

## CHAPTER 1

# The Nature and Scope of Managerial Economics

Warren E. Buffett, the renowned chairman and chief executive officer of Omaha, Nebraska-based Berkshire Hathaway, Inc., started an investment partnership with \$100 in 1956 and has gone on to accumulate a personal net worth in excess of \$30 billion. It is intriguing that Buffett credits his success to a basic understanding of managerial economics.

Berkshire's collection of operating businesses includes the GEICO Insurance Company, *Buffalo News* newspaper, See's Candies, and the Nebraska Furniture Mart. They commonly earn 30%–50% per year on invested capital. This is astonishingly good performance in light of the 10%–12% return typical of industry in general. A second and equally important contributor to Berkshire's outstanding performance is a handful of substantial holdings in publicly traded common stocks such as The American Express Company, The Coca-Cola Company, and Wells Fargo & Company. As both manager and investor, Buffett looks for "wonderful businesses" with outstanding economic characteristics: high rates of return on invested capital, substantial profit margins on sales, and consistent earnings growth. Complicated businesses that face fierce competition or require large capital investment and ongoing innovation are shunned.<sup>1</sup>

Buffett's success is powerful testimony to the practical usefulness of managerial economics. Managerial economics answers fundamental questions. When are the characteristics of a market so attractive that entry becomes appealing? When is exit preferable to continued operation? Why do some professions pay well, whereas others offer meager pay? Successful managers make good decisions, and one of their most useful tools is the methodology of managerial economics.

## THE MANAGERIAL DECISION-MAKING PROCESS

### Managerial economics

Applies economic tools and techniques to business and administrative decision making

**Managerial economics** applies economic theory and methods to business and administrative decision making. Managerial economics prescribes rules for improving managerial decisions. Managerial economics also helps managers recognize how economic forces affect organizations and describes the economic consequences of managerial behavior. It links traditional economics with the decision sciences to develop vital tools for managerial decision making. This process is illustrated in Figure 1.1.

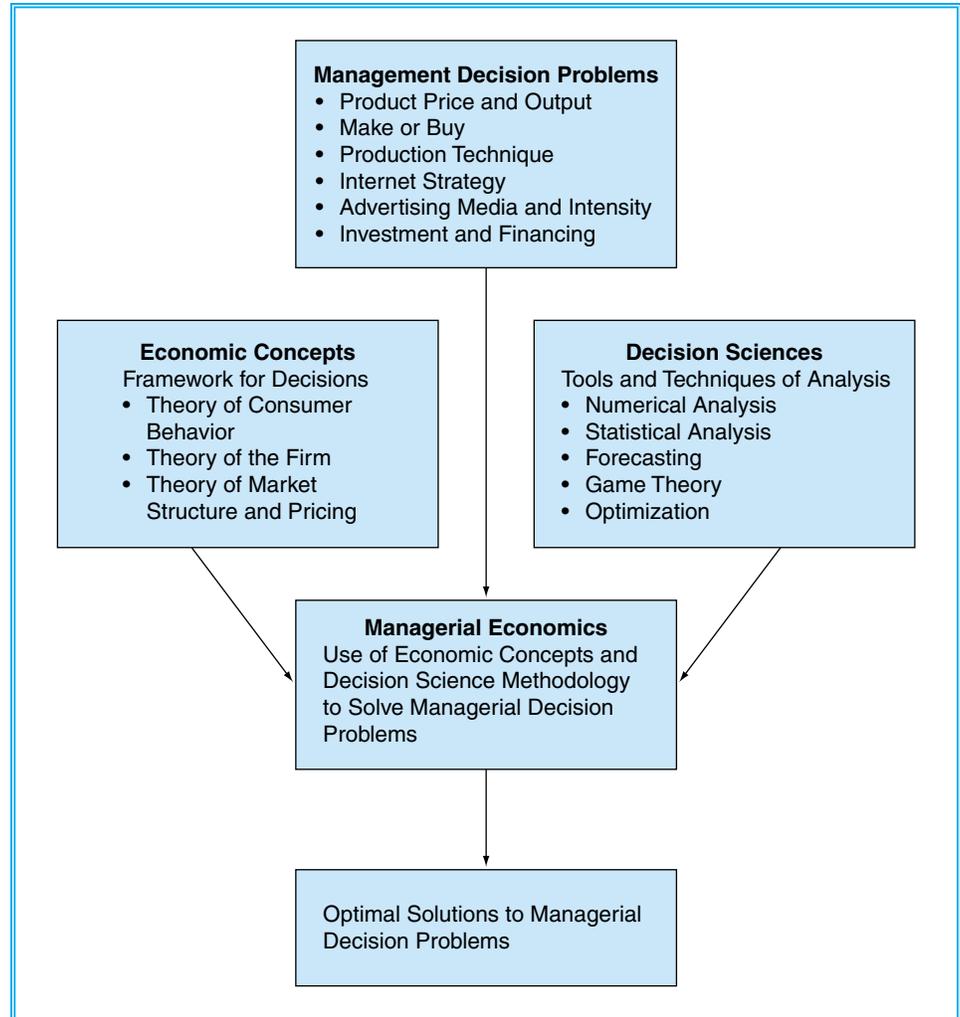
Managerial economics identifies ways to efficiently achieve goals. For example, suppose a small business seeks rapid growth to reach a size that permits efficient use of national media advertising. Managerial economics can be used to identify pricing and production strategies to help meet this short-run objective quickly and effectively.

<sup>1</sup>See James P. Miller, "Buffett Bash Is Set to Burst Over Omaha," *The Wall Street Journal*, May 3, 1999, C1.

FIGURE 1.1

**THE ROLE OF MANAGERIAL ECONOMICS IN MANAGERIAL DECISION MAKING**

*Managerial economics uses economic concepts and decision science techniques to solve managerial problems.*



Similarly, managerial economics provides production and marketing rules that permit the company to maximize net profits once it has achieved growth objectives.

Managerial economics has applications in both profit and not-for-profit sectors. For example, an administrator of a nonprofit hospital strives to provide the best medical care possible given limited medical staff, equipment, and related resources. Using the tools and concepts of managerial economics, the administrator can determine the optimal allocation of these limited resources. In short, managerial economics helps managers arrive at a set of operating rules that aid in the efficient use of scarce human and capital resources. By following these rules, businesses, nonprofit organizations, and government agencies are able to meet objectives efficiently.

To establish appropriate decision rules, managers must understand the economic environment in which they operate. For example, a grocery retailer may offer consumers a highly price-sensitive product, such as milk, at an extremely low markup over cost—say, 1% or 2%—while offering less price-sensitive products, such as non-prescription drugs, at markups of as high as 40% over cost. Managerial economics

describes the logic of this pricing practice with respect to the goal of profit maximization. Similarly, managerial economics reveals that auto import quotas reduce the availability of substitutes for domestically produced cars, raise auto prices, and create the possibility of monopoly profits for domestic manufacturers. It does not explain whether imposing quotas is good public policy; that is a decision involving broader political considerations. Managerial economics only describes the predictable economic consequences of such actions.

Managerial economics offers a comprehensive application of economic theory and methodology to managerial decision making. It is as relevant to the management of nonbusiness, nonprofit organizations such as government agencies, cooperatives, schools, hospitals, museums, and similar institutions, as it is to the management of profit-oriented businesses. Although this text focuses primarily on business applications, it also includes examples and problems from the government and nonprofit sectors to illustrate the broad relevance of managerial economics concepts and tools.

## THEORY OF THE FIRM

A business enterprise is a combination of people, physical and financial assets, and information (e.g., financial, technical, marketing). People directly involved include customers, stockholders, management, labor, and suppliers. Society in general is affected by business because the business community uses scarce resources, pays taxes, provides employment, and produces much of society's material and services output. Firms exist because they are useful for producing and distributing goods and services. They are economic entities and are best analyzed in the context of an economic model.

**Theory of the firm**  
Basic model of business

The model of business is called the **theory of the firm**. In its simplest version, the firm is thought to have profit maximization as its primary goal. The firm's owner-manager is assumed to be working to maximize the firm's short-run profits. Today, the emphasis on profits has been broadened to encompass uncertainty and the time value of money. In this more complete model, the primary goal of the firm is long-term **expected value maximization**.

