

CHAPTER 21

MERGERS AND ACQUISITIONS

Procter & Gamble Acquires Gillette

Over the past several years a series of large mergers have reshaped the corporate landscape. Recent events suggest that this trend is showing no signs of slowing down. Within the first three months of 2005, plans for four major mergers were announced: Procter & Gamble's \$55 billion bid for Gillette, SBC Communications' \$14.7 billion acquisition of AT&T Corp., Federated Department Store's \$10.5 billion acquisition of May Department Store, and Verizon's \$7.5 billion revised bid for MCI Inc.

Combining consumer products giants Procter & Gamble (P&G) and Gillette immediately produced several winners. When the deal was announced, Gillette's shareholders saw the value of their stock rise by more than 17 percent. One particular winner was Gillette's largest shareholder, Warren Buffett, who owned roughly 96 million shares. Other winners include Gillette's senior executives, who saw the values of their stock and stock options increase, and the investment banks that helped put the deal together. (Estimates suggest that Goldman Sachs, Merrill Lynch, and UBS each received \$30 million from the transaction.)

What remains to be seen is whether the deal makes sense for P&G's shareholders. While many have applauded the deal, others suggest that P&G will have to work hard to justify the price it paid for Gillette. Moreover, as we point out in this chapter, the track record for acquiring firms in large deals has not always been that good.

In an article written for *The Wall Street Journal*, shortly after the P&G–Gillette announced deal, David Hardin and Sam Rovit discuss the potential pitfalls of large acquisitions, and they estimate that only 3 out of 10 large deals between 1995 and 2001 created meaningful benefits for the acquiring firm's shareholders. Hardin and Rovit (who are Bain & Company partners and co-authors of a recent book entitled *Mastering the Merger: Four Critical Decisions That Make or Break a Deal*) argue that there are five major criteria that determine whether a merger is successful:

1. *Is management successful in deal making?* They argue that experienced acquirers tend to do better than firms that make infrequent acquisitions.

Procter & Gamble

2. *Will the acquisition strengthen the buyer's core?* Here they argue that companies tend to do better when they acquire companies that operate in businesses they understand.
3. *Did management do its homework?* Successful acquirers take the time to do the necessary due diligence.
4. *Is the company addressing merger integration issues up front?* Hardin and Rovit point out that deals can often unravel because there isn't a clear plan for how the two management teams are going to be integrated following the acquisition.
5. *Is the executive team prepared for the unexpected?* History shows that nothing turns out the way it was planned. Successful acquirers anticipate the unexpected and are able to adapt well to changing circumstances.

The early indications are that the P&G–Gillette merger has the potential to be quite successful, but we will have to wait and see if the deal provides long-term value to P&G shareholders.

Sources: Nikhil Deogun, Charles Forelle, Dennis K. Berman, and Emily Nelson, "Razor's Edge: P&G to Buy Gillette for \$54 Billion—Deal Joins Iconic Giants of Consumer Products; 21 Billion-Dollar Brands—A Green Light for Takeovers," *The Wall Street Journal*, January 28, 2005, p. A1; A. G. Lafley and Patricia Sellers, " 'It Was a No-Brainer' That's What Procter & Gamble's A. G. Lafley Says of His Decision to Buy Gillette. Here's Why He Thinks So—and How the Deal Came About," *Fortune*, February 21, 2005, p. 96; Shawn Tully, "The Urge to Merge With the Tally of High-Priced Mergers Growing by the Day, One Can't Help but Ask: Did We Learn Nothing from the Crash?" *Fortune*, February 21, 2005, p. 21; David Hardin and Sam Rovit, "Five Ways to Spot a Good Deal," *The Wall Street Journal*, March 29, 2005, p. B2; Dennis K. Berman, "Stock Market Quarterly Review: Wave of Megamergers Keeps Rolling On—Big Companies Look to Deals for Spurring Profit Growth; Private Equity's Brief Pause," *The Wall Street Journal*, April 1, 2005, p. C13; and Robert Barker, "P&G's \$57 Billion Bargain," *BusinessWeek*, July 25, 2005, p. 26.

Putting Things In Perspective

Most corporate growth occurs by internal expansion, which takes place when a firm's existing divisions grow through normal capital budgeting activities. However, the most dramatic examples of growth, and often the largest increases in firms' stock prices, result from mergers, the first topic covered in this chapter. *Leveraged buyouts*, or *LBOs*, occur when a firm's stock is acquired by a small group of investors rather than by another operating company. Because LBOs are similar to mergers in many respects, they are also covered in this chapter. Conditions change over time, causing firms to sell off, or *divest*, major divisions to other firms that can better utilize the divested assets. We also discuss divestitures in the chapter. We leave the discussion of the *holding company* form of organization, wherein one corporation owns the stock of one or more other companies, for Web Appendix 21A.

21.1 RATIONALE FOR MERGERS

Many reasons have been proposed by financial managers and theorists to account for the high level of U.S. merger activity. The primary motives behind corporate **mergers** are presented in this section.¹

Synergy

The primary motivation for most mergers is to increase the value of the combined enterprise. If Companies A and B merge to form Company C, and if C's value exceeds that of A and B taken separately, then **synergy** is said to exist. Such a merger should be beneficial to both A's and B's stockholders.² Synergistic effects can arise from four sources: (1) *operating economies*, which result from economies of scale in management, marketing, production, or distribution; (2) *financial economies*, including lower transactions costs and better coverage by security analysts; (3) *differential efficiency*, which implies that the management of one firm is more efficient and that the weaker firm's assets will be more productive after the merger; and (4) *increased market power* due to reduced competition. Operating and financial economies are socially desirable, as are mergers that increase managerial efficiency, but mergers that reduce competition are socially undesirable and often illegal.³

Tax Considerations

Tax considerations have stimulated a number of mergers. For example, a profitable firm in the highest tax bracket could acquire a firm with large accumulated tax losses. These losses could then be turned into immediate tax savings rather than carried forward and used in the future.⁴ Also, mergers can serve as a way of minimizing taxes when disposing of excess cash. For example, if a firm has a shortage of internal investment opportunities compared with its free cash flow, it could (1) pay an extra dividend, (2) invest in marketable securities, (3) repurchase its own stock, or (4) purchase another firm. If it pays an extra dividend, its stockholders would have to pay immediate taxes on the distribution. Marketable securities often provide a good temporary parking place for money, but they generally earn a rate of return less than that required by stockholders. A stock repurchase might result in a capital gain for the remaining stockholders. However, using surplus cash to acquire another firm would avoid all these problems, and this has motivated a number of mergers.

Merger

The combination of two firms to form a single firm.

Synergy

The condition wherein the whole is greater than the sum of its parts; in a synergistic merger, the post-merger value exceeds the sum of the separate companies' pre-merger values.

¹ As we use the term, *merger* means any combination that forms one economic unit from two or more previous ones. For legal purposes, there are distinctions among the various ways these combinations can occur, but our focus is on the fundamental economic and financial aspects of mergers.

² If synergy exists, then the whole is greater than the sum of the parts. Synergy is also called the "2 plus 2 equals 5 effect." The distribution of the synergistic gain between A's and B's stockholders is determined by negotiation. This point is discussed later in the chapter.

³ In the 1880s and 1890s, many mergers occurred in the United States, and some of them were obviously directed toward gaining market power rather than increasing efficiency. As a result, Congress passed a series of acts designed to ensure that mergers are not used as a method of reducing competition. The principal acts include the Sherman Act (1890), the Clayton Act (1914), and the Celler Act (1950). These acts make it illegal for firms to combine if the combination tends to lessen competition. The acts are enforced by the antitrust division of the Justice Department and by the Federal Trade Commission.

⁴ Mergers undertaken only to use accumulated tax losses would probably be challenged by the IRS. In recent years Congress has made it increasingly difficult for firms to pass along tax savings after mergers.

Purchase of Assets below Their Replacement Cost

Sometimes a firm will be touted as an acquisition candidate because the cost of replacing its assets is considerably higher than its market value. For example, in the early 1980s oil companies could acquire reserves cheaper by buying other oil companies than by doing exploratory drilling. Thus, Chevron acquired Gulf Oil to augment its reserves. Similarly, in the 1980s several steel company executives stated that it was cheaper to buy an existing steel company than to construct a new mill. For example, LTV (the fourth largest steel company) acquired Republic Steel (the sixth largest) to create the second largest firm in the industry.

Diversification

Managers often cite diversification as a reason for mergers. They contend that diversification helps stabilize a firm's earnings and thus benefits its owners. Stabilization of earnings is certainly beneficial to employees, suppliers, and customers, but its value is less certain from the standpoint of stockholders. Why should Firm A acquire Firm B to stabilize earnings when stockholders can simply buy the stock of both firms? Indeed, research of U.S. firms suggests that in most cases diversification does not increase the firm's value. To the contrary, many studies find that diversified firms are worth significantly less than the sum of their individual parts.⁵

Of course, if you were the owner-manager of a closely held firm, it might be nearly impossible to sell part of your stock to diversify. Also, selling your stock would probably lead to a large capital gains tax. So, a diversification merger might be the best way to achieve personal diversification.

Managers' Personal Incentives

Financial economists like to think that business decisions are based only on economic considerations, especially maximization of firms' values. However, many business decisions are based more on managers' personal motivations than on economic analyses. Business leaders like power, and more power is attached to running a larger corporation than a smaller one. Obviously, no executive would admit that his or her ego was the primary reason behind a merger, but egos do play a prominent role in many mergers.

It has also been observed that executive salaries are highly correlated with company size—the bigger the company, the higher the salaries of its top officers. This too could play a role in corporate acquisition programs.

Personal considerations deter as well as motivate mergers. After most takeovers, some managers of the acquired companies lose their jobs, or at least their autonomy. Therefore, managers who own less than 51 percent of their firms' stock look to devices that will lessen the chances of a takeover. Mergers can serve as such a device. For example, several years ago Paramount made a bid to acquire Time Inc. Time's managers received a lot of criticism when they rejected Paramount's bid and chose instead to enter into a heavily debt-financed merger with Warner Brothers that enabled them to retain power. Such **defensive mergers** are hard to defend on economic grounds. The managers involved invariably argue that synergy, not a desire to protect their own jobs, motivated the acquisition, but observers suspect that many mergers were designed more to benefit managers than stockholders.

Defensive Merger

A merger designed to make a company less vulnerable to a takeover.

⁵ See, for example, Philip Berger and Eli Ofek, "Diversification's Effect on Firm Value," *Journal of Financial Economics*, Vol. 37 (1995), pp. 37–65; and Larry Lang and René Stulz, "Tobin's Q, Corporate Diversification, and Firm Performance," *Journal of Political Economy*, Vol. 102 (1994), pp. 1248–1280.

Breakup Value

Firms can be valued by book value, economic value, or replacement value. Recently, takeover specialists have begun to recognize breakup value as another basis for valuation. Analysts estimate a company's breakup value, which is the value of the individual parts of the firm if they were sold off separately. If this value is higher than the firm's current market value, then a takeover specialist could acquire the firm at or even above its current market value, sell it off in pieces, and earn a substantial profit.



Define *synergy*. Is synergy a valid rationale for mergers? Describe several situations that might produce synergistic gains.

Give two examples of how tax considerations can motivate mergers.

Suppose your firm could purchase another firm for only half of its replacement value. Would that be a sufficient justification for the acquisition?

Discuss the pros and cons of diversification as a rationale for mergers.

What is breakup value?

