

Part 1 Introduction to Financial Management
(Chapters 1, 2, 3, 4)

Part 2 Valuation of Financial Assets
(Chapters 5, 6, 7, 8, 9, 10)

Part 3 Capital Budgeting (Chapters 11, 12, 13, 14)

Part 4 Capital Structure and Dividend Policy
(Chapters 15, 16)

Part 5 Liquidity Management and Special Topics in Finance
(Chapters 17, 18, 19, 20)

Dividend and Share Repurchase Policy

Chapter Outline

16.1 How Do Firms Distribute Cash to Their Shareholders? **Objective 1.** Distinguish between the use of cash dividends and share repurchases.
(pgs. 560–564)

16.2 Does Dividend Policy Matter? **Objective 2.** Understand the tax treatment of dividends and capital gains, and the conditions under which dividend policy is an important determinant of stock value.
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16.3 Cash Distribution Policies in Practice **Objective 3.** Describe corporate dividend policies that are commonly used in practice.
(pgs. 573–577)

Principles **P1**, **P3**, and **P4** Applied

Our discussion of dividend policy pulls from **P** Principle 1: **Money Has a Time Value** and **P** Principle 3: **Cash Flows Are the Source of Value**. Because the residual cash flows of firms are paid to shareholders in the form of dividends, the value of the firm's equity must equal the discounted value of its future dividends. Given this, it is natural to consider the tradeoff

associated with paying fewer dividends today and conserving cash, which allows the firm to pay out more cash in the future. In addition, **P** Principle 4: **Market Prices Reflect Information** comes into play when we examine how stock prices react to the new information conveyed by a dividend change announcement.

ConocoPhillips Slashes Its Dividends

In February of 2016, ConocoPhillips (COP) announced that, in the face of falling oil prices, it was slashing its cash dividend by two-thirds, the first dividend cut since the firm had been formed by the merger of Conoco and Phillips Petroleum in 2002. By reducing its dividend from \$0.74 to \$0.25 per share, the company freed up money to ensure its financial health while oil prices hovered near their 12-year lows. In this chapter, we look at the cash distribution policies of corporations to learn why these distributions are important and why one method of distribution might be preferred to another.



When a firm generates cash from its operations, its managers must decide what to do with it. Specifically, they can do one or some combination of three things with the cash they generate:

- **Alternative 1.** Use the cash to fund new investments for the firm.
- **Alternative 2.** Use the cash to pay off some of the firm's debt.
- **Alternative 3.** Distribute the cash back to the firm's shareholders either as cash dividends or as stock repurchases.

We dealt with Alternative 1 in Chapters 11 through 13 when we discussed capital-budgeting decisions. The decision rule we decided to follow was to undertake all investment opportunities that offer a positive net present value (NPV). Alternatives 2 and 3 address the financing decision, which was the subject of the previous chapter. The firm can reduce its dependence on debt financing by using its cash to repay all or part of its debt, or it can reduce the equity in its capital structure by distributing cash to the firm's common stockholders.

This chapter is organized around providing answers to three basic questions regarding a firm's dividend policy:

1. What are the pros and cons of the methods the firm can use to distribute cash to its common stockholders?
2. Why should the firm's shareholders care about the firm's dividend policy, given that they can satisfy their personal needs for cash by selling some of their shares?
3. What cash distribution policies do most firms use in practice?

As we will show, as long as the dividend choice has no effect on the firm's investment and operating choices and if there are no tax implications, then the actual timing of the dividends has no effect on firm values. What we learn from this is that apart from tax implications, it is the cash flows generated by the firm's investments that determine the firm's value, not the timing and method of how those cash flows are paid out.

Finally, we discuss the fact that when firms announce dividend increases, their stock prices tend to increase. How do we reconcile this evidence of a positive stock price response to a dividend increase if the timing of dividend payments has no influence on firm values? As we will discuss, the positive price reaction to a dividend increase does not necessarily imply that the firm becomes more valuable because it is paying a higher dividend. Rather, the dividend increase conveys favorable information to investors about the firm's ability to generate operating cash flows.

Regardless of Your Major...



“Firms Almost Never Decrease Their Dividend”

Whether to initiate, increase, or decrease a firm’s cash dividend is an important decision that is made by the firm’s board of directors. The board, in turn, relies on the input of the entire management team in order to make the right decision. When the board members are considering an increase in the firm’s dividend payout, a prime consideration is the sustainability of that dividend payment. They do not want to increase the dividend today if it is likely that they will have to cut it in the near future. Likewise, they will cut the dividend payment only if it is clear that the higher current payout is no longer sustainable. That was the case with ConocoPhillips when it cut its dividend in 2016. It was also the case with General Electric (GE) and Dow Chemical (DOW), both of which cut their dividends in 2009 in the midst of the recession. GE’s cut was its first in 71 years and Dow Chemical’s was its first in 97 years, but, like ConocoPhillips, the companies were in an unsustainable position.

When a firm’s directors are considering whether to change the dividend payout, they will seek advice from top management regarding the firm’s future prospects. Specifically, because earnings can vary from quarter to quarter, the directors will consult with the marketing managers to get their views about the firm’s future sales and with the operations managers to get a better understanding of the firm’s cost structure going forward. Of course, the financial and accounting staff will combine this information to come up with a dividend policy that should be sustainable, even during mild downturns.

Your Turn: See Study Question 16–2.

16.1

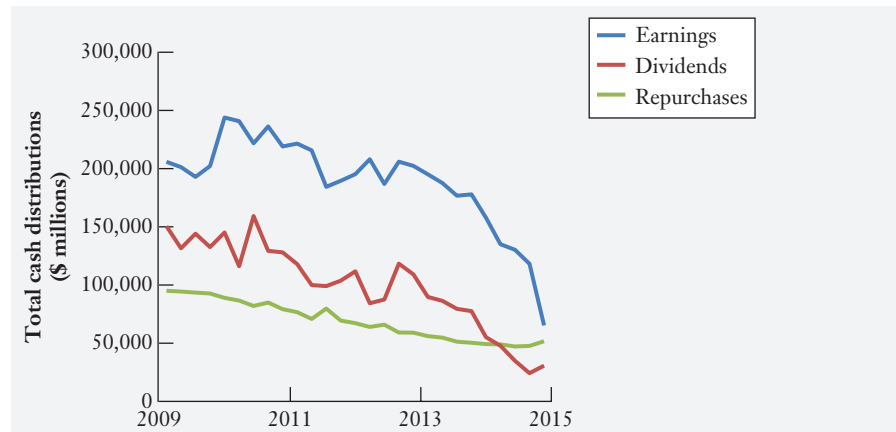
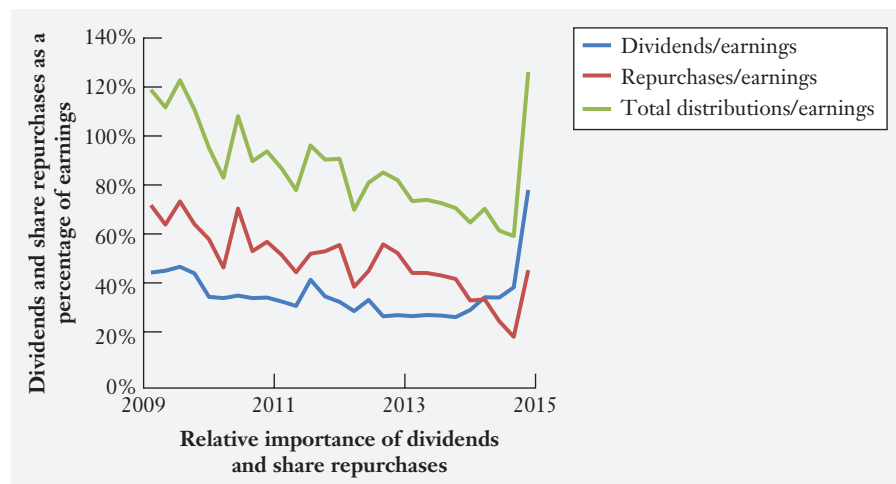
How Do Firms Distribute Cash to Their Shareholders?

Cash distributions by a firm to its stockholders can take one of two basic forms: a cash dividend or a share repurchase. With a **cash dividend**, the firm pays the cash directly to shareholders. With a **share or stock repurchase**, it uses the cash to buy back its own shares from the marketplace, thereby reducing the number of outstanding shares. In either case, cash is transferred from the company to the firm’s stockholders. Looking at the impact of a cash distribution on the balance sheet, the cash account goes down as the cash is either sent to the shareholders in the form of dividends or used to buy back stock, and on the right-hand side of the balance sheet, there is a corresponding decrease in the equity account. Many firms use a combination of both dividend payments and share repurchases to distribute cash to their shareholders.

Panel A of Figure 16.1 presents the total corporate earnings, cash dividends, and share repurchases for a broad cross-section of U.S. firms between 2009 and 2015. It shows that as the economy strengthened, both dividends and buybacks increased, with buybacks climbing the most over this time. It also shows that the total proportion of earnings that firms distributed through either cash dividends or share repurchases grew dramatically over this time, with total buybacks and repurchases actually exceeding reported earnings. How does this happen? One way that it has happened recently is through firms issuing debt and using the proceeds raised to purchase stock. In fact, in 2015, Microsoft issued over \$10 billion of low-interest debt and earmarked the proceeds to fund buybacks. Panel B of Figure 16.1 illustrates the portion of earnings that are distributed through dividends and stock repurchases. This is calculated as the level of dividends and buybacks relative to the firm’s reported earnings.

Figure 16.1**Historical Distributions to Shareholders Through Dividends and Share Repurchases**

Cash distributions to a firm's shareholders take one of two principal forms: cash dividends and share repurchases. In recent years, three important trends have been observed. First, share repurchases have grown to the point where they are equal to cash distributions through dividends. Second, the proportion of firm earnings distributed through both approaches has grown from about 40 percent in the 1970s, to near 80 percent by 2000, to over 100 percent in 2015. Third, during the heart of the recent recession in 2009, buyback and dividend programs were dramatically cut back.

(Panel A) Cash Distributions to Shareholders: Dividends and Repurchases**(Panel B)** Relative Importance of Dividends and Share Repurchases

Sources: <http://www.reuters.com/investigates/special-report/usa-buybacks-cannibalized>; <http://www.yardeni.com/Pub/buybackdiv.pdf>; and http://www.factset.com/websitefiles/PDFs/buyback/buyback_12.15.15.

>> END FIGURE 16.1

Cash Dividends

A firm's **dividend policy** determines how much cash it will distribute to its shareholders and when these distributions will be made. We can characterize a firm's dividend policy in terms of two fundamental attributes:

- 1. The fraction of firm earnings paid in dividends.** This first attribute is typically described in terms of the **dividend payout ratio**, which indicates the amount of dividends paid relative to the company's earnings. For instance, if the dividend per share is \$2 and the earnings per share is \$4, the dividend payout ratio is 50 percent ($\$2 \div \4).