**Expected value maximization**  
Optimization of profits in light of uncertainty and the time value of money

### Defining Value

**Value of the firm**  
Present value of the firm's expected future net cash flows

The **value of the firm** is the present value of the firm's expected future net cash flows. If cash flows are equated to profits for simplicity, the value of the firm today, or its **present value**, is the value of expected profits or cash flows, discounted back to the present at an appropriate interest rate.<sup>2</sup>

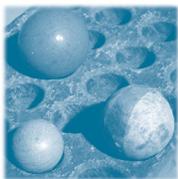
**Present value**  
Worth in current dollars

This model can be expressed as follows:

Value of the Firm = Present Value of Expected Future Profits

$$\begin{aligned}
 &= \frac{\pi_1}{(1+i)^1} + \frac{\pi_2}{(1+i)^2} + \cdots + \frac{\pi_N}{(1+i)^N} \\
 &= \sum_{t=1}^N \frac{\pi_t}{(1+i)^t} .
 \end{aligned} \tag{1.1}$$

<sup>2</sup>Discounting is required because profits obtained in the future are less valuable than profits earned presently. To understand this concept, one needs to recognize that \$1 in hand today is worth more than \$1 to be received a year from now, because \$1 today can be invested and, with interest, grow to a larger amount by the end of the year. If we had \$1 and invested it at 10% interest, it would grow to \$1.10 in one year. Thus, \$1 is defined as the present value of \$1.10 due in one year when the appropriate interest rate is 10%.



## MANAGERIAL APPLICATION 1.1

## Managerial Ethics

Pick up *The Wall Street Journal*, or a leading business magazine, like *Forbes*, and it's not hard to find evidence of unscrupulous behavior. Indeed, it can be discouraging to note the amount of press coverage devoted to companies or top management cited for fraud or waste of shareholder assets. Intense media coverage sometimes gives the mistaken impression that base, immoral, or unscrupulous behavior is common in business. Sometimes it's far too easy to gain the mistaken impression that "dirty" business is standard operating procedure in corporate America.

Unethical conduct is neither consistent with the long-run interests of stockholders, nor with the enlightened self-interest of management and other employees. While famous examples of unscrupulous behavior are unfortunate, it is important to recognize that such scandals occur only infrequently. Every business day on Wall Street, and on Main Street, thousands of business transactions, some involving billions of dollars in cash and securities, are made on the basis of simple phone conversations. Fraud and other scandals are the stark exception to standard operating procedure in business.

If honesty and trust didn't pervade corporate America, the ability to conduct business would be more than hampered; it would founder. Management guru Peter Drucker has written that the purpose of business is to create a customer—someone that will want to do business with you and your company on a regular basis. The only way this can be done is to make sure that you continually take the customer's perspective. How can customer needs be met better, cheaper, or faster? Don't wait for customers to complain or seek alternate suppliers, seek out ways of helping before they become obvious. When customers benefit, so do you and your company. In dealing with employees, it's best to be honest and forthright. If you make a mistake, admit it and go on. By accepting responsibility for your failures, employees will come to trust you and help find solutions for the inevitable problems that are encountered. Similarly, it's best to see every business transaction from the standpoint of those you are dealing with. In a job interview, for example, strive to see how you can create value for a potential employer. It's natural to see things from one's own viewpoint; it is typically much more beneficial to see

things from the perspective of the person sitting on the other side of the table.

To become successful in business, everyone must adopt a set of principles. For better or worse, we are known by the standards we adopt. For some ethical rules to keep in mind when conducting business, you may want to consider the following:

- Above all else, keep your word. Say what you mean, and mean what you say.
- Do the right thing. A handshake with an honorable person is worth more than a ton of legal documents from an unscrupulous individual.
- Accept responsibility for your mistakes, and fix them. Be quick to share credit for success.
- Leave something on the table. Profit *with* your customer, not *off* your customer.
- Stick by your principles. Principles are not for sale at any price.

To gain some perspective on the conduct of notorious "corporate losers," consider the experience of one of America's most famous "winners"—Omaha billionaire Warren E. Buffett, chairman of Berkshire Hathaway, Inc. Buffett and Charlie Munger, the number two man at Berkshire, are famous for doing multimillion dollar deals on the basis of a simple handshake. At Berkshire, management relies upon the character of the people that they are dealing with rather than expensive accounting audits, detailed legal opinions, or liability insurance coverage. Buffett says that after some early mistakes he learned to go into business only with people whom he likes, trusts, and admires. While a company won't necessarily prosper because its managers display admirable qualities, Buffett says he has never made a good deal with a bad person.

Doing the right thing not only makes sense from an ethical perspective, it makes business sense as well. In business, nice guys, like Warren Buffett, often finish first.

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See: James P. Miller and Joseph B. Cahill, "Buffett Says Berkshire Would Have Benefitted if He Hadn't Made Any Stock Actions in 1998," *The Wall Street Journal*, March 15, 1999, C2.

Here,  $\pi_1, \pi_2, \dots, \pi_N$  represent expected profits in each year,  $t$ , and  $i$  is the appropriate interest, or discount, rate. The final form for Equation 1.1 is simply a shorthand expression in which sigma ( $\Sigma$ ) stands for “sum up” or “add together.” The term

$$\sum_{t=1}^N$$

means, “Add together as  $t$  goes from 1 to  $N$  the values of the term on the right.” For Equation 1.1, the process is as follows: Let  $t = 1$  and find the value of the term  $\pi_1/(1 + i)^1$ , the present value of year 1 profit; then let  $t = 2$  and calculate  $\pi_2/(1 + i)^2$ , the present value of year 2 profit; continue until  $t = N$ , the last year included in the analysis; then add up these present-value equivalents of yearly profits to find the current or present value of the firm.

Because profits ( $\pi$ ) are equal to total revenues ( $TR$ ) minus total costs ( $TC$ ), Equation 1.1 can be rewritten as

$$\text{Value} = \sum_{t=1}^N \frac{TR_t - TC_t}{(1 + i)^t}. \quad (1.2)$$

This expanded equation can be used to examine how the expected value maximization model relates to a firm’s various functional departments. The marketing department often has primary responsibility for sales ( $TR$ ); the production department has primary responsibility for costs ( $TC$ ); and the finance department has primary responsibility for acquiring capital and, hence, for the discount factor ( $i$ ) in the denominator. Many important overlaps exist among these functional areas. The marketing department can help reduce costs associated with a given level of output by influencing customer order size and timing. The production department can stimulate sales by improving quality. Other departments (e.g., accounting, personnel, transportation, and engineering) provide information and services vital to sales growth and cost control. The determination of  $TR$  and  $TC$  is a complex task that requires recognizing important interrelations among the various areas of firm activity. An important concept in managerial economics is that managerial decisions should be analyzed in terms of their effects on value, as expressed in Equations 1.1 and 1.2.

## Constraints and the Theory of the Firm

Managerial decisions are often made in light of constraints imposed by technology, resource scarcity, contractual obligations, laws, and regulations. To make decisions that maximize value, managers must consider how external constraints affect their ability to achieve organization objectives.

Organizations frequently face limited availability of essential inputs such as skilled labor, raw materials, energy, specialized machinery, and warehouse space. Managers often face limitations on the amount of investment funds available for a particular project or activity. Decisions can also be constrained by contractual requirements. For example, labor contracts limit flexibility in worker scheduling and job assignments. Contracts sometimes require that a minimum level of output be produced to meet delivery requirements. In most instances, output must also meet quality requirements. Some common examples of output quality constraints are nutritional requirements for feed mixtures, audience exposure requirements for marketing promotions, reliability requirements for electronic products, and customer service requirements for minimum satisfaction levels.

Legal restrictions, which affect both production and marketing activities, can also play an important role in managerial decisions. Laws that define minimum wages,

health and safety standards, pollution emission standards, fuel efficiency requirements, and fair pricing and marketing practices all limit managerial flexibility.

