



CFA Institute

CORPORATE FINANCE

CFA[®] Program Curriculum
2027 • LEVEL II • VOLUME 4

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The CFA® Program exams measure your mastery of the core knowledge, skills, and abilities required to succeed as an investment professional. These core competencies are the basis for the Candidate Body of Knowledge (CBOK™). The CBOK consists of four components:

A broad outline that lists the major CFA Program topic areas (www.cfainstitute.org/programs/cfa/curriculum/cbok/cbok)

Topic area weights that indicate the relative exam weightings of the top-level topic areas (www.cfainstitute.org/en/programs/cfa/curriculum)

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An orderly, systematic approach to exam preparation is critical. You should dedicate a consistent block of time every week to reading and studying. Review the LOS both before and after you study curriculum content to ensure you can demonstrate

the knowledge, skills, and abilities described by the LOS and the assigned learning module. Use the LOS as a self-check to track your progress and highlight areas of weakness for later review.

Successful candidates report an average of more than 300 hours preparing for each exam. Your preparation time will vary based on your prior education and experience, and you will likely spend more time on some topics than on others.

ERRATA

The curriculum development process is rigorous and involves multiple rounds of reviews by content experts. Despite our efforts to produce a curriculum that is free of errors, we must make corrections in some instances. Curriculum errata are periodically updated and posted by exam level and test date on the Curriculum Errata webpage (www.cfainstitute.org/en/programs/submit-errata). If you believe you have found an error in the curriculum, you can submit your concerns through our curriculum errata reporting process found at the bottom of the Curriculum Errata webpage.

OTHER FEEDBACK

Please send any comments or suggestions to info@cfainstitute.org, and we will review your feedback thoughtfully.

Corporate Finance

LEARNING MODULE

1

Analysis of Dividends and Share Repurchases

by Gregory Noronha, PhD, CFA, and George H. Troughton, PhD, CFA.

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LEARNING OUTCOMES

<i>Mastery</i>	<i>The candidate should be able to:</i>
☐	describe the expected effect of regular cash dividends, extra dividends, liquidating dividends, stock dividends, stock splits, and reverse stock splits on shareholders' wealth and a company's financial ratios
☐	compare theories of dividend policy and explain implications of each for share value given a description of a corporate dividend action
☐	describe types of information (signals) that dividend initiations, increases, decreases, and omissions may convey
☐	explain how agency costs may affect a company's payout policy
☐	explain factors that affect dividend policy in practice
☐	calculate and interpret the effective tax rate on a given currency unit of corporate earnings under double taxation, dividend imputation, and split-rate tax systems
☐	compare stable dividend with constant dividend payout ratio, and calculate the dividend under each policy
☐	describe broad trends in corporate payout policies
☐	compare share repurchase methods
☐	calculate and compare the effect of a share repurchase on earnings per share when 1) the repurchase is financed with the company's surplus cash and 2) the company uses debt to finance the repurchase
☐	calculate the effect of a share repurchase on book value per share

LEARNING OUTCOMES

<i>Mastery</i>	<i>The candidate should be able to:</i>
☐	explain the choice between paying cash dividends and repurchasing shares
☐	calculate and interpret dividend coverage ratios based on 1) net income and 2) free cash flow
☐	identify characteristics of companies that may not be able to sustain their cash dividend

1

DIVIDENDS: FORMS AND EFFECTS ON SHAREHOLDER WEALTH AND FINANCIAL RATIOS

- ☐ describe the expected effect of regular cash dividends, extra dividends, liquidating dividends, stock dividends, stock splits, and reverse stock splits on shareholders' wealth and a company's financial ratios

This learning module covers the features and characteristics of dividends and share repurchases as well as the theory and practice of corporate payout policy. A **dividend** is a distribution paid to shareholders. Dividends are declared (i.e., authorized) by a corporation's board of directors, whose actions may require approval by shareholders (e.g., in most of Europe) or may not require such approval (e.g., in the United States). Shares trading **ex-dividend** refers to shares that no longer carry the right to the next dividend payment. The **ex-dividend date** is the first date that a share trades without (i.e., "ex") this right to receive the declared dividend for the period. All else holding constant, on the ex-dividend date the share price can be expected to drop by the amount of the dividend. In contrast to the payment of interest and principal on a bond by its issuer, the payment of dividends is discretionary rather than a legal obligation and may be limited in amount by legal statutes and debt contract provisions. Dividend payments and interest payments in many jurisdictions are subject to different tax treatment at both the corporate and personal levels.

In this learning module, we focus on dividends on common shares (as opposed to preferred shares) paid by publicly traded companies. A company's **payout policy** is the set of principles guiding cash dividends and the value of shares repurchased in any given year. Payout policy (also called distribution policy) is more general than dividend policy because it reflects the fact that companies can return cash to shareholders by means of share repurchases and cash dividends. One of the longest running debates in corporate finance concerns the impact of a company's payout policy on common shareholders' wealth. Payout decisions, along with financing (capital structure) decisions, generally involve the board of directors and senior management and are closely watched by investors and analysts.

Dividends and share repurchases concern analysts because, as distributions to shareholders, they affect investment returns and financial ratios. The contribution of dividends to total return for stocks is formidable. For example, the total compound annual return for the S&P 500 Index with dividends reinvested from the beginning of 1926 to the end of 2018 was 10.0%, as compared with 5.9% on the basis of price alone. Similarly, from 1950 to 2018 the total compound annual return for the Nikkei

225 Index with dividends reinvested was 11.1%, as compared with 8.0% on the basis of price alone. Dividends also may provide important information about future company performance and investment returns. Analysts should strive to become familiar with all investment-relevant aspects of dividends and share repurchases.

Dividends: Forms and Effects on Shareholder Wealth and Issuing Company's Financial Ratios

Companies can pay dividends in a number of ways. Cash dividends can be distributed to shareholders through regular, extra (also called special or irregular), or liquidating dividends. Other forms of dividends include stock dividends and stock splits. In this section, we review the different forms that dividends can take and explain their impact on both the shareholder and the issuing company.

Regular Cash Dividends

Many companies choose to distribute cash to their shareholders on a regular schedule. The customary frequency of payment, however, may vary among markets. In the United States and Canada, most companies that pay dividends choose a quarterly schedule of payments, whereas in Europe and Japan, the most common choice is to pay dividends twice a year (i.e., semiannually). Elsewhere in Asia, companies often favor paying dividends once a year (i.e., annually). Exhibit 1 summarizes typical dividend payment schedules for selected markets.