- 2. The pattern of payments followed by the firm over time.** As will be observed later in the chapter, dividend stability may be almost as important to the investor as the amount of dividends received.

Dividend Payment Procedures

After the firm's dividend policy has been determined, several procedural details must be arranged. For instance, how frequently are dividend payments made? If a stockholder sells the shares during the year, who is entitled to the dividend? To answer these questions, we need to understand dividend payment procedures.

Generally, companies pay dividends on a quarterly basis. To illustrate, on February 4, 2016, ConocoPhillips announced that holders of record as of February 16, 2016, would receive a \$0.25 per share dividend, with the dividend payment to be made on March 1. February 4 is the announcement or **declaration date**—the date when the dividend is formally declared by the board of directors. The **date of record**, February 16, designates when the stock transfer books are closed. Investors who own the stock on this date receive the dividend. However, because in the past it was difficult to record stock sales on a timely basis, stock brokerage companies decided to terminate the right of ownership to the dividend two working days before the date of record. This prior date is the **ex-dividend date**. Therefore, any acquirer of ConocoPhillips stock on or after February 11 does not receive the dividend. Although this looks like more than two working days before February 16, the date of record, there is a weekend and President's Day in there. Finally, the company mails the dividend check to each investor on March 1, the **payment date**. These events may be summarized as follows:

Declaration Date	Ex-dividend Date	Date of Record	Payment Date
February 4	February 11	February 16	March 1
The dividend is declared.	Shares begin trading ex-dividend (without ownership of the dividend).	On this date, the company looks at its records to see who receives the dividend.	Dividend checks are distributed to the shareholders of record on the record date.

Stock Repurchases

A company engages in a share or stock repurchase (stock buyback) when it uses the firm's cash to repurchase some of its own stock. This results in a reduction in the firm's cash balance as well as in the number of shares of stock outstanding. We saw in Figure 16.1 that stock repurchases are now a very popular method for distributing cash to a firm's stockholders. Moreover, the size of the repurchases can be very large. For example, on February 2, 2016, both 3M Company (MMM) and Comcast (CMCSA) announced that they planned to buy back up to \$10 billion of their own stock, and in the third quarter of 2015 alone, Apple bought back \$15.2 billion worth of its own shares.

How Do Firms Repurchase Their Shares?

Firms use one of three methods to repurchase their shares. The first, and by far the most widely used, is referred to as an **open market repurchase**. Here the firm acquires the stock on the market, often buying a relatively small number of shares every day, at the going market price. This approach may place an upward pressure on the stock price over the period that the stock is acquired. The second method involves the use of a **tender offer**, which is a formal offer by the company to buy a specified number of its shares at a stated price. The tender price is set above the current market price in order to attract sellers. A tender offer is used when the firm wants to repurchase a relatively large number of shares very quickly. The third and final method involves purchasing the stock from one or more major stockholders. In this seldom-used method, purchases are made on a negotiated basis.

Personal Tax Considerations: Dividend Versus Capital Gains Income

Historically, the U.S. tax code has had a built-in preference for capital gains income over dividends. For example, up until recently, dividends were taxed at the ordinary income tax rate. As a result, in the 1960s and 1970s, many individuals paid a 70 percent tax rate on their dividend income. In contrast, capital gains have generally been taxed at a preferred rate that is about half the rate on ordinary income. However, one of the important recent changes to the tax code established the same tax rates for corporate dividends and capital gains. Specifically, the maximum tax rate on qualifying dividends and long-term capital gains (on stock held for 366 days or longer) is now 15 percent for those in the 25 and 35 percent tax brackets and 20 percent for those whose income surpasses the 35 percent bracket. For those in the 10 and 15 percent tax brackets, they are tax-free. In order to qualify for the lower taxes on dividends, you are required to hold the stock on which the dividends are paid for more than 60 days during the 120-day period that begins 60 days before the ex-dividend date. If you do not meet this qualification, the dividends are taxed like ordinary income.

Noncash Distributions: Stock Dividends and Stock Splits

A **stock dividend** is a pro rata distribution of additional shares of stock to the firm's current stockholders. These distributions are generally defined in terms of a fraction paid per share. For example, the firm might pay a stock dividend of .10 share of stock per share of stock held, so that for every 100 shares of stock you own, you would receive 10 additional shares. For example, if Aaron Electronics had 1 million shares of stock outstanding and decided to pay a 10 percent stock dividend to its shareholders, the total number of shares of stock outstanding would expand by 10 percent to 1.1 million shares. If, prior to the stock dividend, the shares were trading for \$100 per share for a total market value of the firm's shares equal to \$100 million, then after the stock dividend, the share price would decline to $\$100 \text{ million} \div 1.1 \text{ million shares}$, or \$90.90. The point here is that the declaration of a stock dividend increases only the number of shares of stock outstanding, so the total value of the firm's common shares is unchanged. With the increased number of new shares, however, the price per share declines.

Closely related to the stock dividend is the stock split. A **stock split** is essentially a very large stock dividend. For example, a 2-for-1 stock split would entail issuing two new shares of stock to each shareholder in exchange for each old share currently held. Thus, the 2-for-1 split is equivalent to a 100 percent stock dividend because both will result in the number of shares outstanding doubling while the share price drops in half.

Accountants consider distributions less than 25 percent to be stock dividends and those greater than 25 percent to be stock splits.¹ The only difference between a stock dividend and a stock split relates to how they are reported on the firm's balance sheet.² Despite this difference in accounting treatment, there is no real economic difference between a stock split and a comparable stock dividend.

Rationale for a Stock Dividend or Split

Although stock dividends and splits are less prevalent than cash dividends, a significant number of companies choose to use these share distributions either with or in lieu of cash dividends. Given that these transactions have no direct effect on cash flows, their popularity is somewhat difficult to understand.

One rationale for splits and stock dividends is that financial executives believe there is an optimal price range for their firm's stock. If the price exceeds this range, fewer investors will want to purchase the firm's stock because of the high cost of purchasing the usual round lot (consisting of 100 shares), thereby restraining the demand for the firm's shares. We can

¹The 25 percent standard applies only to corporations listed on the New York Stock Exchange. The American Institute of Certified Public Accountants ruled that a stock dividend greater than 20 or 25 percent of the firm's outstanding shares is a stock split for all practical purposes.

²For a stock dividend, an amount equal to the market value of the stock dividend is transferred from retained earnings to the capital stock account. With a stock split, only the number of shares changes, and the par value of the shares is decreased proportionately.

illustrate the problem using an extreme example. The market price for one class A share of Berkshire Hathaway (BRK-A) was \$220,605 in August 2016, so the purchase of a single share is out of reach for many investors.³ It is not hard to believe that a stock split or dividend might improve the demand for these shares—consider, for example, that the 3-month average daily volume in August 2016 was only 253 shares. Several years ago Berkshire Hathaway evidently came to the conclusion that its share price was a bit high, and it issued series B shares, often called Baby Berkshires (BRK-B), which were trading for a mere \$147.22 a share at the time of this writing.

Before you move on to 16.2

Concept Check | 16.1

1. What are the two forms of cash distributions that firms typically use?
2. What is the frequency with which cash dividends are typically paid to investors?
3. Identify three motives that might encourage a firm to buy back its common stock shares.
4. How is a stock dividend like a stock split, and why do financial managers sometimes use one or the other?

16.2 Does Dividend Policy Matter?

Our starting point in the last chapter was a proposition by Modigliani and Miller (M&M) that the capital structure choice does not influence firm value. A second proposition by these same individuals is that, without taxes and transaction costs, cash dividends and share repurchases are equivalent and the timing of the distribution is unimportant. Once we have demonstrated the conditions under which a firm's cash dividend policy does not affect the value of the firm's shares, we then relax these conditions to gain an understanding of why dividend policy is important to shareholders.

The Irrelevance of the Distribution Choice

In this section, we will illustrate that the distribution choice is a matter of irrelevance under the following conditions (or assumptions):

1. There are no taxes.
2. No transaction costs are incurred in either buying or selling shares of stock.
3. The firm's operating and investment policies are fixed.

In other words, under the conditions where the M&M capital structure irrelevancy theorem holds, the distribution choice is also irrelevant. This is known as the M&M dividend irrelevancy proposition. We illustrate this proposition in two ways:

1. We first show that the timing of dividend distribution does not affect firm values.
2. Next, we show that, in the absence of taxes and transaction costs, a cash dividend is equivalent to a share repurchase.

After demonstrating the irrelevance of distribution policy to share value, we then show that because of taxes, some investors will prefer to receive a cash distribution in the form of a repurchase rather than a dividend.

³Berkshire Hathaway, Inc., is a publicly owned investment management company that engages in the insurance business through its subsidiaries. The company was founded in 1889 in Omaha, Nebraska, but its primary source of fame today is the fact that it is run by famed investor Warren Buffett (the "Oracle of Omaha"), who is one of the richest people in the world.

The Timing of Dividends Is Irrelevant

To illustrate the irrelevance of the timing of dividend payments, consider the situation faced by Clinton Enterprises, Inc. Clinton is an oil-field services company that operates along the Gulf Coast of Louisiana and Texas, providing drilling and maintenance services for offshore exploration and production companies. The company has no debt, and to keep this simple, we assume it can predict its cash flow very accurately over the next two years. One dividend policy alternative for Clinton (Alternative 1) is to use the \$35 million it currently has on hand to pay a cash dividend right now and then to use the additional \$135 million it expects to have in one year to pay a cash dividend one year from now. For simplicity, let's assume that because of changes in technology, Clinton Enterprises will cease to exist at the end of one year, after making its final dividend payment.

The cash flows available for distribution to the Clinton Enterprises' shareholders immediately (Year 0) and at the end of the year (Year 1) are shown in Panel A of Figure 16.2. If the firm pays out 100 percent of its available cash flows in dividends in Year 0 and Year 1 and if Clinton's shareholders require a 15 percent rate of return for their investment in the firm (i.e., $k_{Equity} = 15\%$), then the value of Clinton's equity can be calculated as the present value of the dividend payments using Equation (16-1):

$$\text{Value of Clinton Enterprises' Equity} = \text{Dividend}_{\text{Year 0}} + \frac{\text{Dividend}_{\text{Year 1}}}{(1 + k_{equity})} \quad (16-1)$$

Substituting the cash dividends from dividend policy Alternative 1, we calculate the value of Clinton's equity as follows:

$$\text{Value of Clinton Enterprises' Equity} = \$35 \text{ million} + \frac{\$135 \text{ million}}{(1 + .15)} = \$35 \text{ million} + \$117.39 \text{ million} = \$152.39 \text{ million}$$

Clinton has 10 million shares of stock outstanding, so the value per share of the firm's stock will be \$15.24 (\$152.39 million/10 million).

