Dividends and Other Payouts

16

OPENING CASE

Any way you look at it, 2015 was a great year for dividend payments. During the year, 417 companies in the S&P 500 paid out about $383 billion in dividends, a record aggregate dividend payment. This was an increase from total dividends of $350 billion in 2014 and $312 billion in 2013. Several companies with large dividends paid during the year included Apple with total dividends paid of $11.4 billion, AT&T paid $10.2 billion, and General Electric paid $9.3 billion.

16.1 DIFFERENT TYPES OF DIVIDENDS

The term *dividend* usually refers to a cash distribution of earnings. If a distribution is made from sources other than current or accumulated retained earnings, the term *distribution* rather than dividend is used. However, it is acceptable to refer to a distribution from earnings as a *dividend* and a distribution from capital as a *liquidating dividend.* More generally, any direct payment by the corporation to the shareholders may be considered part of dividend policy.

The most common type of dividend is in the form of cash. Public companies usually pay **regular cash dividends** four times a year. Sometimes firms will pay a regular cash dividend and an *extra cash dividend.* Paying a cash dividend reduces the corporate cash and retained earnings shown in the balance sheet—except in the case of a liquidating dividend (where paid-in capital may be reduced).

Another type of dividend is paid out in shares of stock. This dividend is referred to as a **stock dividend.** It is not a true dividend, because no cash leaves the firm. Rather, a stock dividend increases the number of shares outstanding, thereby reducing the value of each share. A stock dividend is commonly expressed as a ratio; for example, with a 2 percent stock dividend a shareholder receives one new share for every 50 currently owned.

When a firm declares a **stock split**, it increases the number of shares outstanding. Because each share is now entitled to a smaller percentage of the firm's cash flow, the stock price should fall. For example, if the managers of a firm whose stock is selling at $90 declare a 3:1 stock split, the price of a share of stock should fall to about $30. A stock split strongly resembles a stock dividend except that it is usually much larger.

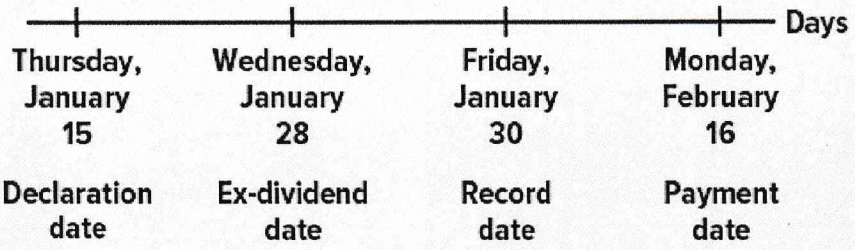
16.2 STANDARD METHOD OF CASH DIVIDEND PAYMENT

The decision to pay a dividend rests in the hands of the board of directors of the corporation. A dividend is distributable to shareholders of record on a specific date. When a dividend has been declared, it becomes a liability of the firm and cannot be easily rescinded by the corporation. The amount of the dividend is expressed as dollars per share (*dividend per share*), as a percentage of the market price (*dividend yield*), or as a percentage of earnings per share (*dividend payout*).

The mechanics of a dividend payment can be illustrated by the example in Figure 16.1 and the following chronology:

1. *Declaration Date.* On January 15 (the declaration date), the board of directors passes a resolution to pay a dividend of $1 per share on February 16 to all holders of record on January 30.
2. *Date of Record.* The corporation prepares a list on January 30 of all individuals believed to be stockholders as of this date. The word *believed* is important here, because the dividend will not be paid to those individuals whose notification of purchase is received by the company after January 30.
3. *Ex-Dividend Date.* The procedure on the date of record would be unfair if efficient brokerage houses could notify the corporation by January 30 of a trade occurring on January 29, whereas the same trade might not reach the corporation until February 2 if executed by a less efficient house. To eliminate this problem, all brokerage firms entitle stockholders to receive the dividend if they purchased the stock three business days before the date of record. The second day before the date of record, which is January 28 in our example, is called the *ex-dividend date*. Before this date the stock is said to trade *cum dividend.*
4. *Date of Payment.* The dividend checks are mailed to the stockholders on February 16.

FIGURE 16.1
Example of Procedure for Dividend Payment



1. ***Declaration date*: The board of directors declares a payment of dividends.**
2. ***Ex-dividend date*: A share of stock becomes ex dividend on the date the seller is entitled to keep the dividend; under NYSE rules, shares are traded ex dividend on and after the second business day before the record date.**
3. ***Record date*: The declared dividends are distributable to shareholders of record on a specific date.**
4. ***Payment date*: The dividend checks are mailed to shareholders of record.**

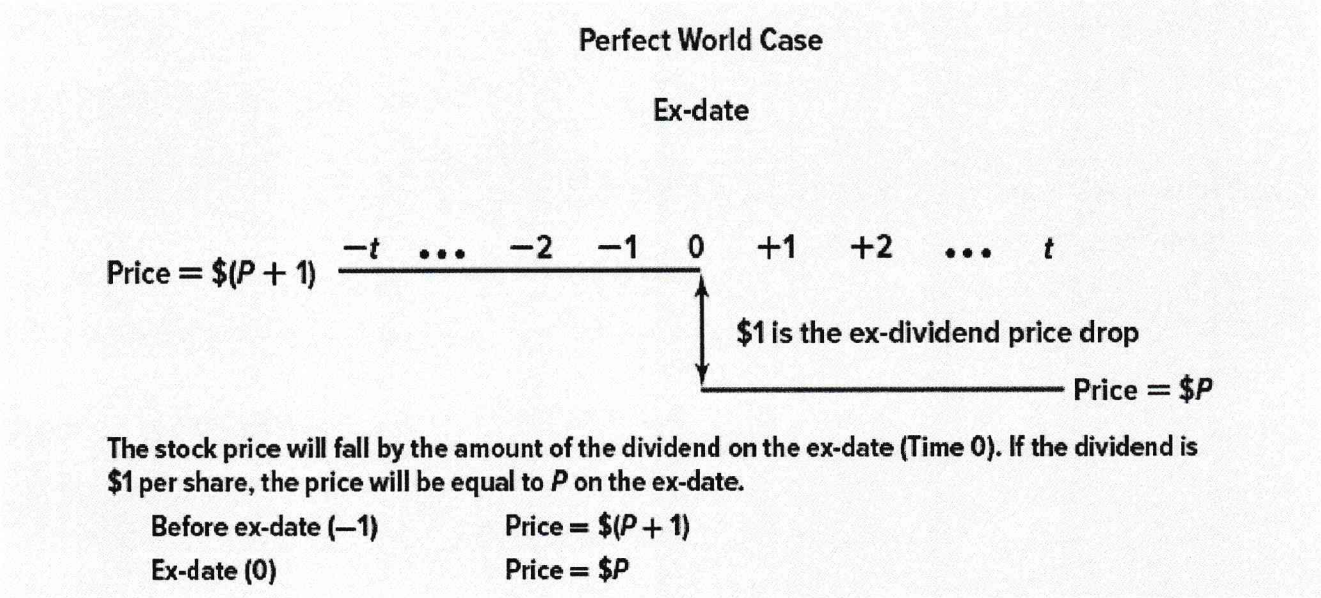
Obviously, the ex-dividend date is important, because an individual purchasing the security before the ex-dividend date will receive the current dividend, whereas another individual purchasing the security on or after this date will not receive the dividend. The stock price will therefore fall on the ex-dividend date (assuming no other events occur). It is worthwhile to note that this drop is an indication of efficiency, not inefficiency, because the market rationally attaches value to a cash dividend. In a world

