CHAPTER 21

Mergers, Acquisitions, and Corporate Control

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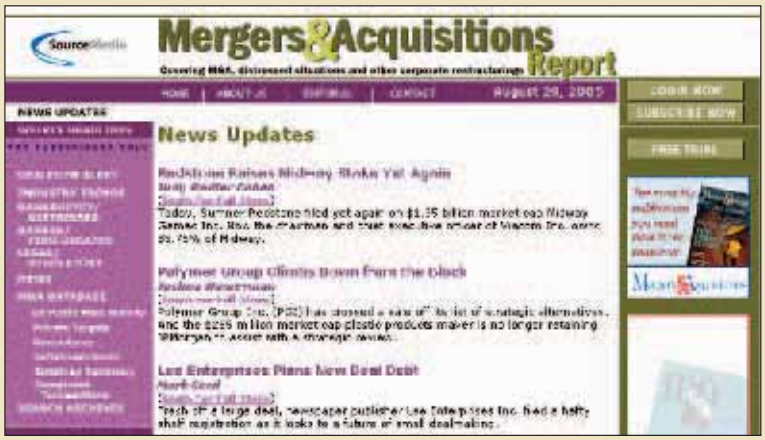

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Procter & Gamble agrees to buy Gillette in a $57 billion deal. Management of both firms is obviously delighted with the deal, but mergers can often end in tears.

Associated Press/AP

In recent years the scale and pace of merger activity have been remarkable. For example, Table 21–1 lists just a few of the more important mergers of 2004 and 2005. All these mergers were between two U.S. companies, but many of the largest mergers have involved firms in different countries. These cross-border mergers include such giant combinations as BP and Amoco ($48 billion), Daimler and Chrysler ($38 billion), and Vodafone and Mannesmann ($203 billion). During periods of intense merger activity financial managers spend considerable time either searching for firms to acquire or worrying whether some other firm is about to take over their company.

When one company buys another, it is making an investment, and the basic principles of capital investment decisions apply. You should go ahead with the purchase if it makes a net contribution to shareholders' wealth. But mergers are often awkward transactions to evaluate, and you have to be careful to define benefits and costs properly.

Many mergers are arranged amicably, but in other cases one firm will make a hostile takeover bid for the other. We describe the principal techniques of modern merger warfare, and since the threat of hostile takeovers has stimulated corporate restructurings and leveraged buyouts (LBOs), we describe them too and attempt to explain why these deals have generated rewards for investors. We close with a look at who gains and loses from mergers, and we discuss whether mergers are beneficial on balance.

After studying this chapter you should be able to:

- Describe ways that companies change their ownership or management.
- Explain why it may make sense for companies to merge.

- Estimate the gains and costs of mergers to the acquiring firm.
- Describe takeover defenses.
- Summarize the evidence on whether mergers increase efficiency and on how the gains from mergers are distributed between shareholders of the acquired and acquiring firms.
- Explain some of the motivations for leveraged and management buyouts of the firm.

21.1 The Market for Corporate Control

The shareholders are the owners of the firm. But most shareholders do not feel like the boss, and with good reason. Try buying a share of General Motors stock and marching into the boardroom for a chat with your employee, the chief executive officer.

The *ownership* and *management* of large corporations are almost always separated. Shareholders do not directly appoint or supervise the firm's managers. They elect the board of directors, who act as their agents in choosing and monitoring the managers of the firm. Shareholders have a direct say in very few matters. Control of the firm is in the hands of the managers, subject to the general oversight of the board of directors.

This system of governance creates potential *agency costs.* Agency costs occur when managers or directors take actions adverse to shareholders' interests.

The temptation to take such actions may be ever-present, but there are many forces and constraints working to keep managers' and shareholders' interests in line. As we pointed out in Chapter 1, managers' paychecks in large corporations are almost always tied to the profitability of the firm and the performance of its shares. Boards of directors take their responsibilities seriously—they may face lawsuits if they don't—and therefore are reluctant to rubber-stamp obviously bad financial decisions.

But what ensures that the board has engaged the most talented managers? What happens if managers are inadequate? What if the board of directors is derelict in monitoring the performance of managers? Or what if the firm's managers are fine but resources of the firm could be used more efficiently by merging with another firm? Can we count on managers to pursue arrangements that would put them out of jobs?

These are all questions about *the market for corporate control,* the mechanisms by which firms are matched up with management teams and owners who can make the most of the firm's resources. You should not take a firm's current ownership and management for granted. If it is possible for the value of the firm to be enhanced by changing management or by reorganizing under new owners, there will be incentives for someone to make a change.

TABLE 21–1 Some important recent mergers

Acquiring Company	Selling Company	Payment, (Billions of Dollars)
JP Morgan Chase	Bank One Corp.	58.8
Procter & Gamble	Gillette Co.	57.0
Bank of America Corp.	FleetBoston Financial Corp.	49.3
Cingular Wireless	AT&T Wireless Services Inc.	41.0
Sprint Corp.	Nextel Communications Inc.	35.2
Johnson & Johnson	Guidant Corp.	25.4
Chevron Corp.	Unocal Corp.	18.3
Anthem Inc.	WellPoint Health Networks Inc.	16.4
SBC Corp.	AT&T Corp.	16.0
Verizon	MCI	8.5

Source: *Mergers and Acquisitions,* various issues.

There are four ways to change the management of a firm. These are (1) a successful proxy contest in which a group of stockholders votes in a new group of directors, who then pick a new management team; (2) the purchase of one firm by another in a merger or acquisition; (3) a leveraged buyout of the firm by a private group of investors; and (4) a divestiture, in which a firm either sells part of its operations to another company or spins it off as an independent firm.

We will review briefly each of these methods.

Method 1: Proxy Contests

Shareholders elect the board of directors to keep watch on management and replace unsatisfactory managers. If the board is lax, shareholders are free to elect a different board. In theory this ensures that the corporation is run in the best interests of shareholders.

In practice things are not so clear-cut. Ownership in large corporations is widely dispersed. Usually even the largest single shareholder holds only a small fraction of the shares. Most shareholders have little notion who is on the board or what the members stand for. Management, on the other hand, deals directly with the board and has a personal relationship with its members. In many corporations, management sits on the committee that nominates candidates for the board. It is not surprising that some boards seem less than aggressive in forcing managers to run a lean, efficient operation and to act primarily in the interests of shareholders.

proxy contest
Takeover attempt in which outsiders compete with management for shareholders' votes. Also called *proxy fight.*

When a group of investors believe that the board and its management team should be replaced, they can launch a **proxy contest.** A *proxy* is the right to vote another shareholder's shares. In a proxy contest, the dissident shareholders attempt to obtain enough proxies to elect their own slate to the board of directors. Once the new board is in control, management can be replaced and company policy changed. A proxy fight is therefore a direct contest for control of the corporation.

Successful proxy contests are rare. One reason is that they can cost millions of dollars. Dissidents who engage in proxy fights must use their own money, but management can use the corporation's funds and lines of communications with shareholders to defend itself.

The SEC has proposed new rules that would make it easier to mount a proxy fight, but in the meantime shareholders have found that simply voting against the reelection of existing directors can send a powerful signal. When Disney shareholders voted 43 percent of the shares against the reelection of Michael Eisner, the company's autocratic chairman, he heard the message and resigned the next day.

Institutional shareholders such as large pension funds have become more aggressive in pressing for managerial accountability and have been able to gain concessions from firms without initiating proxy contests. For example, firms have agreed to split the jobs of chief executive officer and chairman of the board of directors. This ensures that an outsider is responsible for keeping watch over the company. Also, more firms now bar corporate insiders from serving on the committee that nominates candidates to the board. Perhaps as a result of shareholder pressure, boards also seem to be getting more aggressive. For example, outside directors were widely credited for hastening the replacement of top management at Hewlett-Packard, Boeing, and Office Depot.

Method 2: Mergers and Acquisitions

Poorly performing managers face a greater risk from acquisition than from proxy contests. If the management of one firm observes another firm underperforming, it can try to acquire the business and replace the poor managers with its own team. In practice, corporate takeovers are the arenas where contests for corporate control are usually fought.

There are three ways for one firm to acquire another. One possibility is to *merge* the two companies into one, in which case the acquiring company assumes *all* the assets

and *all* the liabilities of the other. The acquired firm ceases to exist, and its former shareholders receive cash and/or securities in the acquiring firm. In many mergers there is a clear acquiring company, whose management then runs the enlarged firm. Sometimes a merger is presented as a "merger of equals," but even in these cases one firm's management usually comes out on top.

merger
Combination of two firms into one, with the acquirer assuming assets and liabilities of the target firm.

A **merger** must have the approval of at least 50 percent of the shareholders of each firm.[1] Shareholders are not always satisfied that the proposed merger is in their best interests. For example, when Hewlett-Packard wished to merge with Compaq Computer, the Hewlett family led a shareholders' revolt. The merger was eventually approved by shareholders, but only by a wafer-thin majority.

A second alternative is for the acquiring firm to buy the target firm's stock in exchange for cash, shares, or other securities. The acquired firm may continue to exist as a separate entity, but it is now owned by the acquirer. The approval and cooperation of the target firm's managers are generally sought, but even if they resist, the acquirer can attempt to purchase a majority of the outstanding shares. By offering to buy shares directly from shareholders, the acquiring firm can bypass the target firm's management altogether. The offer to purchase stock is called a **tender offer.** If the tender offer is successful, the buyer obtains control and can, if it chooses, toss out incumbent management.

tender offer
Takeover attempt in which outsiders directly offer to buy the stock of the firm's shareholders.