What if Clinton's management decides to pay an amount other than 100 percent of its available cash to the firm's stockholders in Year 0? For example, Panel B of Figure 16.2 contains a second dividend policy alternative (Alternative 2), in which Clinton pays more out in cash dividends in Year 0 than it has on hand. In fact, the firm pays 150 percent of its available cash flow, or \$52.5 million, as its Year 0 dividend. Because Clinton has only \$35 million, the added \$17.5 million must be raised from outside sources through the issuance of bonds or shares of stock. Because we are exploring the effects of dividend policy, we will assume that the firm wishes to maintain its all-equity capital structure and thus issues shares of stock. The new stockholders will demand a 15 percent rate of return on their \$17.5 million investment, which means that at the end of Year 1 they will expect to receive \$20.125 million ($\$17.5 \text{ million} \times [1 + .15] = \20.125 million). This leaves \$114.875 million for Clinton's old shareholders out of the firm's Year 1 cash flow of \$135 million ($\$135 \text{ million} - \$20.125 \text{ million} = \114.875 million). Note that, as shown in Panel B of Figure 16.2, the value of the original shareholders' common stock is still \$152.39 million. Thus, it does not matter whether Clinton pays out 0 percent, 100 percent, or 150 percent of its Year 0 cash in dividends to its shareholders. In each case, the value of Clinton's shares remains \$15.24 per share.

The Form of Payment (Cash Dividends Versus Share Repurchases) Is Irrelevant

To illustrate the irrelevance of the form of the cash distribution, we use an example based on GoFast Enterprises, Inc., which is a distributor of high-performance race car parts primarily for BMW Series 3 and 4 automobiles. Started by Bill and "Little John" Petty, a father and son who share a love of fast cars and racing, the company has grown to become a very successful enterprise over the six years since it was founded. The company's management expects GoFast to generate \$1 million in cash flows next year that can be distributed to shareholders.⁴ The company is considering two alternatives: (1) pay out the \$1 million as a cash dividend and (2) use the cash flows to repurchase shares of company stock.

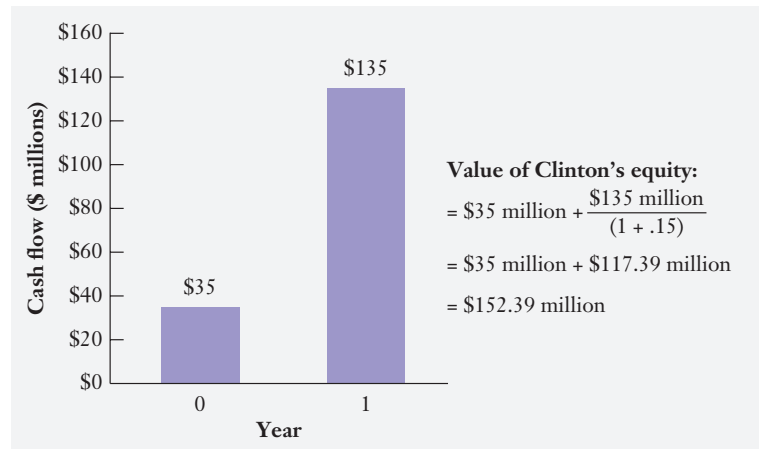
⁴Technically, this is free cash flow to equity because it is the cash available for distribution to the firm's stockholders.

Figure 16.2**Dividend Policy Choices Faced by Clinton Enterprises**

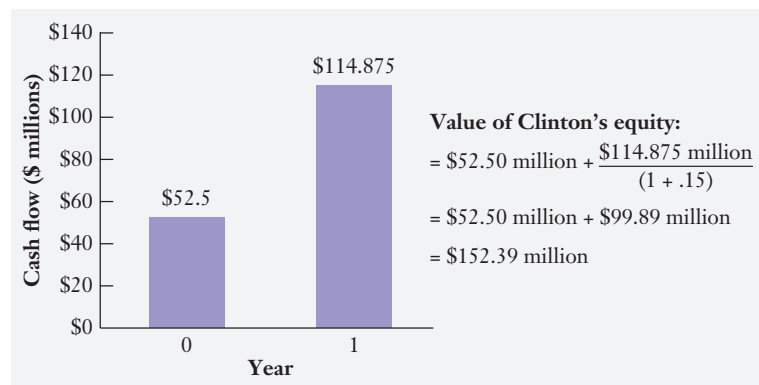
Dividend Policy Alternative 1. Clinton Enterprises is an all-equity-financed firm that has \$35 million in cash on hand that it can pay out in dividends immediately and will have another \$135 million that it can pay out in dividends at the end of the year, when the firm ceases operations and liquidates all its assets.

Dividend Policy Alternative 2. Clinton Enterprises is an all-equity-financed firm that has \$35 million in cash on hand and will have another \$135 million at the end of the year, when the firm ceases operations and liquidates all its assets. Under this alternative, Clinton will raise \$17.5 million through the issuance of shares of stock. The cost of equity for the firm is 15 percent, so any new shares issued will require this rate of return. The \$35 million on hand, coupled with the \$17.5 million raised through the sale of new stock, allows Clinton to pay out \$52.5 million in dividends immediately. Because the shareholders require a 15 percent return, after one year it will take \$20.125 million ($\$17.5 \text{ million} \times [1 + .15] = \20.125 million) to pay off the \$17.5 million of equity that was raised. This leaves \$114.875 million for Clinton's old shareholders out of the firm's Year 1 cash flows of \$135 million ($\$135 \text{ million} - \$20.125 \text{ million} = \114.875 million).

(Panel A) Dividend Policy Alternative 1: Dividends = 100 percent of Year 0 and Year 1 Cash Flows



(Panel B) Dividend Policy Alternative 2: Dividends = 150 percent of Year 0 Cash Flows and Remainder in Year 1

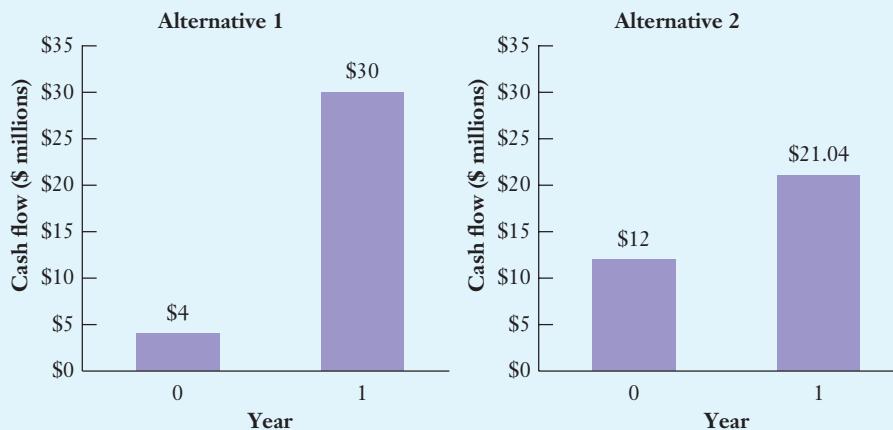


Checkpoint 16.1**Stock Price and the Timing of Dividend Payments**

After operating for more than 50 years, the owners of the Northwest Wire and Cable Company have decided that it is time to shut down the firm's business at the end of the year. However, the firm has \$4 million in cash available for distribution to its shareholders today and expects to have \$30 million at the end of the year to pay as a liquidating dividend. Northwest has 1 million shares outstanding today and is contemplating one of two cash distribution policies. The first (Alternative 1) involves simply paying cash dividends equal to the firm's cash flows both today and at the end of the year. Alternative 2 involves paying a much larger dividend of \$12 million today and issuing new shares of stock to raise the \$8 million in additional funds needed to fund the dividend. The company's stockholders require a 12 percent rate of return on the firm's shares. What is the value of the firm's equity in total and per share under the two dividend payment plans?

STEP 1: Picture the problem

Cash dividends paid under Alternatives 1 and 2 are as follows:



Under Alternative 2, the company will have to raise \$8 million from the sale of new common shares. Because the new shareholders will require a 12 percent return on their investment, this will require the firm to pay \$8 million \times (1.12) = \$8.96 million of its \$30 million end-of-year cash flow to these new investors. The cash dividend to the existing shareholders at the end of Year 1 will now be only \$21.04 million (\$30 million – \$8.96 million).

STEP 2: Decide on a solution strategy

The value of Northwest Wire and Cable Company's equity is equal to the present value of the firm's expected cash dividends. Because the firm will distribute only two dividends, one immediately and one at the end of the year, the value of the firm's equity can be calculated using Equation (16-1) as follows:

$$\text{Value of Northwest Wire and Cable Company's Equity} = \text{Dividend}_{\text{Year } 0} + \frac{\text{Dividend}_{\text{Year } 1}}{(1 + k_{\text{Equity}})} \quad (16-1)$$

STEP 3: Solve

Substituting the dividend amounts from Alternative 1 into the above equation produces the following estimate of the company's equity value:

$$\text{Value of Northwest Wire and Cable Company's Equity} = \$4 \text{ million} + \frac{\$30 \text{ million}}{(1 + .12)} = \$4 \text{ million} + \$26.79 \text{ million} = \$30.79 \text{ million}$$

The value per share then is \$30.79.

For Alternative 2, we perform a similar calculation but substitute the dividend amounts for Alternative 2:

$$\text{Value of Northwest Wire and Cable Company's Equity} = \$12 \text{ million} + \frac{\$21.04 \text{ million}}{(1 + .12)} = \$12 \text{ million} + \$18.79 \text{ million} = \$30.79 \text{ million}$$

Again, the value per share is \$30.79.

STEP 4: Analyze

Clearly, the timing of the payment of the company's cash dividends is of no importance in this example. However, the reason for this is that we have held constant the firm's investment cash flows. In other words, when we increased the current dividend to the firm's shareholders above the available cash, we did not reduce the firm's investment. We also assumed that new shares could be issued under exactly the same terms as the existing shares. That is, new shareholders could be attracted to purchase the firm's shares in the hope of earning the same 12 percent required rate of return of the existing shareholders.

STEP 5: Check yourself

Consider Alternative 3, in which Northwest Wire and Cable decides to increase its current period dividend to only \$8 million. Show that the firm's equity under this scenario will still be \$30.79 million.

Your Turn: For more practice, do related **Study Problems** 16–12 and 16–13 at the end of this chapter.