21.2 TYPES OF MERGERS

Economists classify mergers into four types: (1) horizontal, (2) vertical, (3) congeneric, and (4) conglomerate. A **horizontal merger** occurs when one firm combines with another in its same line of business—the NationsBank/BankAmerica merger is an example. An example of a **vertical merger** would be a steel producer's acquisition of one of its own suppliers, such as an iron or coal mining firm, or an oil producer's acquisition of a petrochemical firm that uses oil as a raw material. Congeneric means "allied in nature or action," hence a **congeneric merger** involves related enterprises but not producers of the same product (horizontal) or firms in a producer-supplier relationship (vertical). The Citicorp/Travelers merger is an example. A **conglomerate merger** occurs when unrelated enterprises combine, as illustrated by Mobil Oil's acquisition of Montgomery Ward.

Operating economies (and also anticompetitive effects) are at least partially dependent on the type of merger involved. Vertical and horizontal mergers generally provide the greatest synergistic operating benefits, but they are also the ones most likely to be attacked by the Department of Justice as anticompetitive. In any event, it is useful to think of these economic classifications when analyzing prospective mergers.



What are the four economic types of mergers?

Horizontal Merger

A combination of two firms that produce the same type of good or service.

Vertical Merger

A merger between a firm and one of its suppliers or customers.

Congeneric Merger

A merger of firms in the same general industry, but for which no customer or supplier relationship exists.

Conglomerate Merger

A merger of companies in totally different industries.

21.3 LEVEL OF MERGER ACTIVITY

Five major "merger waves" have occurred in the United States. The first was in the late 1800s, when consolidations occurred in the oil, steel, tobacco, and other basic industries. The second was in the 1920s, when the stock market boom

helped financial promoters consolidate firms in a number of industries, including utilities, communications, and autos. The third was in the 1960s, when conglomerate mergers were the rage. The fourth occurred in the 1980s, when LBO firms and others began using junk bonds to finance all manner of acquisitions. The fifth, which involves strategic alliances designed to enable firms to compete better in the global economy, is in progress today.

As can be seen from Table 21-1, which lists some of the more recent larger mergers, some huge mergers have occurred in recent years.⁶ In addition, there have been a number of high-profile global mergers recently, including the mergers of Daimler-Benz and Chrysler, Deutschebank and Bankers Trust, and British Petroleum and Amoco. In general, these mergers have been significantly different from those of the 1980s. Most 1980s mergers were financial transactions in which buyers sought companies that were selling at less than their true values as a result of incompetent or sluggish management. If a target company could be managed better, if redundant assets could be sold, and if operating and administrative costs could be cut, profits and stock prices would rise. On the other hand, most of the mergers have been strategic in nature—companies are merging to gain economies of scale or scope and thus to be better able to compete in the world economy. Indeed, many recent mergers have involved companies in the financial, defense, media, computer, telecommunications, and health care industries, all of which are experiencing structural changes and intense competition.

Recently, there has also been an increase in cross-border mergers. Many of these mergers have been motivated by large shifts in the value of the world's

TABLE 21-1

A Sample of Large Mergers Announced in Recent Years

Buyer	Target	Announcement Date	Value (Billions, U.S. \$)
America Online	Time Warner	January 10, 2000	\$160.0
Vodafone AirTouch	Mannesmann	November 14, 1999	148.6
Pfizer	Warner-Lambert	November 4, 1999	90.0
Exxon	Mobil	December 1, 1998	85.2
Bell Atlantic	GTE	July 28, 1998	85.0
SBC Communications	Ameritech	May 11, 1998	80.6
Vodafone	AirTouch	January 18, 1999	74.4
Royal Dutch Petroleum	Shell Trans. & Trading	October 28, 2004	74.3
British Petroleum	Amoco	August 11, 1998	61.7
AT&T	MediaOne Group	May 6, 1999	61.0
Sanofi-Synthelabo	Aventis	January 26, 2004	60.2
Pfizer	Pharmacia Corporation	July 15, 2002	60.0
JP Morgan Chase	Bank One	January 14, 2004	58.8
Procter & Gamble	Gillette	January 28, 2005	55.0
Comcast	AT&T Broadband	July 8, 2001	47.0

Source: Adapted from recent "Year-End Review" articles from *The Wall Street Journal*.

⁶ For detailed reviews of the 1980s merger wave, see Andrei Shleifer and Robert W. Vishny, "The Takeover Wave of the 1980s," *Journal of Applied Corporate Finance*, Fall 1991, pp. 49–56; Edmund Faltermayer, "The Deal Decade: Verdict on the '80s," *Fortune*, August 26, 1991, pp. 58–70; and "The Best and Worst Deals of the '80s: What We Learned from All Those Mergers, Acquisitions, and Takeovers," *BusinessWeek*, January 15, 1990, pp. 52–57.

leading currencies. For example, in the early 1990s, the dollar was weak relative to the yen and the mark. The decline in the dollar made it easier for Japanese and German acquirers to buy U.S. corporations.



What five major “merger waves” have occurred in the United States?

What are some reasons for the current wave?

21.4 HOSTILE VERSUS FRIENDLY TAKEOVERS

In the vast majority of merger situations, one firm (generally the larger of the two) simply decides to buy another company, negotiates a price with the management of the target firm, and then acquires the target company. Occasionally, the acquired firm will initiate the action, but it is much more common for a firm to seek acquisitions than to seek to be acquired.⁷ Following convention, we call a company that seeks to acquire another firm the **acquiring company** and the one that it seeks to acquire the **target company**.

Once an acquiring company has identified a possible target, it must (1) establish a suitable price, or range of prices, and (2) tentatively set the terms of payment—will it offer cash, its own common stock, bonds, or some combination? Next, the acquiring firm’s managers must decide how to approach the target company’s managers. If the acquiring firm has reason to believe that the target’s management will approve the merger, then it will simply propose a merger and try to work out some suitable terms. If an agreement is reached, then the two management groups will issue statements to their stockholders indicating that they approve the merger, and the target firm’s management will recommend to its stockholders that they agree to the merger. Generally, the stockholders are asked to *tender* (or send in) their shares to a designated financial institution, along with a signed power of attorney that transfers ownership of the shares to the acquiring firm. The target firm’s stockholders then receive the specified payment, either common stock of the acquiring company (in which case the target company’s stockholders become stockholders of the acquiring company), cash, bonds, or some mix of cash and securities. This is a **friendly merger**.

Often, however, the target company’s management resists the merger. Perhaps they feel that the price offered is too low, or perhaps they simply want to keep their jobs. In either case, the acquiring firm’s offer is said to be *hostile* rather than friendly, and the acquiring firm must make a direct appeal to the target firm’s stockholders. In a **hostile merger**, the acquiring company will again make a **tender offer**, and again it will ask the stockholders of the target firm to tender their shares in exchange for the offered price. This time, though, the target firm’s managers will urge stockholders not to tender their shares, generally stating that the price offered (cash, bonds, or stocks in the acquiring firm) is too low.

While most mergers are friendly, recently there have been a number of interesting cases in which high-profile firms have attempted hostile takeovers. For example, Warner-Lambert tried to fight off a hostile bid by Pfizer; however, the

Acquiring Company

A company that seeks to acquire another firm.

Target Company

A firm that another company seeks to acquire.

Friendly Merger

A merger whose terms are approved by the managements of both companies.

Hostile Merger

A merger in which the target firm’s management resists acquisition.

Tender Offer

The offer of one firm to buy the stock of another by going directly to the stockholders, frequently (but not always) over the opposition of the target company’s management.

⁷ However, if a firm is in financial difficulty, if its managers are elderly and do not think that suitable replacements are on hand, or if it needs the support (often the capital) of a larger company, then it may seek to be acquired. Thus, when a number of Texas, Ohio, and Maryland financial institutions were in trouble in the 1980s, they lobbied to get their state legislatures to pass laws that would make it easier for them to be acquired. Out-of-state banks then moved in to help salvage the situation and minimize depositor losses.

merger was completed in 2000. Looking overseas, Olivetti successfully conducted a hostile takeover of Telecom Italia, and in another telecommunications merger Britain's Vodafone AirTouch made a hostile bid for its German rival, Mannesmann AG, which was successful.



What's the difference between a hostile and a friendly merger?

Proxy Fight

An attempt to gain control of a firm by soliciting stockholders to vote for a new management team.

21.5 MERGER REGULATION

Prior to the mid-1960s, friendly acquisitions generally took place as simple exchange-of-stock mergers, and a **proxy fight** was the primary weapon used in hostile control battles. However, in the mid-1960s corporate raiders began to operate differently. First, it took a long time to mount a proxy fight—raiders had to first request a list of the target company's stockholders, be refused, and then get a court order forcing management to turn over the list. During that time, the target's management could think through and then implement a strategy to fend off the raider. As a result, management won most proxy fights.

Then raiders began saying to themselves, "If we could bring the decision to a head quickly, before management can take countermeasures, that would greatly increase our probability of success." That led the raiders to turn from proxy fights to tender offers, which had a much shorter response time. For example, the stockholders of a company whose stock was selling for \$20 might be offered \$27 per share and be given two weeks to accept. The raider, meanwhile, would have accumulated a substantial block of the shares in open market purchases, and additional shares might have been purchased by institutional friends of the raider who promised to tender their shares in exchange for the tip that a raid was to occur.

Faced with a well-planned raid, managements were generally overwhelmed. The stock might actually be worth more than the offered price, but management simply did not have time to get this message across to stockholders or to find a competing bidder. This situation seemed unfair, so Congress passed the Williams Act in 1968. This law had two main objectives: (1) to regulate the way acquiring firms can structure takeover offers and (2) to force acquiring firms to disclose more information about their offers. Basically, Congress wanted to put target managements in a better position to defend against hostile offers. Additionally, Congress believed that shareholders needed easier access to information about tender offers—including information on any securities that might be offered in lieu of cash—in order to make rational tender-versus-don't-tender decisions.

The Williams Act placed the following four restrictions on acquiring firms:

1. Acquirers must disclose their current holdings and future intentions within 10 days of amassing at least 5 percent of a company's stock.
2. Acquirers must disclose the source of the funds to be used in the acquisition.
3. The target firm's shareholders must be allowed at least 20 days to tender their shares; that is, the offer must be "open" for at least 20 days.
4. If the acquiring firm increases the offer price during the 20-day open period, all shareholders who tendered prior to the new offer must receive the higher price.

In total, these restrictions were intended to reduce the acquiring firm's ability to surprise management and to stampede target shareholders into accepting an inadequate offer. Prior to the Williams Act, offers were generally made on a

first-come, first-served basis, and they were often accompanied by an implicit threat to lower the bid price after 50 percent of the shares were in hand. The legislation also gave the target more time to mount a defense, and it gave rival bidders and *white knights* a chance to enter the fray and thus help a target's stockholders obtain a better price.

Many states have also passed laws designed to protect firms in their states from hostile takeovers. At first, these laws focused on disclosure requirements, but by the late 1970s several states had enacted takeover statutes so restrictive that they virtually precluded hostile takeovers. In 1979, MITE Corporation, a Delaware firm, made a hostile tender offer for Chicago Rivet and Machine Co., a publicly held Illinois corporation. Chicago Rivet sought protection under the Illinois Business Takeover Act. The constitutionality of the Illinois act was contested, and the U.S. Supreme Court found the law unconstitutional. The court ruled that the market for securities is a national market, and even though the issuing firm was incorporated in Illinois, the state of Illinois could not regulate interstate securities transactions.

The Illinois decision effectively eliminated the first generation of state merger regulations. However, the states kept trying to protect their state-headquartered companies, and in 1987 the U.S. Supreme Court upheld an Indiana law that radically changed the rules of the takeover game. Specifically, the Indiana law first defined "control shares" as enough shares to give an investor 20 percent of the vote. It went on to state that when an investor buys control shares, those shares can be voted only after approval by a majority of "disinterested shareholders," defined as those who are neither officers nor inside directors of the company, nor associates of the raider. The law also gives the buyer of control shares the right to insist that a shareholders' meeting be called within 50 days to decide whether the shares may be voted. The Indiana law dealt a major blow to raiders, mainly because it slows down the action. Delaware (the state in which most large companies are incorporated) later passed a similar bill, as did New York and a number of other important states.