The third approach is to buy the target firm's assets. In this case ownership of the assets needs to be transferred, and payment is made to the selling firm rather than directly to its stockholders. Usually, the target firm sells only some of its assets, but occasionally it sells *all* of them. In this case, the selling firm continues to exist as an independent entity, but it becomes an empty shell—a corporation engaged in no business activity.

The terminology of mergers and acquisitions (M&A) can be confusing. These phrases are used loosely to refer to any kind of corporate combination or takeover. But strictly speaking, *merger* means the combination of all the assets and liabilities of two firms. The purchase of the stock or assets of another firm is an **acquisition.**

acquisition
Takeover of a firm by purchase of that firm's common stock or assets.

Method 3: Leveraged Buyouts

Sometimes a group of investors takes over a firm by means of a **leveraged buyout,** or **LBO.** The LBO group takes the firm private and its shares no longer trade in the securities markets. Usually a considerable proportion of LBO financing is borrowed, hence the term *leveraged* buyout.

leveraged buyout (LBO)
Acquisition of the firm by a private group using substantial borrowed funds.

If the investor group is led by the management of the firm, the takeover is called a **management buyout,** or **MBO.** In this case, the firm's managers actually buy the firm from the shareholders and continue to run it. They become owner-managers. We will discuss LBOs and MBOs later in the chapter.

management buyout (MBO)
Acquisition of the firm by its own management in a leveraged buyout.

Method 4: Divestitures, Spin-Offs, and Carve-Outs

In the market for corporate control, fusion—mergers and acquisitions—gets the most publicity. But fission—the divestiture of assets or entire businesses—can be just as important. Often one firm may sell part of its business to another firm. For example, in 2005 IBM announced that it was selling its struggling PC business to China's Lenovo Group for $1.25 billion.

Instead of selling part of their operations, companies sometimes *spin off* a business by separating it from the parent firm and distributing to their shareholders the stock in the newly independent company. For example, in 2005 Viacom announced plans to create a separate company from its MTV cable networks and Paramount film studio, leaving its television and radio operations with the existing company.Viacom's shareholders ended up with shares in each company.

[1] Corporate charters and state laws sometimes specify a higher percentage.

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How Palm Was Carved and Spun

When 3Com acquired U.S. Robotics in 1997, it also became the owner of Palm, a small start-up business developing handheld computers. It was a lucky purchase, for over the next 3 years the Palm Pilot came to dominate the market for handheld computers. But as Palm began to take up an increasing amount of management time, 3Com concluded that it needed to return to its knitting and focus on its basic business of selling computer network systems. It therefore announced that it would carve out 5 percent of its holding of Palm through an initial public offering. At the same time it published plans to spin off the remaining 95 percent of Palm shares later in 2000 by giving 3Com shareholders about 1.5 Palm shares for each 3Com share that they owed.

The Palm carve-out occurred at close to the peak of the high-tech boom and got off to a dazzling start. The shares were issued in the IPO at $38 each. On the first day of trading the stock price touched $165 before closing at $95. Therefore, anyone owning a share of 3Com stock could look forward later in the year to receiving about 1.5 shares of Palm worth $1.5 \times 95 = \$142.50$. But apparently 3Com's shareholders were not fully convinced that their newfound wealth was for real, for on the same day 3Com's stock price closed at $82, or more than $60 a share *less* than the market value of the shares in Palm that they were due to receive.*

Three years after 3Com spun off its holding in Palm, Palm itself entered the spin-off business by giving shareholders stock in PalmSource, a subsidiary that was responsible for developing and licensing the Palm operating system. The remaining business, renamed palmOne, would focus on making mobile gadgets. The company gave three reasons for its decision to split into two. First, like 3Com's management, Palm's management believed that the company would benefit from clarity of focus and mission. Second, it argued that shareholder value could "be enhanced if investors could evaluate and choose between both businesses separately, thereby attracting new and different investors." Finally, it seemed that Palm's rivals were reluctant to buy software from a company that competed with them in making handheld hardware.

*This difference would seem to present an arbitrage opportunity. An investor who bought 1 share of 3Com and sold short 1.5 shares of Palm would receive an immediate cash flow of $60 *and* own 3Com's other assets for free. The difficulty in executing this arbitrage is explored in O. A. Lamont and R. H. Thaler, "Can the Market Add and Subtract? Mispricing in Tech Stock Carve-Outs," *Journal of Political Economy* 111 (April 2003), pp. 227–268.

Carve-outs are similar to spin-offs except that shares in the new company are not given to existing stockholders but, instead, are sold in a public offering. Sometimes companies carve out a small proportion of the company to establish a market in the subsidiary and subsequently spin off the remainder of the shares. The nearby box describes how the computer company, Palm, was first carved and then spun.

The most frequent motive for spin-offs is improved efficiency. Companies sometimes refer to a business as being a "poor fit." By spinning off a poor fit, the management of the parent company can concentrate on its main activity. If each business must stand on its own feet, there is no risk that funds will be siphoned off from one in order to support unprofitable investments in the other. Moreover, if the two parts of the business are independent, it is easy to see the value of each and to reward managers accordingly.

21.2 Sensible Motives for Mergers

We now look more closely at mergers and acquisitions and consider when they do and do not make sense. Mergers are often categorized as *horizontal, vertical,* or *conglomerate.* A horizontal merger is one that takes place between two firms in the same line of business; the merged firms are former competitors. Most of the mergers around the turn of the century were of this type. For example, there have been a large number of bank mergers, such as the combination of JPMorgan Chase and BankOne. Other headline-grabbing horizontal mergers have brought together telecom companies, such as SBC and AT&T, and oil companies, such as Chevron and Unocal.

These horizontal mergers may be blocked if they are thought to be anticompetitive or create too much market power. For example, the decline in defense spending led to a number of mergers between aerospace companies, until by 1998 there remained just three giant companies—Boeing, Lockheed Martin, and Raytheon—plus several smaller ones, including Northrup Grumman. When Lockheed Martin and Northrup Grumman announced plans to get together, the antitrust regulators decided that this was a merger too far. In the face of this opposition, the two companies broke off their engagement.

A *vertical merger* involves companies at different stages of production. The buyer expands back toward the source of raw materials or forward in the direction of the ultimate consumer. Thus, a soft-drink manufacturer might buy a sugar producer (expanding backward) or a fast-food chain as an outlet for its product (expanding forward). Walt Disney's acquisition of the ABC television network was an example of a vertical merger. Disney planned to use the network to show its movies to huge audiences.

A *conglomerate merger* involves companies in unrelated lines of business. For example, before it went belly up in 1999, the Korean conglomerate, Daewoo, had nearly 400 different subsidiaries and 150,000 employees. It built ships in Korea, manufactured microwaves in France, TVs in Mexico, cars in Poland, fertilizers in Vietnam, and managed hotels in China and a bank in Hungary. No U.S. company is as diversified as Daewoo, but in the 1960s and 1970s it was common in the United States for unrelated businesses to merge. However, the number of conglomerate mergers declined in the 1980s. In fact much of the action in the 1980s came from breaking up the conglomerates that had been formed 10 to 20 years earlier.

Self-Test 21.1

Are the following hypothetical mergers horizontal, vertical, or conglomerate?

a. IBM acquires Dell Computer.
b. Dell Computer acquires Safeway (a supermarket chain).
c. Safeway acquires Campbell Soup.
d. Campbell Soup acquires IBM.

We have already seen that one motive for a merger is to replace the existing management team. If this motive is important, one would expect that poorly performing firms would tend to be targets for acquisition; this seems to be the case.[2]

Of course, not all acquisitions that are intended to improve management end up doing so. Hubris, excessive belief in one's own ability, has led many managers into unsuccessful acquisitions. Take the case of Jean-Marie Messier, the CEO of Vivendi, whom we first encountered in Chapter 18. Messier attempted to turn Vivendi into "the world's preferred creator and provider of entertainment, education, and personalized services to customers anywhere, at any time, and across all distribution platforms and devices." Vivendi entered into a series of major acquisitions, including the purchase of Seagram, which in turn owned Universal Studios. Messier's ambitions earned him the nickname "J6M," which, spelled out, stood for "Jean-Marie Messier, *moi-même, maitre du monde*"—"myself, master of the world." Ultimately, however, profits collapsed, the firm faced imminent bankruptcy, and Messier was ousted.[3]

Changing management, whether for better or worse, is not the only reason that firms make acquisitions. Many mergers and acquisitions are motivated by possible gains in efficiency from combining operations. These mergers create *synergies.* By this we mean that the two firms are worth more together than apart. A merger adds value only if synergies, better management, or other changes make the two firms worth more together than apart.

It would be convenient if we could say that certain types of mergers are usually successful and other types fail. Unfortunately, there are no such simple generalizations. Many mergers that appear to make sense nevertheless fail because managers cannot handle the complex task of integrating two firms with different production processes, pay structures, and accounting methods. Moreover, the value of most businesses depends on *human* assets—managers, skilled workers, scientists, and engineers. If these

[2] For example, Palepu found that investors in firms that were subsequently acquired earned relatively low rates of return for several years before the merger. See K. Palepu, "Predicting Takeover Targets: A Methodological and Empirical Analysis," *Journal of Accounting and Economics* 8 (March 1986), pp. 3–36.

[3] The rise and fall of Vivendi is chronicled in J. Johnson and M. Orange, *The Man Who Tried to Buy the World: Jean-Marie Messier and Vivendi Universal* (Portfolio, 2003).

people are not happy in their new roles in the merged firm, the best of them will leave. Beware of paying too much for assets that go down in the elevator and out to the parking lot at the close of each business day.