with neither taxes nor transaction costs, the stock price would be expected to fall by the amount of the dividend: page 482

Before ex-dividend date	**Price = $(P + 1)**
On or after ex-dividend date	**Price = $P**

This is illustrated in Figure 16.2.

FIGURE 16.2
Price Behavior around the Ex-Dividend Date for a $1 Cash Dividend



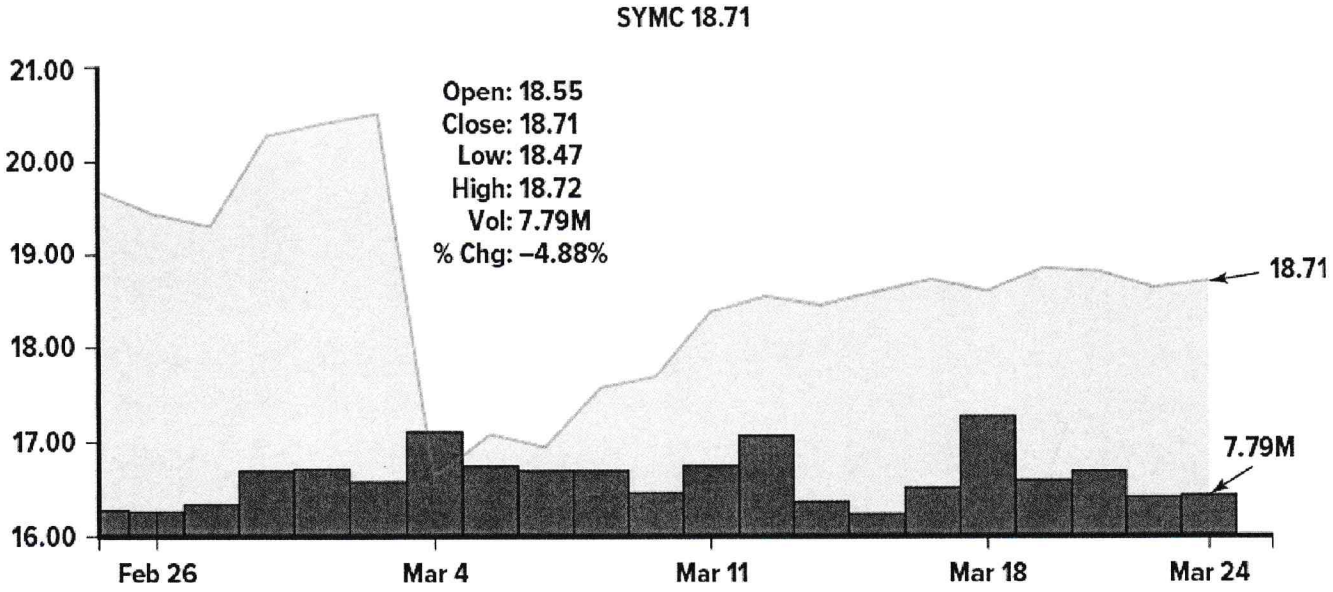
The stock price will fall by the amount of the dividend on the ex-date (Time 0). If the dividend is $1 per share, the price will be equal to *P* on the ex-date.

Before ex-date (−1)	**Price = $(P + 1)**
Ex-date (0)	**Price = $P**

The amount of the price drop may depend on tax rates. For example, consider the case with no capital gains taxes. On the day before a stock goes ex dividend, shareholders must decide either (1) to buy the stock immediately and pay tax on the forthcoming dividend, or (2) to buy the stock tomorrow, thereby missing the dividend. If all investors are in the 15 percent tax bracket and the quarterly dividend is $1, the stock price should fall by $.85 on the ex-dividend date. That is, if the stock price falls by this amount on the ex-dividend date, purchasers will receive the same return from either strategy.

As an example of the price drop on the ex-dividend date, consider the special dividend Symantec (SYMC) paid in March 2016. The special dividend was for about $2.7 billion, or $4 per share. At a time when the stock price was around $20, this payment represented about 20 percent of the stock price. The stock went ex dividend on March 4, 2016. The stock price chart here shows the change in SYMC stock around the time of the special dividend.

The stock closed at $20.52 on March 3 and opened at $16.73 on March 4—a drop of $3.79, or slightly more than we would have expected with a 15 percent dividend tax rate.


SYMC 18.71
21.00
20.00
19.00
18.00
17.00
16.00
Open: 18.55
Close: 18.71
Low: 18.47
High: 18.72
Vol: 7.79M
% Chg: –4.88%
18.71
7.79M
Feb 26
Mar 4
Mar 11
Mar 18
Mar 24

16.3 THE BENCHMARK CASE: AN ILLUSTRATION OF THE IRRELEVANCE OF DIVIDEND POLICY

A powerful argument can be made that dividend policy does not matter. This will be illustrated with the Bristol Corporation. Bristol is an all-equity firm started 10 years ago. The current financial managers know at the present time (Date 0) that the firm will dissolve in one year (Date 1). At Date 0 the managers are able to forecast cash flows with perfect certainty. The managers know that the firm will receive a cash flow of $10,000 immediately and another $10,000 next year. Bristol has no additional positive NPV projects.

Current Policy: Dividends Set Equal to Cash Flow

At the present time, dividends (Div) at each date are set equal to the cash flow of $10,000. The value of the firm can be calculated by discounting these dividends. This value is expressed as:

$$V_0 = \text{Div}_0 + \frac{\text{Div}_1}{1 + R_S} \qquad [16.1]$$

where Div_0 and Div_1 are the cash flows paid out in dividends, and R_S is the discount rate. The first dividend is not discounted because it will be paid immediately.