The new state laws also have some features that protect target stockholders from their own managers. Included are limits on the use of golden parachutes, onerous debt-financing plans, and some types of takeover defenses. Since these laws do not regulate tender offers per se, but rather govern the practices of firms in the state, they have withstood all legal challenges to date.



Is there a need to regulate mergers? Explain.

Do the states play a role in merger regulation, or is it all done at the national level? Explain.

21.6 MERGER ANALYSIS

In theory, merger analysis is quite simple. The acquiring firm simply performs an analysis to value the target company and then determines whether the target can be bought at that value or, preferably, for less than the estimated value. The target company, on the other hand, should accept the offer if the price exceeds either its value if it continued to operate independently or the price it can receive from some other bidder. Theory aside, however, some difficult issues are involved. In this section, we first discuss valuing the target firm, which is the initial step in a merger analysis. Then we discuss setting the bid price and post-merger control.

Valuing the Target Firm

Several methodologies are used to value target firms, but we will confine our discussion to the two most common: (1) the discounted cash flow approach and (2) the market multiple method. However, regardless of the valuation methodology, it is crucial to recognize two facts. First, the target company typically will not continue to operate as a separate entity but will become part of the acquiring firm's portfolio of assets. Therefore, changes in operations will affect the value of the business and must be considered in the analysis. Second, the goal of merger valuation is to value the target firm's equity, because a firm is acquired from its owners, not from its creditors. Thus, although we use the phrase "valuing the firm," our focus is on the value of the equity rather than on total value.

Discounted Cash Flow Analysis

The discounted cash flow (DCF) approach to valuing a business involves the application of capital budgeting procedures to an entire firm rather than to a single project. To apply this method, two key items are needed: (1) pro forma statements that forecast the incremental free cash flows expected to result from the merger and (2) a discount rate, or cost of capital, to apply to these projected cash flows.

Pro Forma Cash Flow Statements Obtaining accurate post-merger cash flow forecasts is by far the most important task in the DCF approach. In a pure **financial merger**, in which no synergies are expected, the incremental post-merger cash flows are simply the expected cash flows of the target firm. In an **operating merger**, where the two firms' operations are to be integrated, forecasting future cash flows is more difficult.

Table 21-2 shows the projected cash flow statements for Apex Corporation, which is being considered as a target by Hightech, a large conglomerate. The projected data are for the post-merger period, and all synergistic effects have been included. Apex currently uses 50 percent debt, and if it were acquired, Hightech would keep the debt ratio at 50 percent. Both Hightech and Apex have a 40 percent marginal federal-plus-state tax rate.

Lines 1 through 4 of the table show the operating information that Hightech expects for the Apex subsidiary if the merger takes place, and Line 5 contains the earnings before interest and taxes (EBIT) for each year. Unlike a typical capital budgeting analysis, a merger analysis usually does incorporate interest expense into the cash flow forecast, as shown on Line 6. This is done for three reasons: (1) Acquiring firms often assume the debt of the target firm, so old debt at different coupon rates is often part of the deal; (2) the acquisition is often financed partially by debt; and (3) if the subsidiary is to grow in the future, new debt will have to be issued over time to support the expansion. Thus, debt associated with a merger is typically more complex than the single issue of new debt associated with a normal capital project, and the easiest way to properly account for the complexities of merger debt is to specifically include each year's expected interest expense in the cash flow forecast. Therefore, we are using what is called the **equity residual method** to value the target firm. Here the estimated net cash flows are a residual that belongs solely to the acquiring firm's shareholders. Therefore, they should be discounted at the cost of equity. This is in contrast to the corporate value model of Chapter 9, where the free cash flows (which belong to all investors, not just shareholders) are discounted at the WACC. Both methods lead to the same estimate of equity value.

Line 7 contains the earnings before taxes (EBT), and Line 8 gives taxes based on Hightech's 40 percent marginal rate. Line 9 lists each year's net income, and depreciation is added back on Line 10 to obtain each year's cash flow as shown

Financial Merger

A merger in which the firms involved will not be operated as a single unit and from which no operating economies are expected.

Operating Merger

A merger in which operations of the firms involved are integrated in hope of achieving synergistic benefits.

Equity Residual Method

A method used to value a target firm using net cash flows that are a residual and belong solely to the acquiring firm's shareholders.

TABLE 21-2 *Projected Post-Merger Cash Flow Statements for the Apex Subsidiary as of December 31 (Millions of Dollars)*

	2006	2007	2008	2009	2010
1. Net sales	\$105.0	\$126.0	\$151.0	\$174.0	\$191.0
2. Cost of goods sold	75.0	89.0	106.0	122.0	132.0
3. Selling and administrative expenses	10.0	12.0	13.0	15.0	16.0
4. Depreciation	8.0	8.0	9.0	9.0	10.0
5. EBIT	\$ 12.0	\$ 17.0	\$ 23.0	\$ 28.0	\$ 33.0
6. Interest ^a	8.0	9.0	10.0	11.0	11.0
7. EBT	\$ 4.0	\$ 8.0	\$ 13.0	\$ 17.0	\$ 22.0
8. Taxes (40%) ^b	1.6	3.2	5.2	6.8	8.8
9. Net income	\$ 2.4	\$ 4.8	\$ 7.8	\$ 10.2	\$ 13.2
10. Plus depreciation	8.0	8.0	9.0	9.0	10.0
11. Cash flow	\$ 10.4	\$ 12.8	\$ 16.8	\$ 19.2	\$ 23.2
12. Less retentions needed for growth ^c	4.0	4.0	7.0	9.0	12.0
13. Plus terminal value ^d					127.8
14. Net cash flow to Hightech ^e	<u>\$ 6.4</u>	<u>\$ 8.8</u>	<u>\$ 9.8</u>	<u>\$ 10.2</u>	<u>\$139.0</u>

Notes:

^a Interest payments are estimates based on Apex's existing debt, plus additional debt required to finance growth.

^b Hightech will file a consolidated tax return after the merger. Thus, the taxes shown here are the full corporate taxes attributable to Apex's operations: there will be no additional taxes on any cash flows passed from Apex to Hightech.

^c Some of the cash flows generated by the Apex subsidiary after the merger must be retained to finance asset replacements and growth, while some will be transferred to Hightech to pay dividends on its stock or for redeployment within the corporation. These retentions are net of any additional debt used to help finance growth.

^d Apex's available cash flows are expected to grow at a constant 5 percent rate after 2010. The value of all post-2010 cash flows as of December 31, 2010, is estimated by use of the constant growth model to be \$127.8 million.

$$V_{2010} = \frac{CF_{2011}}{r_s - g} = \frac{(23.2 - \$12.0)(1.05)}{0.142 - 0.05} = \$127.8 \text{ million}$$

In the next section, we discuss the estimated 14.2 percent cost of equity. The \$127.8 million is the PV at the end of 2010 of the stream of cash flows for Year 2011 and thereafter.

^e These are the net cash flows projected to be available to Hightech by virtue of the acquisition. The cash flows could be used for dividend payments to Hightech's stockholders, to finance asset expansion in Hightech's other divisions and subsidiaries, and so on.

on Line 11. Because some of Apex's assets will wear out or become obsolete, and because Hightech plans to expand the Apex subsidiary should the acquisition occur, some equity funds must be retained and reinvested in the business. These retentions, which are not available for transfer to the parent, are shown on Line 12. Finally, we have projected only five years of cash flows, but Hightech would likely operate the Apex subsidiary for many years—in theory, forever. Therefore, we applied the constant growth model to the 2010 cash flow to estimate the value of all cash flows beyond 2010. (See Note d to Table 21-2.) This “terminal value” represents Apex's projected value at the end of 2010, and it is shown on Line 13.

The net cash flows shown on Line 14 would be available to Hightech's stockholders, and they are the basis of the valuation.⁸ Of course, the post-merger

⁸ We purposely kept the cash flows relatively simple to help focus on key issues. In an actual merger valuation, the cash flows would be much more complex, normally including such items as additional capital furnished by the acquiring firm, tax loss carry-forwards, tax effects of plant and equipment valuation adjustments, and cash flows from the sale of some of the subsidiary's assets.

cash flows are extremely difficult to estimate, and in a complete merger valuation, just as in a complete capital budgeting analysis, sensitivity, scenario, and simulation analyses should be conducted. Indeed, in a friendly merger the acquiring firm would send a team consisting of literally dozens of accountants, engineers, and so forth, to the target firm's headquarters. They would go over its books, estimate required maintenance expenditures, set values on assets such as real estate and petroleum reserves, and the like. Such an investigation, which is called *due diligence*, is an essential part of any merger analysis.

Estimating the Discount Rate The bottom-line net cash flows shown on Line 14 are after interest and taxes, hence they represent equity. Therefore, they should be discounted at the cost of equity rather than at the overall cost of capital. Further, the discount rate used should reflect the risk of the cash flows in the table. The most appropriate discount rate is Apex's cost of equity, not that of either Hightech or the consolidated post-merger firm.

Although we will not illustrate it here, Hightech could perform a risk analysis on the Table 21-2 cash flows just as it does on any set of capital budgeting flows. Sensitivity analysis, scenario analysis, and/or Monte Carlo simulation could be used to give Hightech's management a feel for the risks involved with the acquisition. Apex is a publicly traded company, so we can assess directly its market risk. Apex's market-determined pre-merger beta was 1.63. Because the merger would not change Apex's capital structure or tax rate, its post-merger beta would remain at 1.63. However, if Apex's capital structure had changed, then the Hamada equation (which was discussed in Chapter 14) could have been used to determine the firm's new beta corresponding to its changed capital structure.

We use the Security Market Line to estimate Apex's post-merger cost of equity. If the risk-free rate is 6 percent and the market risk premium is 5 percent, then Apex's cost of equity, r_s , after the merger with Hightech, would be about 14.2 percent.⁹

$$r_s = r_{RF} + (RP_M)b = 6\% + (5\%)1.63 = 14.15\% \approx 14.2\%$$

Valuing the Cash Flows The current value of Apex's stock to Hightech is the present value of the cash flows expected from Apex, discounted at 14.2 percent (in millions of dollars):

$$V_{2005} = \frac{\$6.4}{(1.142)^1} + \frac{\$8.8}{(1.142)^2} + \frac{\$9.8}{(1.142)^3} + \frac{\$10.2}{(1.142)^4} + \frac{\$139.0}{(1.142)^5} \approx \$96.5$$

Thus, the value of Apex's stock to Hightech is \$96.5 million.

Note that in a merger analysis, the value of the target consists of the target's pre-merger value plus any value created by operating or financial synergies. In this example, we held the target's capital structure and tax rate constant. There-

⁹ In this example, we used the Capital Asset Pricing Model to estimate Apex's cost of equity, and thus we assumed that investors require a premium for market risk only. We could have also conducted a corporate risk analysis, in which the relevant risk would be the contribution of Apex's cash flows to the total risk of the post-merger firm.

In actual merger situations among large firms, companies almost always hire an investment banker to help develop valuation estimates. For example, when General Electric acquired Utah International, GE hired Morgan Stanley to determine Utah's value. We discussed the valuation process with the Morgan Stanley analyst in charge of the appraisal, and he confirmed that they applied all of the standard procedures discussed in this chapter. Note, though, that merger analysis, like the analysis of any other complex issue, requires judgment, and people's judgments differ as to how much weight to give to different methods in any given situation.

fore, the only synergies were operating synergies, and these effects were incorporated into the forecasted cash flows. If there had been financial synergies, the analysis would have to be modified to reflect this added value. For example, if Apex had been operating with only 30 percent debt, and if Hightech could lower Apex's overall cost of capital by increasing the debt ratio to 50 percent, then Apex's merger value would have exceeded the \$96.5 million calculated above.