Consider the $38 billion merger between Daimler-Benz and Chrysler. Although it was hailed as a model for consolidation in the auto industry, the early years were bedevilled by conflicts between two very different cultures:

> German management-board members had executive assistants who prepared detailed position papers on any number of issues. The Americans didn't have assigned aides and formulated their decisions by talking directly to engineers or other specialists. A German decision worked its way through the bureaucracy for final approval at the top. Then it was set in stone. The Americans allowed midlevel employees to proceed on their own initiative, sometimes without waiting for executive-level approval.
>
> . . . Cultural integration also was proving to be a slippery commodity. The yawning gap in pay scales fueled an undercurrent of tension. The Americans earned two, three, and, in some cases, four times as much as their German counterparts. But the expenses of U.S. workers were tightly controlled compared with the German system. Daimler-side employees thought nothing of flying to Paris or New York for a half-day meeting, then capping the visit with a fancy dinner and a night in an expensive hotel. The Americans blanched at the extravagance.[4]

These observations illustrate the difficulties in realizing the benefits of merger. There are also occasions when the merger does achieve the intended synergies, but the buyer nevertheless loses because it pays too much. For example, the buyer may overestimate the value of stale inventory or underestimate the costs of renovating old plant and equipment, or it may overlook the warranties on a defective product.

With these caveats in mind, we will now consider some possible sources of synergy.

Economies of Scale

Just as most of us believe that we would be happier if only we were a little richer, so managers always seem to believe their firm would be more competitive if only it were just a little bigger. They hope for *economies of scale,* that is, the opportunity to spread fixed costs across a larger volume of output. The banking industry provides many examples. As a result of bank regulation, the United States had too many small, local banks. When these regulations were relaxed, some banks grew by systematically buying up other banks and streamlining their operations. When JPMorgan Chase and Bank One, two of the country's largest banks, merged in 2004, they forecast cost savings of $3 billion before tax by 2007. The savings would come from consolidating operations and eliminating redundant costs. Beware of overly optimistic predictions of cost savings, however. The nearby box tells the story of one bank merger that resulted in a spectacular debacle rather than the predicted synergies.

These economies of scale are the natural goal of horizontal mergers. But they have been claimed in conglomerate mergers, too. The architects of these mergers have pointed to the economies that come from sharing central services such as accounting, financial control, and top-level management.

Economies of Vertical Integration

Large industrial companies commonly like to gain as much control and coordination as possible over the production process by expanding back toward the output of the raw material and forward to the ultimate consumer. One way to achieve this is to merge with a supplier or a customer. Consider Du Pont's purchase of an oil company, Conoco. This was vertical integration because petroleum is the ultimate raw material for much of Du Pont's chemical production.

Do not assume that more vertical integration is necessarily better than less. Carried to extremes, it is absurdly inefficient. For example, before the Polish economy was restructured, LOT, the Polish state airline, found itself raising pigs to make sure that its

[4] Bill Vlasic and Bradley A. Stertz, "Taken for a Ride," *BusinessWeek,* June 5, 2000. Reprinted with special permission © 2000 The McGraw-Hill Companies, Inc.

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Those Elusive Synergies

When three of Japan's largest banks combined to form Mizuho Bank, it brought together assets of $1.5 trillion, more than twice those of the world leader Deutsche Bank. The name "Mizuho" means "rich rice harvest," and the bank's management forecast that the merger would create a rich harvest of synergies. In a message to shareholders, the bank president claimed that the merger would create "a comprehensive financial services group that will surge forward in the 21st century." He predicted that the bank would "lead the new era through cutting-edge comprehensive financial services . . . by exploiting to the fullest extent the Group's enormous strengths, which are backed by a powerful customer base and state-of-the-art financial and information technologies." The cost of putting the banks together was forecast at ¥130 billion, but management predicted future benefits of ¥466 billion a year.

Within a few months of the announcement reports began to emerge of squabbles between the three partners. One problem area was IT. Each of the three merging banks had a different supplier for its computer system. At first it was proposed to use just one of these three systems, but then the banks decided to connect the three different systems together by using "relay" computers.

Three years after the initial announcement the new company opened for business on April 1, 2002. Five days later, computer glitches resulted in a spectacular foul-up. Some 7,000 of the bank's cash machines did not work; 60,000 accounts were debited twice for the same transaction; and millions of bills went unpaid. *The Economist* reported that 2 weeks later Tokyo Gas, the biggest gas company, was still missing ¥2.2 billion in payments and the top telephone company, NTT, which was looking for ¥12.7 billion, was forced to send its customers receipts marked with asterisks in place of figures, since it did not know which of about 760,000 bills had been paid.

One of the objects behind the formation of Mizuho was to exploit economies in its IT systems. The launch fiasco illustrated dramatically that it is easier to predict such merger synergies than to realize them.

Source: The creation of Mizuho Bank and its launch problems are described in "Undispensable: A Fine Merger Yields One Fine Mess," *The Economist,* April 27, 2002.

employees had fresh meat on their tables. (Of course, in a centrally managed economy it may prove necessary to grow your own meat, since you can't be sure you'll be able to buy it.)

Vertical integration has fallen out of fashion recently. Many companies are finding it more efficient to *outsource* many of their activities. For example, back in the 1950s and 1960s, General Motors was thought to have a cost advantage over its competitors because it produced a greater fraction of its components in-house. By the 1990s Ford and Chrysler had the advantage. They could buy the parts more cheaply from outside suppliers. This was partly because the outside suppliers tended to use nonunion labor. But it also appears that manufacturers have more bargaining power when they are dealing with independent suppliers rather than with another part of the corporate family. In 1998 GM decided to spin off Delphi, its automotive parts division, as a separate company. After the spin-off, GM continued to buy parts from Delphi in large volumes, but it negotiated the purchases at arm's length.

Combining Complementary Resources

Many small firms are acquired by large firms that can provide the missing ingredients necessary for the firm's success. The small firm may have a unique product but lack the engineering and sales organization necessary to produce and market it on a large scale. The firm could develop engineering and sales talent from scratch, but it may be quicker and cheaper to merge with a firm that already has ample talent. The two firms have *complementary resources*—each has what the other needs—so it may make sense for them to merge. Also the merger may open up opportunities that neither firm would pursue otherwise. Federal Express's purchase of Caliber System, a trucking company, is an example. Federal Express specializes in shipping packages by air, mostly for overnight delivery. Caliber's RMS subsidiary moves nonexpress packages by truck. RMS greatly increases Federal Express's capability to move packages on the ground. At the same time, RMS-originated business can move easily on the Federal Express system when rapid or distant delivery is essential.

Mergers as a Use for Surplus Funds

Suppose that your firm is in a mature industry. It is generating a substantial amount of cash, but it has few profitable investment opportunities. Ideally such a firm should dis-

tribute the surplus cash to shareholders by increasing its dividend payment or by repurchasing its shares. Unfortunately, energetic managers are often reluctant to shrink their firm in this way.

If the firm is not willing to purchase its own shares, it can instead purchase someone else's. Thus firms with a surplus of cash and a shortage of good investment opportunities often turn to mergers *financed by cash* as a way of deploying their capital.

Firms that have excess cash and do not pay it out or redeploy it by acquisition often find themselves targets for takeover by other firms that propose to redeploy the cash for them. During the oil price slump of the early 1980s, many cash-rich oil companies found themselves threatened by takeover. This was not because their cash was a unique asset. The acquirers wanted to capture the companies' cash flow to make sure it was not frittered away on negative-NPV oil exploration projects. We return to this *free-cash-flow* motive for takeovers later in the chapter.

21.3 Dubious Reasons for Mergers

The benefits that we have described so far all make economic sense. Other arguments sometimes given for mergers are more dubious. Here are two.

Diversification

We have suggested that the managers of a cash-rich company may prefer to see that cash used for acquisitions. That is why we often see cash-rich firms in stagnant industries merging their way into fresh woods and pastures new. But what about diversification as an end in itself? It is obvious that diversification reduces risk. Isn't that a gain from merging?

The trouble with this argument is that diversification is easier and cheaper for the stockholder than for the corporation. Why should firm A buy firm B to diversify when the shareholders of firm A can buy shares in firm B to diversify their own portfolios? It is far easier and cheaper for individual investors to diversify than it is for firms to combine operations.

The Bootstrap Game

During the 1960s some conglomerate companies made acquisitions that offered no evident economic gains. Nevertheless, the conglomerates' aggressive strategy produced several years of rising earnings per share. To see how this can happen, let us look at the acquisition of Muck and Slurry by the well-known conglomerate World Enterprises.

EXAMPLE 21.1 ▶ The Bootstrap Game

The position before the merger is set out in the first two columns of Table 21–2. Notice that because Muck and Slurry has relatively poor growth prospects, its stock sells at a lower price-earnings ratio than World Enterprises (line 3). The merger, we assume, produces no economic benefits, so the firms should be worth exactly the same together as apart. The value of World Enterprises after the merger is therefore equal to the sum of the separate values of the two firms (line 6).

Since World Enterprises stock is selling for double the price of Muck and Slurry stock (line 2), World Enterprises can acquire the 100,000 Muck and Slurry shares for 50,000 of its own shares. Thus World will have 150,000 shares outstanding after the merger.

World's total earnings double as a result of the acquisition (line 5), but the number of shares increases by only 50 percent. Its earnings *per share* rise from $2.00 to $2.67. We call this a *bootstrap effect* because there is no real gain created by the merger and

TABLE 21–2 Impact of merger on market value and earnings per share of World Enterprises

	World Enterprises (before merger)	Muck and Slurry	World Enterprises (after acquiring Muck and Slurry)
1. Earnings per share	$2	$2	$2.67
2. Price per share	$40	$20	$40
3. Price-earnings ratio	20	10	15
4. Number of shares	100,000	100,000	150,000
5. Total earnings	$200,000	$200,000	$400,000
6. Total market value	$4,000,000	$2,000,000	$6,000,000
7. Current earnings per dollar invested in stock (line 1 divided by line 2)	$.05	$.10	$.067

Note: When World Enterprises purchases Muck and Slurry, there are no gains. Therefore, total earnings and total market value should be unaffected by the merger. But earnings *per share* increase. World Enterprises issues only 50,000 of its shares (priced at $40) to acquire the 100,000 Muck and Slurry shares (priced at $20).

no increase in the two firms' combined value. Since World's stock price is unchanged by the acquisition of Muck and Slurry, the price-earnings ratio falls (line 3).