Assuming $R_S = 10$ percent, the value of the firm is:

$$\$19{,}090.91 = \$10{,}000 + \frac{\$10{,}000}{1.1}$$

If 1,000 shares are outstanding, the value of each share is:

$$\$19.09 = \$10 + \frac{\$10}{1.1}$$

To simplify the example, we assume that the ex-dividend date is the same as the date of payment. After the imminent dividend is paid, the stock price will immediately fall to $9.09 (= $19.09 − 10). Several members of the board of Bristol have expressed dissatisfaction with the current dividend policy and have asked you to analyze an alternative policy.

Alternative Policy: Initial Dividend Is Greater than Cash Flow

Another policy is for the firm to pay a dividend of $11 per share immediately, which is, of course, a total dividend payout of $11,000. Because the cash runoff is only $10,000, the extra $1,000 must be raised in one of a few ways. Perhaps the simplest would be to issue $1,000 of bonds or stock now (at

Date 0). Assume that stock is issued and the new stockholders will desire enough cash flow at Date 1 to let them earn the required 10 percent return on their Date 0 investment. The new stockholders will demand $1,100 of the Date 1 cash flow, leaving only $8,900 to the old stockholders. The dividends to the old stockholders will be:

	DATE 0	DATE 1
Aggregate dividends to old stockholders	$11,000	$8,900
Dividends per share	11.00	8.90

The present value of the dividends per share is therefore:

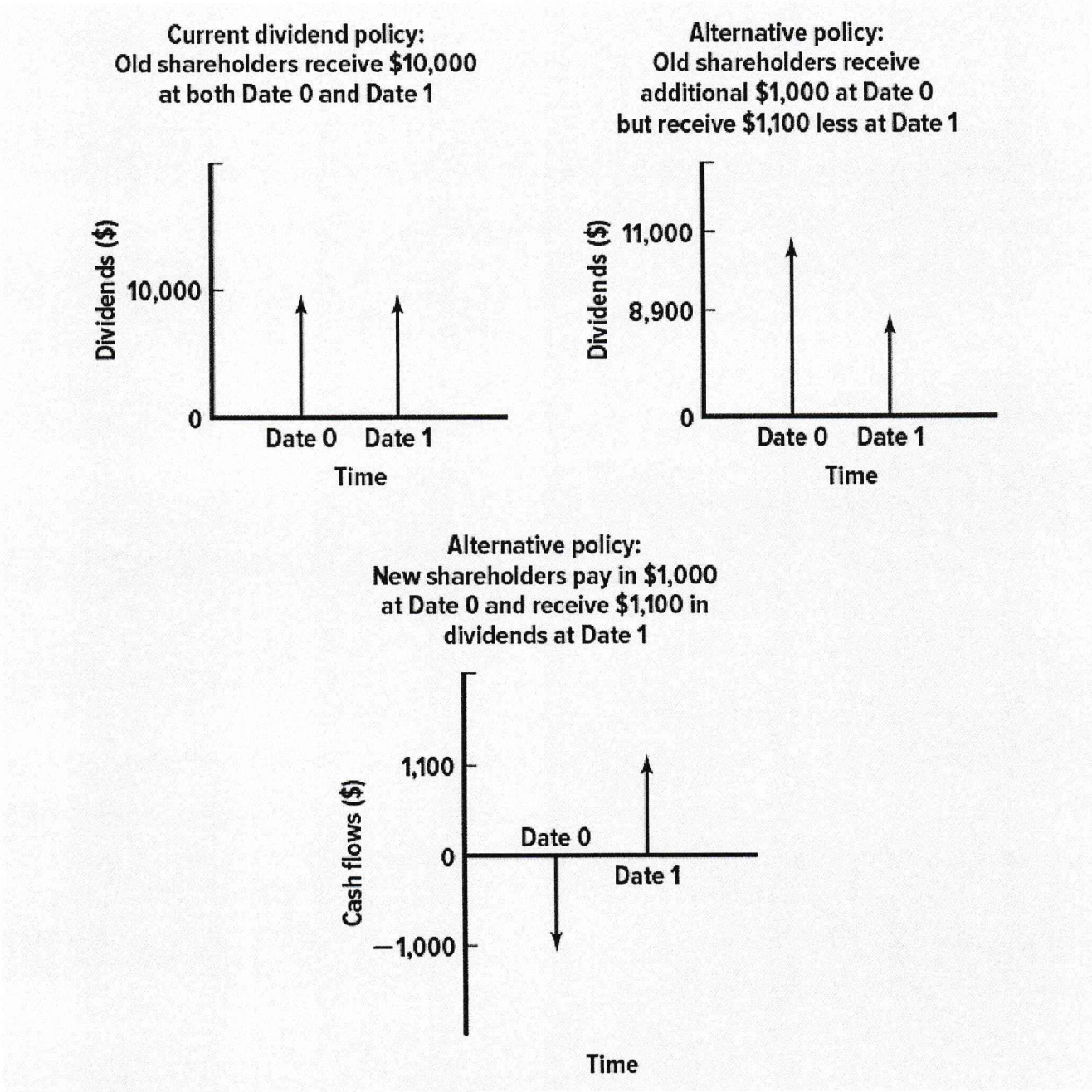
$$\$19.09 = \$11 + \frac{\$8.90}{1.1}$$

Students often find it instructive to determine the price at which the new stock is issued. Because the new stockholders are not entitled to the immediate dividend, they would pay \$8.09 (= \$8.90/1.1) per share. Thus, 123.60 (= \$1,000/\$8.09) new shares are issued.

The Indifference Proposition

Note that the values given in the previous example by the current policy and the alternative policy are equal. This leads to the initially surprising conclusion that the change in dividend policy did not affect the value of a share of stock. However, upon reflection, the result seems quite sensible. The new stockholders are parting with their money at Date 0 and receiving it back with the appropriate return at Date 1. In other words, they are taking on a zero NPV investment. As illustrated in Figure 16.3, old stockholders are receiving additional funds at Date 0 but must pay the new stockholders their money with the appropriate return at Date 1. Because the old stockholders must pay back principal plus the appropriate return, the act of issuing new stock at Date 0 will not increase or decrease the value of the old stockholders' holdings. That is, they are giving up a zero NPV investment to the new stockholders. An increase in dividends at Date 0 leads to the necessary reduction of dividends at Date 1, so the value of the old stockholders' holdings remains unchanged.

FIGURE 16.3
Current and Alternative Dividend Policies



This illustration is based on the pioneering work of Miller and Modigliani (MM). Although our presentation is in the form of a numerical example, the MM paper proves that investors are indifferent to dividend policy in a more general setting.