>> **END Checkpoint 16.1**

Individual Investor Wealth Effects: No Personal Taxes

To simplify the analysis, we will initially consider the effect of distributing cash to the firm's shareholders under the assumption that the cash distribution will not impose any transaction costs or tax consequences on the shareholders.

Table 16.1 contains the details of GoFast's situation and an analysis of the investor wealth effects of the two alternatives for distributing the firm's \$1,000,000 in cash flow:

Alternative 1—a \$1,000,000 cash dividend.

Alternative 2—a \$1,000,000 stock repurchase.

Panel A of Table 16.1 describes the firm's current situation, looking at the earnings and the valuation of the firm's equity. Given that it has 500,000 shares outstanding and total earnings of \$1 million, GoFast's earnings per share (EPS) are \$2.00. Moreover, the firm's shares have a current market value of \$18 a share, so the firm's equity is worth \$9 million (500,000 shares \times \$18). Note that GoFast's management team expects that the firm can generate \$1 million in cash flows as a level earnings stream forever; therefore, the value of the firm's equity will remain constant at \$9 million forever while paying out \$1 million per year either as a cash dividend (Alternative 1) or in a stock repurchase (Alternative 2), and the cost of equity is 11.11 percent.⁵

In Panel B of Table 16.1, we analyze the effect of the cash distribution (Alternative 1) on the Petty family, which has retained ownership of 10 percent (or 50,000 shares) of GoFast's 500,000 shares outstanding. Note that before any cash distribution is made, the 10 percent equity ownership is worth \$900,000 (10% \times \$9 million). Moreover, under Alternative 1, the Petty family will receive a cash dividend of \$100,000, which is equal to 10 percent of the \$1 million dividend payment. Just prior to the ex-dividend date, the value of GoFast's shares will equal the sum of the present value of the firm's future cash flows, or \$9 million, and the accumulated cash used to fund the cash dividend of \$1 million, so the value of the firm's equity will equal \$10 million. Given that the firm has 500,000 shares outstanding, this means that the per share price of GoFast's stock will be \$20 immediately prior to the payment of the dividend. Once the dividend is paid, the ex-dividend value of the firm's shares will drop by the amount of the per share dividend, returning to \$18 (\$20 $-$ \$2). Thus, the Petty family will now have 50,000 shares valued at \$18 each for a value of \$900,000 plus a cash dividend of \$100,000 for a total of \$1 million.

If Alternative 2 is chosen, GoFast will repurchase \$1 million worth of its shares at the pre-cash distribution price of \$20 per share; hence, the number of shares repurchased will equal 50,000 shares (\$1,000,000 \div \$20). If the members of the Petty family are to maintain their percentage ownership, they will have to sell exactly 10 percent of their shares (Alternative 2-a). The reduced number of shares outstanding following the repurchase means that EPS will now be \$2.22 (\$1,000,000 \div 450,000 shares), so the value of each share will remain at \$20, which is the present value of the future dividend stream (100 percent of firm earnings) discounted using the cost of equity of the firm, which is 11.11 percent ($\$2.22 \div .1111 = \20).

⁵Because GoFast is expected to earn a level perpetuity cash flow per share of \$2.00 and the stock price is \$18.00, this implies a required rate of return on the firm's equity of 11.11 percent, or $\$2.00/\18.00 .

Table 16.1 Wealth Effects of Cash Distributions: Dividends and Share Repurchases

The following example illustrates that the common stockholder will not care whether the firm pays cash dividends or repurchases shares of stock because the economic consequences of the two cash distribution methods are the same for the stockholder.

Alternative 1—a \$1,000,000 cash dividend.

Alternative 2-a—a \$1,000,000 stock repurchase with the Petty family maintaining its percentage ownership of the firm by selling 10 percent of its shares.

Alternative 2-b—a \$1,000,000 stock repurchase with the Petty family's holdings climbing from 10 percent to 11.11 percent of the shares outstanding.

(Panel A) Firm Setting

	Current Situation	Alternative 1— Pay Dividend	Alternative 2-a— Repurchase/Pettys Sell Shares	Alternative 2-b— Repurchase/Pettys Retain Shares
Earnings	\$1,000,000			
Shares	500,000	500,000	450,000	450,000
Earnings per share	\$ 2.00	\$ 2.00	\$ 2.22	\$ 2.22
Cost of equity	11.11%			
Share price (predistribution)	\$ 18.00	\$ 20.00	\$ 20.00	\$ 20.00
Share price (postdistribution)		\$ 18.00	\$ 20.00	\$ 20.00
Equity value (market cap)	\$9,000,000	\$9,000,000	\$9,000,000	\$9,000,000

(Panel B) Wealth Effects on the Petty Family's 10% Holdings (No Taxes)

Cash distribution proceeds		\$ 100,000	\$ 100,000	\$ —
% share ownership of the Petty family	10%	10%	10.00%	11.11%
Shares held by the Petty family	50,000	50,000	45,000	50,000
Value of equity holdings	\$ 900,000	\$ 900,000	\$ 900,000	\$1,000,000
Wealth Effects of the Alternatives		Alternative 1— Pay Dividend	Alternative 2-a— Repurchase/Pettys Sell Shares	Alternative 2-b— Repurchase/Pettys Retain Shares
Cash distribution (dividends or sale of shares)		\$ 100,000	\$ 100,000	\$ —
Total value of shares held by the Petty family		<u>\$ 900,000</u>	<u>\$ 900,000</u>	<u>\$1,000,000</u>
Total cash plus value of shares		<u>\$1,000,000</u>	<u>\$1,000,000</u>	<u>\$1,000,000</u>

Under Alternative 2, the Petty family will receive \$100,000 from the sale of 5,000 shares for \$20 a share, the same amount of cash the family will receive from the dividend in Alternative 1. In addition, the Petty family will retain ownership of 10 percent of the firm's shares (just as in Alternative 1), and GoFast equity will still be worth \$9 million. So the Petty family should be indifferent between these two alternatives.

What will be the wealth effect for the members of the Petty family if they do not sell back any of their shares (Alternative 2-b)? Because there will be fewer shares of stock outstanding and the Pettys will still own 50,000 shares, they will own a bigger proportion of the company. As a result of the repurchase, the Pettys will now own 11.11 percent of the company ($50,000/450,000 = 11.11\%$), and because the value of the company will be \$9,000,000, the value of the Pettys' holdings will now be \$1.0 million ($\$9,000,000 \times 11.11\%$). Thus, the wealth effect of a stock repurchase where the Pettys retain all their shares (i.e., they do not participate in the repurchase) is the same as if GoFast paid a cash dividend or repurchased shares, including shares sold back by the Pettys.

Individual Investor Wealth Effects: Personal Taxes

We have just demonstrated that in the absence of transaction costs and personal taxes the Petty family will be indifferent between the alternatives of receiving a cash dividend payment and having the opportunity to sell shares to the firm in a share repurchase. However, this result can change if the tax consequences of the alternatives differ. Before we consider the tax consequences of the alternatives, here are some tax facts concerning dividends and stock repurchases:

Fact 1. All cash dividends received by individuals are taxable in the year in which they are received.

Fact 2. When an individual sells shares of stock, the only part of the cash payment received that is taxable is the gain in price over the original price that was paid for the shares (i.e., the original price is the tax basis used to determine whether there has been a gain or loss). So if you sell shares for \$20 that you bought earlier for \$18, then you will have to pay tax only on the gain of \$2, not the entire \$20.

Fact 3. If an individual investor decides not to sell his or her shares back to the company making the stock repurchase, he or she will not incur a taxable gain from the transaction because there was no sale. In this instance, the investor defers the tax that might eventually have to be paid on his or her gain in the shares.

Tax Treatment: Dividends and Capital Gains Taxed at 15 Percent

To illustrate the effect of differences in the tax treatments of dividend payments and share repurchases, we will first assume that both dividend income and the gain from the sale of shares of stock are taxed at the same 15 percent rate. For the tax year 2016, long-term capital gains and qualified dividends are taxed at the same rate, which for individuals in the 25 and 35 percent tax brackets is 15 percent. Table 16.2 contains the after-tax cash flow consequences of each of the alternative methods for distributing cash to shareholders that were introduced in Table 16.1.

In Panel A of Table 16.2, the tax basis for the Petty shares is zero, so the entire \$100,000 cash payment received for the 5,000 shares sold in the stock repurchase will be taxable at the 15 percent rate. Note that under Alternative 2-b, the Pettys will continue to own 50,000 shares of GoFast and will realize no cash distribution from their investment (and will not realize one until they sell shares in the future). Eventually, when the Pettys do sell the shares, they will pay taxes—but there is value in being able to defer those taxes into the future. Remember **P** Principle 1: **Money Has a Time Value**, which tells us that pushing a cash expenditure such as taxes further out into the future reduces its present value.

In Panel B of Table 16.2, we continue to tax dividends and capital gains at the same 15 percent rate. However, in this case, we assume that the Pettys initially paid \$20 per share (which is their tax basis), which means that when they sell the shares back to GoFast at \$20, there is no capital gain to be taxed. In this instance, the members of the Petty family will clearly prefer the repurchase plan, regardless of whether they sell the shares (2-a) or retain them (2-b), because they will not incur any taxes, whereas if they receive dividends, they will have to pay taxes on them.

Tax Treatment: What Happens if Dividends Are Taxed at a Higher Rate than Capital Gains

Prior to 2003, dividends were taxed as ordinary income, whereas capital gains were taxed at the capital gains tax rate. In addition, the capital gains tax rate for long-term capital gains (gains from the sale of securities held for more than one year) was lower than the ordinary income tax rate. Under this tax scenario, investor preference for share repurchases over cash dividends as a means of distributing corporate cash flow was even stronger. This was a result of the fact that the capital gains tax is based on the gain realized from the sale of shares, not the total value of the cash distribution, and the capital gains tax rate was lower than the rate at which ordinary income, including dividends, was taxed. The tax treatment of capital gains and dividends has changed several times in recent years.

Why Dividend Policy Is Important

We have just demonstrated that tax policy can influence an investor's preference for capital gains income that results from a share repurchase rather than income from cash dividends. However, there are other reasons why a firm might want to continue paying a cash dividend. We review a few of the more important ones in this section.

Table 16.2 Dividends Versus Share Repurchases with Personal Taxes

This example continues the analysis that began in Table 16.1 and considers the effect of personal taxes on the Petty family's shares in the GoFast Corporation. We use a 15 percent personal tax rate for both dividend income and capital gains resulting from the sale of shares for more than the amount originally paid for them (the tax basis). For the share repurchase alternative where the Pettys decide not to sell their shares, we assume they intend to hold the shares for a period of five years, at which time the Pettys will sell the shares and pay taxes on any capital gains.

Alternative 1—a \$1,000,000 cash dividend.