The role that constraints play in managerial decisions makes the topic of constrained optimization a basic element of managerial economics. Later chapters consider important economic implications of self-imposed and social constraints. This analysis is important because value maximization and allocative efficiency in society depend on the efficient use of scarce economic resources.

## Limitations of the Theory of the Firm

### Optimize

Seek the best solution

### Satisfice

Seek satisfactory rather than optimal results

Some critics question why the value maximization criterion is used as a foundation for studying firm behavior. Do managers try to **optimize** (seek the best result) or merely **satisfice** (seek satisfactory rather than optimal results)? Do managers seek the sharpest needle in a haystack (optimize), or do they stop after finding one sharp enough for sewing (satisfice)? How can one tell whether company support of the United Way, for example, leads to long-run value maximization? Are generous salaries and stock options necessary to attract and retain managers who can keep the firm ahead of the competition? When a risky venture is turned down, is this inefficient risk avoidance? Or does it reflect an appropriate decision from the standpoint of value maximization?

It is impossible to give definitive answers to questions such as these, and this dilemma has led to the development of alternative theories of firm behavior. Some of the more prominent alternatives are models in which size or growth maximization is the assumed primary objective of management, models that argue that managers are most concerned with their own personal utility or welfare maximization, and models that treat the firm as a collection of individuals with widely divergent goals rather than as a single, identifiable unit. These alternative theories, or models, of managerial behavior have added to our understanding of the firm. Still, none can supplant the basic value maximization model as a foundation for analyzing managerial decisions. Examining why provides additional insight into the value of studying managerial economics.

Research shows that vigorous competition in markets for most goods and services typically forces managers to seek value maximization in their operating decisions. Competition in the capital markets forces managers to seek value maximization in their financing decisions as well. Stockholders are, of course, interested in value maximization because it affects their rates of return on common stock investments. Managers who pursue their own interests instead of stockholders' interests run the risk of losing their job. Buyout pressure from unfriendly firms ("raiders") has been considerable during recent years. Unfriendly takeovers are especially hostile to inefficient management that is replaced. Further, because recent studies show a strong correlation between firm profits and managerial compensation, managers have strong economic incentives to pursue value maximization through their decisions.

It is also sometimes overlooked that managers must fully consider costs and benefits before they can make reasoned decisions. Would it be wise to seek the best technical solution to a problem if the costs of finding this solution greatly exceed resulting benefits? Of course not. What often appears to be satisficing on the part of management can be interpreted as value-maximizing behavior once the costs of information gathering and analysis are considered. Similarly, short-run growth maximization strategies are often consistent with long-run value maximization when the production, distribution, or promotional advantages of large firm size are better understood.

Finally, the value maximization model also offers insight into a firm's voluntary "socially responsible" behavior. The criticism that the traditional theory of the firm emphasizes profits and value maximization while ignoring the issue of social responsibility is important and is discussed later in the chapter. For now, it will prove useful to examine the concept of profits, which is central to the theory of the firm.

## PROFITS

The free enterprise system would fail without profits and the profit motive. Even in planned economies, in which state ownership rather than private enterprise is typical, the profit motive is increasingly used to spur efficient resource use. In the former Eastern Bloc countries, the former Soviet Union, China, and other nations, new profit incentives for managers and workers have led to higher product quality and cost-efficiency. Thus, profits and the profit motive play a growing role in the efficient allocation of economic resources worldwide.

### Business versus Economic Profit

The general public and the business community typically define profit as the residual of sales revenue minus the explicit costs of doing business. It is the amount available to fund equity capital after payment for all other resources used by the firm. This definition of profit is accounting profit, or **business profit**.

The economist also defines profit as the excess of revenues over costs. However, inputs provided by owners, including entrepreneurial effort and capital, are resources that must be compensated. The economist includes a normal rate of return on equity capital plus an opportunity cost for the effort of the owner-entrepreneur as costs of doing business, just as the interest paid on debt and the wages are costs in calculating business profit. The risk-adjusted **normal rate of return** on capital is the minimum return necessary to attract and retain investment. Similarly, the opportunity cost of owner effort is determined by the value that could be received in alternative employment. In economic terms, profit is business profit minus the implicit (noncash) costs of capital and other owner-provided inputs used by the firm. This profit concept is frequently referred to as **economic profit**.

The concepts of business profit and economic profit can be used to explain the role of profits in a free enterprise economy. A normal rate of return, or profit, is necessary to induce individuals to invest funds rather than spend them for current consumption. Normal profit is simply a cost for capital; it is no different from the cost of other resources (e.g., labor, materials, and energy). A similar price exists for the entrepreneurial effort of a firm's owner-manager and for other resources that owners bring to the firm. These opportunity costs for owner-provided inputs offer a primary explanation for the existence of business profits, especially among small businesses.

### Variability of Business Profits

In practice, reported profits fluctuate widely. Table 1.1 shows business profits for a well-known sample of 30 industrial giants: those companies that comprise the Dow Jones Industrial Average. Business profit is often measured in dollar terms or as a percentage of sales revenue, called **profit margin**, as in Table 1.1. The economist's concept of a normal rate of profit is typically assessed in terms of the realized rate of **return on stockholders' equity** (ROE). ROE is defined as accounting net income divided by the book value of the firm. As seen in Table 1.1, the average ROE for industrial giants found in the Dow Jones Industrial Average falls in a broad range around 15%–20% per year. Although an average annual ROE of roughly 10–12% can be regarded as a typical or normal rate of return in the United States and Canada, this standard is routinely exceeded by companies such as Coca-Cola, which has consistently earned a ROE in excess of 50% per year. It is a standard seldom met by International Paper, a company that has suffered massive losses in an attempt to cut costs and increase product quality in the face of tough environmental regulations and foreign competition.

Some of the variation in ROE depicted in Table 1.1 represents the influence of differential risk premiums. In the pharmaceuticals industry, for example, hoped-for

#### Business profit

Residual of sales revenue minus the explicit accounting costs of doing business

#### Normal rate of return

Average profit necessary to attract and retain investment

#### Economic profit

Business profit minus the implicit costs of capital and any other owner-provided inputs

#### Return on stockholders' equity

Accounting net income divided by the book value of total assets minus total liabilities

TABLE 1.1

## THE PROFITABILITY OF INDUSTRIAL GIANTS INCLUDED IN THE DOW JONES INDUSTRIAL AVERAGE

COMPANY NAME	INDUSTRY	SALES	NET INCOME	NET WORTH	RETURN ON SALES (MARGIN)	RETURN ON EQUITY (ROE)
AT&T Corp.	Telecommunications	\$51,319.0	\$4,472.0	\$22,647.0	8.7%	19.7%
Alcoa Inc.	Aluminum	13,319.2	761.2	4,419.4	5.7%	17.2%
Allied-Signal Inc.	Conglomerate	14,472.0	1,170.0	4,386.0	8.1%	26.7%
Amer. Express	Financial	17,760.0	1,991.0	9,574.0	11.2%	20.8%
Boeing	Aerospace	45,800.0	632.0	12,953.0	1.4%	4.9%
Caterpillar Inc.	Machinery	18,925.0	1,665.0	4,679.0	8.8%	35.6%
Chevron Corp.	Oil	35,009.0	3,180.0	17,472.0	9.1%	18.2%
Citigroup Inc.	Financial		6,705.0	41,851.0	na	16.0%
Coca-Cola	Soft Drinks	18,868.0	4,129.0	7,311.0	21.9%	56.5%
Disney (Walt)	Entertainment	22,976.0	1,870.8	19,388.0	8.1%	9.6%
Du Pont	Chemical	45,079.0	4,087.0	11,270.0	9.1%	36.3%
Eastman Kodak	Photography	14,538.0	1,168.0	3,161.0	8.0%	37.0%
Exxon Corp.	Oil	120,279.0	8,155.0	43,660.0	6.8%	18.7%
General Electric	Electrical Equipment	48,952.0	8,203.0	34,438.0	16.8%	23.8%
General Motors	Auto	173,168.0	5,972.0	17,506.0	3.4%	34.1%
Goodyear Tire	Tire	13,155.1	735.0	3,395.5	5.6%	21.6%
Hewlett-Packard	Computer	47,061.0	3,065.0	16,919.0	6.5%	18.1%
IBM	Computer	78,508.0	6,093.0	19,816.0	7.8%	30.7%
International Paper	Paper	20,096.0	310.0	8,710.0	1.5%	3.6%
Johnson & Johnson	Medical Supplies	22,629.0	3,303.0	12,359.0	14.6%	26.7%
McDonald's Corp.	Restaurant	11,408.8	1,642.5	8,851.6	14.4%	18.6%
Merck & Co.	Drug	23,636.9	4,614.1	12,613.5	19.5%	36.6%
Minnesota Mining	Diversified Chemical	15,070.0	1,626.0	5,926.0	10.8%	27.4%
Morgan (J.P.) & Co.	Financial		1,465.0	11,404.0	na	12.8%
Philip Morris	Tobacco	72,055.0	6,310.0	14,920.0	8.8%	42.3%
Procter & Gamble	Consumer Products	37,154.0	3,780.0	12,236.0	10.2%	30.9%
Sears Roebuck	Retail	41,296.0	1,303.0	5,862.0	3.2%	22.2%
Union Carbide	Chemical	6,502.0	676.0	2,348.0	10.4%	28.8%
United Technologies	Conglomerate	24,713.0	1,072.0	4,523.0	4.3%	23.7%
Wal-Mart	Retail	117,958.0	3,526.0	18,503.0	3.0%	19.1%
<b>Averages</b>		41,846.7	3,122.7	13,770.1	7.5%	22.7%