Before the merger, $1 invested in World Enterprises bought 5 cents of current earnings and rapid growth prospects. On the other hand, $1 invested in Muck and Slurry bought 10 cents of current earnings but slower growth prospects. If the *total* market value is not altered by the merger, then $1 invested in the merged firm gives World shareholders 6.7 cents of immediate earnings but slower growth than before the merger. Muck and Slurry shareholders get lower immediate earnings but faster growth. Neither side gains or loses *provided* that everybody understands the deal.

Financial manipulators sometimes try to ensure that the market does *not* understand the deal. Suppose that investors are fooled by the exuberance of the president of World Enterprises and mistake the 33 percent postmerger increase in earnings per share for *sustainable* growth. If they do, the price of World Enterprises stock rises and the shareholders of both companies receive something for nothing. ◀

You should now see how to play the bootstrap game. Suppose that you manage a company enjoying a high price-earnings ratio. The reason it is high is that investors anticipate rapid growth in future earnings. You achieve this growth not by capital investment, product improvement, or increased operating efficiency but by purchasing slow-growing firms with low price-earnings ratios. The long-run result will be slower growth and a depressed price-earnings ratio, but in the short run earnings per share can increase dramatically. If this fools investors, you may be able to achieve the higher earnings per share without suffering a decline in your price-earnings ratio. But in order to *keep* fooling investors, you must continue to expand by merger *at the same compound rate.* Obviously you cannot do this forever; one day expansion must slow down or stop. Then earnings growth will cease, and your house of cards will fall. Buying a firm with a lower P/E ratio can increase earnings per share. But the increase should not result in a higher share price. The short-term increase in earnings should be offset by lower future earnings growth.

Self-Test 21.2

Suppose that Muck and Slurry has even worse growth prospects than in our example and its share price is only $10. Recalculate the effects of the merger in this case. You should find that earnings per share increase by a greater amount, since World Enterprises can now buy the same *current* earnings for fewer shares.

21.4 Evaluating Mergers

If you are given the responsibility for evaluating a proposed merger, you must think hard about the following two questions:

1. Is there an overall economic gain to the merger? In other words, is the merger value-enhancing? Are the two firms worth more together than apart?
2. Do the terms of the merger make my company and its shareholders better off? There is no point in merging if the cost is too high and all the economic gain goes to the other company.

Answering these deceptively simple questions is rarely easy. Some economic gains can be nearly impossible to quantify, and complex merger financing can obscure the true terms of the deal. But the basic principles for evaluating mergers are not too difficult.

Mergers Financed by Cash

We will concentrate on a simple numerical example. Your company, Cislunar Foods, is considering acquisition of a smaller food company, Targetco. Cislunar is proposing to finance the deal by purchasing all of Targetco's outstanding stock for $19 per share. Some financial information on the two companies is given in the left and center columns of Table 21–3.

Question 1 Why would Cislunar and Targetco be worth more together than apart? Suppose that operating costs can be reduced by combining the companies' marketing, distribution, and administration. Revenues can also be increased in Targetco's region. The rightmost column of Table 21–3 contains projected revenues, costs, and earnings for the two firms operating together: annual operating costs postmerger will be $2 million less than the sum of the separate companies' costs, and revenues will be $2 million more. Therefore, projected earnings increase by $4 million.[5] We will assume that the increased earnings are the only synergy to be generated by the merger.

The economic gain to the merger is the present value of the extra earnings. If the earnings increase is permanent (a level perpetuity) and the cost of capital is 20 percent,

$$\text{Economic gain} = \text{PV(increased earnings)} = \frac{4}{.20} = \$20 \text{ million}$$

This additional value is the basic motivation for the merger.

TABLE 21–3 Cislunar Foods is considering an acquisition of Targetco. The merger would increase the companies' combined earnings by $4 million.

	Cislunar Foods	Targetco	Combined Companies	
Revenues	$ 150	$20	$172	(+2)
Operating costs	118	16	132	(-2)
Earnings	$ 32	$ 4	$ 40	(+4)
Cash	$ 55	$ 2.5		
Other assets' book value	185	17.0		
Total assets	$ 240	$19.5		
Price per share	$ 48	$16		
Number of shares	10.0	2.5		
Market value	$ 480	$40		

Note: Figures in millions except price per share.

[5] To keep things simple, the example ignores taxes and assumes that both companies are all-equity-financed. We also ignore the interest income that could have been earned by investing the cash used to finance the merger.

Question 2 What are the terms of the merger? What is the cost to Cislunar and its shareholders?

Targetco's management and shareholders will not consent to the merger unless they receive at least the stand-alone value of their shares. They can be paid in cash or by new shares issued by Cislunar. In this case we are considering a cash offer of $19 per Targetco share, $3 per share over the prior share price. Targetco has 2.5 million shares outstanding, so Cislunar will have to pay out $47.5 million, a premium of $7.5 million over Targetco's prior market value. On these terms, Targetco stockholders will capture $7.5 million out of the $20 million gain from the merger. That ought to leave $12.5 million for Cislunar.

This is confirmed in the Cash Purchase column of Table 21–4. Start at the *bottom* of the column, where the total market value of the merged firms is $492.5 million. This is derived as follows:

Cislunar market value prior to merger	$480 million
Targetco market value	40
Present value of gain to merger	20
Less Cash paid out to Targetco shareholders	–47.5
Postmerger market value	$492.5 million

The postmerger share price for Cislunar will be $49.25, an increase of $1.25 per share. There are 10 million shares now outstanding, so the total increase in the value of Cislunar shares is $12.5 million.

Now let's summarize. The merger makes sense for Cislunar for two reasons. First, the merger adds $20 million of overall value. Second, the terms of the merger give only $7.5 million of that $20 million overall gain to Targetco's stockholders, leaving $12.5 million for Cislunar. You could say that the *cost* of acquiring Targetco is $7.5 million, the difference between the cash payment and the value of Targetco as a separate company:

$$\text{Cost} = \text{cash paid out} - \text{Targetco value} = \$47.5 - 40 = \$7.5 \text{ million}$$

Of course the Targetco stockholders are ahead by $7.5 million. *Their gain is your cost.* As we've already seen, Cislunar stockholders come out $12.5 million ahead. This is the merger's NPV for Cislunar:

$$\text{NPV} = \text{economic gain} - \text{cost} = \$20 - 7.5 = \$12.5 \text{ million}$$

Writing down the economic gain and cost of a merger in this way separates the motive for the merger (the economic gain, or value added) from the terms of the merger (the *division* of the gain between the two merging companies).

Self-Test 21.3

Killer Shark Inc. makes a surprise cash offer of $22 a share for Goldfish Industries. Before the offer, Goldfish was selling for $18 a share. Goldfish has 1 million shares outstanding. What must Killer Shark believe about the present value of the improvement it can bring to Goldfish's operations?

TABLE 21–4 Financial forecasts after the Cislunar-Targetco merger. The left column assumes a cash purchase at $19 per Targetco share. The right column assumes Targetco stockholders receive one new Cislunar share for every three Targetco shares.

	Cash Purchase	Exchange of Shares
Earnings	$ 40	$ 40
Cash	$ 10	$ 57.5
Other assets' book value	202	202
Total assets	$212	$259.5
Price per share	$ 49.25	$ 49.85
Number of shares	10.0	10.833
Market value	$492.5	$540

Note: Figures in millions except price per share.

Mergers Financed by Stock

What if Cislunar wants to conserve its cash for other investments and therefore decides to pay for the Targetco acquisition with new Cislunar shares? The deal calls for Targetco shareholders to receive one Cislunar share in exchange for every three Targetco shares.

It's the same merger, but the financing is different. The right column of Table 21–4 works out the consequences. Again, start at the *bottom* of the column. Note that the market value of Cislunar's shares after the merger is $540 million, $47.5 million higher than in the cash deal, because that cash is kept rather than paid out to Targetco shareholders. On the other hand, there are more shares outstanding, since 833,333 new shares have to be issued in exchange for the 2.5 million Targetco shares (a 1-to-3 ratio). Therefore, the price per share is 540/10.833 = $49.85, which is 60 cents higher than in the cash offer.

Why do Cislunar stockholders do better from the share exchange? The economic gain from the merger is the same, but the Targetco stockholders capture less of it. They get 833,333 shares at $49.85, or $41.5 million, a premium of only $1.5 million over Targetco's prior market value:

$$\begin{aligned}\text{Cost} &= \text{value of shares issued} - \text{Targetco value}\\ &= \$41.5 - 40 = \$1.5 \text{ million}\end{aligned}$$

The merger's NPV to Cislunar's original shareholders is

$$\text{NPV} = \text{economic gain} - \text{cost} = 20 - 1.5 = \$18.5 \text{ million}$$

Note that Cislunar stock rises by $1.85 from its prior value. The total increase in value for Cislunar's original shareholders, who retain 10 million shares, is $18.5 million.

Evaluating the terms of a merger can be tricky when there is an exchange of shares. The target company's shareholders will retain a stake in the merged firms, so you have to figure out what the firm's shares will be worth *after* the merger is announced and its benefits appreciated by investors. Notice that we started with the total market value of Cislunar and Targetco postmerger, took account of the merger terms (833,333 new shares issued), and worked back to the postmerger share price. Only then could we work out the division of the merger gains between the two companies.