Homemade Dividends

To illustrate the indifference investors have toward dividend policy in our example, we used present value equations. An alternative and perhaps more intuitively appealing explanation avoids the mathematics of discounted cash flows.

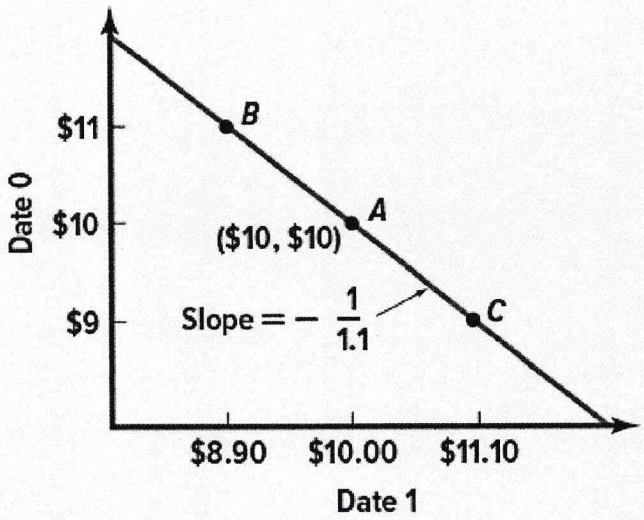
Suppose Investor *X* prefers dividends per share of $10 at both Dates 0 and 1. Would she be disappointed when informed that the firm's management is adopting the alternative dividend policy (dividends of $11 and $8.90 on the two dates, respectively)? Not necessarily, because she could easily reinvest the $1 of unneeded funds received on Date 0, yielding an incremental return of $1.10 at Date 1. Thus, she would receive her desired net cash flow of $11 − 1 = $10 at Date 0 and $8.90 + 1.10 = $10 at Date 1.

Conversely, imagine Investor *Z*, preferring $11 of cash flow at Date 0 and $8.90 of cash flow at Date 1, who finds that management will pay dividends of $10 at both Dates 0 and 1. Here he can sell off shares of stock at Date 0 to receive the desired amount of cash flow. That is, if he sells off shares (or fractions of shares) at Date 0 totaling $1, his cash flow at Date 0 becomes $10 + 1 = $11. Because a $1 sale of stock at Date 0 will reduce his dividends by $1.10 at Date 1, his net cash flow at Date 1 would be $10 − 1.10 = $8.90.

The example illustrates how investors can make **homemade dividends**. In this instance, corporate dividend policy is being undone by a potentially dissatisfied stockholder. This homemade dividend is illustrated by Figure 16.4. Here the firm's cash flows of $10 per share at both Dates 0 and 1 are represented by Point *A*. This point also represents the initial dividend payout. However, as we just saw, the firm could alternatively pay out $11 per share at Date 0 and $8.90 per share at Date 1, a strategy represented by Point *B*. Similarly, by either issuing new stock or buying back old stock, the firm could achieve a dividend payout represented by any point on the diagonal line.

The previous paragraph describes the choices available to the managers of the firm. The same diagonal line also represents the choices available to the shareholder. For example, if the shareholder receives a per-share dividend distribution of ($11, $8.90), he or she can either reinvest some of the dividends to move down and to the right on the graph or sell off shares of stock and move up and to the left.

FIGURE 16.4
Homemade Dividends: A Trade-off between Dividends per Share at Date 0 and Dividends per Share at Date 1



The graph illustrates both (1) how managers can vary dividend policy and (2) how individuals can undo the firm's dividend policy.

Managers varying dividend policy. A firm paying out all cash flows immediately is at Point *A* on the graph. The firm could achieve Point *B* by issuing stock to pay extra dividends or achieve Point *C* by buying back old stock with some of its cash.

Individuals undoing the firm's dividend policy. Suppose the firm adopts the dividend policy represented by Point *B*: dividends per share of $11 at Date 0 and $8.90 at Date 1. An investor can reinvest $1 of the dividends at 10 percent, which will place her at Point *A*. Suppose, alternatively, the firm adopts the dividend policy represented by Point *A*. An individual can sell off $1 of stock at Date 0, placing him at Point *B*. No matter what dividend policy the firm establishes, a shareholder can undo it.

The implications of the graph can be summarized in two sentences:

1. By varying dividend policy, the managers can achieve any payout along the diagonal line in Figure 16.4.
2. Either by reinvesting excess dividends at Date 0 or by selling off shares of stock at this date, any individual investor can achieve any net cash payout along the diagonal line.

Thus, because both the corporation and the individual investor can move only along the diagonal line, dividend policy in this model is irrelevant. The changes the managers make in dividend policy can be undone by an individual who, by either reinvesting dividends or selling off stock, can move to a desired point on the diagonal line.

A Test

You can test your knowledge of this material by examining these true statements:

1. Dividends are relevant.
2. Dividend policy is irrelevant.

The first statement follows from common sense. Clearly, investors prefer higher dividends to lower dividends at any single date if the dividend level is held constant at every other date. In other words, if the dividend per share at a given date is raised while the dividend per share for each other date is held constant, the stock price will rise. This act can be accomplished by management decisions that improve productivity, increase tax savings, or strengthen product marketing. In fact, you may recall in Chapter 6 we argued that the value of a firm's equity is equal to the discounted present value of all its future dividends.

The second statement is understandable once we realize that dividend policy cannot raise the dividend per share at one date while holding the dividend level per share constant at all other dates. Rather, dividend policy merely establishes the trade-off between dividends at one date and dividends at another date. As we saw in Figure 16.4, an increase in Date 0 dividends can be accomplished only by a decrease in Date 1 dividends. The extent of the decrease is such that the present value of all dividends is not affected.

Thus, in this simple world, dividend policy does not matter. That is, managers choosing either to raise or to lower the current dividend do not affect the current value of their firm. The above theory is a powerful one, and the work of MM is generally considered a classic in modern finance. With relatively few assumptions, a rather surprising result is shown to be perfectly true. Because we want to examine many real-world factors ignored by MM, their work is only a starting point in this chapter's discussion of dividends. The next part of the chapter investigates these real-world considerations.

Dividends and Investment Policy

The preceding argument shows that an increase in dividends through issuance of new shares neither helps nor hurts the stockholders. Similarly, a reduction in dividends through a share repurchase neither helps nor hurts stockholders.

What about reducing capital expenditures to increase dividends? Earlier chapters show that a firm should accept all positive net present value projects. To do otherwise reduces the value of the firm. Thus, we have an important point:

Firms should never give up a positive NPV project to increase a dividend (or to pay a dividend for the first time).