na means "not applicable."

Data source: Value Line Investment Survey, February 1999.

discoveries of effective therapies for important diseases are often a long shot at best. Thus, the 36.6% rate of return reported by Merck overstates the relative profitability of the drug industry; it could be cut by one-half with proper risk adjustment. Similarly, reported profit rates can overstate differences in economic profits if accounting error or bias causes investments with long-term benefits to be omitted from the balance sheet. For example, current accounting practice often fails to consider advertising or research and development expenditures as intangible investments with long-term benefits. Because advertising and research and development expenditures are immediately expensed rather than capitalized and written off over their useful lives, intangible assets can be grossly understated for certain companies. The balance sheet of Coca-Cola does not reflect the hundreds of millions of dollars spent to establish and maintain its good reputation, just as Merck's balance sheet fails to reflect research dollars spent to develop important product names such as *Mevacor*, *Prinivil*, and

*Vasotec*. As a result, business profit rates for both Coca-Cola and Merck overstate each company's true economic performance.

However, even after risk adjustment and modification to account for the effects of accounting error and bias, ROE numbers reflect significant variation in economic profits. Many firms earn significant economic profits or experience meaningful economic losses at any given point. To better understand real-world differences in profit rates, it is necessary to examine theories used to explain profit variations.

### Frictional Theory of Economic Profits

#### Frictional profit theory

Abnormal profits observed following unanticipated changes in demand or cost conditions

One explanation of economic profits or losses is **frictional profit theory**. It states that markets are sometimes in disequilibrium because of unanticipated changes in demand or cost conditions. Unanticipated shocks produce positive or negative economic profits for some firms.

For example, automated teller machines (ATMs) make it possible for customers of financial institutions to easily obtain cash, enter deposits, and make loan payments. ATMs render obsolete many of the functions that used to be carried out at branch offices and foster ongoing consolidation in the industry. Similarly, new user-friendly software increases demand for high-powered personal computers (PCs) and boosts returns for efficient PC manufacturers. Alternatively, a rise in the use of plastics and aluminum in automobiles drives down the profits of steel manufacturers. Over time, barring impassable barriers to entry and exit, resources flow into or out of financial institutions, computer manufacturers, and steel manufacturers, thus driving rates of return back to normal levels. During interim periods, profits might be above or below normal because of frictional factors that prevent instantaneous adjustment to new market conditions.

### Monopoly Theory of Economic Profits

#### Monopoly profit theory

Above-normal profits caused by barriers to entry that limit competition

A further explanation of above-normal profits, **monopoly profit theory**, is an extension of frictional profit theory. This theory asserts that some firms are sheltered from competition by high barriers to entry. Economies of scale, high capital requirements, patents, or import protection enable some firms to build monopoly positions that allow above-normal profits for extended periods. Monopoly profits can even arise because of luck or happenstance (being in the right industry at the right time) or from anticompetitive behavior. Unlike other potential sources of above-normal profits, monopoly profits are often seen as unwarranted. Thus, monopoly profits are usually taxed or otherwise regulated. Chapters 10, 11, and 13 consider the causes and consequences of monopoly and how society attempts to mitigate its potential costs.

### Innovation Theory of Economic Profits

#### Innovation profit theory

Above-normal profits that follow successful invention or modernization

An additional theory of economic profits, **innovation profit theory**, describes the above-normal profits that arise following successful invention or modernization. For example, innovation profit theory suggests that Microsoft Corporation has earned superior rates of return because it successfully developed, introduced, and marketed the Graphical User Interface, a superior image-based rather than command-based approach to computer software instructions. Microsoft has continued to earn super-normal returns as other firms scramble to offer a wide variety of "user friendly" software for personal and business applications. Only after competitors have introduced and successfully saturated the market for user-friendly software will Microsoft profits be driven down to normal levels. Similarly, McDonald's Corporation earned above-normal rates of return as an early innovator in the fast-food business. With increased competition from Burger King, Wendy's, and a host of national and regional competitors, McDonald's, like Apple, IBM, Xerox, and other early innovators, has seen its above-normal returns decline. As in the case of frictional or disequilib-

rium profits, profits that are due to innovation are susceptible to the onslaught of competition from new and established competitors.

### Compensatory Theory of Economic Profits

#### Compensatory profit theory

Above-normal rates of return that reward efficiency

**Compensatory profit theory** describes above-normal rates of return that reward firms for extraordinary success in meeting customer needs, maintaining efficient operations, and so forth. If firms that operate at the industry's average level of efficiency receive normal rates of return, it is reasonable to expect firms operating at above-average levels of efficiency to earn above-normal rates of return. Inefficient firms can be expected to earn unsatisfactory, below-normal rates of return.

Compensatory profit theory also recognizes economic profit as an important reward to the entrepreneurial function of owners and managers. Every firm and product starts as an idea for better serving some established or perceived need of existing or potential customers. This need remains unmet until an individual takes the initiative to design, plan, and implement a solution. The opportunity for economic profits is an important motivation for such entrepreneurial activity.

### Role of Profits in the Economy

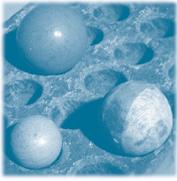
Each of the preceding theories describe economic profits obtained for different reasons. In some cases, several reasons might apply. For example, an efficient manufacturer may earn an above-normal rate of return in accordance with compensatory theory. But during a strike by a competitor's employees, these above-average profits may be augmented by frictional profits. Similarly, Microsoft's profit position might be partly explained by all four theories: The company has earned high frictional profits while Adobe Systems, Computer Associates, Lotus, Netscape, Oracle, and a host of other software companies tool up in response to the rapid growth in demand for user-friendly software; it has earned monopoly profits because it has copyright protection; it has certainly benefitted from successful innovation; and it is well managed and thus has earned compensatory profits.

Economic profits play an important role in a market-based economy. Above-normal profits serve as a valuable signal that firm or industry output should be increased. Expansion by established firms or entry by new competitors often occurs quickly during high-profit periods. Just as above-normal profits provide a signal for expansion and entry, below-normal profits provide a signal for contraction and exit. Economic profits are one of the most important factors affecting the allocation of scarce economic resources. Above-normal profits can also constitute an important reward for innovation and efficiency, just as below-normal profits can serve as a penalty for stagnation and inefficiency. Profits play a vital role in providing incentives for innovation and productive efficiency and in allocating scarce resources.

