to enter the growing market for energy drinks. Over the past decade, this has been a rapidly growing segment of the beverage business, particularly among 18- to 34-year-olds. This is a segment that spends a lot for beverages. Energy drinks are popular in the growth markets in Asia. It also has great potential in other growth countries such as Brazil.

"To maintain and increase profits in recent years, we have been focusing mainly on cutting costs through productivity increases and operational excellence. But there is a limit to such endeavors. In the long run, we must find new products and growing markets to increase our top and bottom lines and thus discharge our responsibility to you, our stockholders, to increasing the value of your stock. Entering the market for energy drinks is one of the ways that we believe will bring this about."

SUMMARY

In this text, we generally assume a firm's short-run or long-run objective is the maximization of its profit or the minimization of its loss. Although a firm can select from a number of other goals, both in the short run and in the long run, the assumption of profit maximization provides us with a clear-cut model for explaining how firms can use economic concepts and tools of analysis to make optimal decisions. In presenting these concepts and tools of analysis, a certain amount of mathematics will be employed. Thus, before proceeding to the next chapter, we believe that a brief review of the mathematics used in this text will be helpful. This review is contained in the online appendix.

IMPORTANT CONCEPTS

Business risk. The variability of returns (or profits) due to fluctuations in general economic conditions or conditions specifically affecting the firm. (p. 29)

Economic cost. All cost incurred to attract resources into a company's employ. Such cost includes explicit cost usually recognized on accounting records as well as opportunity cost. (p. 33)

Economic profit. Total revenue minus total economic cost. An amount of profit earned in a particular endeavor above the amount of profit that the firm could be earning in its next best alternative activity. Also referred to as *abnormal profit* or *above-normal profit.* (p. 33)

Economic Value Added (EVA). The difference between a company's return on total capital and its cost of capital. (p. 32)

Financial risk. The variability of returns (or profits) induced by leverage (the proportion of a company financed by debt). The higher the leverage, the greater the potential fluctuation in stockholder earnings for a given change in total profits. (p. 29)

Firm. An organization that transforms resources into products demanded by consumers. The firm chooses to organize resources internally or to obtain them through the market. (p. 19)

Market Value Added (MVA). The difference between the market value (equity plus debt) of a company and the amount of capital investors have paid into the company. (p. 31)

Noneconomic objectives. A company's objectives that do not appear to be governed by economic thinking but rather define how a business should act. "Acting as a good corporate citizen" is an example of a noneconomic objective. (p. 25)

Normal profit. An amount of profit earned in a particular endeavor that is just equal to the profit that could be earned in a firm's next best alternative activity. When a firm earns normal profit, its revenue is just enough to cover both its accounting cost and its opportunity cost. It can also be considered as the return to capital and management necessary to keep resources engaged in a particular activity. (p. 33)

Opportunistic behavior. One party to a contract seeks to take advantage of the other. (p. 19)

Optimal decision. The decision that enables the firm to meet its desired objective most closely. (p. 23)

Profit maximization hypothesis. One of the central themes in economics, the claim that a company will strive to attain the highest economic profit in each period. (p. 23)

Satisficing. A concept in economics based on the principle that owners of a firm (especially stockholders in a large corporation) may be content with adequate return and growth since they really cannot judge when profits are maximized. (p. 26)

Transaction costs. Cost incurred by a firm in dealing with another firm, including the cost of investigation, negotiation, and enforcement of contracts. (p. 19)

Wealth maximization. A company's management of its business in such a manner that the cash flows over time to the company, discounted at an appropriate discount rate, will cause the value of the company's stock to be at a maximum. (p. 30)

QUESTIONS

1. The following is a quote from a *New York Times* article: "If a company makes product donations to the school—computers for instance—then the image of a company goes up as graduate students use the company's products." Does such action square with a company's objective of profit maximization? Discuss.
2. Is the maximization of profit margin (profit as a percentage of total sales) a valid financial objective of a corporation? Discuss.
3. "The growth of consumer information organizations, legal requirements, and warranty requirements has caused significant increases in the cost of customer satisfaction. Thus it is no longer useful to talk about profit maximization as a company objective." Comment on this quote.
4. Discuss the difference between profit maximization and shareholder wealth maximization. Which of these is a more comprehensive statement of a company's economic objectives?
5. Explain the term *satisfice* as it relates to the operations of a large corporation.
6. Discuss the meaning of the term *principal-agent problem.* Why does this problem exist?
7. Why may corporate managers not specifically aim at profit (or wealth) maximization for their companies?
8. What are some of the forces that cause managers to act in the interest of shareholders?
9. Do you believe that profit (or shareholder wealth) maximization still represents the best overall economic objective for today's corporation?
10. Because of inflation, a company must replace one of its (fully depreciated) machines at twice the nominal price paid for a similar machine 8 years ago. Based on present accounting rules, will the company have covered the entire cost of the new machine through depreciation charges? Explain by contrasting accounting and economic costs.
11. How do implicit costs lead to a difference between accounting and economic profits?

12. You have a choice of opening your own business or being employed by someone else in a similar type of business. What are some of the considerations in terms of opportunity costs that you would have to include in arriving at your decision?
13. Various depreciation methods can be used to arrive at an accounting profit number. From the viewpoint of the economist, how should annual depreciation be determined?
14. Do you believe that the profit maximization model can be applied to the activities of a multinational corporation? Explain.
15. What are transaction costs? How does *opportunistic behavior* tend to increase transaction costs?
16. The outsourcing of important parts of a company's production has been growing in recent years. How would you explain these changes? How has the Internet contributed to these changes?
17. What are some reasons for companies internalizing transaction costs?
18. A company has 2 million shares outstanding. It paid a dividend of $2 during the past year, and expects that dividends will grow at 6 percent annually in the future. Stockholders require a rate of return of 13 percent. What would you expect the price of each share to be today, and what is the value of the company's common stock?
19. Discuss the difference between the calculation of shareholder wealth and the concept of *Market Value Added.* Which of the two would appear to be more meaningful from the viewpoint of a shareholder?