Alternative 2-a—a \$1,000,000 stock repurchase with the Petty family maintaining its percentage ownership of the firm by selling 10 percent of its shares.

Alternative 2-b—a \$1,000,000 stock repurchase with the Petty family's holdings climbing from 10 percent to 11.11 percent of the shares outstanding.

(Panel A) Tax Rates Equal 15% for Dividends and Capital Gains: Basis in Shares Sold Is \$0

Tax basis in shares	\$ 0		
Tax rate on dividends and capital gains	15%		
After-Tax Wealth Effects of the Alternatives	Alternative 1— 100% Dividend	Alternative 2-a— Repurchase/Pettys Sell Shares	Alternative 2-b— Repurchase/Pettys Retain Shares
Cash distribution (dividends or sale of shares)	\$100,000	\$ 100,000	\$ —
Less: Taxes	(15,000)	(15,000)	—
After-tax cash distribution	\$ 85,000	\$ 85,000	\$ —
Total value of shares held by the Petty family	900,000	900,000	1,000,000
Total cash plus value of shares	\$985,000	\$ 985,000	\$1,000,000

(Panel B) Tax Rates Equal 15% for Dividends and Capital Gains: Basis in Shares Sold Is \$20

Tax basis in shares	\$ 20.00		
Tax rate on dividends and capital gains	15%		
After-tax wealth effects of the alternatives	Alternative 1— 100% Dividend	Alternative 2-a— Repurchase/Pettys Sell Shares	Alternative 2-b— Repurchase/Pettys Retain Shares
Cash distribution	\$100,000	\$ 100,000	\$ —
Less: Taxes	(15,000)	—	—
After-tax cash distribution	\$ 85,000	\$ 100,000	\$ —
Total value of shares held by the Petty family	900,000	900,000	1,000,000
Total cash plus value of shares	\$985,000	\$1,000,000	\$1,000,000

Transactions Are Costly

Some investors—for example, retired individuals—like to receive cash dividends on a regular basis. Other investors prefer not to receive cash distributions. What happens when investors want to invest in a company whose dividend payout policy is not consistent with their preferences for dividends? As our previous examples illustrate, investors can in a sense mimic the dividend policy they prefer by reinvesting cash dividends if they do not want current income or by selling some of the shares they own to create cash income if the firm's dividend payout is less than they prefer.

If there were no taxes and investors did not incur transaction costs when they bought and sold shares, they could simply satisfy their personal income preferences by purchasing or selling securities when the dividends received did not satisfy their current needs. However, if taxes are incurred when dividends are paid and if there are costs to buying and selling shares, investors will prefer to select companies to invest in that pay dividends that match up with

their particular preferences. Individuals and institutions that need current income would be drawn to companies that have high dividend payouts, whereas individuals with no need for current income would be drawn to companies that pay no dividends.

Because firms with different dividends attract different **dividend clienteles** (groups of investors who prefer a firm's cash distribution policy), it is important that dividend policy remain somewhat stable. For example, a retired individual who bought ExxonMobil (XOM) for its steadily improving dividend might be disappointed if the firm suddenly decided to completely abandon dividends. Likewise, some Alphabet (GOOG) shareholders might be unhappy if Alphabet decided to suddenly start paying high dividends, exposing them to tax liabilities they might not have anticipated.

The Information Conveyed by Dividend and Share Repurchase Announcements

Investors and stock market analysts are constantly trying to decipher the information released by firms to better understand what it implies about firm values. This is simply a reflection of **P Principle 4: Market Prices Reflect Information**. As we mentioned in *Regardless of Your Major: Firms Almost Never Decrease Their Dividend* on page 560, firms tend to increase their dividends only when they believe the higher dividend can be sustained in the future. If this is the case, then a dividend increase is clearly good news. A share repurchase is also viewed very favorably because it shows investors that the firm has generated more money than it currently needs. Of course, the firm's accounting statements also convey information about the firm's recent success. However, accounting statements can be misleading—a cash payout is much easier to interpret.

The timing of large share repurchases also conveys information to shareholders. In a sense, when firms buy back their shares, they are making a bet—they would rather repurchase shares when the shares are underpriced versus overpriced. Hence, a share repurchase announcement implies that the firm has plenty of cash and, in addition, that it is a good time to repurchase equity.

The empirical evidence indicates that dividends and share repurchases do in fact convey information to investors. When firms announce that they will increase their dividends, their stock prices do tend to increase. Similarly, when firms announce that they are initiating a repurchase program, their stock prices tend to rise. In contrast, stock prices tend to decline when firms cut or eliminate their dividends. For instance, in February 2016, when ConocoPhillips announced that it was slashing its dividend by two-thirds, the company's shares dropped by almost 9 percent. This announcement of a dividend cut came as the company reported a fourth-quarter loss of \$3.45 billion, so it is difficult to say if the fourth-quarter results or the dividend cut caused the drop in the stock price, but as ConocoPhillips CEO Ryan Lance said, the decision to cut dividends was “gut-wrenching” but necessary if the the firm was to maintain its financial health.

The Information Conveyed by Stock Dividend and Stock Split Announcements

Announcements of stock dividends and splits also tend to generate positive stock returns. The fact that these announcements convey information to investors is somewhat more difficult to explain because stock dividends and splits have no effect on the firm's cash flows, and, as we have discussed, it is the cash flows that ultimately determine a firm's value.

There are two theories that have been suggested to explain why stock prices tend to respond favorably to these events. The first explanation relates to the notion that firms have a preferred trading range. We can glean some empirical support for the idea of a preferred trading range from the number of stock splits used by very successful high-growth firms—such as Walmart (WMT), which has split 2 for 1 on 11 different occasions since going public in 1970 and Dell Computer, which has split 3 for 2 once and 2 for 1 on 6 occasions between 1988 and 2013 when it was taken private. According to this theory, a firm that is currently priced at \$40/share but that has a preferred trading range from, say, \$20 to \$25 will be reluctant to instigate a 2-for-1 split if it sees bad news on the horizon that could possibly drop its share price below its preferred trading range. For this reason, investors tend to think that a split implies that there is not likely to be bad news on the horizon, which of course, is good news.

A second possibility follows from the fact that splits and stock dividends tend to attract attention. If you were the CEO of a company, when would you like to attract the attention of outside analysts and investors? Of course, you would not want to attract attention when you



Finance for Life

The Importance of Dividends

Over the long run, dividends have played a major role in determining the returns to common stock. For large-company stocks, around 35 percent of the annual returns over the period from 1926 through 2015 came from dividends. Is that a big deal? You bet! If you invested \$1 in a typical large-company stock at the beginning of 1926, from capital appreciation alone it would have grown to \$289. But if you had reinvested all the dividends and distributions you received, that \$1 would have grown to \$5,313—proof that dividends are definitely a big deal.

What does all this mean? Simply that if you want to use common stock to accumulate wealth, you must reinvest rather than

spending your dividends. Without reinvesting, your accumulation of wealth will be limited to the stock's capital gains. Unfortunately, many dividends may be small enough that you figure you might as well spend them on a pack of gum rather than reinvesting them.

One way to avoid buying too much gum and not enough stock is by participating in a dividend reinvestment plan, or DRIP. Under a DRIP, you're allowed to reinvest the dividend in the company's stock automatically without paying any brokerage fees. Most large companies offer such plans, and many stockholders take advantage of them. For example, nearly 40 percent of all PepsiCo (PEP) stockholders participate in DRIPs.

A DRIP is a great way to let your savings grow, but it's not without drawbacks. When you sell your stock, you'll have to figure out your income taxes—and that can be overwhelming. Each time you reinvest dividends, you're effectively buying additional shares of stock at a different price. Moreover, even though you don't receive any cash when your dividends are reinvested, you still have to pay income tax as if you actually received those dividends.

A final drawback is that you can't choose where to reinvest your own dividend. What if the company you've invested in is performing moderately well but you'd rather invest in another stock? Unfortunately, you're stuck reinvesting instead of trying something new. Despite these drawbacks, DRIPs appeal to many investors. Three sources of companies offering DRIPs are Standard & Poor's *Directory of Dividend Reinvestment Plans* and Evergreen Enterprises' *Directory of Companies Offering Dividend Reinvestment Plans*, both of which may be available at your library, along with the Computershare.com investor website.

Your Turn: See Study Question 16-8.

have something bad that you would like to hide. This suggests that any corporate-initiated action that attracts attention, even those with no direct effect on cash flows, is likely to be viewed favorably, since it suggests that the firm's top executives have nothing to hide.

Before you move on to 16.3

Concept Check | 16.2

1. What are the fundamental conditions or assumptions used by M&M to demonstrate the irrelevance of dividend policy?
2. Describe in simple terms why the timing of a firm's dividend payments that result from its dividend policy should not impact the value of its shares.
3. What is the tax treatment of the investor's dividend income, and what is the tax treatment of the investor's income resulting from the firm's stock repurchases?
4. How is it that share repurchases are *tax-favored* when compared to cash dividends even though the rate of tax paid on dividend income and capital gains income is the same?