Exhibit 1: Geographic Differences in Frequency of Payment of Cash Dividends

Market	Most Common Frequency
Canada, United States	Quarterly
Australia, Japan, Saudi Arabia	Semiannually
Egypt, Germany, Thailand	Annually

Most companies that pay cash dividends strive to maintain or increase their dividends. A record of consistent dividends over a long period of time is important to many companies and shareholders because it is widely interpreted as evidence of consistent profitability. At a minimum, most dividend-paying companies strive not to reduce dividends when they are experiencing temporary problems.

Regular dividends, and especially increasing regular dividends, also signal to investors that their company is growing and will share profits with its shareholders. Perhaps more importantly, management can use dividend announcements to communicate confidence in the company's future. Accordingly, an increase in the regular dividend (especially if it is unexpected) often has a positive effect on share price.

Extra or Special (Irregular) Dividends

An **extra dividend** or **special dividend** (also known as an irregular dividend) is either a dividend paid by a company that does not pay dividends on a regular schedule or a dividend that supplements regular cash dividends with an extra payment. These extra dividend payments may be brought about by special circumstances. For example, in December 2018 Hong Kong Stock Exchange-listed Tencent Holdings, a leading provider of internet value-added services, declared a special dividend of HKD250 million to its shareholders after its spin off Tencent Music went public in New York. This special dividend was approximately 3.5% of Tencent's annual dividend. Like

many high-growth technology companies, Tencent had a history of paying very low dividends—with a yield of just 0.26% for 2018 (compared to an average of 4.6% for all stocks listed on the Hong Kong Stock Exchange).

Companies, particularly in cyclical industries, have sometimes chosen to use special dividends as a means of distributing more earnings only during strong earnings years. During economic downturns, when earnings are low or negative, cash that might otherwise be used for dividends is conserved. For example, a company may choose to declare a small regular dividend, and then when operating results are good, it may declare an extra dividend at the end of the year. In May 2018, Mumbai-listed Ingersoll-Rand (India) Ltd, a diversified industrial manufacturer, declared a special “second interim” dividend of 202 Indian rupees (INR) in addition to the regular annual INR6 dividend, whereas for the prior two decades, the company had paid only the regular INR6 dividend (excepting a special 2011 INR24 dividend). The 2018 second interim dividend was paid out of current year profits and accumulated surpluses from earlier years. At the time, the company’s reported year-on-year net profit growth was 25%.

Example 1 concerns a hypothetical company with a stated **dividend policy**—the strategy a company follows to determine the amount and timing of dividend payments—regarding the payment of extra dividends. In the example, the **dividend payout ratio** refers to common share cash dividends divided by net income available to common shares over the same time period.

EXAMPLE 1

AfriSage Technologies’ Dividend Policy

AfriSage Technologies (AST), a hypothetical company, is a leading provider of commercial and enterprise software solutions in Southern African Development Community (SADC) countries. AST’s financial data are reported in South African Rand (ZAR). In November 2017, AfriSage’s board of directors modified its dividend policy, stating:

“The company will target an investment-grade, long-term credit rating to secure strategic financial flexibility for investments in future growth. The ordinary dividend shall be at least 35% of net income. Excess capital will be returned to shareholders after the board has taken into consideration the company’s cash at hand, projected cash flow, and planned investment from a medium-term perspective as well as capital market conditions.”

Selected AfriSage Financial per Share Data

	2018	2017
Shares outstanding	632.5 million	632.5 million
Earnings per share	ZAR14.23	ZAR12.65
Cash dividends per share	ZAR7.61	ZAR10.68

1. Calculate the cash dividend payout ratio for 2018 and 2017.

Solution:

With the same number of shares outstanding, the dividend payout ratio on a per share basis is dividends per share divided by earnings per share.

For 2018: $\text{ZAR}7.61/\text{ZAR}14.23 = 53.5\%$.

For 2017: $\text{ZAR}10.68/\text{ZAR}12.65 = 84.4\%$.

2. Assuming the board's new dividend policy became effective in 2018, calculate the amount of the annual ordinary dividend on the basis of AfriSage's minimum payout policy in 2018 and the amount that could be considered an extra dividend.

Solution:

Under a policy of 35% of earnings, the minimum amount of dividends would be $\text{ZAR}14.23 \times 0.35 = \text{ZAR}4.98$. The amount of the extra dividend would then be $\text{ZAR}7.61 - \text{ZAR}4.98 = \text{ZAR}2.63$.

Liquidating Dividends

A dividend may be referred to as a **liquidating dividend** when a company:

- goes out of business and the net assets of the company (after all liabilities have been paid) are distributed to shareholders;
- sells a portion of its business for cash and the proceeds are distributed to shareholders; or
- pays a dividend that exceeds its accumulated retained earnings (impairs stated capital).

These points illustrate that a liquidating dividend is a return of capital rather than a distribution from earnings or retained earnings.

Stock Dividends

Stock dividends are a non-cash form of dividends. With a **stock dividend** (also known as a **bonus issue of shares** or a scrip dividend), the company distributes additional shares (typically 2–10% of the shares then outstanding) of its common stock to shareholders instead of cash. Although the shareholder's total cost basis remains the same, the cost per share held is reduced. For example, if a shareholder owns 100 shares with a purchase price of US\$10 per share, the total cost basis would be US\$1,000. After a 5% stock dividend, the shareholder would own 105 shares of stock at a total cost of US\$1,000. However, the cost per share would decline to US\$9.52 ($\text{US\$}1,000/105$).

Superficially, the stock dividend might seem an improvement on the cash dividend from both the shareholders' and the company's point of view. Each shareholder ends up with more shares, which did not have to be paid for, and the company did not have to spend any actual money issuing a dividend. Furthermore, stock dividends are generally not taxable to shareholders because a stock dividend merely divides the "pie" (the market value of shareholders' equity) into smaller pieces. The stock dividend, however, does not affect the shareholder's proportionate ownership in the company because other shareholders receive the same proportionate increase in shares. Additionally, the stock dividend does not change the value of each shareholder's ownership position because the increase in the number of shares held is accompanied by an offsetting decrease in earnings per share, and other measures of value per share, resulting from the greater number of shares outstanding.

The second point is illustrated in Exhibit 2, which shows the impact of a 3% stock dividend to a shareholder who owns 10% of a company with a market value of US\$20 million. As one can see, the market value of the shareholder's wealth does not change, assuming an unchanged **price-to-earnings ratio** (the ratio of share price, P , to earnings per share, E , or P/E). That assumption is reasonable because a stock dividend does not alter a company's asset base or earning power. (As the reader will see shortly, the same is true of a stock split.) The total market value of the company is unaffected by the stock dividend because the decrease in the share price is exactly offset by the increase in the number of shares outstanding.