There is a key distinction between cash and stock for financing mergers. If cash is offered, the cost of the merger is not affected by the size of the merger gains. If stock is offered, the cost depends on the gains because the gains show up in the postmerger share price, and these shares are used to pay for the acquired firm.

Stock financing also mitigates the effects of over- or undervaluation of either firm. Suppose, for example, that A overestimates B's value as a separate entity, perhaps because it has overlooked some hidden liability. Thus A makes too generous an offer. Other things equal, A's stockholders are better off if it is a stock rather than a cash offer. With a stock offer, the inevitable bad news about B's value will fall partly on B's former stockholders.

Self-Test 21.4

Suppose Targetco shareholders demand 1 Cislunar share for every 2.5 Targetco shares. Otherwise they will not accept the merger. Under these revised terms, is the merger still a good deal for Cislunar?

A Warning

The cost of a merger is the premium the acquirer pays for the target firm over its value as a separate company. If the target is a public company, you can measure its separate value by multiplying its stock price by the number of outstanding shares. Watch out, though: If investors expect the target to be acquired, its stock price may overstate the company's separate value. The target company's stock price may already have risen in anticipation of a premium to be paid by an acquiring firm.

Another Warning

Some companies begin their merger analyses with a forecast of the target firm's future cash flows. Any revenue increases or cost reductions attributable to the merger are included in the forecasts, which are then discounted back to the present and compared with the purchase price:

$$\text{Estimated net gain} = \text{DCF valuation of target including merger benefits} - \text{cash required for acquisition}$$

This is a dangerous procedure. Even the brightest and best-trained analyst can make large errors in valuing a business. The estimated net gain may come up positive not because the merger makes sense, but simply because the analyst's cash-flow forecasts are too optimistic. On the other hand, a good merger may not be pursued if the analyst fails to recognize the target's potential as a stand-alone business.

A better procedure *starts* with the target's current and stand-alone market value and concentrates instead on the *changes* in cash flow that would result from the merger. Always ask why the two firms should be worth more together than apart. Remember, *you add value only if you can generate additional economic benefits*—some competitive edge that other firms can't match and that the target firm's managers can't achieve on their own.

It makes sense to keep an eye on the value that investors place on the gains from merging. If A's stock price falls when the deal is announced, investors are sending a message that the merger benefits are doubtful *or* that A is paying too much for these benefits.

21.5 Merger Tactics

In recent years, most mergers have been agreed upon by both parties, but occasionally, an acquirer goes over the heads of the target firm's management and makes a *tender offer* directly to its stockholders. The management of the target firm may advise shareholders to accept the tender, or it may attempt to fight the bid in the hope that the acquirer will either raise its offer or throw in the towel.

The rules of merger warfare are largely set by federal and state laws[6] and the courts act as referee to see that contests are conducted fairly. We will look at one recent contest that illustrates the tactics and weapons employed. Outside the English-speaking countries hostile takeovers once were rare. But the world is changing, and there have recently been a number of high-profile takeover battles involving European companies.

EXAMPLE 21.2 ► Oracle Bids for PeopleSoft

These days hostile takeover bids are relatively uncommon, particularly in high-tech industries where an acrimonious takeover battle may cause many of the target's most valued staff to leave. Investors were therefore startled in June 2003 when the software giant Oracle Corp. announced a $5.1 billion cash tender offer for its rival PeopleSoft. The offer price of $16 a share was only a very modest 6 percent above the recent price of PeopleSoft stock. PeopleSoft's CEO angrily rejected the bid as dramatically undervaluing the business and accused Oracle of trying to disrupt PeopleSoft's business and to thwart its recently announced plan to merge with its smaller rival J.D. Edwards & Co. PeopleSoft immediately filed a suit claiming that Oracle's management had engaged in "acts of unfair trade practices" and had "disrupted PeopleSoft's customer relationships." In another suit J.D. Edwards claimed that Oracle had wrongly "interfered with its proposed merger with PeopleSoft" and demanded $1.7 billion in compensatory damages.

[6] The principal federal act regulating takeovers is the Williams Act of 1968.

TABLE 21–5 Some key dates in the Oracle/PeopleSoft takeover battle

Date	Event
June 6, 2003	Oracle offers cash of $16 a share for PeopleSoft stock, a premium of 6 percent.
June 18, 2003	Oracle increases offer to $19.50 a share.
February 4, 2004	Oracle raises offer to $26 a share.
February 26, 2004	Justice Department files suit to block deal. Oracle announces plans to appeal.
May 16, 2004	Oracle *reduces* offer to $21 a share.
September 9, 2004	Oracle wins appeal in a federal court against Department of Justice antitrust ruling.
September 27, 2004	Hearing begins in Delaware court on Oracle's request to overturn PeopleSoft's poison pill.
November 1, 2004	Oracle raises offer to $24 a share. Accepted by 61% of PeopleSoft shares.
November 23, 2004	Oracle announces plans to mount a proxy fight by naming four nominees for PeopleSoft's board.
December 13, 2004	Oracle raises offer to $26.50 a share. Accepted by PeopleSoft's board.

poison pill
Measure taken by a target firm to avoid acquisition; for example, the right for existing shareholders to buy additional shares at an attractive price if a bidder acquires a large holding.

Oracle's bid was the opening salvo in a battle that was to last 18 months. Some of the key dates in this battle are set out in Table 21–5. PeopleSoft had several defenses at its disposal. First, it had in place a **poison pill,** which would allow it to flood the market with additional shares if a predator acquired 20 percent of the stock. Second, the company instituted a customer-assurance program that offered customers money-back guarantees if an acquirer were to reduce customer support. At one point in the takeover battle the potential liability under this program reached nearly $1.6 billion. Third, elections to the PeopleSoft board were staggered, so different directors came up for reelection in different years. This meant that it would take two annual meetings to replace a majority of PeopleSoft's board.

Oracle not only had to overcome PeopleSoft's defenses but also had to clear possible antitrust roadblocks. Connecticut's attorney general instituted an antitrust action to block Oracle's bid, in part to protect his state's considerable investment in PeopleSoft software, and announced that he was seeking to assemble a coalition of other states and customers as well. Then an investigation of the deal by the U.S. Department of Justice ruled that the deal was anticompetitive. Normally such an objection is enough to kill a deal, but Oracle was persistent and successfully appealed the ruling in a federal court.

While these battles were being fought out, Oracle revised its offer four times. It upped its offer first to $19.50 and then to $26 a share. Then, in an effort to put pressure on PeopleSoft shareholders, Oracle *reduced* its offer to $21 a share, citing a drop of 28 percent in the price of PeopleSoft's shares. Six months later it raised the offer again to $24 a share, warning investors that it would walk away if the offer was not accepted by PeopleSoft's board or a majority of the PeopleSoft shareholders.

Sixty-one percent of PeopleSoft's shareholders indicated that they wished to accept this last offer, but before Oracle could gain control of PeopleSoft, it still needed the company to get rid of the poison pill and customer-assurance scheme. That meant putting pressure on PeopleSoft's management, which had continued to reject every approach. Oracle tried two tactics. First, it initiated a proxy fight to change the composition of PeopleSoft's board. Second, it filed a suit in a Delaware court alleging that PeopleSoft's management had breached its fiduciary duty by trying to thwart Oracle's offer and not giving it "due consideration." The lawsuit asked the court to require that PeopleSoft dismantle its takeover defenses, including the poison-pill plan and the customer-assurance program.

PeopleSoft's CEO had at one point said that he "could imagine no price nor combination of price and other conditions to recommend accepting the offer." But with 61 percent of PeopleSoft's shareholders wishing to take up Oracle's latest offer, it was becoming less easy for the company to keep saying no, and many observers were starting to question whether PeopleSoft's management was acting in the shareholders' interest. If management showed itself deaf to shareholders' interests, the court could well rule in favor of Oracle or disgruntled shareholders might vote to change the composition of the PeopleSoft board. PeopleSoft's directors therefore decided to be less intransigent and testified at the Delaware trial that they would consider negotiating with Oracle if it were to offer $26.50 or $27 a share. This was the breakthrough that Oracle was looking for. It upped its offer immediately to $26.50 a share, PeopleSoft lifted its defenses, and within a month 97 percent of PeopleSoft's shareholders had agreed to the bid. After 18 months of punch and counterpunch the battle for PeopleSoft was over. ◀

What are the lessons? First, the example illustrates some of the stratagems of merger warfare. Firms like PeopleSoft that are worried about being taken over usually prepare their defenses in advance. Often they will persuade shareholders to agree to **shark-repellent** changes to the corporate charter. For example, the charter may be amended to require that any merger must be approved by a *supermajority* of 80 percent of the shares rather than the normal 50 percent.

shark repellent
Amendment to a company charter made to forestall takeover attempts.

Firms frequently deter potential bidders by devising poison pills, which make the company unappetizing. For example, the poison pill may give existing shareholders the right to buy the company's shares at half-price as soon as a bidder acquires more than 15 percent of the shares. The bidder is not entitled to the discount. Thus the bidder resembles Tantalus—as soon as it has acquired 15 percent of the shares, control is lifted away from its reach.

The battle for PeopleSoft illustrates the strength of poison pills and other takeover defenses. Oracle's offensive still gained ground, but with great expense and at a very slow pace. But eventually the pressure on PeopleSoft's management became overwhelming. Unless it could demonstrate that it was acting in the shareholders' interests, it risked having the poison pill removed by the court. The second reason that the company carved in was the increasing pressure from its shareholders, including some large institutions, who wished to accept Oracle's offer.