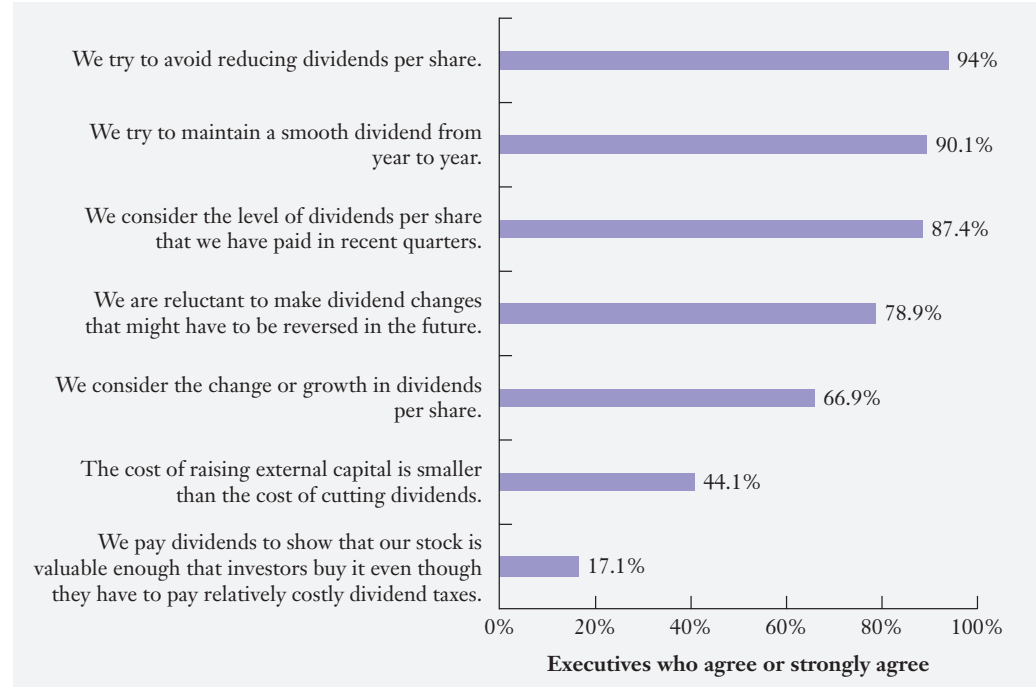
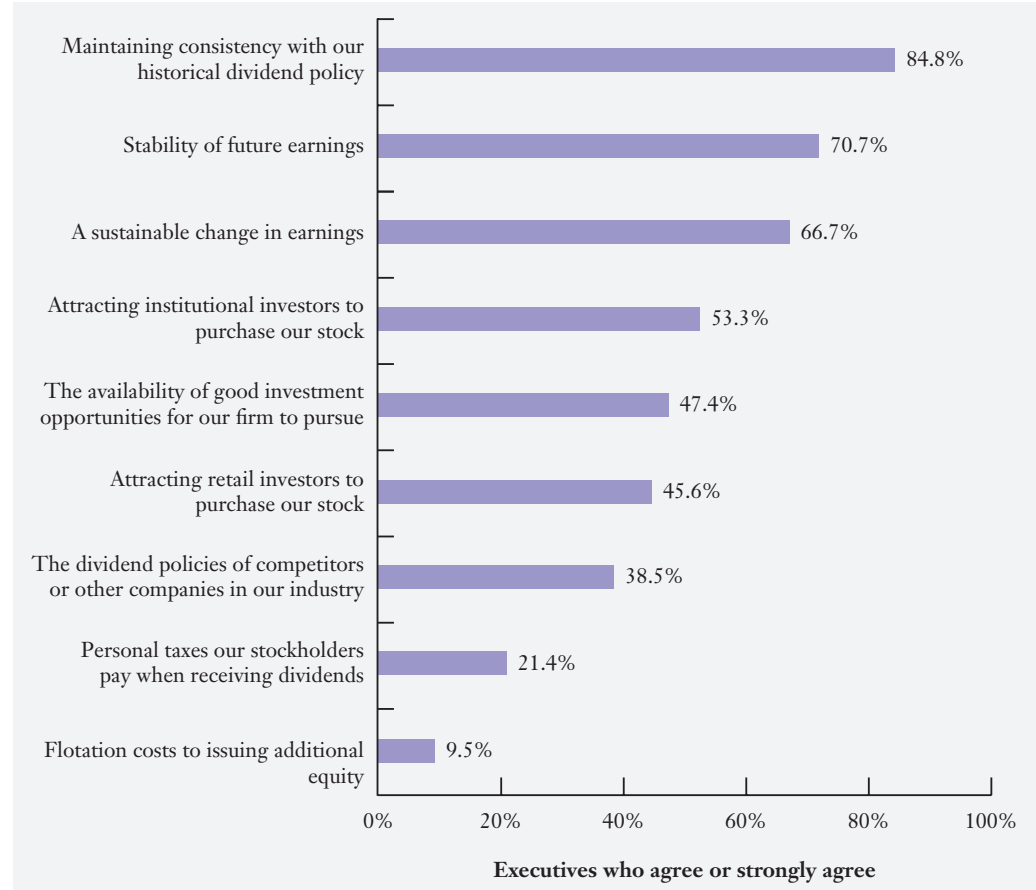
16.3

Cash Distribution Policies in Practice

Dividend policies followed in corporate practice are as varied as the companies that use them. However, there are some basic attributes of those policies that can help a firm calibrate its policy with the practices of other firms.

Stable Dividend Payout Policy

The responses to a recent survey of corporate CFOs provide us with some insight into how business executives think about dividend policy. The results reported in Panel A of Figure 16.3

Figure 16.3**Survey of CFO Opinions Regarding Dividend Policy Issues****(Panel A)** Agreement with Dividend Policy Statements**(Panel B)** Importance of Dividend Policy Statements

Source: A. Brav, J. R. Graham, C. R. Harvey, and R. Michaely, "Payout Policy in the 21st Century," *Journal of Financial Economics*, 77 (2005), 483–527.

indicate the percentages of survey respondents that agreed or strongly agreed with a number of statements about dividend policy. The top five policy statements reported in Panel A suggest that executives are very concerned about maintaining a consistent cash payout from year to year.

Panel B of Figure 16.3 provides a summary of some of the responses to the question “How important are the following factors to your company’s dividend decision?” Once again, the importance of maintaining consistency and stability is apparent in the statements that drew the highest ratings across the respondents. Therefore, the message from the corporate CFOs is that maintaining a consistent payout is very important.

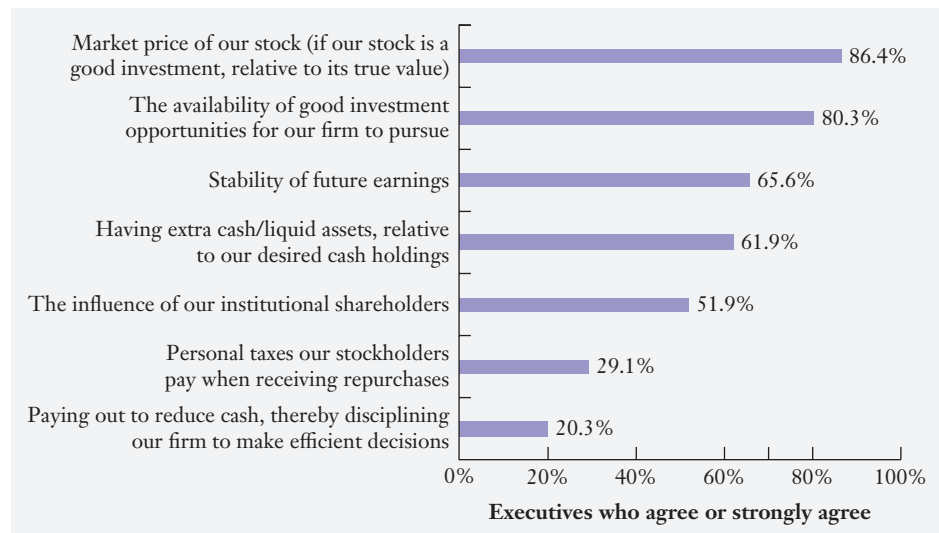
What about repurchase decisions? Figure 16.4 looks at the responses of executives to the question “How important are the following factors to your company’s repurchase decision?” Interestingly, the top two responses indicate that stock repurchase decisions are driven by the executive’s feeling that, first, the stock is a good investment relative to its true value and, second, there is a lack of good investment opportunities to pursue. In addition, among the other reasons given for stock repurchases, one was the tax rate that stockholders pay when they sell the shares that the firm repurchases.

Table 16.3 examines the factors that the executives viewed as important in deciding whether to distribute cash to shareholders in the form of dividends or repurchases. It adds to our understanding of the dividend versus repurchase decision by providing evidence that the flexibility of repurchases appears to be a major factor in the choice of repurchases as opposed to dividends. Not only is the historical level of cash distributions unimportant in repurchase decisions, but also repurchases provide flexibility, since executives express no need to match past repurchases. In particular, reducing repurchases from one year to the next does not seem to be viewed negatively, whereas the announcement of a repurchase plan tends to have a positive impact on stock prices.

The opinions of the corporate CFOs underscore a very important observation about corporate dividend policy in practice that was first documented by John Lintner more than 35 years ago. That is, firms try to maintain a steady cash payout that increases only when firm earnings are thought to be sufficient to support the higher payment with little risk of forcing the company to retreat. Figure 16.5 illustrates this phenomenon by comparing the percentage changes in dividends and earnings for stocks in the S&P 500 Index over the period 1960–2007. Note that the percentage change in dividends from year to year is always well within the bounds of the percentage change in firm earnings. Although dividends are increased and reduced in response to changes in firm earnings, the changes in dividends are almost always much smaller.

Figure 16.4

Factors Important to Your Company’s Repurchase Decision



Source: A. Brav, J. R. Graham, C. R. Harvey, and R. Michaely, “Payout Policy in the 21st Century,” *Journal of Financial Economics* 77 (September 2005): 483–527.

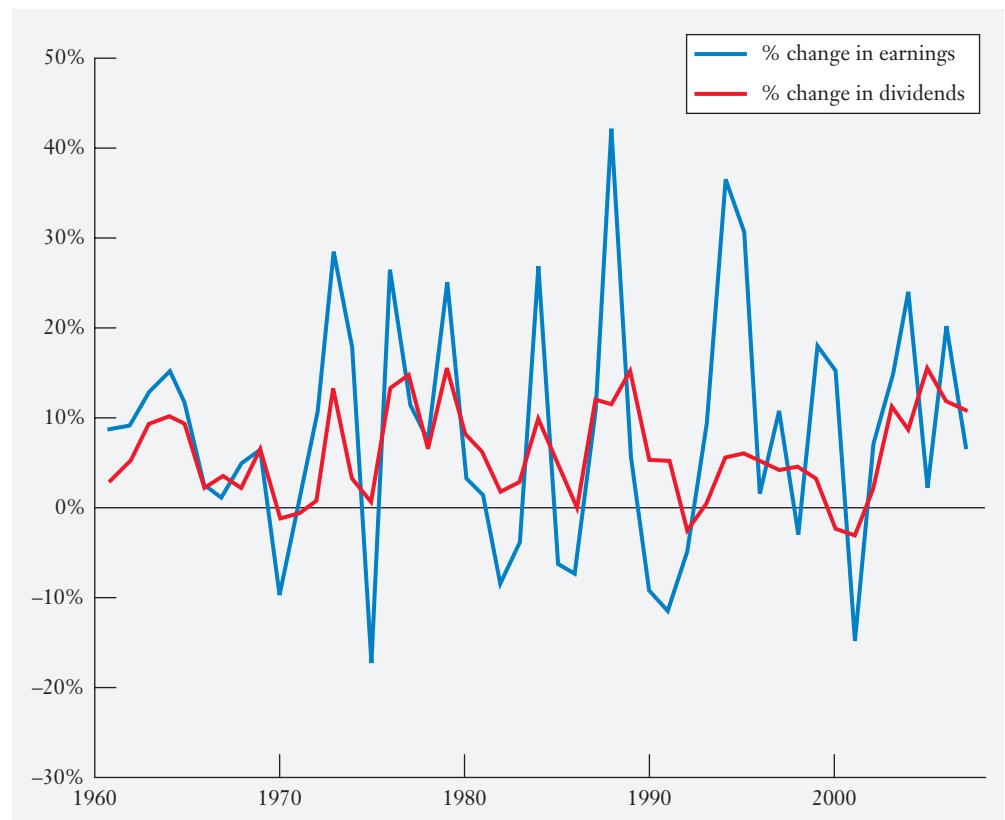
Table 16.3 Summary of Financial Executives' Views About Payout Policy

Dividends		Repurchases
Very important. Do not cut dividends except in extreme circumstances.	Historical Level	Historical level is not important.
Sticky. Inflexible. Smooth through time.	Flexibility	Very flexible. No need to smooth out.
Little reward for increasing.	Consequence if Increased	Stock price increases when repurchase plan announced.
Big market penalty for reducing or omitting.	Consequence if Reduced	Little consequence to reducing from one year to the next, although firms try to complete plans.
Most common target is the level of dividend, followed by payout ratio and growth in dividends. Target is viewed as rather flexible.	Target	Most common target is dollar amount of repurchases, a very flexible target.
External funds would be raised before cutting dividends.	Relation to External Funds	Repurchases would be reduced before raising external funds.
First maintain historical dividend level; then make incremental investment decisions.	Relation to Investment	First make investment decisions; then make repurchase decisions.
Dividend increases tied to permanent, stable earnings.	Earnings Quality	Repurchases increase with permanent earnings but also with temporary earnings.