Exhibit 2: Illustration of the Effect of a Stock Dividend

	Before Dividend	After Dividend
Shares outstanding	1,000,000	1,030,000
Earnings per share	US\$1.00	US\$0.97 (1,000,000/1,030,000)
Stock price	US\$20.00	US\$19.4175 (20 × 0.9709)
P/E	20	20
Total market value	US\$20 million	US\$20 million (1,030,000 × US\$19.4175)
Shares owned	100,000 (10% × 1,000,000)	103,000 (10% × 1,030,000)
Ownership value	US\$2,000,000 (100,000 × US\$20)	US\$2,000,000 (103,000 × US\$19.4175)

Note: The exhibit shows intermediate results rounded to four decimal places, but final results are based on carrying intermediate results at full precision.

Companies that regularly pay stock dividends see some advantages to this form of dividend payment. It favors long-term investors, which, in turn, may lower the company's cost of equity financing. The payment of a stock dividend also helps increase the stock's float, which improves the liquidity of the shares and dampens share price volatility.

A traditional belief is that a lower stock price will attract more investors, all else equal. US companies often view the optimal share price range as US\$20 to US\$80. For a growing company, payment of a regular stock dividend is more likely to help keep the stock in the "optimal" range. In February 2019, for example, Massmart—the second-largest distributor of consumer goods in Africa—changed its established policy of paying interim and final dividends in cash and instead declared a scrip dividend for the 2018 final dividend. When the company pays the same dividend rate on the new shares as it did on the old shares, a shareholder's dividend income increases; however, the company could have accomplished the same result by increasing the cash dividend.

From a company's perspective, the key difference between a stock dividend and a cash dividend is that a cash dividend affects a company's capital structure, whereas a stock dividend has no economic impact on a company. Cash dividends reduce assets (because cash is being paid out) and shareholders' equity (by reducing retained earnings). All else equal, liquidity ratios, such as the cash ratio (cash and short-term marketable securities divided by current liabilities) and current ratio (current assets divided by current liabilities), should decrease, reflecting the reduction in cash. Financial leverage ratios, such as the debt-to-equity ratio (total debt divided by total shareholders' equity) and debt-to-assets ratio (total debt divided by total assets), should also increase. Stock dividends, on the other hand, do not affect assets or shareholders' equity. Although retained earnings are reduced by the value of the stock dividends paid (i.e., by the number of shares issued × price per share), contributed capital increases by the same amount (i.e., the value of the shares issued). As a result, total shareholders' equity does not change. Neither stock dividends nor stock splits (which are discussed in the next section) affect liquidity ratios or financial leverage ratios.

Stock Splits

Stock splits are similar to stock dividends in that they have no economic effect on the company, and the shareholders' total cost basis does not change. For example, if a company announces a two-for-one stock split, each shareholder will be issued an additional share for each share currently owned. Thus, a shareholder will have twice as many shares after the split as before the split. Therefore, earnings per share (and

all other per share data) will decline by half, leaving the P/E and equity market value unchanged. Assuming the corporation maintains the same dividend payout ratio as before the split, **dividend yield** (annual dividends per share divided by share price) will also be unchanged. Apart from the effect of any information or benefit that investors perceive a stock split to convey, stock splits (like stock dividends) should be neutral in their effect on shareholders' wealth.

Although two-for-one and three-for-one stock splits are the most common, such unusual splits as five-for-four or seven-for-three sometimes occur. It is important for shareholders to recognize that their wealth is not changed by the stock split (just as it was not changed for a stock dividend, all else equal). Exhibit 3 shows an example of a two-for-one split and its impact on stock price, earnings per share, dividends per share, dividend payout ratio, dividend yield, P/E, and market value.

Exhibit 3: Before and After a Two-for-One Stock Split

	Before Split	After Split
Number of shares outstanding	4 million	8 million
Stock price	€40.00	€20.00 (€40/2)
Earnings per share	€1.50	€0.75 (€1.50/2)
Dividends per share	€0.50	€0.25 (€0.50/2)
Dividend payout ratio	1/3	1/3
Dividend yield	1.25%	1.25% (€0.25/€20.00)
P/E	26.7	26.7 (€20.00/€0.75)
Market value of equity	€160 million	€160 million (€20.00 × 8 million)

As can be seen, a two-for-one stock split is basically the same as a 100% stock dividend because all per share data have been reduced by 50%. The only difference is in the accounting treatment: Although both stock dividends and stock splits have no effect on total shareholders' equity, a stock dividend is accounted for as a transfer of retained earnings to contributed capital. A stock split, however, does not affect any of the balances in shareholder equity accounts.

A company may announce a stock split at any time. Typically, a split is announced after a period in which the stock price has risen. Many investors view the announcement of a stock split as a positive sign pointing to future stock price increases. More often, however, announced stock splits merely recognize that the stock has risen enough to justify a stock split to return the stock price to a lower, more marketable price range and generally should not be taken to be a meaningful predictor of future price action.

Much less common than stock splits are reverse stock splits. A **reverse stock split** increases the share price and reduces the number of shares outstanding—again, with no effect on the market value of a company's equity or on shareholders' total cost basis. Just as a high stock price might lead a company to consider a stock split, so too a low stock price may lead a company to consider a reverse stock split. The objective of a reverse stock split is to increase the price of the stock to a higher, more marketable range. As reported in *Barron's*, companies execute reverse splits "to attract institutional investors and mutual funds that often shy from buying stocks trading below US\$5." Reverse stock splits are perhaps most common for companies in, or coming out of, financial distress. Kitov Pharma, an Israeli drug developer, announced a 1-for-20 reverse split in December 2018, reducing its issued shares to 16 million, in order to meet minimum share price listing criteria to begin trading on the Tel Aviv Stock Exchange and to begin the trading of its ADRs on the NASDAQ in January 2019.

Reverse splits, historically less common in Asia, are becoming more popular. For example, reverse stock splits were not permitted in Japan under Corporation Law until 2001, but since 2007, they have been actively encouraged by the Tokyo Stock Exchange (TSE) to meet the TSE's objective of standardizing trading lot size to 100 shares for listed companies by 1 October 2018. While most companies were compliant by the deadline, on that date 23 companies reduced their trading lot size to 100 shares by carrying out reverse stock splits. As an example, in May 2018 Fuji Electric Co. Ltd announced that it would conduct a 1-for-5 reverse stock split on 1 October 2018 to adjust the unit of investment in the company to a level deemed desirable by the TSE (between ¥50,000 and ¥500,000).