This idea was implicitly considered by Miller and Modigliani. One of the assumptions underlying their dividend irrelevance proposition was, "The investment policy of the firm is set ahead of time and is not altered by changes in dividend policy."

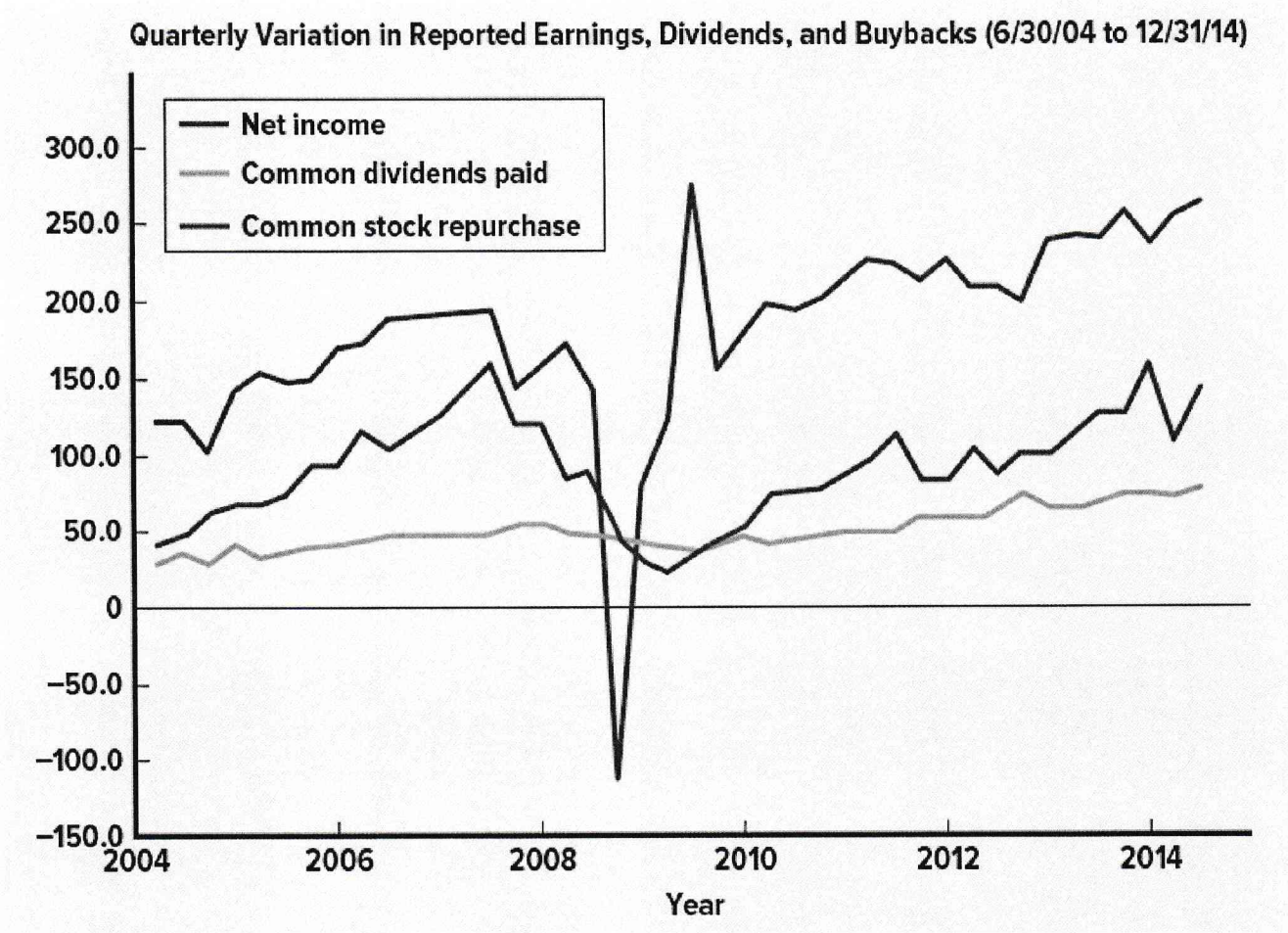
16.4 REPURCHASE OF STOCK

Instead of paying dividends, a firm may use cash to repurchase shares of its own stock. Share repurchases have taken on increased importance in recent years. Consider Figure 16.5, which shows the aggregate dollar amounts of dividends, repurchases, and earnings for large U.S. firms in the years from 2004 to 2014. As can be seen, the amount of repurchases was more than the amount of dividends up to 2008. However, the amount of dividends exceeded the amount of repurchases in late 2008 and 2009. This trend reversed after 2009. Notice also from Figure 16.5 that there is "stickiness" to repurchases and dividend payouts. In late 2008 when aggregate corporate earnings turned negative, the level of dividends and share repurchases did not change much. More generally, the volatility of aggregate earnings has been greater than that of dividends and share repurchases.

Share repurchases are typically accomplished in one of three ways. First, companies may purchase their own stock, just as anyone would buy shares of a particular stock. In these *open market purchases*, the firm does not reveal itself as the buyer. Thus, the seller does not know whether the shares were sold back to the firm or to just another investor.

Second, the firm could institute a *tender offer*. Here, the firm announces to all of its stockholders that it is willing to buy a fixed number of shares at a specific price. For example, suppose Arts and Crafts (A&C), Inc., has 1 million shares of stock outstanding, with a stock price of $50 per share. The firm makes a tender offer to buy back 300,000 shares at $60 per share. A&C chooses a price above $50 to induce shareholders to sell—that is, tender—their shares. In fact, if the tender price is set high enough, shareholders may want to sell more than the 300,000 shares. In the extreme case where all outstanding shares are tendered, A&C will buy back 3 out of every 10 shares that a shareholder has. On the other hand, if shareholders do not tender enough shares, the offer can be canceled. A method related to a tender offer is the *Dutch auction*. Here the firm does not set a fixed price for the shares to be sold. Instead, the firm conducts an auction in which it bids for shares. The firm announces the number of shares it is willing to buy back at various prices, and shareholders indicate how many shares they are willing to sell at the various prices. The firm will then pay the lowest price that will achieve its goal.

FIGURE 16.5
Earnings, Dividends, and Net Repurchases for U.S. Industrial Firms



Source: S&P Dow Jones Indices, S&P.

Finally, firms may repurchase shares from specific individual stockholders, a procedure called a *targeted repurchase*. For example, suppose the International Biotechnology Corporation purchased approximately 10 percent of the outstanding stock of the Prime Robotics Company (P-R Co.) in April at around $38 per share. At that time, International Biotechnology announced to the Securities and Exchange Commission that it might eventually try to take control of P-R Co. In May, P-R Co. repurchased the International Biotechnology holdings at $48 per share, well above the market price at that time. This offer was not extended to other shareholders.