21.6 Leveraged Buyouts

Leveraged buyouts, or *LBOs,* differ from ordinary acquisitions in two ways. First, a large fraction of the purchase price is debt-financed. Some, perhaps all, of this debt is junk, that is, below investment grade. Second, the shares of the LBO no longer trade on the open market. The remaining equity in the LBO is privately held by a small group of (usually institutional) investors and is known as *private equity.* When this group is led by the company's management, the acquisition is called a *management buyout (MBO).* Many LBOs are in fact MBOs.

In the 1970s and 1980s many management buyouts were arranged for unwanted divisions of large, diversified companies. Smaller divisions outside the companies' main lines of business often lacked top management's interest and commitment, and divisional management chafed under corporate bureaucracy. Many such divisions flowered when spun off as MBOs. Their managers, pushed by the need to generate cash for debt service and encouraged by a substantial personal stake in the business, found ways to cut costs and compete more effectively.

During the 1980s private-equity activity shifted to buyouts of entire businesses, including large, mature public corporations. The largest, most dramatic, and best-

documented LBO of them all was the $25 billion takeover of RJR Nabisco in 1988 by Kohlberg Kravis Roberts (KKR). The players, tactics, and controversies of LBOs are writ large in this case.

EXAMPLE 21.3 ▶ RJR Nabisco[7]

On October 28, 1988, the board of directors of RJR Nabisco revealed that Ross Johnson, the company's chief executive officer, had formed a group of investors prepared to buy all the firm's stock for $75 per share in cash and take the company private. Johnson's group was backed up and advised by Shearson Lehman Hutton, the investment bank subsidiary of American Express.

RJR's share price immediately moved to about $75, handing shareholders a 36 percent gain over the previous day's price of $56. At the same time RJR's bonds fell, since it was clear that existing bondholders would soon have a lot more company.

Johnson's offer lifted RJR onto the auction block. Once the company was in play, its board of directors was obliged to consider other offers, which were not long coming. Four days later, a group of investors led by LBO specialists Kohlberg Kravis Roberts bid $90 per share, $79 in cash plus preferred stock valued at $11.

The bidding finally closed on November 30, some 32 days after the initial offer was revealed. In the end it was Johnson's group against KKR. KKR offered $109 per share, after adding $1 per share (roughly $230 million) at the last hour. The KKR bid was $81 in cash, convertible subordinated debentures valued at about $10, and preferred shares valued at about $18. Johnson's group bid $112 in cash and securities.

But the RJR board chose KKR. True, Johnson's group had offered $3 per share more, but its security valuations were viewed as "softer" and perhaps overstated. Also, KKR's planned asset sales were less drastic; perhaps their plans for managing the business inspired more confidence. Finally, the Johnson group's proposal contained a management compensation package that seemed extremely generous and had generated an avalanche of bad press.

But where did the merger benefits come from? What could justify offering $109 per share, about $25 billion in all, for a company that only 33 days previously had been selling for $56 per share?

KKR and other bidders were betting on two things. First, they expected to generate billions of additional dollars from interest tax shields, reduced capital expenditures, and sales of assets not strictly necessary to RJR's core businesses. Asset sales alone were projected to generate $5 billion. Second, they expected to make those core businesses significantly more profitable, mainly by cutting back on expenses and bureaucracy. Apparently there was plenty to cut, including the RJR "Air Force," which at one point operated 10 corporate jets.

In the year after KKR took over, new management was installed. This group sold assets and cut back operating expenses and capital spending. There were also layoffs. As expected, high interest charges meant a net loss of $976 million for 1989, but pretax operating income actually increased, despite extensive asset sales, including the sale of RJR's European food operations.

While management was cutting costs and selling assets, prices in the junk bond market were rapidly declining, implying much higher future interest charges for RJR and stricter terms on any refinancing. In mid-1990 KKR made an additional equity investment, and later that year the company announced an offer of cash and new shares in exchange for $753 million of junk bonds. By 1993 the burden of debt had been reduced from $26 billion to $14 billion. For RJR, the world's largest LBO, it seemed that high debt was a temporary, not permanent, virtue. ◀

[7] The story of the RJR Nabisco buyout is reconstructed by B. Burrough and J. Helyar in *Barbarians at the Gate: The Fall of RJR Nabisco* (New York: Harper & Row, 1990) and is the subject of a movie with the same title.

Barbarians at the Gate?

The buyout of RJR crystallized views on LBOs, the junk bond market, and the takeover business. For many it exemplified all that was wrong with finance in the 1980s, especially the willingness of "raiders" to carve up established companies, leaving them with enormous debt burdens, basically in order to get rich quick.

There was plenty of confusion, stupidity, and greed in the LBO business. Not all the people involved were nice. On the other hand, LBOs generated enormous increases in market value, and most of the gains went to selling stockholders, not raiders. For example, the biggest winners in the RJR Nabisco LBO were the company's stockholders.

We should therefore consider briefly where these gains may have come from before we try to pass judgment on LBOs. There are several possibilities.

The Junk Bond Markets LBOs and debt-financed takeovers may have been driven by artificially cheap funding from the junk bond markets. With hindsight it seems that investors in junk bonds underestimated the risks of default. Default rates climbed painfully between 1989 and 1991, yields rose dramatically, and new issues dried up. For a while junk-financed LBOs disappeared from the scene.

Leverage and Taxes As we explained in Chapter 15, borrowing money saves taxes. But taxes were not the main driving force behind LBOs. The value of interest tax shields was just not big enough to explain the observed gains in market value.

Of course, if interest tax shields were the main motive for LBOs' high debt, then LBO managers would not be so concerned to pay off debt. We saw that this was one of the first tasks facing RJR Nabisco's new management.

Other Stakeholders It is possible that the gain to the selling stockholders is just someone else's loss and that no value is generated overall. Therefore, we should look at the total gain to *all* investors in an LBO, not just the selling stockholders.

Bondholders are the obvious losers. The debt they thought was well-secured may turn into junk when the borrower goes through an LBO. We noted how market prices of RJR Nabisco debt fell sharply when Ross Johnson's first LBO offer was announced. But again, the value losses suffered by bondholders in LBOs are not nearly large enough to explain stockholder gains.

Leverage and Incentives Managers and employees of LBOs work harder and often smarter. They have to generate cash to service the extra debt. Moreover, managers' personal fortunes are riding on the LBO's success. They become owners rather than organization men or women.

It is hard to measure the payoff from better incentives, but there is some evidence of improved operating efficiency in LBOs. Kaplan, who studied 48 management buyouts between 1980 and 1986, found average increases in operating income of 24 percent over the following 3 years. Ratios of operating income and net cash flow to assets and sales increased dramatically. He observed cutbacks in capital expenditures but not in employment. Kaplan suggests that these operating changes "are due to improved incentives rather than layoffs or managerial exploitation of shareholders through inside information."[8]

Free Cash Flow The free-cash-flow theory of takeovers is basically that mature firms with a surplus of cash will tend to waste it. This contrasts with standard finance theory, which says that firms with more cash than positive-NPV investment opportunities should give the cash back to investors through higher dividends or share repurchases. But we see firms like RJR Nabisco spending on corporate luxuries and questionable capital investments. One benefit of LBOs is to put such companies on a diet and force them to pay out cash to service debt.

[8] S. Kaplan, "The Effects of Management Buyouts on Operating Performance and Value," *Journal of Financial Economics* 24 (October 1989), pp. 217–254.

The free-cash-flow theory predicts that mature, "cash cow" companies will be the most likely targets of LBOs. We can find many examples that fit the theory, including RJR Nabisco. The theory says that the gains in market value generated by LBOs are just the present values of the future cash flows that would otherwise have been frittered away.[9]

We do not endorse the free-cash-flow theory as the sole explanation for LBOs. We have mentioned several other plausible rationales, and we suspect that most LBOs are driven by a mixture of motives. Nor do we say that all LBOs are beneficial. On the contrary, there are many mistakes and even soundly motivated LBOs can be dangerous, as the bankruptcies of Campeau, Revco, National Gypsum, and many other highly leveraged companies prove. However, we do take issue with those who portray LBOs *simply* as Wall Street barbarians breaking up the traditional strengths of corporate America. In many cases LBOs have generated true gains.

The buyout of RJR Nabisco illustrates how during the merger boom of the 1980s even very large companies were not immune from attack by a rival management team. What made such attacks possible was the ability of the bidder to finance the takeover with large amounts of junk bonds. But by the end of the decade the merger environment had changed. Many of the obvious targets had disappeared and the battle for RJR Nabisco highlighted the increasing cost of victory. Institutions were reluctant to increase their holdings of junk bonds. Moreover, the market for these bonds had depended to a remarkable extent on one individual, Michael Milken, of the investment bank Drexel Burnham Lambert. By the late 1980s Milken and his employer were in trouble. Milken was indicted by a grand jury on 98 counts and was subsequently sentenced to jail. Drexel filed for bankruptcy, but by that time the junk bond market was moribund and the finance for highly leveraged buyouts had largely dried up.[10] Finally, in reaction to the perceived excesses of the merger boom, the state legislatures and the courts began to lean against hostile takeovers.

Eventually, LBO activity began to recover. Today's buyouts are generally smaller and not leveraged as aggressively as the deals of the 1980s. But the volume of LBO deals is still impressive. Recent deals include the $11.3 billion buyout of SunGard Data Systems Inc., a $6.6 billion buyout of Toys "R" Us Inc., and a $4.4 billion buyout of PanAmSat.