## ROLE OF BUSINESS IN SOCIETY

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Business contributes significantly to social welfare. The economy in the United States and several other countries has sustained notable growth over many decades. Benefits of that growth have also been widely distributed. Suppliers of capital, labor, and other resources all receive substantial returns for their contributions. Consumers benefit from an increasing quantity and quality of goods and services available for consumption. Taxes on the business profits of firms, as well as on the payments made to suppliers of labor, materials, capital, and other inputs, provide revenues needed to increase government services. All these contributions to social welfare stem from the efficiency of business in serving economic needs.



## MANAGERIAL APPLICATION 1.2

# The World Is Turning to Capitalism and Democracy

Capitalism is based on voluntary exchange between self-interested parties. Given that the exchange is voluntary, both parties must perceive benefits, or profit, for market transactions to take place. If only one party were to benefit from a given transaction, there would be no incentive for the other party to cooperate and no voluntary exchange would take place. A self-interested capitalist must also have in mind the interest of others. In contrast, a truly selfish individual is concerned only with himself or herself, without regard for the well-being of others. As such, selfish behavior is inconsistent with the capitalistic system. Self-interested behavior leads to profits and success under capitalism; selfish behavior does not.

Like any economic system, capitalism has far-reaching political and social consequences. Similarly, democracy has far-reaching economic consequences. What is sometimes not understood is that capitalism and democracy are mutually reinforcing. Some philosophers have gone so far as to say that capitalism and democracy are intertwined. Without capitalism, democracy is impossible. Without democracy, capitalistic systems fail. To better understand the relation between capitalism and democracy, it becomes necessary to consider the fundamentally attractive characteristics of a decentralized exchange economy.

Capitalism is socially desirable because of its decentralized and customer-oriented nature. The menu of products to be produced is derived from market price and output signals originating in free and competitive markets, not from the output schedules of a centralized planning agency. As such, production is freely directed by self-interested producers seeking to meet the demands of individual customers. Resources and products are impartially allocated through market forces. They are not allocated on the basis of favoritism due to social status or political persuasion. Through their purchase decisions, customers are able to influence the quantity and quality of products brought to market. Any producer that is able to meet these demands is allowed to compete.

A freely competitive market gives customers a broad choice of goods and services and gives all producers the opportunity to succeed. As such, capitalism reinforces the individual freedoms protected in a democratic society. In democracy, government does not grant individual freedom. Instead, the political power of government emanates from the people. Similarly, the flow of economic

resources originates with the individual customer in a capitalistic system. It is not centrally directed by government.

Competition among producers is also a fundamentally attractive feature of the capitalistic system because it tends to keep costs and prices as low as possible. By operating efficiently, firms are able to produce the maximum quantity and quality of goods and services possible, given scarce productive resources. Even though efficiency in resource allocation is an often recognized virtue of capitalism, the egalitarian nature of capitalistic production methods is sometimes overlooked. Mass production is, by definition, production for the masses. By its nature, capitalism seeks to satisfy a broad rather than narrow constituency. Competition by entrant and non-leading firms typically limits the concentration of economic and political power. When economic forces tend to reduce rather than increase the number of viable competitors, antitrust or regulation policy is sometimes used to avoid potentially harmful consequences. On balance, and especially when compared to centrally planned economies, competitive processes in a capitalistic system tend to further the principles of individual freedom and self-determination. From this perspective, capitalism and democracy are mutually reinforcing. Strong market forces tend to undermine the economic favoritism that occurs under totalitarian systems of government. Similarly, the democratic form of government is inconsistent with concentrated economic influence and decision making.

Today, communism and totalitarian forms of government are in retreat around the globe. China has experienced violent upheaval as the country embarks on much-needed economic and political reforms. In the Soviet Union, Eastern Europe, India and Latin America, years of economic failure forced governments to dismantle entrenched bureaucracy and install economic incentives. Rising living standards and political freedom have made life in the West the envy of the world. Against this backdrop, the future is bright indeed for capitalism *and* democracy!

See: Glen Simpson and Marcus W. Brauchli, "Olympics, EU Commission Scandals Could Broaden Anticorruption Efforts," *The Wall Street Journal*. April 2, 1999, A12.

## Why Firms Exist

Firms exist by public consent to serve social needs. If social welfare could be measured, business firms might be expected to operate in a manner that would maximize some index of social well-being. Maximization of social welfare requires answering the following important questions: What combination of goods and services (including negative by-products such as pollution) should be produced? How should goods and services be provided? And how should goods and services be distributed? These are the most vital questions faced in a free enterprise system, and they are key issues in managerial economics.

In a free market economy, the economic system produces and allocates goods and services according to the forces of demand and supply. Firms must determine what products customers want, bid for necessary resources, and then offer products for sale. In this process, each firm actively competes for a share of the customer's dollar. Suppliers of capital, labor, and raw materials must then be compensated out of sales proceeds. The share of revenues paid to each supplier depends on relative productivity, resource scarcity, and the degree of competition in each input market.

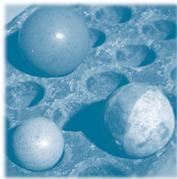
## Role of Social Constraints

Although the process of market-determined production and allocation of goods and services is highly efficient, there are potential difficulties in an unconstrained market economy. Society has developed a variety of methods for alleviating these problems through the political system. One possible difficulty with an unconstrained market economy is that certain groups could gain excessive economic power. To illustrate, the economics of producing and distributing electric power are such that only one firm can efficiently serve a given community. Furthermore, there are no good substitutes for electric lighting. As a result, electric companies are in a position to exploit consumers; they could charge high prices and earn excessive profits. Society's solution to this potential exploitation is regulation. Prices charged by electric companies and other utilities are held to a level that is thought to be just sufficient to provide a fair rate of return on investment. In theory, the regulatory process is simple; in practice, it is costly, difficult to implement, and in many ways arbitrary. It is a poor, but sometimes necessary, substitute for competition.

An additional problem can occur when, because of economies of scale or other barriers to entry, a limited number of firms serves a given market. If firms compete fairly with each other, no difficulty arises. However, if they conspire with one another in setting prices, they may be able to restrict output, obtain excessive profits, and reduce social welfare. Antitrust laws are designed to prevent such collusion. Like direct regulation, antitrust laws contain arbitrary elements and are costly to administer, but they too are necessary if economic justice, as defined by society, is to be served.

To avoid the potential for worker exploitation, laws have been developed to equalize bargaining power of employers and workers. These labor laws require firms to allow collective bargaining and to refrain from unfair practices. The question of whether labor's bargaining position is too strong in some instances also has been raised. For example, can powerful national unions such as the Teamsters use the threat of a strike to obtain excessive increases in wages? Those who believe this to be the case have suggested that the antitrust laws should be applied to labor unions, especially those that bargain with numerous small employers.

A market economy also faces difficulty when firms impose costs on others by dumping wastes into the air or water. If a factory pollutes the air, causing nearby residents to suffer lung ailments, a meaningful cost is imposed on these people and society in general. Failure to shift these costs back onto the firm and, ultimately, to the consumers of its products means that the firm and its customers benefit unfairly by not having to pay the full costs of production. Pollution and other externalities may result in an inefficient and inequitable allocation of resources. In both government



### MANAGERIAL APPLICATION 1.3

## Check the Internet!

More and more it seems that when looking for easy-to-use business data, news, or analysis, the best advice is to simply: Check the Internet. Whether seeking macroeconomic information on trends in the overall economy, or microeconomic information about changes in specific sectors, industries, or companies, a good place to start your search is on the World Wide Web.

One of the best starting points is a place called Resources for Economists on the Internet (<http://rfe.org>), and is maintained by Bill Goffe, a professor in the Department of Economics and International Business at the University of Southern Mississippi. A super website, this location gives an astounding number of links to information for anyone with questions on economics or economists. Both broad economic issues and narrow enquiries can be addressed using these data. If you're not familiar with a particular linked resource, you may want to start with Goffe's Table of Contents. From there, you can move to a more detailed description, and then to the resource itself.

A wealth of government statistics on trends in the overall population, demographics, business performance, and economic activity can be found on the home page of

the U.S. Census Bureau (<http://www.census.gov>). For example, the Census Economic Briefing Room gives timely statistics on trends in housing starts, retail sales, wholesale trade, and manufacturer shipments, inventories, and orders. Whatever the question, if it relates to official government statistics, a visit to the home page of the U.S. Census Bureau is a must.