Companies engage in targeted repurchases for a variety of reasons. In some rare cases, a single large stockholder can be bought out at a price lower than that in a tender offer. The legal fees in a targeted repurchase may also be lower than those in a more typical buyback. In addition, the shares of large stockholders are often repurchased to avoid a takeover unfavorable to management.

We now consider an example of a repurchase presented in the theoretical world of a perfect capital market. We next discuss real-world factors involved in the repurchase decision.

Dividend versus Repurchase: Conceptual Example

Imagine that Telephonic Industries has excess cash of $300,000 (or $3 per share) and is considering an immediate payment of this amount as an extra dividend. The firm forecasts that, after the dividend, earnings will be $450,000 per year, or $4.50 for each of the 100,000 shares outstanding. Because the price–earnings ratio is 6 for comparable companies, the shares of the firm should sell for $27 (= $4.50 × 6) after the dividend is paid. These figures are presented in the top half of Table 16.1. Because the dividend is $3 per share, the stock would have sold for $30 a share *before* payment of the dividend.

Alternatively, the firm could use the excess cash to repurchase some of its own stock. Imagine that a tender offer of $30 per share is made. Here, 10,000 shares are repurchased so that the total number of shares remaining is 90,000. With fewer shares outstanding, the earnings per share will rise to $5 (= $450,000/90,000). The price–earnings ratio remains at 6 because both the business and financial risks of the firm are the same in the repurchase case as they were in the dividend case. Thus, the price of a share after the repurchase is $30 (= $5 × 6). These results are presented in the bottom half of Table 16.1.

If commissions, taxes, and other imperfections are ignored in our example, the stockholders are indifferent between a dividend and a repurchase. With dividends, each stockholder owns a share worth $27 and receives $3 in dividends, so that the total value is $30. This figure is the same as both the amount received by the selling stockholders and the value of the stock for the remaining stockholders in the repurchase case.

This example illustrates the important point that, in a perfect market, the firm is indifferent between a dividend payment and a share repurchase. This result is quite similar to the indifference propositions established by MM for debt versus equity financing and for dividends versus capital gains.

TABLE 16.1 Dividend versus Repurchase Example for Telephonic Industries

	FOR ENTIRE FIRM	PER SHARE

Extra Dividend		**(100,000 shares outstanding)**
Proposed dividend	$ 300,000	3.00
Forecasted annual earnings after dividend	450,000	4.50
Market value of stock after dividend	2,700,000	$27.00
Repurchase		**(90,000 shares outstanding)**
Forecasted annual earnings after repurchase	$ 450,000	$ 5.00
Market value of stock after repurchase	2,700,000	30.00

You may often read in the popular financial press that a repurchase agreement is beneficial because earnings per share increase. Earnings per share do rise for Telephonic Industries if a repurchase is substituted for a cash dividend: The EPS is $4.50 after a dividend and $5 after the repurchase. This result holds because the drop in shares after a repurchase implies a reduction in the denominator of the EPS ratio.

However, the financial press frequently places undue emphasis on EPS figures in a repurchase agreement. Given the irrelevance propositions we have discussed, the increase in EPS here is not beneficial. Table 16.1 shows that, in a perfect capital market, the total value to the stockholder is the same under the dividend payment strategy as under the repurchase strategy.

Dividends versus Repurchases: Real-World Considerations

We previously referred to Figure 16.5, which showed growth in share repurchases relative to dividends. In fact, most firms that pay dividends also repurchase shares of stock. This suggests that repurchasing shares of stock is not always a substitute for paying dividends but rather a complement to it. For example, recently the number of U.S. industrial firms that pay dividends only or repurchase only is about the same as the number of firms paying both dividends and repurchasing shares. Why do some firms choose repurchases over dividends? Here are perhaps five of the most common reasons.

1. FLEXIBILITY Firms often view dividends as a commitment to their stockholders and are quite hesitant to reduce an existing dividend. Repurchases do not represent a similar commitment. Thus, a firm with a permanent increase in cash flow is likely to increase its dividend. Conversely, a firm whose cash flow increase is only temporary is likely to repurchase shares of stock.

2. EXECUTIVE COMPENSATION Executives are frequently given stock options as part of their overall compensation. Let's revisit the Telephonic Industries example of Table 16.1, where the firm's stock was selling at $30 when the firm was considering either a dividend or a repurchase. Further imagine that Telephonic had granted 1,000 stock options to its CEO, Ralph Taylor, two years earlier. At that time, the stock price was, say, only $20. This means that Mr. Taylor can buy 1,000 shares for $20 a share at any time between the grant of the options and their expiration, a procedure called *exercising* the options. His gain from exercising is directly proportional to the rise in the stock price above $20. As we saw in the example, the price of the stock would fall to $27 following a dividend but would remain at $30 following a repurchase. The CEO would clearly prefer a repurchase to a dividend because the difference between the stock price and the exercise price of $20 would be $10 (= $30 − 20) following the repurchase but only $7 (= $27 − 20) following the dividend. Existing stock options will always have greater value when the firm repurchases shares instead of paying a dividend because the stock price will be greater after a repurchase than after a dividend.

3. OFFSET TO DILUTION In addition, the exercise of stock options increases the number of shares outstanding. In other words, exercise causes dilution of the stock. Firms frequently buy back shares of stock to offset this dilution. However, it is hard to argue that this is a valid reason for repurchase. As we showed in Table 16.1, repurchase is neither better nor worse for the stockholders than a dividend. Our argument holds whether or not stock options have been exercised previously.

4. UNDERVALUATION Many companies buy back stock because they believe that a repurchase is their best investment. This occurs more frequently when managers believe that the stock price is temporarily depressed.

The fact that some companies repurchase their stock when they believe it is undervalued does not imply that the management of the company must be correct; only empirical

studies can make this determination. The immediate stock market reaction to the announcement of a stock repurchase is usually quite favorable. In addition, some empirical work has shown that the long-term stock price performance of securities after a buyback is better than the stock price performance of comparable companies that do not repurchase.

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5. TAXES Because taxes for both dividends and share repurchases are treated in depth in the next section, suffice it to say at this point that repurchases provide a tax advantage over dividends.