21.7 The Benefits and Costs of Mergers

Merger activity comes in waves and is concentrated in a relatively small number of industries. This urge to merge frequently seems to be prompted by deregulation and by changes in technology or the pattern of demand. Take the merger wave of the 1990s, for example. Deregulation of telecoms and banking earlier in the decade led to a spate of mergers in both industries that has continued to the present. Elsewhere, the decline in military spending brought about a number of mergers between defense companies until the Department of Justice decided to call a halt. And in the entertainment industry the prospective advantages from controlling both content and distribution led to mergers between such giants as AOL and Time Warner.

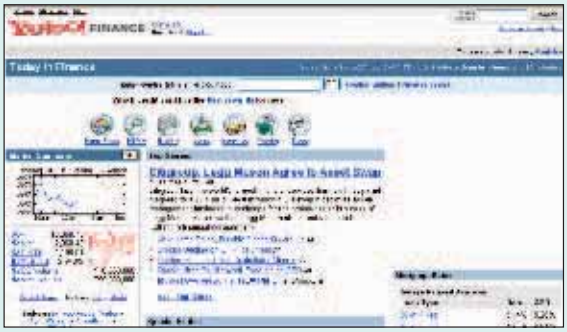
There are undoubtedly good acquisitions and bad acquisitions, but economists find it hard to agree on whether acquisitions are beneficial *on balance.* In general, shareholders of the target firm make a healthy gain. For example, one study found that following the announcement of the bid, the stock price of the target company jumped

[9] The free-cash-flow theory's chief proponent is Michael Jensen. See M. C. Jensen, "The Eclipse of the Public Corporation," *Harvard Business Review* 67 (September–October 1989), pp. 61–74, and "The Agency Costs of Free Cash Flow, Corporate Finance and Takeovers," *American Economic Review* 76 (May 1986), pp. 323–329.

[10] For a history of the role of Milken in the development of the junk bond market, see C. Bruck, *The Predator's Ball: The Junk Bond Raiders and the Man Who Staked Them* (New York: Simon and Schuster, 1988).

INTERNET INSIDER

Mergers



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Look at a recent example of a merger announcement, and log on to the Web site of the acquiring company. What reasons does the acquirer give for buying the target? How does it intend to pay for the target—with cash, shares, or a mixture of the two? Can you work out how much the target's shareholders will gain from the offer? Is it more or less than would be the case for an average merger? Now log on to **finance.yahoo.com** and find out what happened to the stock price of the acquiring company when the merger was announced. Were shareholders pleased with the announcement?

by 16 percent on average.[11] On the other hand, it appears that investors expected the acquiring companies to just about break even, for the price of their shares fell by .7 percent. The value of the total package—buyer plus seller—increased by 1.8 percent. Of course, these are averages; selling shareholders, for example, have sometimes obtained much higher returns. When IBM took over Lotus Corporation, it paid a premium of 100 percent, or about $1.7 billion, for Lotus stock.

Since buyers roughly break even and sellers make substantial gains, it seems that there are positive overall benefits from mergers. But not everybody is convinced. Some believe that investors analyzing mergers pay too much attention to short-term earnings gains and don't notice that these gains are at the expense of long-term prospects.

Since we can't observe how companies would have fared in the absence of a merger, it is difficult to measure the effects on profitability. However, several studies of merger activity suggest that mergers *do* seem to improve real productivity. For example, Healy, Palepu, and Ruback examined 50 large mergers between 1979 and 1983 and found an average increase in the companies' pretax returns of 2.4 percentage points.[12] They argue that this gain came from generating a higher level of sales from the same assets. There was no evidence that the companies were mortgaging their long-term futures by cutting back on long-term investments; expenditures on capital equipment and research and development tracked the industry average.

If you are concerned with public policy toward mergers, you do not want to look only at their impact on the shareholders of the companies concerned. For instance, we have already seen that in the case of RJR Nabisco some part of the shareholders' gain was at the expense of the bondholders and the Internal Revenue Service (through the enlarged interest tax shield). The acquirer's shareholders may also gain at the expense of the target firm's employees, who in some cases are laid off or are forced to take pay cuts after takeovers.

Perhaps the most important effect of acquisition is felt by the managers of companies that are not taken over. For example, one effect of LBOs was that the managers of even the largest corporations could not feel safe from challenge. Perhaps the threat of takeover spurs the whole of corporate America to try harder. Unfortunately, we don't know whether on balance the threat of merger makes for more active days or sleepless nights.

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[11] See G. Andrade, M. Mitchell, and E. Stafford, "New Evidence and Perspectives on Mergers," *Journal of Economic Perspectives* 15 (Spring 2001), pp. 103–120.

[12] See P. Healy, K. Palepu, and R. Ruback, "Does Corporate Performance Improve after Mergers?" *Journal of Financial Economics* 31 (April 1992), pp. 135–175. The study examined the pretax returns of the merged companies relative to industry averages.

The threat of takeover may be a spur to inefficient management, but it is also costly. The companies need to pay for the services provided by the investment bankers, lawyers, and accountants. In addition, mergers can soak up large amounts of management time and effort. When a company is planning a takeover, it can be difficult to give as much attention as one should to the firm's existing business.

Even if the gains to the community exceed these costs, one wonders whether the same benefits could not be achieved more cheaply another way. For example, are leveraged buyouts necessary to make managers work harder? Perhaps the problem lies in the way that many corporations reward and penalize their managers. Perhaps many of the gains from takeover could be captured by linking management compensation more closely to performance.

SUMMARY

In what ways do companies change the composition of their ownership or management?

If the board of directors fails to replace an inefficient management, there are four ways to effect a change: (1) Shareholders may engage in a **proxy contest** to replace the board; (2) the firm may be acquired by another; (3) the firm may be purchased by a private group of investors in a leveraged buyout; or (4) it may sell off part of its operations to another company. There are three ways for one firm to acquire another: (1) It can **merge** all the assets and liabilities of the target firm into those of its own company; (2) it can buy the stock of the target; or (3) it can buy the individual assets of the target. The offer to buy the stock of the target firm is called a **tender offer.** The purchase of the stock or assets of another firm is called an **acquisition.**

Why may it make sense for companies to merge?

A merger may be undertaken in order to replace an inefficient management. But sometimes two businesses may be more valuable together than apart. Gains may stem from economies of scale, economies of vertical integration, the combination of complementary resources, or redeployment of surplus funds. We don't know how frequently these benefits occur, but they do make economic sense. Sometimes mergers are undertaken to diversify risks or artificially increase growth of earnings per share. These motives are dubious.

How should the gains and costs of mergers to the acquiring firm be measured?

A merger generates an economic gain if the two firms are worth more together than apart. The *gain* is the difference between the value of the merged firm and the value of the two firms run independently. The *cost* is the premium that the buyer pays for the selling firm over its value as a separate entity. When payment is in the form of shares, the value of this payment naturally depends on what those shares are worth after the merger is complete. You should go ahead with the merger if the gain exceeds the cost.

What are some takeover defenses?

Mergers are often amicably negotiated between the management and directors of the two companies; but if the seller is reluctant, the would-be buyer can decide to make a tender offer for the stock. We sketched some of the offensive and defensive tactics used in takeover battles. These defenses include **shark repellents** (changes in the company charter meant to make a takeover more difficult to achieve) and **poison pills** (measures that make takeover of the firm more costly).

What are some of the motivations for leveraged and management buyouts of the firm?

In a **leveraged buyout (LBO)** or **management buyout (MBO),** all public shares are repurchased and the company "goes private." LBOs tend to involve mature businesses with ample cash flow and modest growth opportunities. LBOs and other debt-financed takeovers are driven by a mixture of motives, including (1) the value of interest tax shields; (2) transfers of value from bondholders, who may see the value of their bonds fall as the firm piles up more debt; and (3) the opportunity to create better incentives for managers and employees, who have a personal stake in the company. In addition, many LBOs have

been designed to force firms with surplus cash to distribute it to shareholders rather than plowing it back. Investors feared such companies would otherwise channel free cash flow into negative-NPV investments.

Do mergers increase efficiency, and how are the gains from mergers distributed between shareholders of the acquired and acquiring firms?

We observed that when the target firm is acquired, its shareholders typically win: Target firms' shareholders earn abnormally large returns. The bidding firm's shareholders roughly break even. This suggests that the typical merger generates positive net benefits, but competition among bidders and active defense by management of the target firm pushes most of the gains toward selling shareholders.

QUIZ™

1. **Merger Motives.** Which of the following motives for mergers make economic sense?
   a. Merging to achieve economies of scale.
   b. Merging to reduce risk by diversification.
   c. Merging to redeploy cash generated by a firm with ample profits but limited growth opportunities.
   d. Merging to increase earnings per share.
2. **Merger Motives.** Explain why it might make good sense for Northeast Heating and Northeast Air Conditioning to merge into one company.
3. **Empirical Facts.** True or false?
   a. Sellers almost always gain in mergers.
   b. Buyers almost always gain in mergers.
   c. Firms that do unusually well tend to be acquisition targets.
   d. Merger activity in the United States varies dramatically from year to year.
   e. On average, mergers produce substantial economic gains.
   f. Tender offers require the approval of the selling firm's management.
   g. The cost of a merger is always independent of the economic gain produced by the merger.
4. **Merger Tactics.** Connect each term to its correct definition or description:

A. LBO	1. Attempt to gain control of a firm by winning the votes of its stockholders.
B. Poison pill	2. Changes in corporate charter designed to deter unwelcome takeover.
C. Tender offer	3. Shareholders are issued rights to buy shares if bidder acquires large stake in the firm.
D. Shark repellent	4. Offer to buy shares directly from stockholders.
E. Proxy contest	5. Company or business bought out by private investors, largely debt-financed.

5. **Merger Facts.** True or false?
   a. One of the first tasks of an LBO's financial manager is to pay down debt.
   b. The cost of a merger is affected by the size of the merger gains when the merger is financed with cash.
   c. Targets for LBOs in the 1980s tended to be profitable companies in mature industries with limited investment opportunities.