Market Multiple Analysis

The second method of valuing a target company is **market multiple analysis**, which applies a market-determined multiple to net income, earnings per share, sales, book value, or, for businesses such as cable TV or cellular telephone systems, the number of subscribers. While the DCF method applies valuation concepts in a precise manner, focusing on expected cash flows, market multiple analysis is more judgmental. To illustrate the concept, note that Apex's forecasted net income is \$2.4 million in 2006, and it rises to \$13.2 million in 2010, for an average of \$7.7 million over the five-year forecast period. The average P/E ratio for publicly traded companies similar to Apex is 12.5.

To estimate Apex's value using the market P/E multiple approach, simply multiply its \$7.7 million average net income by the market multiple of 12.5 to obtain the value of $\$7.7(12.5) = \96.25 million. This is the equity, or ownership, value of the firm. Note that we used the average net income over the next five years to value Apex. The market P/E multiple of 12.5 is based on the current year's income of comparable companies, but Apex's current income does not reflect synergistic effects or managerial changes that will be made. By averaging future net income, we are attempting to capture the value added by Hightech to Apex's operations.

Note that measures other than net income can be used in the market multiple approach. For example, another commonly used measure is *earnings before interest, taxes, depreciation, and amortization (EBITDA)*. The procedure would be identical to that just described, except that the market multiple would be price divided by EBITDA rather than earnings per share, and this multiple would be multiplied by Apex's EBITDA.

As noted, in some businesses such as cable TV and cellular telephone, an important element in the valuation process is the number of customers a company has. The acquirer has an idea of the cost required to obtain a new customer and the average cash flow per customer. Managed care companies such as HMOs have applied similar logic in acquisitions, basing their valuations on the number of people insured.

Setting the Bid Price

Using the DCF valuation results, \$96.5 million is the most Hightech could pay for Apex—if it pays more, then Hightech's own value will be diluted. On the other hand, if Hightech can acquire Apex for less than \$96.5 million, Hightech's stockholders will gain value. Therefore, Hightech will bid something less than \$96.5 million when it makes an offer for Apex.

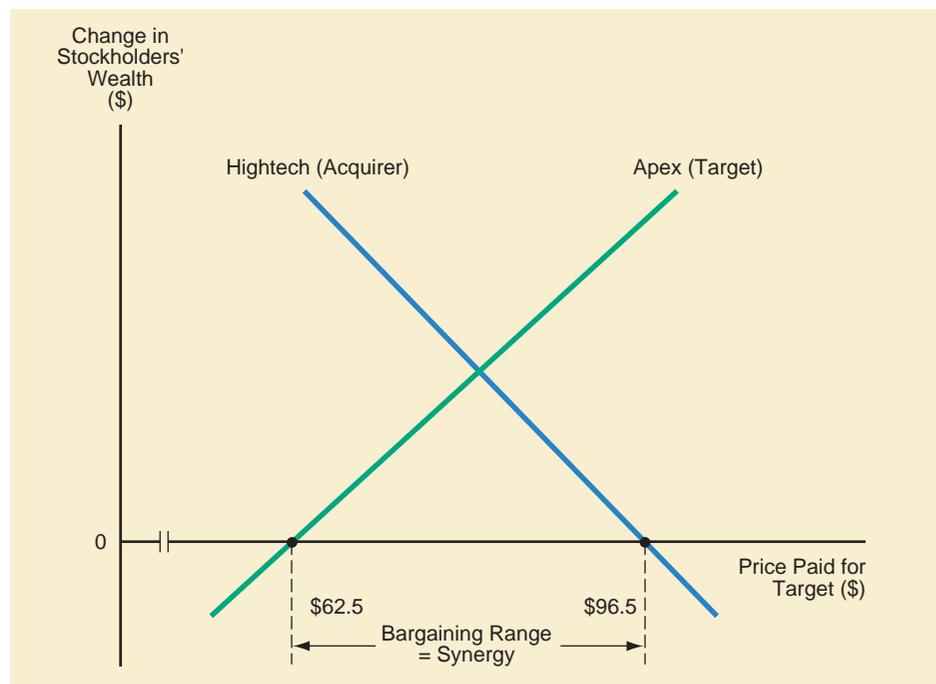
Figure 21-1 graphs the merger situation. The \$96.5 million is shown as a point on the horizontal axis, and it is the maximum price that Hightech can afford to pay. If Hightech pays less, say, \$86.5 million, then its stockholders will gain \$10 million from the merger, while if it pays more, its stockholders will lose. What we have, then, is a 45-degree line that cuts the X-axis at \$96.5 million, and that line shows how much Hightech's stockholders can expect to gain or lose at different acquisition prices.

Market Multiple Analysis

A method of valuing a target company that applies a market-determined multiple to net income, earnings per share, sales, book value, and so forth.



A video clip entitled "T. Boone Pickens on White Knights," which discusses mergers and takeovers, is available at Ohio State University's Web site at <http://www.cob.ohio-state.edu/~fin/clips.htm>. The clip requires a QuickTime video player for either Windows or Macintosh machines (which you download for free over the Internet at <http://www.apple.com/quicktime/>). One caveat is that the video clip is in excess of 5 MB in size and should therefore only be accessed with a rapid Internet connection.

FIGURE 21-1 A View of Merger Analysis (Millions of Dollars)


Now consider the target company, Apex. It has 10 million shares of stock that sell for \$6.25, so its value as an independent operating company is presumably \$62.5 million. [In making this statement, we assume (1) that the company is being operated as well as possible by its present management and (2) that the \$6.25 market price per share does not include a “speculative merger premium” in addition to the PV of its operating cash flows.] If Apex is acquired at a price greater than \$62.5 million, its stockholders will gain value, while they will lose value at any lower price. Thus, we can draw another 45-degree line, this one with an upward slope, to show how the merger price affects Apex’s stockholders.

The difference between \$62.5 and \$96.5 million, or \$34 million, represents synergistic benefits expected from the merger. Here are some points to note:

1. If there were no synergistic benefits, the maximum bid would be equal to the current value of the target company. The greater the synergistic gains, the greater the gap between the target’s current price and the maximum the acquiring company could pay.
2. The greater the synergistic gains, the more likely a merger is to be consummated.
3. The issue of how to divide the synergistic benefits is critically important. Obviously, both parties will want to get as much as possible. In our example, if Apex’s management knew the maximum price that Hightech could pay, it would argue for a price close to \$96.5 million. Hightech, on the other hand, would try to get Apex at a price as close to \$62.5 million as possible.
4. Where, within the \$62.5 to \$96.5 million range, will the actual price be set? The answer depends on a number of factors, including whether Hightech

More Than Just Financial Statements

When corporations merge, they combine more than just their financial statements. Mergers bring together two organizations with different histories and corporate cultures. Deals that look good on paper can fail if the individuals involved are unwilling or unable to work together to generate the potential synergies. Consequently, when analyzing a potential merger, it is important to determine whether the two companies are compatible.

Many deals fall apart because, during the “due diligence” phase, synergistic benefits are revealed to be less than was originally anticipated, so there is little economic rationale for the merger. Other negotiations break off because the two parties cannot agree on the price to be paid for the acquired firm’s stock. In addition, merger talks often collapse because of “social issues.” These social issues include both the “chemistry” of the companies and their personnel and such basic issues as these: What will be the name of the combined company? Where will headquarters be located? And, most important: Who will run the combined company? Robert Kindler, a partner at Cravath, Swaine & Moore, a prominent New York law firm that specializes in mergers, summarizes

the importance of these issues as follows: “Even transactions that make absolute economic sense don’t happen unless the social issues work.”

Investment bankers, lawyers, and other professionals state that mergers tend to be most successful if there is a clear and well-arranged plan spelling out who will run the company. This issue is straightforward if one firm is clearly dominant and is acquiring the other. However, in cases where there is “a merger of equals,” senior personnel issues often become sticky. This situation is made considerably easier if one of the chief executives is at or near the retirement age.

Some analysts believe that social issues often play too large a role, derailing mergers that should take place. In other cases where a merger occurs, concerns about social issues preclude managers from undertaking the necessary changes—like laying off redundant staff—for the deal to benefit shareholders.

Source: “In Many Merger Deals, Ego and Pride Play Big Roles in Which Way Talks Go,” The Wall Street Journal, August 22, 1996, p. C1. Reprinted by permission of The Wall Street Journal, Copyright © 2002 Dow Jones & Company, Inc. All Rights Reserved Worldwide.

offers to pay with cash or securities, the negotiating skills of the two management teams, and, most importantly, the bargaining positions of the two parties as determined by fundamental economic conditions. To illustrate the latter point, suppose there are many companies similar to Apex that Hightech could acquire, but no company other than Hightech that could gain synergies by acquiring Apex. In this case, Hightech would probably make a relatively low, take-it-or-leave-it offer, and Apex would probably take it because some gain is better than none. On the other hand, if Apex has some unique technology or other asset that many companies want, then once Hightech announces its offer, others will probably make competing bids, and the final price will probably be close to or even above \$96.5 million. A price above \$96.5 million would presumably be paid by some other company that had a better synergistic fit or, perhaps, whose management was more optimistic about Apex’s cash flow potential. In Figure 21-1, this situation would be represented by a line parallel to that for Hightech but shifted to the right of the Hightech line.

5. Hightech would, of course, want to keep its maximum bid secret, and it would plan its bidding strategy carefully and consistently with the situation. If it thought that other bidders would emerge, or that Apex’s management

might resist in order to preserve their jobs, it might make a high “preemptive” bid in hopes of scaring off competing bids and/or management resistance. On the other hand, it might make a low-ball bid in hopes of “stealing” the company.

We will have more to say about these points in the sections that follow, and you should keep Figure 21-1 in mind as you go through the rest of the chapter.

Post-Merger Control

The employment/control situation is often of vital interest in a merger analysis. First, consider the situation in which a small, owner-managed firm sells out to a larger concern. The owner-manager may be anxious to retain a high-status position, and he or she may also have developed a camaraderie with the employees and thus be concerned about their retention after the merger. If so, these points would be stressed during the merger negotiations.¹⁰ When a publicly owned firm that is not owned by its managers is merged into another company, the acquired firm’s managers will be worried about their post-merger positions. If the acquiring firm agrees to retain the old management, then management may be willing to support the merger and to recommend its acceptance to the stockholders. If the old management is to be removed, then it will probably resist the merger.¹¹



What is the difference between an operating merger and a financial merger?

Describe the way post-merger cash flows are estimated in a DCF analysis.

What is the basis for the discount rate in a DCF analysis? Describe how this rate might be estimated.

Describe the market multiple approach.

What are some factors that acquiring firms consider when they set a bid price?

How do control issues affect mergers?

¹⁰ The acquiring firm may also be concerned about this point, especially if the target firm’s management is quite good. Indeed, a condition of the merger may be that the management team agree to stay on for a period such as five years after the merger. In this case, the price paid may be contingent on the acquired firm’s performance subsequent to the merger. For example, when International Holdings acquired Walker Products, the price paid was an immediate 100,000 shares of International Holdings stock worth \$63 per share plus an additional 30,000 shares each year for the next three years, provided Walker Products earned at least \$1 million during each of these years. Since Walker’s managers owned the stock and would receive the bonus, they had a strong incentive to stay on and help the firm meet its targets.