16.5 PERSONAL TAXES, ISSUANCE COSTS, AND DIVIDENDS

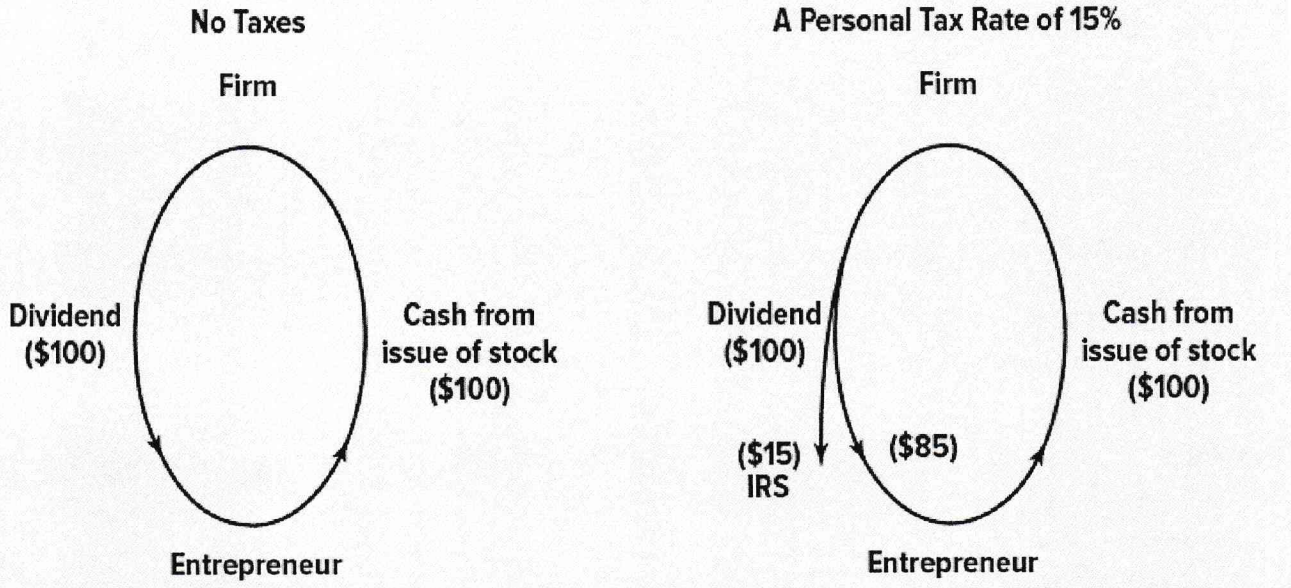
The model we used in Section 16.3 to determine the level of dividends assumed that there were no taxes, no transaction costs, and no uncertainty. It concluded that dividend policy is irrelevant. Although this model helps us to grasp some fundamentals of dividend policy, it ignores many real-world factors. It is now time to investigate these practical considerations. We first examine the effect of taxes on the level of a firm's dividends.

In the United States, both cash dividends and capital gains are taxed at a maximum rate of 39.6 percent (as of 2016). However, since dividends are taxed when distributed, while the taxes on capital gains are deferred until the stock is sold, the tax rate on dividends is greater than the *effective* rate on capital gains. A discussion of dividend policy in the presence of personal taxes is facilitated by classifying firms into two types: those without sufficient cash to pay a dividend and those with sufficient cash to do so.

Firms without Sufficient Cash to Pay a Dividend

It is simplest to begin with a firm without cash and owned by a single entrepreneur. If this firm should decide to pay a dividend of $100, it must raise capital. The firm might choose among a number of different stock and bond issues in order to pay the dividend. However, for simplicity, we assume that the entrepreneur contributes cash to the firm by issuing stock to himself. This transaction, diagrammed in the left-hand side of Figure 16.6, would clearly be a *wash* in a world of no taxes. $100 cash goes into the firm when stock is issued and is immediately paid out as a dividend. Thus, the entrepreneur neither benefits nor loses when the dividend is paid, a result consistent with Miller-Modigliani.

FIGURE 16.6
Firm Issues Stock in Order to Pay a Dividend



In the no-tax case, the entrepreneur receives the $100 in dividends that he gave to the firm when purchasing stock. The entire operation is called a *wash*; in other words, it has no economic effect. With taxes, the entrepreneur still receives $100 in dividends. However, he must pay $15 in taxes to the IRS. The entrepreneur loses and the IRS wins when a firm issues stock to pay a dividend.

Now assume that dividends are taxed at the owner's personal tax rate of 15 percent. The firm still receives $100 upon issuance of stock. However, the entrepreneur does not get to keep the full $100 dividend. Instead, the dividend payment is taxed, implying that the owner receives only $85 net after tax. Thus, the entrepreneur loses $15.

Though the example is clearly contrived and unrealistic, similar results can be reached for more plausible situations. Thus, financial economists generally agree that, in a world of personal taxes, one should not issue stock to pay a dividend.

The direct costs of issuance will add to this effect. Investment bankers must be paid when new capital is raised. Thus, the net receipts due to the firm from a new issue are less than 100 percent of total capital raised. Because the size of new issues can be lowered by a reduction in dividends, we have another argument in favor of a low-dividend policy.

Of course, our advice not to finance dividends through new stock issues might need to be modified somewhat in the real world. A company with a large and steady cash flow for many years in the past might be paying a regular dividend. If the cash flow unexpectedly dried up for a single year, should new stock be issued so that dividends could be continued? While our above discussion would imply that new stock should not be issued, many managers might issue the stock anyway for practical reasons. In particular, stockholders appear to prefer dividend stability. Thus, managers might be forced to issue stock to achieve this stability, knowing full well the adverse tax consequences.

Firms with Sufficient Cash to Pay a Dividend

The previous discussion argues that, in a world with personal taxes, one should not issue stock to pay a dividend. Does the tax disadvantage of dividends imply the stronger policy, "Never pay dividends in a world with personal taxes"?

We argue below that this prescription does not necessarily apply to firms with excess cash. To see this, imagine a firm with $1 million in extra cash after selecting all positive NPV projects and determining the level of prudent cash balances. The firm might consider the following alternatives to a dividend:

1. *Select Additional Capital Budgeting Projects*. Because the firm has taken all the available positive NPV projects already, it must invest its excess cash in negative NPV projects. This is clearly a policy at variance with the principles of corporate finance.

   In spite of our distaste for this policy, researchers have suggested that many managers purposely take on negative NPV projects in lieu of paying dividends. The idea here is that managers would rather keep the funds in the firm, since their prestige, pay, and perquisites are often tied to the firm's size. While managers may help themselves here, they are hurting stockholders. We broached this subject in a previous chapter, and we will have more to say about it later in this chapter.
2. *Acquire Other Companies*. To avoid the payment of dividends, a firm might use excess cash to acquire another company. This strategy has the advantage of acquiring profitable assets. However, a firm often incurs heavy costs when it embarks on an acquisition program. In addition, acquisitions are invariably made above the market price. Premiums of 20 to 80 percent are not uncommon. Because of this, a number of researchers have argued that mergers are not

generally profitable to the acquiring company, even when firms are merged for a valid business purpose. Therefore, a company making an acquisition merely to avoid a dividend is unlikely to succeed.