PRACTICE PROBLEMS

6. **Merger Gains.** Acquiring Corp. is considering a takeover of Takeover Target Inc. Acquiring has 10 million shares outstanding, which sell for $40 each. Takeover Target has 5 million shares outstanding, which sell for $20 each. If the merger gains are estimated at $25 million, what is the highest price per share that Acquiring should be willing to pay to Takeover Target shareholders?

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7. **Mergers and P/E Ratios.** If Acquiring Corp. from Problem 6 has a price-earnings ratio of 12 and Takeover Target has a P/E ratio of 8, what should be the P/E ratio of the merged firm? Assume in this case that the merger is financed by an issue of new Acquiring Corp. shares. Takeover Target will get one Acquiring share for every two Takeover Target shares held.

8. **Merger Gains and Costs.** Velcro Saddles is contemplating the acquisition of Pogo Ski Sticks, Inc. The values of the two companies as separate entities are $20 million and $10 million, respectively. Velcro Saddles estimates that by combining the two companies, it will reduce marketing and administrative costs by $500,000 per year in perpetuity. Velcro Saddles is willing to pay $14 million cash for Pogo. The opportunity cost of capital is 8 percent.
   a. What is the gain from merger?
   b. What is the cost of the cash offer?
   c. What is the NPV of the acquisition under the cash offer?

9. **Stock versus Cash Offers.** Suppose that instead of making a cash offer as in Problem 8, Velcro Saddles considers offering Pogo shareholders a 50 percent holding in Velcro Saddles.
   a. What is the value of the stock in the merged company held by the original Pogo shareholders?
   b. What is the cost of the stock alternative?
   c. What is its NPV under the stock offer?

10. **Merger Gains.** Immense Appetite, Inc., believes that it can acquire Sleepy Industries and improve efficiency to the extent that the market value of Sleepy will increase by $5 million. Sleepy currently sells for $20 a share, and there are 1 million shares outstanding.
    a. Sleepy's management is willing to accept a cash offer of $25 a share. Can the merger be accomplished on a friendly basis?
    b. What will happen if Sleepy's management holds out for an offer of $28 a share?

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11. **Mergers and P/E Ratios.** Castles in the Sand currently sells at a price-earnings multiple of 10. The firm has 2 million shares outstanding, and sells at a price per share of $40. Firm Foundation has a P/E multiple of 8, has 1 million shares outstanding, and sells at a price per share of $20.
    a. If Castles acquires the other firm by exchanging one of its shares for every two of Firm Foundation's, what will be the earnings per share of the merged firm?
    b. What should be the P/E of the new firm if the merger has no economic gains? What will happen to Castles's price per share? Show that shareholders of neither Castles nor Firm Foundation realize any change in wealth.
    c. What will happen to Castles's price per share if the market does not realize that the P/E ratio of the merged firm ought to differ from Castles's premerger ratio?
    d. How are the gains from the merger split between shareholders of the two firms if the market is fooled as in part (c)?

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12. **Stock versus Cash Offers.** Sweet Cola Corp. (SCC) is bidding to take over Salty Dog Pretzels (SDP). SCC has 3,000 shares outstanding, selling at $50 per share. SDP has 2,000 shares outstanding, selling at $17.50 a share. SCC estimates the economic gain from the merger to be $15,000.
    a. If SDP can be acquired for $20 a share, what is the NPV of the merger to SCC?
    b. What will SCC sell for when the market learns that it plans to acquire SDP for $20 a share? What will SDP sell for? What are the percentage gains to the shareholders of each firm?

c. Now suppose that the merger takes place through an exchange of stock. On the basis of the premerger prices of the firms, SCC sells for $50, so instead of paying $20 cash, SCC issues .40 of its shares for every SDP share acquired. What will be the price of the merged firm?
d. What is the NPV of the merger to SCC when it uses an exchange of stock? Why does your answer differ from part (a)?

CHALLENGE PROBLEMS

13. **Bootstrap Game.** The Muck and Slurry merger has fallen through (see Section 21.3). But World Enterprises is determined to report earnings per share of $2.67. It therefore acquires the Wheelrim and Axle Company. You are given the following facts:

	World Enterprises	Wheelrim and Axle	Merged Firm
Earnings per share	$2	$2.50	$2.67
Price per share	$40	$25	_____
Price-earnings ratio	20	10	_____
Number of shares	100,000	200,000	_____
Total earnings	$200,000	$500,000	_____
Total market value	$4,000,000	$5,000,000	_____

Once again there are no gains from merging. In exchange for Wheelrim and Axle shares, World Enterprises issues just enough of its own shares to ensure its $2.67 earnings per share objective.

a. Complete the above table for the merged firm.
b. How many shares of World Enterprises are exchanged for each share of Wheelrim and Axle?
c. What is the cost of the merger to World Enterprises?
d. What is the change in the total market value of those World Enterprises shares that were outstanding before the merger?

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14. **Merger Gains and Costs.** As treasurer of Leisure Products, Inc., you are investigating the possible acquisition of Plastitoys. You have the following basic data:

	Leisure Products	Plastitoys
Forecast earnings per share	$5	$1.50
Forecast dividend per share	$3	$.80
Number of shares	1,000,000	600,000
Stock price	$90	$20

You estimate that investors currently expect a steady growth of about 6 percent in Plastitoys's earnings and dividends. You believe that Leisure Products could increase Plastitoys's growth rate to 8 percent per year, without any additional capital investment required.

a. What is the gain from the acquisition?
b. What is the cost of the acquisition if Leisure Products pays $25 in cash for each share of Plastitoys?
c. What is the cost of the acquisition if Leisure Products offers one share of Leisure Products for every three shares of Plastitoys?
d. How would the cost of the cash offer and the share offer alter if the expected growth rate of Plastitoys were not increased by the merger?

STANDARD & POOR'S

Go to Market Insight at www.mhhe.com/edumarketinsight.

1. Hewlett-Packard purchased Compaq Computer in 2002. Go to the *Excel Analytics* section for HP and examine its financial ratios to see whether the merger created any obvious synergies. Examine various measures of operational efficiency (e.g., turnover ratios, output per employee) as well as evidence from market prices (e.g., price-earnings ratios).

2. Suppose that Southern Company (SO), an electric utility, purchased the biotech firm Amgen (AMGN) by exchanging Southern stock for Amgen stock. There would be no meaningful synergies since the firms are in wholly different industries, so suppose that the combined market value of the merged firm would be just the sum of the market values of both firms taken individually. Use data from *Excel Analytics* for each firm to compute what would happen to Southern's price-earnings ratio.

SOLUTIONS TO SELF-TEST QUESTIONS

21.1 a. Horizontal merger. IBM is in the same industry as Dell Computer.
b. Conglomerate merger. Dell Computer and Safeway are in different industries.
c. Vertical merger. Safeway is expanding backward to acquire one of its suppliers, Campbell Soup.
d. Conglomerate merger. Campbell Soup and IBM are in different industries.

21.2 Given current earnings of $2 a share and a share price of $10, Muck and Slurry would have a market value of $1,000,000 and a price-earnings ratio of only 5. It can be acquired for only half as many shares of World Enterprises, 25,000 shares. Therefore, the merged firm will have 125,000 shares outstanding and earnings of $400,000, resulting in earnings per share of $3.20, higher than the $2.67 value in the third column of Table 21–2.

21.3 The cost of the merger is $4 million: the $4 per share premium offered to Goldfish shareholders times 1 million shares. If the merger has positive NPV to Killer Shark, the gain must be greater than $4 million.

21.4 Yes. Look again at Table 21–4. Total market value is still $540, but Cislunar will have to issue 1 million shares to complete the merger. Total shares in the merged firm will be 11 million. The postmerger share price is $49.09, so Cislunar and its shareholders still come out ahead.

MINICASE

McPhee Food Halls operated a chain of supermarkets in the west of Scotland. The company had had a lackluster record, and since the death of its founder in late 2001, it had been regarded as a prime target for a takeover bid. In anticipation of a bid, McPhee's share price moved up from £4.90 in March to a 12-month high of £5.80 on June 10, despite the fact that the London stock market index as a whole was largely unchanged.

Almost nobody anticipated a bid coming from Fenton, a diversified retail business with a chain of clothing and department stores. Though Fenton operated food halls in several of its department stores, it had relatively little experience in food retailing. Fenton's management had, however, been contemplating a merger with McPhee for some time. The managers not only felt that they could make use of McPhee's food retailing skills within their department stores, but they also believed that better management and inventory control in McPhee's business could result in cost savings worth £10 million.

Fenton's offer of 8 Fenton shares for every 10 McPhee shares was announced after the market close on June 10. Since McPhee had 5 million shares outstanding, the acquisition would add an additional $5 \times (8/10) = 4$ million shares to the 10 million Fenton shares that were already outstanding. While Fenton's management believed that it would be difficult for McPhee to mount a successful takeover defense, the company and its investment bankers privately agreed that the company could afford to raise the offer if it proved necessary.

Investors were not persuaded of the benefits of combining a supermarket with a department store company, and on June 11 Fenton's shares opened lower and drifted down £.10 to close the day at £7.90. McPhee's shares, however, jumped to £6.32 a share.

Fenton's financial manager was due to attend a meeting with the company's investment bankers that evening, but before doing so, he decided to run the numbers once again. First he reestimated the gain and cost of the merger. Then he analyzed that day's fall in Fenton's stock price to see whether investors believed there were any gains to be had from merging. Finally, he decided to revisit the issue of whether Fenton could afford to raise its bid at a later stage. If the effect was simply a further fall in the price of Fenton stock, the move could be self-defeating.