Source: A. Brav, J. R. Graham, C. R. Harvey, and R. Michaely, "Payout Policy in the 21st Century," *Journal of Financial Economics* 77 (September 2005): 483–527.

Figure 16.5**Changes in Dividends in Response to Changes in Earnings, 1960–2007**

The changes in dividends and earnings are averages of the percentage changes in the 500 companies that make up the S&P 500 Index.



>> END FIGURE 16.5

Residual Dividend Payout Policy

Under the **residual dividend payout policy**, dividends are paid out of the residual earnings that are not needed to finance new investment opportunities. Although the residual dividend payout policy has some conceptual appeal, for example, it can reduce the transaction cost of simultaneously paying out cash flow to investors and raising capital to fund new investment, it can result in a volatile stream of dividend payments if the firm's earnings and investment opportunities vary a lot from year to year. As a result, there is an inherent conflict between the desire to pay out residual income and to have a stable dividend policy.

Other Factors Playing a Role in How Much to Distribute

In setting a firm's payout policy, financial managers must determine dividend policy in a world that does not fit the simplifying assumptions used to develop theory. So let us now take a look at some practical considerations that influence a firm's dividend policy.

Liquidity Position

The fact that a company shows a large amount of retained earnings on its balance sheet does not indicate that cash is available for the payment of dividends or the repurchase of stock. Historically, a company with sizable retained earnings has been successful in generating cash from operations, yet these funds are typically either reinvested in the company within a short period or used to pay maturing debt. Thus, a firm may be extremely profitable and still be cash poor. Because dividend payments and stock repurchases are made with cash and not with retained earnings, the firm must have sufficient cash available to make the payouts. Hence, the firm's liquidity position has a direct bearing on its ability to make payouts.

Lack of Other Sources of Financing

Many small or new companies do not have access to the capital markets, and as a result, they must rely on internally generated funds to finance their investment opportunities. As a consequence, the payout ratio is generally much lower for a small or newly established firm than for a large, publicly owned corporation.

Earnings Predictability

A company's payout ratio depends to some extent on the predictability of its profits over time. If earnings fluctuate significantly, management cannot rely on internally generated funds to meet future needs. When profits are realized, the firm may retain larger amounts to ensure that money is available when needed. Conversely, firms with stable earnings will typically pay out a larger portion of their earnings. These companies have less concern about the availability of profits to meet future capital requirements.

Before you begin end-of-chapter material

Concept Check | 16.3

1. Why is a stable payout policy for cash dividends preferred by so many firms?
2. What are the key factors considered by firms when determining their dividend payout policies?

Applying the Principles of Finance to Chapter 16

P Principle 1: **Money Has a Time Value** Pushing a cash expenditure such as taxes out into the future has value because of Principle 1. As a result, capital gains, which can result from share repurchase, hold an advantage to investors over dividend payments.

P Principle 3: **Cash Flows Are the Source of Value** Cash flows—regardless of whether they are received in the form of stock appreciation or dividends—are the source of value of the firm.

P Principle 4: **Market Prices Reflect Information** An increase or decrease in a firm's dividend policy can be a source of information to investors and, as such, can impact the firm's share price.

Chapter Summaries

16.1 Distinguish between the use of cash dividends and share repurchases.

(pgs. 560–564)

SUMMARY: Cash dividends are typically paid quarterly and represent a direct payment of cash to each of the firm's shareholders in direct proportion to the number of shares that she or he owns. Stock repurchases of the firm's shares, on the other hand, are typically made in the open market and result in a cash inflow to the shareholders who sell their shares to the company. The shareholders who do not sell their shares end up with the same number of shares as before but with a higher ownership percentage, as the share repurchase reduces the total number of common shares that are outstanding.

Stock dividends and stock splits have the same effect on the firm in that they both increase the number of shares outstanding and, as a result, the share price declines such that the total value of the firm's common shares is unchanged. For example, a 200 percent stock dividend is equivalent to a 2-for-1 stock split.

KEY TERMS

Cash dividend, page 560 Cash paid directly to stockholders.

Date of record, page 562 The date on which the company looks at its records to see who receives dividends.

Declaration date, page 562 The date on which a dividend is formally declared by the board of directors.

Dividend payout ratio, page 561 The total dollar amount of dividends relative to the company's net income.

Dividend policy, page 561 The firm's policy that determines how much cash it will distribute to its shareholders and when these distributions will be made.

Ex-dividend date, page 562 The date on which stock brokerage companies have uniformly decided to terminate the right of ownership to the dividend, which is two days prior to the date of record.

Open market repurchase, page 562

A method of repurchasing the firm's stock whereby the firm acquires the stock on the open market, often buying a relatively small number of shares every day, at the going market price.

Payment date, page 562 The date on which the company mails a dividend check to each investor of record.

Share or stock repurchase, page 560 Also called a stock buyback, the repurchase of common stock by the issuing firm for any of a variety of reasons, resulting in a reduction of shares outstanding.

Stock dividend, page 563 The distribution of shares of up to 25 percent of the number of shares currently outstanding, issued on a pro rata basis to the current stockholders.

Stock split, page 563 A stock dividend exceeding 25 percent of the number of shares currently outstanding.

Tender offer, page 562 A formal offer by the company to buy back a specified number of shares at a predetermined and stated price. The tender price is set above the current market price in order to attract sellers.

Concept Check | 16.1

1. What are the two forms of cash distributions that firms typically use?
2. What is the frequency with which cash dividends are typically paid to investors?
3. Identify three motives that might encourage a firm to buy back its common stock shares.
4. How is a stock dividend like a stock split, and why do financial managers sometimes use one or the other?

16.2 Understand the tax treatment of dividends and capital gains, and the conditions under which dividend policy is an important determinant of stock value. (pgs. 564–573)

SUMMARY: Historically, the personal tax code has had a built-in preference for capital gains income over dividends. Dividends were once taxed at the ordinary income tax rate, whereas capital gains (especially long-term gains) were taxed at preferentially lower taxes. Currently, the maximum tax rate on qualifying dividends and long-term capital gains (on stock held for 366 days or longer) is 15 percent for people in the 25 and 35 percent tax brackets and 20 percent for those above that. For those in the 10 and 15 percent tax brackets, there is no tax on qualifying dividends and long-term capital gains. In order to qualify for the lower taxes on dividends, you are required to hold the stock on which the dividends are paid for more than 60 days during the 120-day period that begins 60 days before the ex-dividend date. If you do not meet this qualification, the dividends are taxed like ordinary income.

A stock dividend is just like a cash dividend except that the dividend transfers new shares of the company's stock instead of cash. The net effect of the stock dividend is simply to increase the number of shares of stock the company has outstanding. For example, if the firm pays a 5 percent stock dividend, this increases the number of shares outstanding by 5 percent.

A stock split is a tool the firm can use to increase the number of shares outstanding by exchanging a larger number of shares for the existing shares held by each investor. For example, in a 2-for-1 split, the company issues two new shares in exchange for each share currently held. The net result is a doubling of the number of shares outstanding.

The firm's dividend payout decision does not have any effect on the value of the firm in the absence of taxes and when the firm's operating and investment policies are fixed (i.e., are not influenced by the decision to pay, or not to pay, a cash dividend). Specifically, neither the timing of the payment of cash dividends nor the form of the payment (cash dividend or stock repurchase) has an effect on firm value where the above conditions hold.

KEY TERM

Dividend clienteles, page 572 Groups of investors who prefer the firm's cash distribution policy.

Concept Check | 16.2

1. What are the fundamental conditions or assumptions used by M&M to demonstrate the irrelevance of dividend policy?
2. Describe in simple terms why the timing of a firm's dividend payments that result from its dividend policy should not impact the value of its shares.
3. What is the tax treatment of the investor's dividend income, and what is the tax treatment of the investor's income resulting from the firm's stock repurchases?
4. How is it that share repurchases are *tax-favored* when compared to cash dividends even though the rate of tax paid on dividend income and capital gains income is the same?

16.3 Describe corporate dividend policies that are commonly used in practice. (pgs. 573–577)

SUMMARY: Surveys of corporate executives involved in creating dividend payment policies reveal a strong preference for maintaining a stable dividend payout. Given the fact that a firm's earnings and, consequently, its ability to pay cash dividends fluctuate over time and with the business cycle, it is not surprising that cash dividend payments tend to lag earnings growth. Consequently, the typical practice is for a firm to increase its cash dividend payout only when its managers feel comfortable that they can sustain the higher dividend payment even under adverse conditions. Other factors that influence the dividend that a firm pays include the firm's liquidity or access to needed cash, its access to sources of cash in the event of an economic downturn, and its earnings predictability.

KEY TERM

Residual dividend payout policy, page 577 A payout policy whereby the company's dividend payment should equal the cash left after financing all the investments that have positive net present values.

Concept Check | 16.3

1. Why is a stable payout policy for cash dividends preferred by so many firms?
2. What are the key factors considered by firms when determining their dividend payout policies?

Study Questions

- 16–1. In the introduction, we pointed out that Emerson Electric Co. (EMR) had paid cash dividends for 53 consecutive years. Look up the company's cash dividend for the most recent year. What is the dividend for that year?
- 16–2. In *Regardless of Your Major: Firms Almost Never Decrease Their Dividend* on page 560, we learned that firms try to sustain their dividend payout even during economic downturns. Use the internet to determine what Royal Dutch Shell did with respect to its dividend in 2014 and 2015. (Hint: Google "Shell dividend information," and then click on "Historical dividend payments.") Why do you think Shell took this action?