EXAMPLE 2

Globus Maritime Announces a Reverse Split

In May 2018, Globus Maritime Ltd, a Greek dry bulk shipping company providing worldwide maritime transportation services, was warned by NASDAQ that it no longer met the continuing listing requirements once its share price had traded below the US\$1 per share minimum price requirement for 30 consecutive business days. Globus was given until the end of October 2018 to regain compliance. Globus announced a 1-for-10 reverse split to occur on 15 October. On 12 October, before the reverse split took place, shares were trading at US\$4.25.

1. If the reverse split were to take place when the share price was US\$4.25, find the expected stock price after a 1-for-10 reverse split, assuming no other factors affect the split.

Solution:

If the price was US\$4.25 before the reverse split, for every 10 shares, a shareholder would have 1 share priced at $10 \times \text{US\$4.25} = \text{US\$42.50}$.

2. Comment on the following statement: "Shareholder wealth is negatively affected by a reverse stock split."

Solution:

The statement is not generally correct. Considering the reverse split on its own, the market capitalization of the common equity would be unchanged. If the reverse split was interpreted as a good decision (e.g., because the company will be able to retain the advantages of being listed on the NASDAQ), its price and thus market capitalization might increase. But other factors—such as continued limited growth of its operations or continued small share float and turnover—could drive down the stock's value.

2

DIVIDEND POLICY AND COMPANY VALUE: THEORIES



compare theories of dividend policy and explain implications of each for share value given a description of a corporate dividend action

Since the early 1960s, financial theorists have debated the extent to which dividend policy (decisions about whether, when, and in what amount to pay dividends) should and does matter to a company's shareholders. One group of theorists believes that dividend policy is irrelevant to shareholders. This group typically holds that only the decisions of the company that are directly related to investment in working and fixed capital affect shareholders' wealth. A second group holds that dividend policy does matter to investors, for one or more reasons, and that a company can affect shareholders' wealth through its dividend policy. Typically, dividend relevance is attributed to either the belief that investors value a unit of dividends more highly than an equal amount of uncertain capital gains or to one or more market imperfections. Such imperfections include taxes (because dividends may be taxed differently than capital gains), asymmetric information (corporate insiders are better informed about their company's prospects than outside investors), and agency costs (management has a tendency to squander extra cash). We examine these positions and the assumptions that underlie them in the following subsections.

Dividend Policy Does Not Matter

In a 1961 paper, Miller and Modigliani ("MM") argued that in a world without taxes, transaction costs, and equal ("symmetric") information among all investors—that is, under **perfect capital market** assumptions—a company's dividend policy should have no impact on its cost of capital or on shareholder wealth. Their argument begins by assuming a company has a given capital budget (e.g., it accepts all projects with a positive net present value, or NPV) and that its current capital structure and debt ratio are optimal. Another way of stating this argument is that the dividend decision is independent of a company's investment and financing decisions. For example, suppose that an all-equity financed company decided to pay as a dividend the investment amount it required for its capital budget. To finance capital projects, the company could issue additional common shares in the amount of its capital budget (such financing would leave its capital structure unchanged). The value of the newly issued shares would exactly offset the value of the dividend. Thus, if a company paid out a dividend that represented 5% of equity, its share price would be expected to drop by 5%. If a common stock in Australia is priced at A\$20 before an A\$1 per share dividend, the implied new price would be A\$19. The shareholder has assets worth A\$20 if the dividend is not paid or assets worth A\$20 if the stock drops to A\$19 and an A\$1 dividend is paid.

Note that under the MM assumptions, there is no meaningful distinction between dividends and share repurchases (repurchases of outstanding common shares by the issuing company): They are both ways for a company to return cash to shareholders. If a company had few investment opportunities such that its current cash flow was more than that needed for positive NPV projects, it could distribute the excess cash flow via a dividend or a share repurchase. Shareholders selling shares would receive A\$20 a share, and shareholders not selling would hold shares whose value continued to be A\$20. To see this, suppose the company being discussed has 10,000 shares outstanding, a current free cash flow of A\$10,000, and a present value of future cash flows of A\$190,000. Thus, the share price is $(A\$10,000 + A\$190,000)/10,000 = A\$20$. Now if the company uses the free cash flow to repurchase shares, in lieu of paying a dividend of A\$1, it will repurchase 500 shares ($A\$10,000/A\$20 = 500$). The 9,500 shares left outstanding have a claim on the A\$190,000 future cash flow, which results in a share price of A\$20 ($A\$190,000/9,500 = A\20).

An intuitive understanding of MM dividend irrelevance also follows from the concept of a "homemade dividend." In a world with no taxes or transaction costs, if shareholders wanted or needed income, they could construct their own dividend policy by selling sufficient shares to create their desired cash flow stream. Using the example above, assume the company did not pay the A\$1 dividend and the stock remained at

A\$20. A holder of 1,000 shares who desired A\$1,000 in cash could sell 50 shares at A\$20, thus reducing his or her holdings to 950 shares. Note that by reducing share holdings, second-period dividend income is reduced; higher dividend income in one period is at the expense of exactly offsetting lower dividend income in subsequent periods. The irrelevance argument does not state that dividends per se are irrelevant to share value but that dividend *policy* is irrelevant. By taking the earning power of assets as a given and assuming perfect capital markets, policy alternatives merely involve tradeoffs of different dividend streams of equal present value.

In the real world, market imperfections create some problems for MM's dividend policy irrelevance propositions. First, both companies and individuals incur transaction costs. A company issuing new shares incurs **flotation costs** (i.e., costs in selling shares to the public that include underwriters' fees, legal costs, registration expenses, and possible negative price effects) often estimated to be as much as 4% to 10% of the capital raised, depending on the size of the company and the size of the issue. Shareholders selling shares to create a "homemade" dividend would incur transaction costs and, in some countries, capital gains taxes (of course, cash dividends incur taxes in most countries). Furthermore, selling shares on a periodic basis to create an income stream of dividends can be problematic over time if share prices are volatile. If share prices decline, shareholders have to sell more shares to create the same dividend stream.

Dividend Policy Matters: The Bird in the Hand Argument

Financial theorists have argued that, even under perfect capital markets assumptions, investors prefer a dollar of dividends to a dollar of potential capital gains from reinvesting earnings because they view dividends as less risky. A related viewpoint is that "the typical dollar of reinvestment has less economic value to the shareholder than a dollar paid in dividends" (Graham, Dodd, Cottle, and Tatham 1962). These arguments are similar and have sometimes been called the "bird in the hand" argument, a reference to the proverb "a bird in the hand is worth two in the bush." By assuming that a given amount of dividends is less risky than the same amount of capital gains, the argument is that a company that pays dividends will have a lower cost of equity capital than an otherwise similar company that does not pay dividends; the lower cost of equity should result in a higher share price. MM contend that this argument is incorrect because, under their assumptions, paying or increasing the dividend today does not affect the risk of future cash flows. Such actions only lower the ex-dividend price of the share.