Another vital tool when seeking detailed government information about individual companies is the Electronic Data Gathering, Analysis, and Retrieval system. EDGAR is an automated system for the collection and dissemination of mandatory reports to the U.S. Securities and Exchange Commission (SEC). Its primary purpose is to increase the efficiency and fairness of securities markets by accelerating the publication of time-sensitive corporate information filed with the agency. EDGAR filings are posted to the SEC's website 24 hours after the date of filing.

While corporate annual and quarterly reports to shareholders need not be submitted on EDGAR, many companies do so voluntarily. Moreover, so-called Form 10-K reports that contain much of the information included in annual reports must be made on EDGAR; quarterly Form 10-Q reports provide timely updates.

and business, considerable attention is being directed to the problem of internalizing these costs. Some of the practices used to internalize social costs include setting health and safety standards for products and work conditions, establishing emissions limits on manufacturing processes and products, and imposing fines or closing firms that do not meet established standards.

### Social Responsibility of Business

What does all this mean with respect to the value maximization theory of the firm? Is the model adequate for examining issues of social responsibility and for developing rules that reflect the role of business in society?

Business firms are primarily economic entities and can be expected to analyze social responsibility from within the context of the economic model of the firm. This is an important consideration when examining inducements used to channel the efforts of business in directions that society desires. Similar considerations should also be taken into account before applying political pressure or regulations to constrain firm operations. For example, from the consumer's standpoint it is desirable to pay low rates for gas, electric, and telephone services. If public pressures drive rates down too low, however, utility profits could fall below the level necessary to provide an adequate return to investors. In that event, capital would flow out of regulated industries, innovation would cease, and service would deteriorate. When such issues are

Third-party filings, such as tender offers by unaffiliated persons, are also filed on EDGAR. Other documents may be filed on EDGAR voluntarily. For example, Forms 3, 4, and 5 (security ownership and transaction reports filed by corporate insiders), Form 144 (notice of proposed sale of securities), and Form 13F (reports filed by institutional investment managers showing equity holdings by accounts under their management) may be filed on EDGAR at the option of the filer. Similarly, reports by foreign companies are not required to be filed on EDGAR, but many do so voluntarily.

Another good bet for timely economic information are a number of websites maintained by various news organizations. One of the best of these is the USA Today Money Section website. For example, the Economy Track section offers timely reports on a variety of economic indicators, including: spending, consumer confidence, employee costs, Gross Domestic Product, income, consumer and producer prices, and so on. For those in-

terested in the primary data, direct links to home pages maintained by the Federal Reserve Board of Governors and by regional Federal Reserve Banks (in Atlanta, Boston, and Chicago, etc.) are also provided.

Anyone's complete list of favorite websites for economic information on the Internet is apt to be long, and getting longer. A short list of my half-dozen favorites is given below (see: <http://www.bschool.ukans.edu/faculty/mhirsche/bookmark2.htm>). While these websites provide a good starting point for business analysis on the Internet, it's impossible to cite even a small fraction of the websites that you will find useful. Perhaps the best advice is to simply log onto the Internet, type in a key word on Yahoo!, or your favorite search engine (web explorer), sit back, and prepare to be amazed!

See: Kathy Yakal, "Download This," *Barron's*, March 29, 1999, 45.

NAME	INFORMATION	INTERNET ADDRESS
<i>USA Today</i>	Consumer news	<a href="http://www.usatoday.com/money/mfront.htm">http://www.usatoday.com/money/mfront.htm</a>
<i>The Interactive</i>	Business news	<a href="http://interactive.wsj.com">http://interactive.wsj.com</a>
<i>Wall Street Journal</i>		
<i>Barron's Online</i>	Business analysis	<a href="http://www.barrons.com">http://www.barrons.com</a>
<i>Hoover's Online</i>	Company and industry data	<a href="http://hoovers.com">http://hoovers.com</a>
Yahoo.com	Company and industry news	<a href="http://quote.yahoo.com">http://quote.yahoo.com</a>
U.S. Securities and Exchange Commission	Company reports	<a href="http://www.sec.gov">http://www.sec.gov</a>

considered, the economic model of the firm provides useful insight. This model emphasizes the close relation between the firm and society and indicates the importance of business participation in the development and achievement of social objectives.

## STRUCTURE OF THIS TEXT

### Objectives

This text should help you accomplish the following objectives:

- Develop a clear understanding of the economic method in managerial decision making;
- Acquire a framework for understanding the nature of the firm as an integrated whole as opposed to a loosely connected set of functional departments; and
- Recognize the relation between the firm and society and the role of business as a tool for social betterment.

Throughout the text, the emphasis is on the *practical* application of economic analysis to managerial decision problems.

## Development of Topics

The value maximization framework is useful for characterizing actual managerial decisions and for developing rules that can be used to improve those decisions. The basic test of the value maximization model, or any model, is its ability to explain real-world behavior. This text highlights the complementary relation between theory and practice. Theory is used to improve managerial decision making, and practical experience leads to the development of better theory.

Chapter 2, *Economic Optimization*, begins by examining the important role that marginal analysis plays in the optimization process. The balancing of marginal revenues and marginal costs to determine the profit-maximizing output level is explored, as are other fundamental economic relations that help organizations efficiently use scarce resources. All these economic relations are considered based on the simplifying assumption that cost and revenue relations are known with certainty. Later in the book, this assumption is relaxed, and the more realistic circumstance of decision making with uncertainty is examined. This material shows how optimization concepts can be effectively used in situations in which managers have extensive information about the chance or probability of certain outcomes but the end result of managerial decisions cannot be forecast precisely.

The concepts of demand and supply are basic to understanding the effective use of economic resources. The general overview of demand and supply in Chapter 3 provides a framework for the more detailed inquiry that follows. Chapter 4, *Demand Analysis*, emphasizes that the successful management of any organization requires a complete understanding of the demand for its products. The demand function relates the sales of a product to such important factors as the price of the product itself, prices of other goods, income, advertising, and even weather. The role of demand elasticities, which measure the strength of relations expressed in the demand function, is also emphasized. Given the challenges posed by a rapidly changing global environment, a careful statistical analysis of demand relations is often conducted to provide the information necessary for effective decision making. Tools used by managers in the statistical analysis of demand relations are the subject of Chapter 5, *Demand Estimation*. Issues addressed in the prediction of demand and cost conditions are explored more fully in Chapter 6, *Forecasting*. Material in this chapter provides a useful framework for the estimation of demand and cost relations.

Chapters 7, 8, and 9 examine production and cost concepts. The economics of resource employment in the manufacture and distribution of goods and services is the focus of this material. These chapters present economic analysis as a context for understanding the logic of managerial decisions and as a means for developing improved practices. Chapter 7, *Production Analysis and Estimation*, develops and illustrates rules for optimal resource use. This material demonstrates how resources can be used in a profit-maximizing manner. Chapter 8, *Cost Analysis and Estimation*, focuses on the identification of cost-output relations so that appropriate decisions regarding product pricing, plant size and location, and so on can be made. Chapter 9, *Linear Programming*, introduces a tool from the decision sciences that can be used to solve a variety of optimization problems. This technique offers managers input for short-run operating decisions and information helpful in the long-run planning process.

The remainder of the book builds on the foundation provided in Chapters 1 through 9 to examine a variety of topics in the theory and practice of managerial economics. Chapters 10 and 11 explore market structures and their implications for the development and implementation of effective competitive strategy. Demand and supply relations are integrated to examine the dynamics of economic markets. Chapter 10, *Perfect Competition and Monopoly*, offers perspective on how product differentiation, barriers to entry, and the availability of information interact to determine the vigor of competition. Chapter 11, *Monopolistic Competition and Oligopoly*, considers “competition among the few” for industries in which interactions among

competitors are normal. Chapter 12, Pricing Practices, shows how the forces of supply and demand interact under a variety of market settings to signal appropriate pricing policies. Importantly, this chapter analyzes pricing practices commonly observed in business and shows how they reflect the predictions of economic theory.