- 16-3.** Explain what a firm's dividend policy is as if you were talking to your grandmother, who has had no formal education in business.
- 16-4.** A firm's dividend policy is generally characterized in terms of two attributes. Explain each.
- 16-5.** What is a stock dividend, and how is it similar to a stock split?
- 16-6.** Your colleague has 200 shares in Grisham PLC. He has just received a letter sent on behalf of the company informing him that the company has decided to issue 1 for 8 bonus shares for its shareholders and that for his 200 shares he will get an additional 25 shares as a bonus for no charge. The shares are traded at £12 each on LSE. Your colleague is excited that he is going to get shares worth £250 for free. Explain to him how a bonus issue works and whether the value of his holding in Grisham PLC has gone up.
- 16-7.** Zack Marsh just noticed that shares of Boyd Bank were sold "cum dividend" last Monday. He checked the same shares on Wednesday and found that they were now being sold as "ex-dividend" at a lower price. Boyd Bank was doing well, and there was no reason for the share prices to go down significantly in two days. He has now come to you for advice. Explain how dividend distribution works and how it may affect share prices.
- 16-8.** In *Finance for Life: The Importance of Dividends* on page 573, we learned about the importance of dividend reinvestment to creating personal wealth through investing in stocks. Many companies now offer dividend reinvestment plans. What are these plans, and how do they work?
- 16-9.** Jack has a small amount of shares in Gordon Housing PLC. The company has just decided on a share buyback scheme to reduce the outstanding shares by 15 percent. How will this affect the value of the shares owned by Jack?
- 16-10.** Why is a stable dividend payout policy popular from the viewpoint of the corporation? Is it also popular with investors? Why?
- 16-11.** What are the conditions in which a dividend policy is irrelevant for investors? In real life, the dividend policy of a firm is an important parameter for investors. Explain why, in practice, firms do not prefer to change their dividend policy.
- 16-12.** Your younger sister says that she only invests in companies that have good growth potential leading to an increase in share price, and dividends are not her main concern. However, your mother-in-law says that she only invests in companies that have a long history of regular dividend payment. Explain how the investors' individual preferences may make dividend policy an important variable in investment decisions.
- 16-13.** In 2016, the UK tax authorities allowed dividends of up to £5,000 to be tax exempt, while the tax-free allowance for capital gains was £11,500. How does such a tax structure affect the dividend policy of firms?

Study Problems

MyLab Finance

Go to www.myfinancelab.com to complete these exercises online and get instant feedback.

How Do Firms Distribute Cash?

- 16–1. (Using the dividend payout ratio)** Calculate the cash dividend paid per share for each of the firms in the following table using their earnings per share and dividend payout ratio:

Company	Dividend Payout Ratio	Earnings per Share
Emerson Electric Co (EMR)	85%	\$2.23
Intel Corporation (INTC)	40%	\$2.43
Walmart Stores Inc. (WMT)	43%	\$4.53

- 16–2. (Calculating the dividend payout ratio)** Great Mineral PLC paid out €3,800,000 as dividend for the financial year that ended in February 2016. They made a net profit of €15,320,000 in the same year. The management wants to maintain the same dividend payout ratio for the next financial year ending in February 2017. Great Mineral PLC has forecasted a profit of €38,560,000 for the financial year ending in February 2017. If their forecasts are accurate, how much dividend do they need to declare to maintain the same dividend payout ratio?
- 16–3. (Calculating the ex-dividend stock price)** Fox Metal PLC has issued a press release declaring a dividend of £1.30 per share and the recording date as October 12. James May bought 10 shares of Fox Metal on October 5 for £32 each. The Fox Metal PLC dividend policy suggests that the shareholders should be registered on the recording date to be eligible for dividend. What type of shares did James May buy: ex-dividend or cum-dividend? How likely are the stock prices to change after the recording date? Why?
- 16–4. (Calculating the ex-dividend stock price)** Kingwood Corporation has a stock price of \$120 per share and is contemplating the payment of a large, one-time cash dividend of \$40 per share. The underlying motivation for the large payout comes from management's belief that the firm has more cash than it can profitably reinvest and that keeping the cash will adversely affect the incentives of the workforce to strive to create shareholder value. Consequently, the firm's management has decided to pay the large cash dividend. What do you think the ex-dividend-date price of the company's shares will be? If the firm's management is right about the stimulating effect of disgorging cash, do you think that the drop in stock price after the ex-dividend date will be smaller than otherwise expected? Why or why not?
- 16–5. (Calculating the ex-dividend stock price)** The board of the Great Outdoor Tweed Company has decided to offer a 1 for 4 bonus issue to their shareholders. The current share price is £8 per share. What do you expect the ex-bonus share prices to be?
- 16–6. (Calculating the stock dividend)** Eastern Bank Limited is a retail bank based in India and has shown consistent good performance in recent years. The board of the bank has now raised concerns over the effects of the high share price of ₹6,400 per share. They feel that such a high share price is likely to make their shares less liquid and more unattractive for smaller investors. A range of ₹1,000 to ₹1,500, they argue, would be a good price range to make it sufficiently liquid and attractive. The CFO has suggested that they should make a bonus issue to achieve this objective. What should the bonus issue be to achieve the desired changes in the share price?
- 16–7. (Determining the size of a stock split)** Reconsider the issue faced by the board of Eastern Bank Limited in Study Problem 16–6. Their investment banker has advised that they opt for a stock split rather than a bonus issue. If the board decides on a stock split, how many new shares will need to be created for each of the existing shares of Eastern Bank Limited?
- 16–8. (Calculating share price after stock splits and stock dividends)** Munch Nachos Limited has a chain of restaurants serving Mexican and Continental food across Southeast Asia. They are listed on the Singapore Stock Exchange and have an ordinary issued capital of

\$1,600,000 in shares with a face value of 20 cents each. The current market price of each share is \$15. What will happen to the share price of Munch Nacho if the board decides to opt for

- a “1 for 5” bonus offer?
- a “1 for 5” rights issue at the issue price of \$11 per right share?
- a “3 for 1” stock split?

What would be the total number of shares outstanding in the end for each of the proposal in a, b, and c?

- 16–9. (Analyzing the effects of cash dividends)** Marshall Pottery Barn is a privately owned importer of Mexican pottery and garden supplies. The firm plans on paying a \$1.50 per share dividend on each of its 5,000 shares of common stock. The firm’s most recent balance sheet just before payment of the dividend looks like the following:

Cash	\$ 18,000	Accounts payable	\$ 22,000
Accounts receivable	22,000	Notes payable	5,000
Inventories	30,000	Current liabilities	\$ 27,000
Current assets	\$ 70,000	Long-term debt	33,000
Fixed assets	130,000	Equity	140,000
Total assets	\$200,000	Total	\$200,000

- What will happen to the firm’s balance sheet after payment of the cash dividend?
- If the above balance sheet represents market values (as well as book values), how will it change following the payment of the cash dividend?

- 16–10. (Calculating taxes on a stock repurchase)** The UK tax system provides an £11,100 tax-free allowance on capital gains. Boris Cameron bought 3,000 shares of Primrose PLC at £12 per share and sold them after six months at £20 per share. What will be the final profit if Boris has an applicable rate of 20 percent of capital gains tax (CGT) over his allowance for capital gains?

- 16–11. (Calculating taxes on a cash dividend)** Assume that Boris does not have any other income falling under CGT other than what is mentioned in Study Problem 16–10. He knows that the official tax year in the United Kingdom ends on April 5. What can he do to minimize his tax liability if he has plans to sell his shares between March 31 and April 10?

Does Dividend Policy Matter?

- 16–12. (Analyzing dividend irrelevance in the timing of cash dividends) (Related to Checkpoint 16.1 on page 567)** (The Caraway Seed Company sells specialty gardening seeds and products primarily to mail-order and internet customers. The firm has \$200,000 available for distribution as a cash dividend immediately and plans to shut down its business at the end of one year, at which time it will pay a liquidating dividend of \$1.2 million to the firm’s shareholders. The firm’s shareholders require a 10 percent rate of return for investing in the all-equity-financed firm.

- What do you estimate the value of Caraway’s equity to be today if it pays out a \$200,000 cash dividend today and plans to pay a \$1.2 million liquidating dividend at the end of the year?
- If Caraway’s board of directors decides to pay a \$600,000 dividend today to its existing shareholders, selling new shares of common stock to raise the additional \$400,000 it needs to pay the cash dividend, what will be the value of the existing shares of stock? The new shares?

- 16–13. (Analyzing dividend irrelevance in the timing of cash dividends) (Related to Checkpoint 16.1 on page 567)** After more than 40 years of operation, the Tyler Brick Manufacturing Company has decided it is time to shut down the business. The firm has \$125,000 available for distribution as a cash dividend immediately and plans to shut down its business at the end of one year, at which time it will pay a liquidating dividend of \$14 million to the firm’s shareholders. The firm’s shareholders require a 15 percent rate of return for investing in the all-equity-financed firm.

- a. What do you estimate the value of Tyler's equity to be today if it pays out a \$125,000 cash dividend today and plans to pay out a \$14 million liquidating dividend at the end of the year?
- b. If Tyler's board of directors decides to pay a \$1,000,000 dividend today to its existing shareholders, selling new shares of common stock to raise the additional \$875,000 it needs to pay the cash dividend, what will be the value of the existing shares of stock? The new shares?

Mini-Case

You've been working for the local newspaper for several years, and you've finally got your own column, "Finance Questions: Ask the Expert." Your job is to field readers' questions that deal with finance. This week you are going to address two questions from your readers that have to do with dividends:

Question 1. I own 8 percent of the Standlee Corporation's 30,000 shares of common stock, which most recently traded for a price of \$98 per share. The company has since declared its plans to engage in a 2-for-1 stock split.

- a. What will my financial position be after the stock split compared to my current position? (Hint: Assume the stock price falls proportionately.)
- b. The executive vice president in charge of finance believes that the price will not fall in proportion to the size of the split but rather will fall only 45 percent because the presplit price is above the optimal price range. If she is correct, what will be my net gain from the split?

Question 2. I am on the board of directors of the B. Phillips Corporation, and Phillips has announced its plan to pay dividends of \$550,000. Presently, there are 275,000 shares outstanding, and the earnings per share are \$6. It looks to me like the stock should sell for \$45 after the ex-dividend date. I wonder what the result would be if the management decided to repurchase stock instead of paying a dividend?

- a. What would be the repurchase price that would be equivalent to the proposed dividend (ignoring any tax effects)?
- b. How many shares should the company repurchase?
- c. I want to look out for the small shareholders. If someone owns 100 shares, do you think she or he would prefer that the company pay the dividend or repurchase stock?