Finally, if the managers of the target company are highly competent but do not wish to remain on after the merger, the acquiring firm may build into the merger contract a noncompete agreement with the old management. Typically, the acquired firm’s principal officers must agree not to affiliate with a new business that is competitive with the one they sold for a specified period, say, five years. Such agreements are especially important with service-oriented businesses.

¹¹ Managements of firms that are thought to be attractive merger candidates often arrange *golden parachutes* for themselves. Golden parachutes are extremely lucrative retirement plans that take effect if a merger is consummated. Thus, when Bendix Corp. was acquired by Allied Automotive, Bill Agee, Bendix’s chairman, “pulled the ripcord of his golden parachute” and walked away with \$4 million. If a golden parachute is large enough, it can also function as a poison pill—for example, where the president of a firm worth \$10 million would have to be paid \$8 million if the firm is acquired, this will prevent a takeover. Stockholders are increasingly resisting such arrangements, but some still exist.

What is the value of XYZ Corporation to JKL Enterprises, assuming the following facts? XYZ's post-merger cash flows in Years 1–3 are estimated to be \$7 million, \$10 million, and \$12 million. In addition, its terminal value in Year 3 is \$318 million. The firm's cost of equity is 10 percent and its growth rate is 6 percent. (\$262.56 million)

21.7 FINANCIAL REPORTING FOR MERGERS

Although a detailed discussion of financial reporting is best left to financial accounting courses, the accounting implications of mergers cannot be ignored. Currently, mergers are handled using **purchase accounting**.¹² Keep in mind, however, that all larger companies are required to keep two sets of books. The first is for the IRS, and it reflects the tax treatment of mergers as described in the previous section. The second is for financial reporting, and it reflects the treatment described below. *The rules for financial reporting differ from those for the IRS.*¹³

Purchase Accounting

Table 21-3 illustrates purchase accounting. Here Firm A is assumed to have “bought” Firm B in much the same way it would buy any capital asset, paying for it with cash, debt, or stock of the acquiring company. If the price paid is exactly equal to the acquired firm's *net asset value*, which is defined as its total assets minus its liabilities, then the consolidated balance sheet will be the same as if the two statements were merged. Normally, though, there is an important difference. If the price paid exceeds the net asset value, then asset values will be increased to reflect the price actually paid, whereas if the price paid is less than the net asset value, then assets must be written down when preparing the consolidated balance sheet.

Note that Firm B's net asset value is \$30, which is also its reported common equity value. This \$30 book value could be equal to the market value (which is determined by investors based on the firm's earning power), but book value could also be more or less than the market value. Three situations are considered in Table 21-3. First, in Column 3 we assume that Firm A gives cash or stock worth \$20 for Firm B. Thus, B's assets as reported on its balance sheet were overvalued, and A pays less than B's net asset value. The overvaluation could be in either fixed or current assets; an appraisal would be made but we assume that it is fixed assets that are overvalued. Accordingly, we reduce B's fixed assets and also its common equity by \$10 before constructing the consolidated balance sheet shown in Column 3. Next, in Column 4, we assume that A pays exactly the net asset value for B. In this case, the financial statements are simply combined.

Finally, in Column 5 we assume that A pays more than the net asset value for B: \$50 is paid for \$30 of net assets. This excess is assumed to be partly attributable to undervalued assets (land, buildings, machinery, and inventories), so to reflect this undervaluation, current and fixed assets are each increased by \$5. In addition, we assume that \$10 of the \$20 excess of market value over book value is due to a superior sales organization, or some other intangible factor, and we post this excess as **goodwill**. B's common equity is increased by \$20, the sum of

Purchase Accounting

A method of accounting for a merger as a purchase. In this method, the acquiring firm is assumed to have “bought” the acquired company in much the same way it would buy any capital asset.

Goodwill

Refers to the excess paid for a firm above the appraised value of the physical and intangible assets purchased.

¹² In 2001, the Financial Accounting Standards Board (FASB) issued Statement 141, which eliminated the use of pooling accounting.

¹³ For additional information, refer to Eugene F. Brigham and Phillip R. Daves, *Intermediate Financial Management*, 8th edition (Mason, OH: Thomson/South-Western, 2004), Chapter 25.

TABLE 21-3 Accounting for Mergers: A Acquires B

	Firm A (1)	Firm B (2)	POST-MERGER: FIRM A		
			\$20 Paid ^a (3)	\$30 Paid ^a (4)	\$50 Paid ^a (5)
Current assets	\$ 50	\$25	\$ 75	\$ 75	\$ 80 ^c
Fixed assets	50	25	65 ^b	75	80 ^c
Goodwill ^d	0	0	0	0	10 ^d
Total assets	<u>\$100</u>	<u>\$50</u>	<u>\$140</u>	<u>\$150</u>	<u>\$170</u>
Debt	\$ 40	\$20	\$ 60	\$ 60	\$ 60
Equity	60	30	80 ^e	90	110 ^f
Total claims	<u>\$100</u>	<u>\$50</u>	<u>\$140</u>	<u>\$150</u>	<u>\$170</u>

Notes:

^a The price paid is the *net asset value*, that is, total assets minus debt.

^b Here we assume that Firm B's fixed assets are written down from \$25 to \$15 before constructing the consolidated balance sheet.

^c Here we assume that Firm B's current and fixed assets are both increased to \$30.

^d *Goodwill* refers to the excess paid for a firm above the appraised value of the physical assets purchased. Goodwill represents payment both for intangibles such as patents and for "organization value" such as that associated with having an effective sales force. Beginning in 2001, purchased goodwill such as this could not be amortized for financial statement reporting purposes.

^e Firm B's common equity is reduced by \$10 prior to consolidation to reflect the fixed assets write-off.

^f Firm B's equity is increased to \$50 to reflect the above-book purchase price.

the increases in current and fixed assets plus goodwill, and this markup is also reflected in A's post-merger equity account.¹⁴

Income Statement Effects

A merger can have a significant effect on reported profits. If asset values are increased, as they often are under a purchase, this must be reflected in higher depreciation charges (and also in a higher cost of goods sold if inventories are written up). This, in turn, will further reduce reported profits. Prior to 2001, goodwill was also amortized over its expected life. Now, however, goodwill is subject to an "annual impairment test." If the fair market value of the goodwill has declined over the year, then the amount of the decline must be charged to earnings. If not, then there is no charge, but gains in goodwill cannot be added to earnings.

Table 21-4 illustrates the income statement effects of the write-up of current and fixed assets. We assume that A purchased B for \$50, creating \$10 of goodwill and \$10 of higher physical assets value. As Column 3 indicates, the assets markups cause reported profits to be lower than the sum of the individual companies' reported profits.

The asset markup is also reflected in earnings per share. In our hypothetical merger, we assume that nine shares exist in the consolidated firm. (Six of these shares went to A's stockholders, and three to B's.) The merged company's EPS is \$2.33 while the individual companies' EPS is \$2.40.



What is purchase accounting for mergers?

What is goodwill? What effect does goodwill have on the firm's balance sheet? On its income statement?

¹⁴ This example assumes that additional debt was not issued to help finance the acquisition. If the acquisition were totally debt financed, the postmerger balance sheet would show increases in the debt account rather than increases in the equity account. If it were financed by a mix of debt and equity, both accounts would be changed.

Tempest in a Teapot?

In 2001, amid a flurry of warnings and lobbying, the Financial Accounting Standards Board (FASB) in its Statement 141 eliminated the use of pooling for merger accounting, requiring that purchase accounting be used instead. Because the change would otherwise have required that all purchased goodwill be amortized, and reported earnings reduced, the FASB also issued Statement 142, which eliminated the regular amortization of purchased goodwill, replacing it with an "impairment test." The impairment test requires that companies evaluate annually their purchased goodwill and write it down if its value has declined. This impairment test resulted in Time Warner's unprecedented 2002 write-down of \$54 billion of goodwill associated with the AOL merger.

So what exactly is the effect of the change? First and foremost, the change does nothing to the firm's actual cash flows. Purchased goodwill may still be amortized for federal income tax purposes, so the change does not affect the actual taxes a company pays, nor does it affect the company's operating cash

flows. However, it does affect the earnings that companies report to their shareholders. Firms that used to have large goodwill charges from past acquisitions saw their reported earnings increase, because they no longer have to amortize the remaining goodwill. Firms whose acquisitions have fared badly, such as Time Warner, must make large write-downs. Executives facing an earnings boost hoped, while executives facing a write-down feared, that investors would not see through these accounting changes. However, evidence suggests that investors realize that a company's assets have deteriorated long before the write-down actually occurs, and they build this information into the price of the stock. For example, Time Warner's announcement of its \$54 billion charge in January 2002 resulted in only a blip in its stock price at that time, even though the write-down totaled more than a third of its market value. The market recognized the decline in value months earlier, and by the time of the announcement Time Warner had already lost more than \$100 billion in market value.

TABLE 21-4 *Income Statements Effects*

	PRE-MERGER		POST-MERGER
	Firm A (1)	Firm B (2)	Merged (3)
Sales	\$100.0	\$50.0	\$150.0
Operating costs	<u>72.0</u>	<u>36.0</u>	<u>109.0^a</u>
Operating income	\$ 28.0	\$14.0	\$ 41.0 ^a
Interest (10%)	<u>4.0</u>	<u>2.0</u>	<u>6.0</u>
Taxable income	\$ 24.0	\$12.0	\$ 35.0
Taxes (40%)	<u>9.6</u>	<u>4.8</u>	<u>14.0</u>
Net income	<u>\$ 14.4</u>	<u>\$ 7.2</u>	<u>\$ 21.0</u>
EPS ^b	\$ 2.40	\$ 2.40	\$ 2.33

Notes:

^a Operating costs are \$1 higher than they otherwise would be to reflect the higher reported costs (depreciation and cost of goods sold) caused by the physical assets markups at the time of purchase.

^b Firm A had six shares and Firm B had three shares before the merger. A gives one of its shares for each of Bs, so A has nine shares after the merger.

21.8 THE ROLE OF INVESTMENT BANKERS

Investment bankers are involved with mergers in a number of ways: (1) they help arrange mergers, (2) they help target companies develop and implement defensive tactics, (3) they help value target companies, (4) they help finance mergers, and (5) they invest in the stocks of potential merger candidates. These merger-related activities have been quite profitable. For example, Thomson Financial estimated that financial advisors received more than \$13 billion in fees from worldwide merger activity generated during just the first half of 2005. No wonder investment banking houses are able to make top offers to finance graduates!

Arranging Mergers

The major investment banking firms have merger and acquisition groups that operate within their corporate finance departments. (Corporate finance departments offer advice, as opposed to underwriting or brokerage services, to business firms.) Members of these groups identify firms with excess cash that might want to buy other firms, companies that might be willing to be bought, and firms that might, for a number of reasons, be attractive to others. Also, if an oil company, for instance, decided to expand into coal mining, then it might enlist the aid of an investment banker to help it acquire a coal company. Similarly, dissident stockholders of firms with poor track records might work with investment bankers to oust management by helping to arrange a merger. Investment bankers are reported to have offered packages of financing to corporate raiders, where the package includes both designing the securities to be used in the tender offer, plus lining up people and firms who will buy the target firm's stock now, and then tender it once the final offer is made.

Investment bankers have occasionally taken illegal actions in the merger arena. For example, they are reported to have parked stock—purchasing it for a raider under a guaranteed buy-back agreement—to help the raider de facto accumulate more than 5 percent of the target's stock without disclosing the position. People have gone to jail for this.

White Knight

A company that is acceptable to the management of a firm under threat of a hostile takeover and that will compete with the potential acquirer.