Chapter 13, Government Regulation of the Market Economy, focuses on the role of government by considering how the external economic environment affects the managerial decision-making process. This chapter investigates how interactions among business, government, and the public result in antitrust and regulatory policies with direct implications for the efficiency and fairness of the economic system. Chapter 14, Risk Analysis, illustrates how the predictions of economic theory can be applied in the real-world setting of uncertainty. Chapter 15, Capital Budgeting, examines the key elements necessary for an effective planning framework for managerial decision making. It investigates the capital budgeting process and how firms combine demand, production, cost, and risk analyses to effectively make strategic long-run investment decisions. Chapter 16, Organization Structure and Corporate Governance, offers insight concerning the value-maximizing design of the firm. Finally, Chapter 17, Public Management, studies how the tools and techniques of managerial economics can be used to analyze decisions in the public and not-for-profit sectors and how that decision-making process can be improved.

## SUMMARY

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Managerial economics links economics and the decision sciences to develop tools for managerial decision making. This approach is successful because it focuses on the application of economic analysis to practical business problem solving.

- **Managerial economics** applies economic theory and methods to business and administrative decision making.
- The basic model of the business enterprise is called the **theory of the firm**. The primary goal is seen as long-term **expected value maximization**. The **value of the firm** is the present value of the firm's expected future net cash flows, whereas **present value** is the value of expected cash flows discounted back to the present at an appropriate interest rate.
- Valid questions are sometimes raised about whether managers really **optimize** (seek the best solution) or merely **satisfice** (seek satisfactory rather than optimal results). Most often, especially when information costs are considered, managers can be seen as optimizing.
- **Business profit**, or accounting profit, is the residual of sales revenue minus the explicit accounting costs of doing business. Business profit often incorporates a **normal rate of return** on capital, or the minimum return necessary to attract and retain investment for a particular use. **Economic profit** is business profit minus the implicit costs of equity and other owner-provided inputs used by the firm. **ROE**, or accounting net income divided by the book value of total assets minus total liabilities, is a useful practical indicator of firm performance.
- **Frictional profit theory** describes abnormal profits observed following unanticipated changes in product demand or cost conditions. **Monopoly profit theory** asserts that above-normal profits are sometimes caused by barriers to entry that limit competition. **Innovation profit theory** describes above-normal profits that arise as a result of successful invention or modernization. **Compensatory profit theory** holds that above-normal rates of return can sometimes be seen as a reward to firms that are extraordinarily successful in meeting customer needs, maintaining efficient operations, and so forth.

The use of economic methodology to analyze and improve the managerial decision-making process combines the study of theory and practice. Although

the logic of managerial economics is intuitively appealing, the primary virtue of managerial economics lies in its usefulness. It works!

## Questions

- Q1.1** Why is it appropriate to view firms primarily as economic entities?
- Q1.2** Explain how the valuation model given in Equation 1.2 could be used to describe the integrated nature of managerial decision making across the functional areas of business.
- Q1.3** Describe the effects of each of the following managerial decisions or economic influences on the value of the firm:
- The firm is required to install new equipment to reduce air pollution.
  - Through heavy expenditures on advertising, the firm's marketing department increases sales substantially.
  - The production department purchases new equipment that lowers manufacturing costs.
  - The firm raises prices. Quantity demanded in the short run is unaffected, but in the longer run, unit sales are expected to decline.
  - The Federal Reserve System takes actions that lower interest rates dramatically.
  - An expected increase in inflation causes generally higher interest rates, and hence, the discount rate increases.
- Q1.4** It is sometimes argued that managers of large, publicly owned firms make decisions to maximize their own welfare as opposed to that of stockholders. Would such behavior create problems in using value maximization as a basis for examining managerial decision making?
- Q1.5** How is the popular notion of business profit different from the economic profit concept described in the chapter? What role does the idea of normal profits play in this difference?
- Q1.6** Which concept—the business profit concept or the economic profit concept—provides the more appropriate basis for evaluating business operations? Why?
- Q1.7** What factors should be considered in examining the adequacy of profits for a firm or industry?
- Q1.8** Why is the concept of self-interest important in economics?
- Q1.9** “In the long run, a profit-maximizing firm would never knowingly market unsafe products. However, in the short run, unsafe products can do a lot of damage.” Discuss this statement.
- Q1.10** Is it reasonable to expect firms to take actions that are in the public interest but are detrimental to stockholders? Is regulation always necessary and appropriate to induce firms to act in the public interest?

### CASE STUDY FOR CHAPTER 1

## Is Coca-Cola the “Perfect” Business?<sup>3</sup>

What does a perfect business look like? For Warren Buffett and his partner Charlie Munger, vice-chairman of Berkshire Hathaway, Inc., it looks a lot like Coca-Cola. To see why, imagine going back in time to 1885, to Atlanta, Georgia, and trying to invent from scratch a nonalcoholic beverage that would make you, your family, and all your friends rich.

Your beverage would be nonalcoholic to ensure widespread appeal among both young and old alike. It would be cold rather than hot so as to provide relief from

<sup>3</sup>See Charles T. Munger, “How Do You Get Worldly Wisdom?” *Outstanding Investor Digest*, December 29, 1997, 24–31.

climatic effects. It must be ordered by name—a trademarked name. Nobody gets rich selling easy-to-imitate generic products. It must generate a lot of repeat business through what psychologists call conditioned reflexes. To get the desired positive conditioned reflex, you will want to make it sweet, rather than bitter, with no after-taste. Without any after-taste, consumers will be able to drink as much of your product as they like. By adding sugar to make your beverage sweet, it gains food value in addition to a positive stimulant. To get extra-powerful combinatorial effects, you may want to add caffeine as an additional stimulant. Both sugar and caffeine work; by combining them you get more than a double effect—you get what Munger calls a “lollapalooza” effect. Additional combinatorial effects could be realized if you design the product to appear exotic. Coffee is another popular product, so making your beverage dark in color seems like a safe bet. By adding carbonation, a little fizz can be added to your beverage’s appearance and its appeal.

To keep the lollapalooza effects coming, you will want to advertise. If people associate your beverage with happy times, they will tend to reach for it whenever they are happy or want to be happy. (Isn’t that always, as in “Always Coca-Cola”?) Make it available at sporting events, concerts, the beach, and theme parks—wherever and whenever people have fun. Enclose your product in bright, upbeat colors that customers tend to associate with festive occasions (another combinatorial effect). Red and white packaging would be a good choice. Also make sure that customers associate your beverage with festive occasions. Well-timed advertising and price promotions can help in this regard—annual price promotions tied to the Fourth of July holiday, for example, would be a good idea.

To ensure enormous profits, profit margins and the rate of return on invested capital must both be high. To ensure a high rate of return on sales, the price charged must be substantially above unit costs. Because consumers tend to be least price sensitive for moderately priced items, you would like to have a modest “price point,” say, roughly \$1–\$2 per serving. This is a big problem for most beverages because water is a key ingredient, and water is very expensive to ship long distances. To get around this cost-of-delivery difficulty, you will want to sell not the beverage itself, but a key ingredient, such as syrup, to local bottlers. By selling syrup to independent bottlers, your company can also better safeguard its “secret ingredients.” This also avoids the problem of having to invest a substantial amount in bottling plants, machinery, delivery trucks, and so on. This minimizes capital requirements and boosts the rate of return on invested capital. Moreover, if you correctly price the key syrup ingredient, you can ensure that the enormous profits generated by carefully developed lollapalooza effects accrue to your company and not to the bottlers. Of course, you want to offer independent bottlers the potential for highly satisfactory profits to provide the necessary incentive for them to push your product. You not only want to “leave something on the table” for the bottlers in terms of the bottlers’ profit potential, they in turn must be encouraged to “leave something on the table” for restaurant and other customers. This means that you must demand that bottlers deliver a consistently high-quality product at carefully specified prices if they are to maintain their valuable franchise to sell your beverage in the local area.