3. *Purchase Financial Assets*. Deciding whether to invest in financial assets or to pay a dividend is a complex question, depending on the tax rate of the firm, the marginal tax rates of its investors, and the application of the dividend exclusion.

However, the current income argument does have relevance in the real world. The sale of stock involves brokerage fees and other transaction costs—direct cash expenses that could be avoided by an investment in high-dividend securities. In addition, the expenditure of one's time when selling securities might further lead many investors to buy high-dividend securities.

However, to put this argument in perspective, it should be remembered that financial intermediaries such as mutual funds can perform repackaging transactions at low cost. Such intermediaries could buy low-dividend stocks and, by a controlled policy of realizing gains, pay their investors at a higher rate.

Behavioral Finance

Suppose it turned out that the transaction costs in selling no-dividend securities could not account for the preference of investors for dividends. Would there still be a reason for high dividends? We introduced the topic of behavioral finance in an earlier chapter, pointing out that the ideas of behaviorists represent a strong challenge to the theory of efficient capital markets. It turns out that behavioral finance also has an argument for high dividends.

The basic idea here concerns *self-control*, a concept that, though quite important in psychology, has received virtually no emphasis in finance. While we cannot review all that psychology has to say about self-control, let's focus on one example—losing weight. Suppose Alfred Martin, a college student, just got back from the Christmas break more than a few pounds heavier than he would like. Everyone would probably agree that diet and exercise are the two ways to lose weight. But how should Alfred put this approach into practice? (We'll focus on exercise, though the same principle would apply to diet as well.) One way, let's call it the economists' way, would involve trying to make rational decisions. Each day, Al would balance the costs and the benefits of exercising. Perhaps he would choose to exercise on most days, since losing the weight is important to him. However, when he is too busy with exams, he might rationally choose not to exercise because he cannot afford the time. And he wants to be socially active as well, so he may rationally choose to avoid exercise on days when parties and other social commitments become too time-consuming.

This seems sensible—at first glance. The problem is that he must make a choice every day and there may be too many days when his lack of self-control gets the better of him. He may tell himself that he doesn't have the time to exercise on a particular day because he is starting to find exercise boring, not because he really doesn't have the time. Before long, he is avoiding exercise on most days—and overeating in reaction to the guilt from not exercising!

What does this have to do with dividends? Investors must also deal with self-control. Suppose a retiree wants to consume $20,000 a year from savings, in addition to Social Security and her pension. On one hand, she could buy stocks with a dividend yield high enough to generate $20,000 in dividends. On the other hand, she could place her savings in no-dividend stocks, selling off $20,000 each year for consumption. Though these two approaches seem equivalent financially, the second one may allow for too much leeway. If lack of self-control gets the better of her, she might sell off too much, leaving little for her later years. Better, perhaps, to short-circuit this possibility by investing in dividend-paying stocks, with a strict personal rule of *never* "dipping into principal." While behaviorists do not claim that this approach is for everyone, they argue that enough people think this way to explain why firms pay dividends, even though, as we said earlier, dividends are tax disadvantaged.

Does behavioral finance argue for increased stock repurchases as well as increased dividends? The answer is no, since investors will sell the stock that firms repurchase. As we said above, selling stock involves too much leeway. Investors might sell too many shares of stock, leaving little for the later years. Thus, the behaviorist argument may explain why companies pay dividends in a world with personal taxes.

Agency Costs

Although stockholders, bondholders, and management form firms for mutually beneficial reasons, one party may later gain at another's expense. For example, take the potential conflict between bondholders and stockholders. Bondholders would like stockholders to leave as much cash as possible in the firm so that this cash would be available to pay the bondholders during times of financial distress. Conversely, stockholders would like to keep this extra cash for themselves. That's where dividends come in. Managers, acting on behalf of the stockholders, may pay dividends to keep the cash away from the bondholders. In other words, a dividend can be viewed as a wealth transfer from bondholders to stockholders. Of course, bondholders know of the propensity of stockholders to transfer money out of the firm. To protect themselves, bondholders frequently create loan agreements stating that dividends can be paid only if the firm has earnings, cash flow, and working capital above prespecified levels.

Although the managers may be looking out for the stockholders in any conflict with bondholders, the managers may pursue selfish goals at the expense of stockholders in other situations. For example, as discussed in an earlier chapter, managers might pad expense accounts, take on pet projects with negative NPVs, or not work very hard. Managers find it easier to pursue these selfish goals when the firm has plenty of free cash flow. After all, one cannot squander funds if the funds are not available in the first place. And that is where dividends come in. It has been suggested that dividends can serve as a way for the board of directors to reduce agency costs. By paying dividends equal to the amount of "surplus" cash flow, a firm can reduce management's ability to squander the firm's resources.

While the above discussion suggests a reason for increased dividends, the same argument applies to share repurchases as well. Managers, acting on behalf of stockholders, can just as easily keep cash from bondholders through repurchases as through dividends. And the board of directors, also acting on behalf of stockholders, can reduce the cash available to spendthrift managers just as easily through repurchases as through dividends. Thus, the presence of agency costs is not an argument for dividends over repurchases. Rather, agency costs imply firms may well increase either dividends or share repurchases rather than hoard large amounts of cash.

Information Content of Dividends and Dividend Signaling

While there are many things researchers do not know about dividends, there is one thing that we know for sure: The stock price of a firm will generally rise when the firm announces an increase in the dividend and will generally fall when a dividend reduction is announced. The question is: How should one *interpret* this fact? Consider the following three positions on dividends:

1. From the homemade dividend argument of MM, dividend policy is irrelevant, given that future earnings (and cash flows) are held constant.
2. Because of tax effects, a firm's stock price is negatively related to the current dividend when future earnings (or cash flows) are held constant.
3. Because of stockholders' desire for current income, a firm's stock price is positively related to its current dividend, even when future earnings (or cash flows) are held constant.

At first glance, the empirical evidence that stock prices rise when dividend increases are announced may seem consistent with Position 3 and inconsistent with Positions 1 and 2. In fact, many writers have argued this. However, other authors have countered that the observation itself is consistent with all three positions. They point out that companies do not like to cut a dividend. Thus, firms will raise the dividend only when future earnings,