White Squire

An individual or company who is friendly to current management and will buy enough of the target firm's shares to block a hostile takeover.

Poison Pill

An action that will seriously hurt a company if it is acquired by another.

Golden Parachutes

Large payments made to the managers of a target firm if it is acquired.

Developing Defensive Tactics

Target firms that do not want to be acquired generally enlist the help of an investment banking firm, along with a law firm that specializes in mergers. Defenses include such tactics as (1) changing the by-laws so that only one-third of the directors are elected each year and/or so that a 75 percent approval (a *supermajority*) versus a simple majority is required to approve a merger; (2) trying to convince the target firm's stockholders that the price being offered is too low; (3) raising antitrust issues in the hope that the Justice Department will intervene; (4) repurchasing stock in the open market in an effort to push the price above that being offered by the potential acquirer; (5) getting a **white knight** who is acceptable to the target firm's management to compete with the potential acquirer; (6) getting a **white squire** who is friendly to current management to buy enough of the target firm's shares to block the merger; and (7) taking a *poison pill*, as described next.

Poison pills—which occasionally really do amount to committing economic suicide to avoid a takeover—are such tactics as borrowing on terms that require immediate repayment of all loans if the firm is acquired, selling off at bargain prices the assets that originally made the firm a desirable target, granting such lucrative **golden parachutes** to their executives that the cash drain from these payments would render the merger infeasible, and planning defensive mergers which would leave the firm with new assets of questionable value and a huge

debt load. Currently, the most popular poison pill is for a company to give its stockholders stock purchase rights that allow them to buy at half-price the stock of an acquiring firm, should the firm be acquired. The blatant use of poison pills is constrained by directors' awareness that excessive use could trigger personal suits by stockholders against directors who voted for them, and, perhaps in the near future, by laws that would further limit management's use of pills. Still, investment bankers and antitakeover lawyers are busy thinking up new poison pill formulas, and others are just as busy trying to come up with antidotes.¹⁵

Another takeover defense that is being used is the employee stock ownership plan (ESOP). ESOPs are designed to give lower-level employees an ownership stake in the firm, and current tax laws provide generous incentives for companies to establish such plans and fund them with the firm's common stock.

Establishing a Fair Value

If a friendly merger is being worked out between two firms' managements, it is important to document that the agreed-upon price is a fair one; otherwise, the stockholders of either company may sue to block the merger. Therefore, in most large mergers each side will hire an investment banking firm to evaluate the target company and to help establish the fair price. For example, General Electric employed Morgan Stanley to determine a fair price for Utah International, as did Royal Dutch to help establish the price it paid for Shell Oil. Even if the merger is not friendly, investment bankers may still be asked to help establish a price. If a surprise tender offer is to be made, the acquiring firm will want to know the lowest price at which it might be able to acquire the stock, while the target firm may seek help in "proving" that the price being offered is too low.¹⁶

Financing Mergers

Many mergers are financed with the acquiring company's excess cash. However, if the acquiring company has no excess cash, it will require a source of funds. Perhaps the single most important factor behind the 1980s merger wave was the development of junk bonds for use in financing acquisitions.

Drexel Burnham Lambert was the primary developer of *junk bonds*, defined as bonds rated below investment grade (BBB/Baa). Prior to Drexel's actions, it was almost impossible to sell low-grade bonds to raise new capital. Drexel then pioneered a procedure under which a target firm's situation would be appraised very closely, and a cash flow projection similar to that in Table 21-2 (but much more detailed) would be developed.

To be successful in the mergers and acquisitions (M&A) business, an investment banker must be able to offer a financing package to clients, whether they are acquirers who need capital to take over companies or target companies trying

¹⁵ It has become extremely difficult and expensive for companies to buy "directors' insurance," which protects the board from such contingencies as stockholders' suits, and even when insurance is available it often does not pay for losses if the directors have not exercised due caution and judgment. This exposure is making directors extremely leery of actions that might trigger stockholder suits.

¹⁶ Such investigations must obviously be done in secret, for if someone knew that Company A was thinking of offering, say, \$50 per share for Company T, which was currently selling at \$35 per share, then huge profits could be made. One of the biggest scandals to hit Wall Street was the disclosure that Ivan Boesky was buying information from Dennis Levine, a senior member of the investment banking house of Drexel Burnham Lambert, about target companies that Drexel was analyzing for others. Purchases based on such insider information would, of course, raise the prices of the stocks and thus force Drexel's clients to pay more than they otherwise would have had to pay. Levine and Boesky, among others, went to jail for their improper use of insider information.

to finance stock repurchase plans or other defenses against takeovers. Drexel was the leading player in the merger financing game during the 1980s, but since Drexel's bankruptcy Goldman Sachs, Merrill Lynch, UBS, Morgan Stanley, and others are all vying for the title.

Arbitrage Operations

Arbitrage

The simultaneous buying and selling of the same commodity or security in two different markets at different prices, and pocketing a risk-free return.

Arbitrage generally means simultaneously buying and selling the same commodity or security in two different markets at different prices, and pocketing a risk-free return. However, the major brokerage houses, as well as some wealthy private investors, are engaged in a different type of arbitrage called *risk arbitrage*. The *arbitrageurs*, or "arbs," speculate in the stocks of companies that are likely takeover targets. Vast amounts of capital are required to speculate in a large number of securities and thus reduce risk, and also to make money on narrow spreads. However, the large investment bankers have the wherewithal to play the game. To be successful, arbs need to be able to sniff out likely targets, assess the probability of offers reaching fruition, and move in and out of the market quickly and with low transactions costs.



What are some defensive tactics that firms can use to resist hostile takeovers?

What role did junk bonds play in the merger wave of the 1980s?

What is the difference between pure arbitrage and risk arbitrage?

21.9 DO MERGERS CREATE VALUE? THE EMPIRICAL EVIDENCE

All the recent merger activity has raised two questions: (1) Do corporate acquisitions create value? (2) If so, how is the value shared between the parties?

Most researchers agree that takeovers increase the wealth of the shareholders of target firms, for otherwise they would not agree to the offer. However, there is a debate as to whether mergers benefit the acquiring firm's shareholders. In particular, managements of acquiring firms may be motivated by factors other than shareholder wealth maximization. For example, they may want to merge merely to increase the size of the corporations they manage, because increased size usually brings larger salaries plus job security, perquisites, power, and prestige.

The validity of the competing views on who gains from corporate acquisitions can be tested by examining the stock price changes that occur around the time of a merger or takeover announcement. Changes in the stock prices of the acquiring and target firms represent market participants' beliefs about the value created by the merger, and about how that value will be divided between the target and acquiring firms' shareholders. So, examining a large sample of stock price movements can shed light on the issue of who gains from mergers.

We cannot simply examine stock prices around merger announcement dates, because other factors influence stock prices. For example, if a merger was announced on a day when the entire market advanced, the fact that the target firm's price rose would not necessarily signify that the merger was expected to create value. Hence, studies examine *abnormal returns* associated with merger announcements, where abnormal returns are defined as that part of a stock price change caused by factors other than changes in the general stock market.

The Track Record of Recent Large Mergers

Academics have long known that acquiring firm's shareholders rarely reap the benefits of mergers. However, this important information never seemed to make it up to the offices of corporate America's decision makers; the 1990s saw bad deal after bad deal, with no apparent learning on the part of acquisitive executives. *BusinessWeek* published an analysis of 302 large mergers from 1995 to 2001, and it found that 61 percent of them led to losses by the acquiring firms' shareholders. Indeed, those losing shareholders' returns during the first post-merger year averaged 25 percentage points less than the returns on other companies in their industry. The average returns for all the merging companies, both winners and losers, were 4.3 percent below industry averages and 9.2 percent below the S&P 500. The article cited four common mistakes:

1. The acquiring firms often overpaid. Generally, the acquirers gave away all of the synergies from the mergers to the acquired firms' shareholders, and then some.

2. Management overestimated the synergies (cost savings and revenue gains) that would result from the merger.
3. Management took too long to integrate operations between the merged companies. This irritated customers and employees alike, and it postponed any gains from the integration.
4. Some companies cut costs too deeply, at the expense of maintaining sales and production infrastructures.

The worst performance came from companies that paid for their acquisitions with stock. The best performance, albeit a paltry 0.3 percent better than industry averages, came from companies that used cash for their acquisitions. On the bright side, the shareholders of the companies that were acquired fared quite well, earning on average 19.3 percent more than their industry peers, and all of those gains came in the two weeks surrounding the merger announcement.

Source: David Henry, "Mergers: Why Most Big Deals Don't Pay Off," *BusinessWeek*, October 14, 2002, pp. 60–70.

Many studies have examined both acquiring and target firms' stock price responses to mergers and tender offers.¹⁷ Jointly, these studies have covered nearly every acquisition involving publicly traded firms from the early 1960s to the present, and they are remarkably consistent in their results: On average, the stock prices of target firms increase by about 30 percent in hostile tender offers, while in friendly mergers the average increase is about 20 percent. However, for both hostile and friendly deals, the stock prices of acquiring firms, on average, remain constant. However, as the accompanying box entitled "The Track Record of Recent Large Mergers" suggests, abnormal returns vary considerably among mergers, and it is not unusual for acquiring firms to see their stock prices fall when mergers are announced. On balance, the evidence indicates (1) that acquisitions do create value, but (2) that shareholders of target firms reap virtually all the benefits.

In hindsight, these results are not too surprising. First, target firm's shareholders can always say no, so they are in the driver's seat. Second, takeovers are a competitive game, so if one potential acquiring firm does not offer full value for a potential target, then another firm will generally jump in with a higher bid. Finally, managements of acquiring firms might well be willing to give up all the value created by the merger, because the merger would enhance the acquiring managers' personal positions without harming their shareholders.

¹⁷ For an excellent summary of the effects of mergers on value, see Michael C. Jensen and Richard S. Ruback, "The Market for Corporate Control: The Scientific Evidence," *Journal of Financial Economics*, April 1983, pp. 5–50.

It has also been argued that acquisitions may increase shareholder wealth at the expense of bondholders—in particular, concern has been expressed that leveraged buyouts dilute the claims of bondholders. Specific instances can be cited in which bonds were downgraded and bondholders did suffer losses, sometimes quite large ones, as a direct result of an acquisition. However, most studies find no evidence to support the contention that bondholders, on average, lose in corporate acquisitions.



Explain how researchers can study the effects of mergers on shareholder wealth.

Do mergers create value? If so, who profits from this value?

Do the research results discussed in this section seem logical? Explain.

21.10 CORPORATE ALLIANCES

Mergers are one way for two companies to join forces, but many companies are striking cooperative deals, called **corporate**, or **strategic, alliances**, which stop far short of merging. Whereas mergers combine all of the assets of the firms involved, as well as their ownership and managerial expertise, alliances allow firms to create combinations that focus on specific business lines that offer the most potential synergies. These alliances take many forms, from simple marketing agreements to joint ownership of worldwide operations.

One form of corporate alliance is the **joint venture**, in which parts of companies are joined to achieve specific, limited objectives.¹⁸ A joint venture is controlled by a management team consisting of representatives of the two (or more) parent companies. Joint ventures have been used often by U.S., Japanese, and European firms to share technology and/or marketing expertise. For example, Whirlpool announced a joint venture with the Dutch electronics giant Philips to produce appliances under Philips's brand names in five European countries. By joining with their foreign counterparts, U.S. firms are attempting to gain a stronger foothold in Europe. Although alliances are new to some firms, they are established practices to others. For example, Corning Glass now obtains more than half of its profits from 23 joint ventures, two-thirds of them with foreign companies representing almost all of Europe, as well as Japan, China, South Korea, and Australia.



What is the difference between a merger and a corporate alliance?