Dividend Policy Matters: The Tax Argument

In some countries, dividend income has traditionally been taxed at higher rates than capital gains. In the United States since 2012, for instance, dividends on shares held at least 60 days, as well as long-term capital gains, have been taxed at a maximum rate of 20%. In the Chinese Mainland, there is no capital gains tax on shares; however, dividend income is taxed at 20% for shares held less than a month, 10% for shares held between one month and a year, and since 2015 at 0% for shares held longer than a year.

An argument could be made that in a country that taxes dividends at higher rates than capital gains, taxable investors should prefer companies that pay low dividends and reinvest earnings in profitable growth opportunities. Presumably, any growth in earnings in excess of the opportunity cost of funds would translate into a higher share price. If, for any reason, a company lacked growth opportunities sufficient to consume its annual retained earnings, it could distribute such funds through share repurchases (again, the assumption is that capital gains are taxed more lightly than dividends). Taken to its extreme, this argument would advocate a *zero* dividend payout ratio. Real-world market considerations may complicate the picture. For example, in some

jurisdictions governmental regulation may require companies to distribute excess earnings as dividends or to classify share repurchases as dividends if the repurchases appear to be ongoing in lieu of dividend payments.

OTHER THEORETICAL ISSUES: SIGNALING

3

- ☐ describe types of information (signals) that dividend initiations, increases, decreases, and omissions may convey
- ☐ explain how agency costs may affect a company's payout policy

In this lesson, we present additional perspectives related to the theory of dividend policy.

The Information Content of Dividend Actions: Signaling

MM assumed that all investors—including outside investors—have the same information about the company: a situation of symmetric information. In reality, corporate managers typically have access to more detailed and extensive information about the company than do outside investors.

A situation of asymmetric information raises the possibility that dividend increases or decreases may affect share price because they may convey new information about the company. A company's board of directors and management, having more information than outside investors, may use dividends to signal to investors about (i.e., convey information on) the company's prospects. A company's decision to initiate, maintain, increase, or cut a dividend may convey more credible information than positive words from management because cash is involved. For a signal to be effective, it must be difficult or costly to mimic by another entity without the same attributes. Dividend increases are costly to mimic because a company that does not expect its cash flows to increase will not be able to maintain the dividend at increasingly high levels in the long run. (In the short run, a company may be able to borrow to fund dividends.)

Empirical studies broadly support the thesis that dividend initiations or increases convey positive information and are associated with future earnings growth, whereas dividend omissions or reductions convey negative information and are associated with future earnings problems. A dividend declaration can help resolve some of the information asymmetry between insiders and outsiders and help close any gap between the market price of shares and their intrinsic value. Evidence in both developed and emerging market equities suggests the presence of an earnings and return effect following dividend initiation announcements. In general, company earnings increase in the year of dividend initiation and in the following several years, and then the announcement of the initiation of a regular cash dividend is accompanied by an excess return. By looking at two historical examples of signaling, Example 3 provides further support for the idea that dividend initiations contain value-relevant information.

EXAMPLE 3**Historical Examples: Information on Dividend Initiations**

Following are two examples of the information content of dividend initiations following the 2008 global financial crisis.

- A. Oracle Corporation, a leading business software maker, initiated a US\$0.05 quarterly dividend in May 2009. Oracle's annual US\$0.20 dividend amounts to about US\$1 billion, a relatively small amount compared with operating cash flow of US\$8 billion and another US\$9 billion in cash and cash-equivalent assets on its balance sheet at the end of fiscal year 2009. An analyst who follows Oracle for institutional investors saw the Oracle announcement as a signal that the company was well positioned to ride out the downturn and also gain market share.
- B. In mid-2009, Paris-based Groupe Eurotunnel announced its first ever dividend after it completed a debt restructuring and received insurance proceeds resulting from a fire that had closed the Channel Tunnel. In a 2 June 2009 press release, Eurotunnel's CEO said that this "marked a turning point for the company as its business has returned to the realm of normality"; the company anticipated a return to profitability.

Some researchers have argued that a company's dividend initiation or increase tends to be associated with share price increases because it attracts more attention to the company. Managers have an incentive to increase the company's dividend if they believe the company to be undervalued because the increased scrutiny will lead to a positive price adjustment. In contrast, according to this line of reasoning, managers of overvalued companies have little reason to mimic such a signal because increased scrutiny would presumably result in a downward price adjustment to their shares.

EXAMPLE 4**Signaling with Dividends and the Costs of Mimicking**

Suppose that the management of a company with poor future prospects recommends to the board of directors an increase in its dividend. Management explains to the board that investors may then believe that the company has positive future prospects, leading to an increase in share value and shareholder wealth.

1. State whether such imitation is likely to achieve the stated objective over the long term.

Solution:

No, such dividend increases are not likely to achieve the stated objective over the long term for the company described.

2. Justify your answer to Question 1.

Solution:

Dividend increases are costly to mimic because a company that does not expect its cash flows to increase will not be able to maintain the increased dividend. The company will have to either cut the dividend in the future or go to the market to obtain new equity or debt funding to pay the dividend.

Both these alternatives are costly for the company because they result in downward revisions, on average, to the stock price.

Many companies take pride in their record of consistently increasing dividends over a long period of time. Standard & Poor's, for example, identifies companies in its US-based S&P 500 Index, Europe 350 Index, Pan Asia Index, and S&P/TSX Canadian Index that have increased their dividend for a number of consecutive years (at least 25 years in the case of the S&P 500, at least 10 years in the case of the Europe 350, at least 7 years in the case of Pan Asia Index, and at least 5 years in the case of the S&P/TSX). These companies are in various industries. When a company's earnings and cash flow outlook has been and continues to be positive, it often views a policy of increasing dividends as an important tool to convey that information to existing and potential shareholders. Companies that consistently increase their dividends seem to share certain characteristics:

- Dominant or niche positions in their industry
- Global operations
- Relatively less volatile earnings
- Relatively high returns on assets
- Relatively low debt ratios (dividend payouts unlikely to be affected by restrictions in debt covenants)

Dividend cuts or omissions, in contrast, present powerful and often negative signals. For companies under financial or operating stress, the dividend declaration date may be viewed with more than usual interest. Will they cut the dividend? Will they omit the dividend altogether? In these instances, merely maintaining the dividend or not cutting it as much as expected is usually viewed as good news (i.e., that current difficulties are transitory and manageable), unless investors view managers as trying to convey erroneous information to the market.