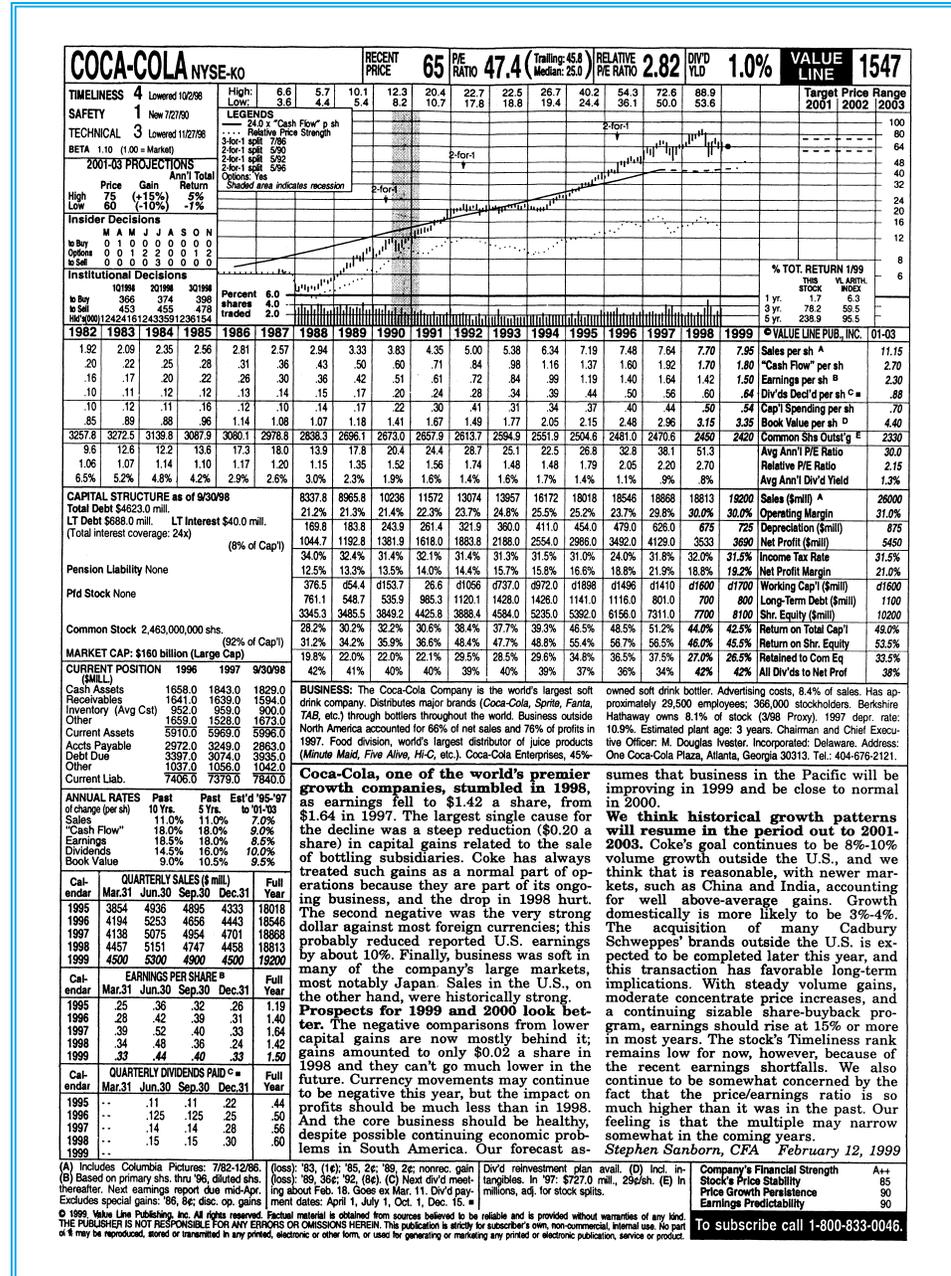
If you had indeed gone back to 1885, to Atlanta, Georgia, and followed all these suggestions, you would have created what you and I know as The Coca-Cola Company. To be sure, there would have been surprises along the way. Take widespread refrigeration, for example. Early on, Coca-Cola management saw the fountain business as the primary driver in cold carbonated beverage sales. They did not foretell that widespread refrigeration would make grocery store sales and in-home consumption popular. Still, much of Coca-Cola’s success has been achieved because its management had, and still has, a good grasp of both the economics and the psychology of the beverage business. By getting into rapidly growing foreign markets with a winning formula, they hope to create local brand name recognition, scale economies

*(continued)*

FIGURE 1.2

FINANCIAL AND OPERATING PERFORMANCE

Is Coca-Cola the Perfect Business?



(continued)

in distribution, and other "first mover" advantages like the ones they have nurtured in the United States for more than 100 years.

As shown in Figure 1.2, in a world where the typical company earns 10% rates of return on invested capital, Coca-Cola earns three and four times as much. Typical profit rates, let alone operating losses, are unheard of at Coca-Cola. It enjoys large and growing profits and requires practically no tangible capital investment. Almost its entire value is derived from brand equity derived from generations of advertising

CASE STUDY FOR CHAPTER 1

and carefully nurtured positive lollapalooza effects. On an overall basis, it is easy to see why Buffett and Munger regard Coca-Cola as the “perfect” business.

- A. One of the most important skills to learn in managerial economics is the ability to identify a good business. Discuss at least four characteristics of a good business.
- B. Identify and talk about at least four companies that you regard as having the characteristics listed above.
- C. Suppose you bought common stock in each of the four companies identified above. Three years from now, how would you know if your analysis was correct? What would convince you that your analysis was wrong?

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## Selected References

- Campbell, Cynthia J., and Charles E. Wasley. “Stock-based Incentive Contracts and Managerial Performance: The Case of Ralston Purina Company.” *Journal of Financial Economics* 51 (February 1999): 195–217.
- Bosch, J. C., E. Woodrow Eckard, and Insup Lee. “EPA Enforcement, Firm Response Strategies, and Stockholder Wealth: An Empirical Examination.” *Managerial and Decision Economics* 19 (May 1998): 167–177.
- Chidambaran, N. K., and Kose John. “Institutional Shareholders and Corporate Governance.” *Journal of Finance* 53 (April 1998): 806–808.
- Coase, Ronald. “The New Institutional Economics.” *American Economic Review* 88 (May 1998): 72.
- Canyon, Martin J., and Simon I. Peck. “Board Control, Remuneration Committees, and Top Management Compensation.” *Academy of Management Journal* 41 (April 1998): 146–157.
- Davenport, Thomas H. “Putting the Enterprise into the Enterprise System.” *Harvard Business Review* 76 (July/August 1998): 121–131.
- Gompers, Paul, and Josh Lerner. “An Analysis of Compensation in the U.S. Centure Capital Partnership.” *Journal of Financial Economics* 51 (January 1999): 3–44.
- Lamoreaux, Naomi R. “Partnerships, Corporations, and the Theory of the Firm.” *American Economic Review* 88 (May 1998): 66.
- Pagano, Marco, Fabio Panetta, and Luigi Zingales. “Why Do Companies Go Public? An Empirical Analysis.” *The Journal of Finance* 53 (February 1998): 27–64.
- Prahalad, C. K., and Kenneth Lieberthal. “The End of Corporate Imperialism.” *Harvard Business Review* 76 (July/August 1998): 68–79.
- Rajan, Raghuram G., and Luigi Zingales. “Power in a Theory of the Firm.” *Quarterly Journal of Economics* 113 (May 1998): 387–432.
- Reich, Robert B. “The New Meaning of Corporate Social Responsibility.” *California Management Review* 40 (Winter 1998): 8–17.
- Samuelson, Paul A. “How Foundations Came to Be.” *The Journal of Economic Literature* 36, (September 1998): 1375–1386.
- Siegfried, John J. “Who Is a Member of the AEA?” *The Journal of Economic Perspectives* 12 (Spring 1998): 211–222.
- Tezuka, Hiroyuki. “Success as the Source of Failure? Competition and Cooperation in the Japanese Economy.” *Sloan Management Review* 38 (Winter 1997): 83–93.