What is a joint venture? Give some reasons joint ventures may be advantageous to the parties involved.

Corporate, or Strategic, Alliance

A cooperative deal that stops short of a merger.

Joint Venture

A corporate alliance in which two or more independent companies combine their resources to achieve a specific, limited objective.

Leveraged Buyout (LBO)

A situation in which a small group of investors (which usually includes the firm's managers) borrows heavily to buy all the shares of a company.

21.11 LEVERAGED BUYOUTS

In a **leveraged buyout (LBO)** a small group of investors, which usually includes current management, acquires a firm in a transaction financed largely by debt. The debt is serviced with funds generated by the acquired company's operations and, often, by the sale of some of its assets. Sometimes, the acquiring group

¹⁸ Cross-licensing, consortia, joint bidding, and franchising are still other ways for firms to combine resources. For more information on joint ventures, see Sanford V. Berg, Jerome Duncan, and Phillip Friedman, *Joint Venture Strategies and Corporate Innovation* (Cambridge, MA: Oelgeschlager, Gunn and Hain, 1982).

plans to run the acquired company for a number of years, boost its sales and profits, and then take it public again as a stronger company. In other instances, the LBO firm plans to sell off divisions to other firms that can gain synergies. In either case, the acquiring group expects to make a substantial profit from the LBO, but the inherent risks are great due to the heavy use of financial leverage. To illustrate the profit potential, Kohlberg Kravis Roberts & Company (KKR), a leading LBO specialist firm, averaged a spectacular 50 percent annual return on its LBO investments during the 1980s. However, strong stock prices for target firms have dampened the returns on LBO investments, so recent activity has been slower than in its heyday of the 1980s.



What is an LBO?

What actions do companies typically take to meet the large debt burdens resulting from LBOs?

21.12 DIVESTITURES

Although corporations do more buying than selling of productive facilities, a good bit of selling does occur. In this section, we briefly discuss the major types of divestitures, after which we present some recent examples and rationales for divestitures.

Types of Divestitures

There are four types of **divestitures**: (1) sale of an operating unit to another firm, (2) setting up the business to be divested as a separate corporation and then “spinning it off” to the divesting firm’s stockholders, (3) following the steps for a spin-off but selling only some of the shares, and (4) outright liquidation of assets.

Sale to another firm generally involves the sale of an entire division or unit, usually for cash but sometimes for stock of the acquiring firm. In a **spin-off**, the firm’s existing stockholders are given new stock representing separate ownership rights in the division that was divested. The division establishes its own board of directors and officers, and it becomes a separate company. The stockholders end up owning shares of two firms instead of one, but no cash has been transferred. In a **carve-out**, a minority interest in a corporate subsidiary is sold to new shareholders, so the parent gains new equity financing yet retains control. Finally, in a **liquidation** the assets of a division are sold off piecemeal, rather than as an operating entity. To illustrate the different types of divestitures, we present in the next section some high-profit examples that have occurred over the past several years.

Divestiture Illustrations

1. Pepsi spun off its fast-food business, which included Pizza Hut, Taco Bell, and Kentucky Fried Chicken. The spun-off businesses now operate under the name Tricon Global Restaurants. Pepsi originally acquired the chains because it wanted to increase the distribution channels for its soft drinks. Over time, however, Pepsi began to realize that the soft-drink and restaurant businesses were quite different, and synergies between them were less than anticipated. The spin-off is part of Pepsi’s attempt to once again focus on its core business. However, Pepsi will try to maintain these distribution channels by signing long-term contracts that ensure that Pepsi products will be sold exclusively in each of the three spun-off chains.

Divestiture

The sale of some of a company’s operating assets.

Spin-Off

A divestiture in which the stock of a subsidiary is given to the parent company’s stockholders.

Carve-Out

A minority interest in a corporate subsidiary is sold to new shareholders, so the parent gains new equity financing yet retains control.

Liquidation

Occurs when the assets of a division are sold off piecemeal, rather than as an operating entity.

GLOBAL PERSPECTIVES

Governments Are Divesting State-Owned Businesses to Spur Economic Efficiency

In many countries governments have traditionally owned or controlled a number of key businesses. When Margaret Thatcher became prime minister of Britain in 1979, she set out to reverse this trend, and soon her officials were devising methods for the government to divest state-owned enterprises. Thatcher coined the term “privatization” to describe the process of transferring productive operations and assets from the public sector to the private sector.

The privatization momentum picked up in the early and mid-1980s, expanding to other countries including France, Germany, Japan, and Singapore. Privatization accelerated further as the communist countries and authoritarian regimes across Eastern Europe, Asia, and Latin America shifted toward market-based economies.

Telecommunications, electric power, and airlines are examples of industries that have undergone extensive privatization throughout the world. These industries are vitally important to the economic infrastructure of every nation, and for this reason governments have historically been heavily involved in owning and regulating them within their national borders. Gener-

ally, the government-owned enterprise was granted monopoly power to supply the service in question and was subsidized in an effort to hold down costs to consumers. However, economists have long argued that government operations are inherently less efficient than are enterprises that are subject to competitive pressures and whose managers are guided by the profit motive. Thus, in recent years there have been numerous privatizations in these important industries, and as governments have sold their interests, competition has led to lower costs and improved service.

In Western Europe, privatizations in the telecommunications industry have been given an extra push by a European Union plan that opened markets to competition. Because most European telecoms were government owned, the resulting privatizations brought to market tens of billions of dollars of telecom stock. Globally, governments have raised hundreds of billions of dollars through privatizations.

The results are not all in, but it is clear that the removal of bureaucrats and politicians from the control of key enterprises often results in increased economic efficiency and a higher standard of living.

2. United Airlines sold its Hilton International Hotels subsidiary to Ladbroke Group PLC of Britain for \$1.1 billion and also sold its Hertz rental car unit and its Westin hotel group. The sales culminated a disastrous strategic move by United to build a full-service travel empire. The failed strategy resulted in the firing of Richard J. Ferris, the company’s chairman. The move into nonairline travel-related businesses had been viewed by many analysts as a mistake, because there were few synergies to be gained. Further, analysts feared that United’s managers, preoccupied by running hotels and rental car companies, would not maintain the company’s focus in the highly competitive airline industry. The funds raised by the divestitures were paid out to United’s shareholders as a special dividend.
3. General Motors (GM) spun off its Electronic Data Systems (EDS) subsidiary. EDS, a computer services company founded in 1962 by Ross Perot, prospered as an independent company until it was acquired by GM in 1984. The rationale for the acquisition was that EDS’s expertise would help GM both operate better in the information age and build cars that encompassed leading-edge computer technology. However, the spread of desktop computers and the movement of companies to downsize their internal computer staffs caused EDS’s non-GM business to soar. Ownership by GM hampered EDS’s ability to strike alliances and, in some cases, to enter into business agreements. The best way for EDS to compete in its industry was as an independent, hence it was spun off.

4. AT&T was broken up in 1983 to settle a Justice Department antitrust suit filed in the 1970s.¹⁹ For almost 100 years AT&T had operated as a holding company that owned Western Electric (its manufacturing subsidiary), Bell Labs (its research arm), a huge long-distance network that was operated as a division of the parent company, and 22 Bell operating companies, such as Pacific Telephone, New York Telephone, Southern Bell, and Southwestern Bell. In 1984, AT&T was reorganized into eight separate companies—a slimmed-down AT&T, which kept Western Electric, Bell Labs, and the long-distance operations, plus seven new regional telephone holding companies that were created from the 22 old operating telephone companies. The stock of the seven new telephone companies was then spun off to the old AT&T's stockholders. A person who held 100 shares of old AT&T stock owned, after the divestiture, 100 shares of the "new" AT&T plus 10 shares of each of the seven new operating companies. These 170 shares were backed by the same assets that had previously backed 100 shares of old AT&T common.

The AT&T divestiture resulted from a suit by the Justice Department, which wanted to divide the Bell System into a regulated monopoly segment (the seven regional telephone companies) and a manufacturing/long-distance segment that would be exposed to competition. The breakup was designed to strengthen competition and thus speed up technological change in those parts of the telecommunications industry that are not natural monopolies. Ironically, in 2005 SBC Communications, which can trace its roots back to the original Bell Telephone Co., announced plans to acquire AT&T for \$16 billion. The merger is expected to take place in early 2006 and to result in a premier global communications company.

5. Some years ago, Woolworth liquidated all of its 336 Woolco discount stores. This made the company, which had had sales of \$7.2 billion before the liquidation, 30 percent smaller. Woolco had posted operating losses of \$19 million the year before the liquidation, and its losses in the latest six months had climbed to an alarming \$21 million. Woolworth's CEO, Edward F. Gibbons, was quoted as saying, "How many losses can you take?" Woolco's problems necessitated a write-off of \$325 million, but management believed it was better to go ahead and "bite the bullet" rather than let the losing stores bleed the company to death.
6. As a result of some imprudent loans to oil companies and to developing nations, Continental Illinois, one of the largest U.S. bank holding companies at the time, was threatened with bankruptcy. Continental then sold off several profitable divisions, such as its leasing and credit card operations, to raise funds to cover bad-loan losses. In effect, Continental sold assets in order to stay alive. Ultimately, Continental was bailed out by the Federal Deposit Insurance Corporation and the Federal Reserve, which arranged a \$7.5 billion rescue package and provided a blanket guarantee for all of Continental's \$40 billion of deposits, which kept deposits in excess of \$100,000 from fleeing the bank because of their uninsured status.

As the preceding examples illustrate, the reasons for divestitures vary widely. Sometimes the market feels more comfortable when firms "stick to their knitting"; the Pepsi and United Airlines divestitures are examples. Other companies need cash either to finance expansion in their primary business lines or to reduce a large debt burden, and divestitures can be used to raise this cash;

¹⁹ Another forced divestiture involved Du Pont and General Motors. In 1921, GM was in serious financial trouble, and Du Pont supplied capital in exchange for 23 percent of the stock. In the 1950s, the Justice Department won an antitrust suit that required Du Pont to spin off (to Du Pont's stockholders) its GM stock.

Continental Bank illustrates this point. The divestitures also show that running a business is a dynamic process—conditions change, corporate strategies change in response, and as a result firms alter their asset portfolios by acquisitions and/or divestitures. Some divestitures, such as Woolworth’s liquidation of its Woolco stores, are to unload losing assets that would otherwise drag the company down. The AT&T example is one of the many instances in which a divestiture is the result of an antitrust settlement. The GM spin-off illustrates a situation in which parts of the business can operate more efficiently alone than together.



What are some reasons companies divest assets?

What are four major motives for divestitures?

Tying It All Together

This chapter included discussions of mergers, divestitures, and LBOs. The majority of the discussion in this chapter was on mergers. We discussed the rationale for mergers, different types of mergers, the level of merger activity, merger regulation, and merger analysis. We showed how to use two different approaches to value the target firm: discounted cash flow and market multiple analyses. We also explained how the acquiring firm can structure its takeover bid, the accounting treatment of mergers, and investment bankers’ roles in arranging and financing mergers. In addition, we discussed two cooperative arrangements that fall short of mergers: corporate, or strategic, alliances and joint ventures.