In principle, although difficult in practice, management can attempt to send a positive signal by cutting the dividend. Telstra, a major Australian telecoms company with an enviable record of paying close to 90% of profits as dividends, announced in 2017 a 30% cut in its dividend—its first cut in more than 20 years. Telstra's management explained it intended to use the funds conserved to reinvest in the business. It was planning for the longer term and retaining financial flexibility as a priority because the company faced significant challenges from rising competition and competing technologies. Although management's message was met with an initial 12% share price decline as disappointed yield-focused investors exited the stock, it was, in retrospect, a positive signal. Telstra was viewed by institutional investors as successfully using its cash flow to reorganize to meet business challenges, and it was regarded as one of the few cases in which a large Australian dividend payer was not cutting payouts as a result of extreme financial pressure.

EXAMPLE 5

Dividend Reductions and Price Increases

In November 2018, BT Group Plc, one of the world's largest providers of communication services and solutions operating in over 170 countries, announced it would cut its interim dividend from 4.85 pence a share to 4.62 pence a share. The company also revealed that net cash flow from operating activities had plunged 71% to £754 million and that revenue had fallen 2% to £11.6 billion, with declines across all divisions.

All this despite the fact that in the first six months of the year, the company reported a pretax profit increase to £1.3 billion from £1.1 billion a year prior and a 2% increase in adjusted earnings (EBITDA) to £3.7 billion from £3.6 billion as the telecoms giant cut costs as part of its restructuring. One analyst commented that while the dividend decrease was an “unwelcome surprise,” it was also a “prudent move” given the 71% decline in net cash and thus “should not take too much sheen on a dividend yield, which previously stood at an attractive 6.4%.” It was also noted that BT Group was replacing its chief executive in February 2019; thus, future dividends would depend on decisions made by the new leadership. As the market digested this information, the telecoms company’s share price rose 6.9% to 257 pence per share.

Source: Renae Dyer, “BT Shares Surge Despite Dividend Cut as It Expects Earnings to Hit Top End of Guidance,” *Proactive Investors* (1 November 2018).

Another example of the signaling content of dividends can be found in the actions of eBay, the e-commerce multinational corporation, and its initial dividend declaration in 2019 (24 years after the online retailer was established in 1995 during the dot-com boom). Technology companies have among the lowest dividend yields and below-average dividend payout ratios. This is because most technology companies have high R&D requirements, and some (e.g., integrated circuit manufacturers) are capital intensive. Those that are profitable often achieve returns on assets and owners’ equity that are well above average. In addition, business risk is considerable as discoveries and unforeseen advances change the product landscape. All of these considerations would suggest a policy of low (or no) dividend payments so that internally generated funds are directed toward new product development and capital investment that will maintain high growth and returns. Some companies in the technology sector, however, do mature. Legacy tech companies that initiated dividends as their businesses matured and growth slowed include Apple in 2012, Cisco in 2011, Oracle in 2009, and Microsoft in 2003. At the time of eBay’s dividend initiation, such non-dividend-paying tech companies as Alibaba, Weibo, Baidu, and JD.com remained the norm in markets where the technology sector was still growing.

In early 2019, eBay declared its first-ever dividend and announced that it would begin paying quarterly dividends of US\$0.14 a share, which represented a yield of 1.6% (for comparison, Microsoft’s dividend yield at the time was 1.9% and Cisco’s was 2.9%). At the same time, eBay announced an increase in its existing share repurchase program to US\$4 billion. Investor reaction was mixed. Some believed that eBay was signaling an interest in broadening its investor focus by attracting a new group of shareholders focused on income over growth while refraining from undertaking unprofitable expansion. Others viewed the dividend declaration as an admission that it was becoming a mature company—that it could no longer deliver high returns from reinvesting its earnings. The future growth prospects for the stock, they would argue, had been diminished. In other words, although the dividend initiation showed confidence in eBay’s cash flow generation, investors preferred for management’s use of internal investments to regenerate eBay’s core business. Regardless, few could argue that eBay’s dividend initiation declaration in 2019 was not a corporate event of some importance.

Agency Costs and Dividends as a Mechanism to Control Them

Large, publicly traded corporations typically have a substantial separation between the professional managers who control the corporation’s operations and the outside investors who own it. When agents (the managers) and owners (the shareholders) are two separate parties, managers may have an incentive to maximize their own welfare at the company’s expense because they own none or relatively small percentages of the

company for which they work and thus do not bear all the costs of such actions. This incentive is ultimately also a problem of unequal (asymmetric) information between managers and outside investors because if outside investors could perfectly observe managers, managers would be dissuaded from such actions. One managerial incentive of particular concern is the potential private benefit managers may obtain from investment in negative net present value (NPV) projects. Such projects will generate negative economic returns, but because they may grow the size of the company (measured in sales or assets) and thus enlarge the manager's span of control, the manager may have the incentive to invest in them. This is a particular problem when management's compensation is tied to assets or sales rather than value enhancement, a flaw in the firm's corporate governance. The potential overinvestment agency problem might be alleviated by the payment of dividends. In particular, by paying out all free cash flow to equity in dividends, managers would be constrained in their ability to overinvest by taking on negative NPV projects. This concern or hypothesis that management may create an overinvestment agency cost is known as Jensen's free cash flow hypothesis.

The potential for managers to squander free cash flow by undertaking unprofitable projects is a consideration to be evaluated on a case-by-case basis. Prior to initiating its dividend in 2003, for example, Microsoft accumulated increasingly large cash positions but was not observed to squander monies on unprofitable projects. In some cases, such cash positions may provide financial flexibility to respond quickly to changes in the environment, to grasp unforeseen opportunities, or to survive periods of restricted credit, as in the case of Ford Motor Company's accumulation of cash during profitable years in the 1990s and similarly by Japanese automotive parts manufacturer Denso Corporation in the late 2000s and 2010s. Clearly, there are industry-specific and life-cycle conditions to consider. In general, it makes sense for growing companies in industries characterized by rapid change to hold cash and pay low or no dividends, but it does not make sense for large, mature companies in relatively non-cyclical industries. In general, there is empirical support for the market reaction to dividend change announcements to be stronger for companies with greater potential for overinvestment than for companies with lesser potential for overinvestment.

Another concern when a company is financed by debt as well as equity is that paying dividends can exacerbate the agency conflict between shareholders and bondholders. When a company has debt outstanding, the payment of dividends reduces the cash cushion available to the company for the disbursement of fixed required payments to bondholders. The payment of large dividends, with the intention of transferring wealth from bondholders to shareholders, could lead to underinvestment in profitable projects. All else equal, both dividends and share repurchases increase the default risk of debt. Reflecting bondholders' concern, the bond **indenture** (contract) often includes a covenant restricting distributions to shareholders that might impair the position of bondholders. A typical form of this restriction is to define the maximum allowable amount of distributions to shareholders during the life of the bond. This amount of funds is usually a positive function of the company's current and past earnings and issues of new equity and a negative function of dividends paid since the bonds were issued. Such covenants often do not really restrict the level of dividends as long as those dividends come from new earnings or from new issues of stock. What the covenant attempts to do is prevent the payment of dividends financed by the sale of the company's existing assets or by the issuance of new debt. Covenants that specify minimum levels of EBITDA and/or EBIT coverage of interest charges are frequently used as well. These covenants provide some assurance that operating earnings include a cushion for the payment of fixed charges. Other covenants focus on balance sheet strength—for example, by specifying a maximum value for the ratio of debt to tangible net worth.

EXAMPLE 6**Agency Issues and Dividends**

1. Two dividend-paying companies A and B directly compete with each other. Both companies are all-equity financed and have recent dividend payout ratios averaging 35%. The corporate governance practices at Company B are weaker than at Company A. For example, at B but not A, the chief executive officer is also chair of the board of directors. Recently, profitable investment opportunities for B have become fewer, although operating cash flow for both A and B is strong.

Based only on the information given, investors who own shares in both A and B are *most likely* to press for a dividend increase at:

- A. Company A, because it has better growth prospects than Company B.
- B. Company B, because a dividend increase may mitigate potential over-investment agency problems.
- C. Company B, because a dividend increase may mitigate potential underinvestment agency problems.

Solution:

B is correct. Company B's strong operating cash flow in an environment of fewer profitable growth opportunities may tempt Company B's management to overinvest. The concern is increased because of Company B's relatively weak corporate governance.

The final example in this section illustrates the complex agency considerations that may affect dividend policy.

EXAMPLE 7**Electric Utilities, Agency Costs, and Dividends**

Electric utilities often have above average dividend yields. A distinctive characteristic of many utility companies is that they pay a high percentage of earnings as dividends, while periodically issuing new equity to invest in the many projects necessitated by the capital-intensive nature of their business. This practice of financing dividends with new equity appears unwise because new equity is expensive. Researchers examining a set of US-based electric utilities, however, have demonstrated that there may be a good reason for paying dividends and then issuing equity: the mitigation of the agency problems between managers and shareholders and between utility regulators and utility shareholders.

Because electric utilities are typically monopolies in the sense that they are usually the only providers of electricity in a given area, they are regulated so they are not able to set electricity rates at monopolistically high levels. The regulators are expected to set rates such that the company's operating expenses are met and investors are provided with a fair return. The regulators, however, are usually elected, or are political appointees, and view ratepayers as potential voters. Thus, utility shareholders, in addition to facing potential manager–shareholder agency issues because managers have incentives to consume perquisites or to overinvest, also face a regulator–shareholder conflict in which regulators set rates low to attract the votes of individuals being served by the utility.

In the utility industry, therefore, dividends and the subsequent equity issue are used as mechanisms to monitor managers and regulators. The company pays high dividends and then goes to the capital markets to issue new equity. If the market does not think that shareholders are getting a fair return because regulators are setting rates too low, or because managers are consuming too many perks, the price at which new equity can be sold will fall until the shareholder expectations for returns are met. As a result, the company may not be able to raise sufficient funds to expand its plant to meet increasing electricity demand—the electric utility industry is very capital intensive—and, in the extreme, customer needs may not be met. Faced with this possibility, and potentially angry voters, regulators have incentives to set rates at a fair level. Thus, the equity market serves to monitor and arbitrate conflicts between shareholders and both managers and regulators.

OTHER THEORETICAL ISSUES: SUMMARY

4

- ☐ explain how agency costs may affect a company's payout policy

What can we conclude about the link between dividends and valuation? In theory, in the absence of market imperfections, Miller and Modigliani (1961) find that dividend policy is irrelevant to the wealth of a company's investors. But in reality, the existence of market imperfections makes matters more complicated. In addition, some investors are led, by logic or custom, to prefer dividends.

Unfortunately, in the search for the link between dividend policy and value, the evidence is inconclusive. It is difficult to show an exact relationship between dividends and value because so many variables affect value. We have presented factors that would seem to explain why some companies put emphasis on dividends and others do not. Financial theory predicts that reinvestment opportunities should be the dominant factor. Indeed, no matter where they are located in the world, small, fast-growing companies pay out little or none of their earnings. Regardless of jurisdiction, more mature companies with fewer reinvestment opportunities tend to pay dividends. For these mature companies, taxes, regulations/laws, tradition, signaling, ownership structure, and attempts to reconcile agency conflicts all seem to play a role in determining the dividend payout ratio. At a minimum, in looking at a company an analyst should evaluate whether a given company's dividend policy matches its reinvestment opportunities and legal/financial environment.

FACTORS AFFECTING DIVIDEND POLICY IN PRACTICE

5

- ☐ explain factors that affect dividend policy in practice
- ☐ calculate and interpret the effective tax rate on a given currency unit of corporate earnings under double taxation, dividend imputation, and split-rate tax systems

In Lesson 3 we discussed theories of dividend policy and value and concluded that the issue is, at best, unresolved. In this lesson we explore six factors that affect a company's dividend policy, which we defined earlier as decisions about whether, when, and in what amount to pay dividends:

- Investment opportunities
- The expected volatility of future earnings
- Financial flexibility
- Tax considerations
- Flotation costs
- Contractual and legal restrictions

Boards of directors and managers spend considerable time setting dividend policy despite the lack of clear guidance from theory to inform their deliberations. The factors listed are, however, often mentioned by managers themselves as relevant to dividend policy selection in practice. Some of the factors we explore, such as taxation, are not company-specific, whereas other factors, such as possible contractual restrictions on dividend payments and the expected volatility of future earnings, are more company-specific. The factors may be interrelated, and the presence of one may enhance or diminish the effect of another. Importantly, the independence between the investment, financing, and dividend decisions assumed by MM may no longer hold when such market imperfections as information effects, agency problems, and taxes are recognized.