SELF-TEST QUESTIONS AND PROBLEMS (Solutions Appear in Appendix A)

ST-1 **Key terms** Define each of the following terms:

- Synergy; merger
- Horizontal merger; vertical merger; congeneric merger; conglomerate merger
- Friendly merger; hostile merger; defensive merger; tender offer; target company; breakup value; acquiring company
- Operating merger; financial merger; equity residual method; market multiple analysis
- White knight; white squire; poison pill; golden parachute; proxy fight
- Joint venture; corporate alliance
- Divestiture; spin-off; leveraged buyout (LBO); carve-out; liquidation
- Arbitrage
- Goodwill; purchase method

ST-2 **Merger value** Pizza Place, a national pizza chain, is considering purchasing a smaller chain, Western Mountain Pizza. Pizza Place’s analysts project that the merger will result in incremental net cash flows of \$1.5 million in Year 1, \$2 million in Year 2, \$3 million in Year 3, and \$5 million in Year 4. In addition, Western’s Year 4 cash flows are expected to grow at a constant rate of 5 percent after Year 4. Assume all cash flows occur at the end of the year. The acquisition would be made immediately, if it were undertaken. Western’s post-merger beta is estimated to be 1.5, and its post-merger tax rate would be 40 percent.

The risk-free rate is 6 percent, and the market risk premium is 4 percent. What is the value of Western Mountain Pizza to Pizza Place?

QUESTIONS

- 21-1** Four economic classifications of mergers are (1) horizontal, (2) vertical, (3) conglomerate, and (4) congeneric. Explain the significance of these terms in merger analysis with regard to (a) the likelihood of governmental intervention and (b) possibilities for operating synergy.
- 21-2** Firm A wants to acquire Firm B. Firm B's management agrees that the merger is a good idea. Might a tender offer be used?
- 21-3** Distinguish between operating mergers and financial mergers.
- 21-4** In the spring of 1984, Disney Productions' stock was selling for about \$3.125 per share (all prices have been adjusted for 4-for-1 splits in 1986 and 1992). Then Saul Steinberg, a New York financier, began acquiring it, and after he had 12 percent, he announced a tender offer for another 37 percent of the stock—which would bring his holdings up to 49 percent—at a price of \$4.22 per share. Disney's management then announced plans to buy Gibson Greeting Cards and Arvida Corporation, paying for them with stock. It also lined up bank credit and (according to Steinberg) was prepared to borrow up to \$2 billion and use the funds to repurchase shares at a higher price than Steinberg was offering. All of these efforts were designed to keep Steinberg from taking control. In June, Disney's management agreed to pay Steinberg \$4.84 per share, which gave him a gain of about \$60 million on a 2-month investment of about \$26.5 million.
- When Disney's buyback of Steinberg's shares was announced, the stock price fell almost instantly from \$4.25 to \$2.875. Many Disney stockholders were irate, and they sued to block the buyout. Also, the Disney affair added fuel to the fire in a congressional committee that was holding hearings on proposed legislation that would (1) prohibit someone from acquiring more than 10 percent of a firm's stock without making a tender offer for all the remaining shares, (2) prohibit poison pill tactics such as those Disney's management had used to fight off Steinberg, (3) prohibit buybacks such as the deal eventually offered to Steinberg (greenmail) unless there was an approving vote by stockholders, and (4) prohibit (or substantially curtail) the use of golden parachutes (the one thing Disney's management did not try).
- Set forth the arguments for and against this type of legislation. What provisions, if any, should it contain? Also, look up Disney's current stock price to see how its stockholders have actually fared. Note that Disney's stock was split 3-for-1 in July 1998.
- 21-5** Two large, publicly owned firms are contemplating a merger. No operating synergy is expected. However, since returns on the 2 firms are not perfectly positively correlated, the standard deviation of earnings would be reduced for the combined corporation. One group of consultants argues that this risk reduction is sufficient grounds for the merger. Another group thinks this type of risk reduction is irrelevant because stockholders can themselves hold the stock of both companies and thus gain the risk-reduction benefits without all the hassles and expenses of the merger. Whose position is correct? Explain.

PROBLEMS

The following information is required to work Problems 21-1, 21-2, and 21-3.

Harrison Corporation is interested in acquiring Van Buren Corporation. Assume that the risk-free rate of interest is 5 percent and the market risk premium is 6 percent.

Easy
Problems 1–3

- 21-1 Valuation** Van Buren currently expects to pay a year-end dividend of \$2.00 a share ($D_1 = \2.00). Van Buren's dividend is expected to grow at a constant rate of 5 percent a year, and its beta is 0.9. What is the current price of Van Buren's stock?
- 21-2 Merger valuation** Harrison estimates that if it acquires Van Buren, the year-end dividend will remain at \$2.00 a share, but synergies will enable the dividend to grow at a constant rate of 7 percent a year (instead of the current 5 percent). Harrison also plans to increase the debt ratio of what would be its Van Buren subsidiary—the effect of this would be to raise Van Buren's beta to 1.1. What is the per-share value of Van Buren to Harrison Corporation?

Intermediate
Problems 4–5

21-3 Merger bid On the basis of your answers to Problems 21-1 and 21-2, if Harrison were to acquire Van Buren, what would be the range of possible prices that it could bid for each share of Van Buren common stock?

21-4 Merger analysis Apilado Appliance Corporation is considering a merger with the Vaccaro Vacuum Company. Vaccaro is a publicly traded company, and its current beta is 1.30. Vaccaro has been barely profitable, so it has paid an average of only 20 percent in taxes during the last several years. In addition, it uses little debt, having a debt ratio of just 25 percent.

If the acquisition were made, Apilado would operate Vaccaro as a separate, wholly owned subsidiary. Apilado would pay taxes on a consolidated basis, and the tax rate would therefore increase to 35 percent. Apilado also would increase the debt capitalization in the Vaccaro subsidiary to 40 percent of assets, which would increase its beta to 1.47. Apilado's acquisition department estimates that Vaccaro, if acquired, would produce the following net cash flows to Apilado's shareholders (in millions of dollars):

Year	Net Cash Flows
1	\$1.30
2	1.50
3	1.75
4	2.00
5 and beyond	Constant growth at 6%

These cash flows include all acquisition effects. Apilado's cost of equity is 14 percent, its beta is 1.0, and its cost of debt is 10 percent. The risk-free rate is 8 percent.

- What discount rate should be used to discount the estimated cash flows? (Hint: Use Apilado's r_s to determine the market risk premium.)
- What is the dollar value of Vaccaro to Apilado?
- Vaccaro has 1.2 million common shares outstanding. What is the maximum price per share that Apilado should offer for Vaccaro? If the tender offer is accepted at this price, what will happen to Apilado's stock price?

21-5 Capital budgeting analysis The Stanley Stationery Shoppe wishes to acquire The Carlson Card Gallery for \$400,000. Stanley expects the merger to provide incremental earnings of about \$64,000 a year for 10 years. Ken Stanley has calculated the marginal cost of capital for this investment to be 10 percent. Conduct a capital budgeting analysis for Stanley to determine whether or not he should purchase The Carlson Card Gallery.

Challenging
Problem

21-6 Merger analysis TransWorld Communications Inc., a large telecommunications company, is evaluating the possible acquisition of Georgia Cable Company (GCC), a regional cable company. TransWorld's analysts project the following post-merger data for GCC (in thousands of dollars):

	2006	2007	2008	2009
Net sales	\$450	\$518	\$555	\$600
Selling and administrative expense	45	53	60	68
Interest	18	21	24	27
Tax rate after merger	35%			
Cost of goods sold as a percent of sales	65%			
Beta after merger	1.50			
Risk-free rate	8%			
Market risk premium	4%			
Terminal growth rate of cash flow available to TransWorld	7%			

If the acquisition is made, it will occur on January 1, 2006. All cash flows shown in the income statements are assumed to occur at the end of the year. GCC currently has a capital structure of 40 percent debt, but TransWorld would increase that to 50 percent if the acquisition were made. GCC, if independent, would pay taxes at 20 percent, but its income would be taxed at 35 percent if it were consolidated. GCC's current market-determined beta is 1.40, and its investment bankers think that its beta would rise to 1.50

if the debt ratio were increased to 50 percent. The cost of goods sold is expected to be 65 percent of sales, but it could vary somewhat. Depreciation-generated funds would be used to replace worn-out equipment, so they would not be available to TransWorld's shareholders. The risk-free rate is 8 percent, and the market risk premium is 4 percent.

- What is the appropriate discount rate for valuing the acquisition?
- What is the terminal value? What is the value of GCC to TransWorld?

COMPREHENSIVE/SPREADSHEET PROBLEM

21-7 Merger analysis Use the spreadsheet model to rework Problem 21-6, and then answer the following question:

- Suppose GCC has 120,000 shares outstanding. What is the maximum per-share price TransWorld should offer for GCC?

Integrated Case

Smitty's Home Repair Company

21-8 Merger analysis Smitty's Home Repair Company, a regional hardware chain that specializes in "do-it-yourself" materials and equipment rentals, is cash rich because of several consecutive good years. One of the alternative uses for the excess funds is an acquisition. Linda Wade, Smitty's treasurer and your boss, has been asked to place a value on a potential target, Hill's Hardware, a small chain that operates in an adjacent state, and she has enlisted your help.

The table below indicates Wade's estimates of Hill's earnings potential if it came under Smitty's management (in millions of dollars). The interest expense listed here includes the interest (1) on Hill's existing debt, (2) on new debt that Smitty's would issue to help finance the acquisition, and (3) on new debt expected to be issued over time to help finance expansion within the new "H division," the code name given to the target firm. The retentions represent earnings that will be reinvested within the H division to help finance its growth.

Hill's Hardware currently uses 40 percent debt financing, and it pays federal-plus-state taxes at a 30 percent rate. Security analysts estimate Hill's beta to be 1.2. If the acquisition were to take place, Smitty's would increase Hill's debt ratio to 50 percent, which would increase its beta to 1.3. Further, because Smitty's is highly profitable, taxes on the consolidated firm would be 40 percent. Wade realizes that Hill's Hardware also generates depreciation cash flows, but she believes that these funds would have to be reinvested within the division to replace worn-out equipment.

Wade estimates the risk-free rate to be 9 percent and the market risk premium to be 4 percent. She also estimates that net cash flows after 2009 will grow at a constant rate of 6 percent. Smitty's management is new to the merger game, so Wade has been asked to answer some basic questions about mergers as well as to perform the merger analysis. To structure the task, Wade has developed the following questions, which you must answer and then defend to Smitty's board.

- Several reasons have been proposed to justify mergers. Among the more prominent are (1) tax considerations, (2) risk reduction, (3) control, (4) purchase of assets at below-replacement cost, and (5) synergy. In general, which of the reasons are economically justifiable? Which are not? Which fit the situation at hand? Explain.
- Briefly describe the differences between a hostile merger and a friendly merger.
- Use the data developed in the table to construct the H division's cash flow statements for 2006 through 2009. Why is interest expense deducted in merger cash flow statements, whereas it is not normally deducted in a capital budgeting cash flow analysis? Why are earnings retentions deducted in the cash flow statement?

	2006	2007	2008	2009
Net sales	\$60.0	\$90.0	\$112.5	\$127.5
Cost of goods sold (60%)	36.0	54.0	67.5	76.5
Selling/administrative expense	4.5	6.0	7.5	9.0
Interest expense	3.0	4.5	4.5	6.0
Necessary retained earnings	0.0	7.5	6.0	4.5

- d. Conceptually, what is the appropriate discount rate to apply to the cash flows developed in part c? What is your actual estimate of this discount rate?
- e. What is the estimated terminal value of the acquisition; that is, what is the estimated value of the H division's cash flows beyond 2009? What is Hill's value to Smitty's? Suppose another firm were evaluating Hill's as an acquisition candidate. Would they obtain the same value? Explain.
- f. Assume that Hill's has 10 million shares outstanding. These shares are traded relatively infrequently, but the last trade, made several weeks ago, was at a price of \$9 per share. Should Smitty's make an offer for Hill's? If so, how much should it offer per share?
- g. What merger-related activities are undertaken by investment bankers?



Please go to the ThomsonNOW Web site to access the Cyberproblems.