Investment Opportunities

All else equal, a company with many profitable investment opportunities will tend to pay out less in dividends than a company with fewer opportunities because the former company will have more uses for internally generated cash flows. Internally generated cash flow is generally a cheaper source of equity funding than new equity issuance. Opportunities for new investments, and the speed with which a company needs to respond to them, are influenced by the industry in which the company operates. A company with the ability to delay the initiation of projects without penalty may be willing to pay out more in dividends than a company that needs to act immediately to exploit profitable investment opportunities. Technology companies tend to have much lower average dividend yields than utilities. The chief explanation may be the size and time horizon of profitable investment opportunities in relation to annual operating cash flow generated. For technology companies, the pace of change is rapid, so having internally generated funds available to react to profitable opportunities affords them valuable flexibility. For utility companies, for which there are typically fewer such opportunities and for which change is much slower, higher dividend payouts are indicated.

The Expected Volatility of Future Earnings

Several important factors in the dividend payout decision have been identified as important to managers. Most managers

- had a target payout ratio based on long-run sustainable earnings,
- focused more on dividend changes (increases or decreases) than on dividend levels, and
- were reluctant to increase the dividend if the increase might soon need to be reversed.

Findings in the United States, United Kingdom, and other countries suggest that managers are reluctant to cut dividends—preferring to smooth them over time. Smoothing takes the form of relating dividend increases to the long-term earnings growth rate, even if short-term earnings are volatile. All else equal, the more volatile earnings are, the greater the risk that a given dividend increase may not be covered by earnings in a future time period. Thus, when earnings are volatile, we expect companies to be more cautious in the size and frequency of dividend increases. These findings also hold for other countries, although variation between countries has been noted in managers' willingness to decrease dividends based on available investment opportunities.

Financial Flexibility

Companies may not initiate, or may reduce or omit, dividends to obtain the financial flexibility associated with having substantial cash on hand. A company with substantial cash holdings is in a relatively strong position to meet unforeseen operating needs and to exploit investment opportunities with minimum delay. Having a strong cash position can be particularly valuable during economic contractions when the availability of credit may be reduced. Financial flexibility may be viewed as a tactical consideration that is of greater importance when access to liquidity is critical and when the company's dividend payout is relatively large.

A classic example of explaining a dividend decision in terms of the need to preserve financial flexibility occurred with Skanska AB, based in Sweden. On 8 February 2019, Skanska AB, one of the world's biggest construction and development companies, announced its board's suggestion to cut Skanska's dividend going forward by 30% to 6.00 Swedish kronor (SEK). This would allow for continued expansion of its project development business while maintaining its financial ability to deliver sustainable shareholder returns. Skanska's Chief Executive Anders Danielsson stated:

"As we enter 2019, there are political and macroeconomic uncertainties which are likely to increase further. In many of our home geographies and sectors, the markets are levelling out and it is difficult to predict how long this relatively favourable environment will last."

Source: "Skanska Warns of 'Increasing Uncertainties' and Proposes Dividend Cut," *Financial Times* (8 February 2019): <https://www.ft.com/content/9201486e-2b81-11e9-a5ab-ff8ef2b976c7>.

The cut was expected to conserve SEK920 million on an annual basis. With approximately SEK19 billion of cash on hand at the time of the statement and with operating cash flows at least covering the previous dividend, the dividend reduction appeared to be accurately characterized as "precautionary." Although the dividend cut announcement was accompanied by a 9% decline in Skanska's share price, the share price quickly recovered. Within two months, it had risen 7% above its pre-dividend cut announcement value, indicating the market's favorable response to Skanska's decision to cut the dividend arising from uncertainty in its operating environment and the desire to maintain financial flexibility.

When increasing financial flexibility is an important consideration, a company may decide to distribute money to shareholders primarily by means of share repurchases (covered in Lesson 7) rather than regular dividends. A program to repurchase shares in the open market does not involve a formal requirement that any repurchases be executed, and share repurchases in general do not establish the same expectations for continuation in the future as regular dividends.

Tax Considerations

Taxation is an important factor that affects investment decisions for taxable investors. Different jurisdictions tax corporate dividends in a wide variety of ways. Some tax both capital gains and dividend income. Others tax dividends but not capital gains. Even within a given country, taxation can be quite complex. In addition, because taxation is a major fiscal policy tool that is subject to politics, governments have a tendency to “re-address” tax issues, sometimes with great frequency. As with other aspects of taxation, governments use the taxation of dividends to address a variety of goals: to encourage or discourage the retention or distribution of corporate earnings; to redistribute income; or to address other political, social, and/or investment goals.

For the global investor, foreign taxes can be as important as domestic taxes. Foreign tax credits in the investor’s home country also may figure importantly into the overall taxation issue. For example, France requires companies domiciled in France to withhold dividends paid to foreign investors at the corporate tax rate (reduced to 25% by 2022), but investors in other countries can usually claim a tax credit on their home country tax return for the amount of that tax, especially where a double tax agreement exists.

Taxation Methods

We look at three main systems of taxation that determine dividends: double taxation, imputation, and split-rate. Other tax systems can be a combination of these.

In a **double taxation system**, corporate pretax earnings are taxed at the corporate level and then taxed again at the shareholder level if they are distributed to taxable shareholders as dividends. Exhibit 4 illustrates double taxation, where the individual tax rate on dividends is an assumed maximum of 15%.

Exhibit 4: Double Taxation of Dividends at 15% Personal Tax Rate (per US\$100)

Net income before taxes	US\$100
Corporate tax rate	35%
Net income after tax	US\$65
Dividend assuming 100% payout	US\$65
Shareholder tax on dividend	US\$9.75
Net dividend to shareholder	US\$55.25
Double tax rate on dividend distributions*	44.8%

* $(35 + 9.75)/100 = 0.4475$ or 44.8%.

Investors will clearly prefer a lower tax rate on dividends, but it is not clear whether they prefer a higher or lower payout. Payout preferences will depend on whether there is a tax on long-term capital gains for shareholders in their country and whether the tax rate on capital gains is higher or lower than the tax rate on dividends. Later, we will discuss a company’s decision with respect to the dividend payout ratio.

A second major taxation system is the **dividend imputation tax system**, which effectively ensures that corporate profits distributed as dividends are taxed just once, at the shareholder’s tax rate. Australia and New Zealand use a dividend imputation tax system. Under this system, a corporation’s earnings are first taxed at the corporate level. When those earnings are distributed to shareholders in the form of dividends, however, shareholders receive a tax credit, known as a **franking credit**, for the taxes that the corporation paid on those distributed earnings (i.e., corporate taxes paid are imputed to the individual shareholder). If the shareholder’s marginal tax rate is higher than the company’s, the shareholder pays the difference between the two rates.