

Bonds & Stocks: characteristics

Lecture 3

Prepared by Dr. Walaa Mohamed

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Introduction to Finance



جامعة الجميع الذكية
EVERYONE'S SMART UNIVERSITY

LEARNING OBJECTIVES

After studying this lecture, you should be able to do the following:

LO 3.1 Identify the major sources of external long-term financing for corporations.

LO 3.2 Describe the global market for bonds, the role of bond covenants, and bond ratings.

LO 3.3 Compare characteristics of corporate bonds with respect to bondholder security, time to maturity, and income return.

LO 3.4 Describe major characteristics of preferred stock and common stock.

LO 3.5 Describe the process for issuing dividends by a firm and differences between cash dividends, stock dividends, and share repurchases.

Long-Term External Financing Sources for Businesses

Businesses obtain long-term financing from internal funds, which are generated from profits, and from external funds, which are obtained from capital markets.

The proportion of internal to external financing varies over the business cycle. During periods of economic expansion, firms usually rely more on external funds because the funds needed for investment opportunities outstrip the firms' ability to finance them internally. During periods of economic contraction, the reverse is true. As profitable investment opportunities become fewer, the rate of investment is reduced and reliance on external capital markets decreases.

Long-term funds are obtained by issuing corporate bonds and stocks.

1. Bonds

A **bond** is an agreement or contract between lenders and the borrowing organization; typically, a firm or government body. As such, the lenders or bondholders of a corporation have certain rights and privileges not enjoyed by the firm's owners (those holding shares of common stock). A debt holder may force the firm to abide by the terms of the debt contract even if the result is reorganization or bankruptcy of the firm. The periodic interest payments due to the holders of debt securities must be paid or else the creditors can force the firm into bankruptcy. **Table 10.1** summarizes important characteristics of bonds, which we'll be reviewing in this section.

TABLE 10.1**Common Elements of Bonds**

- **Represent borrowed funds**
- **Contractual agreement (indenture) between a borrower and lender**
- **Senior claim on assets and cash flow**
- **No voting rights**
- **Par value**
- **Having a bond rating improves the issue's marketability to investors**
- **Covenants**
- **Interest:** Tax deductible to the issuing firm.
Usually fixed over the issue's life but can be variable if the indenture allows coupon rate to be affected by market interest rates and/or bond rating
- **Maturity:** Usually fixed; can be affected by convertibility, call and put provisions, sinking fund, and extendibility features in the indenture
- **Security:** Can have senior claim on specific assets pledged in case of default or can be unsecured (debenture or subordinated [junior claim] debenture)

Except for rarely issued perpetuities, all debt issues have maturity dates, the point when issuers are obligated to pay the bond's principal (**par value (debt); face value**) to bondholders. In the United States, par value is usually \$1,000 for corporate bonds. All but zero- coupon issues pay interest, called coupon payments. If a bond has an 8 percent coupon and a par value of \$1,000, it pays annual interest of 8 percent of \$1,000, or $0.08 \times \$1,000 = \80 . A bond with a 10 percent coupon would pay interest of \$100 per year. Eurobonds pay a single annual coupon interest payment. In the United States, bonds pay interest semi-annually; an 8 percent coupon will pay interest of \$40 every six months during the life of the bond.

- Note please:

- **par value (debt); face value** principal amount that the issuer is obligated to repay at maturity.

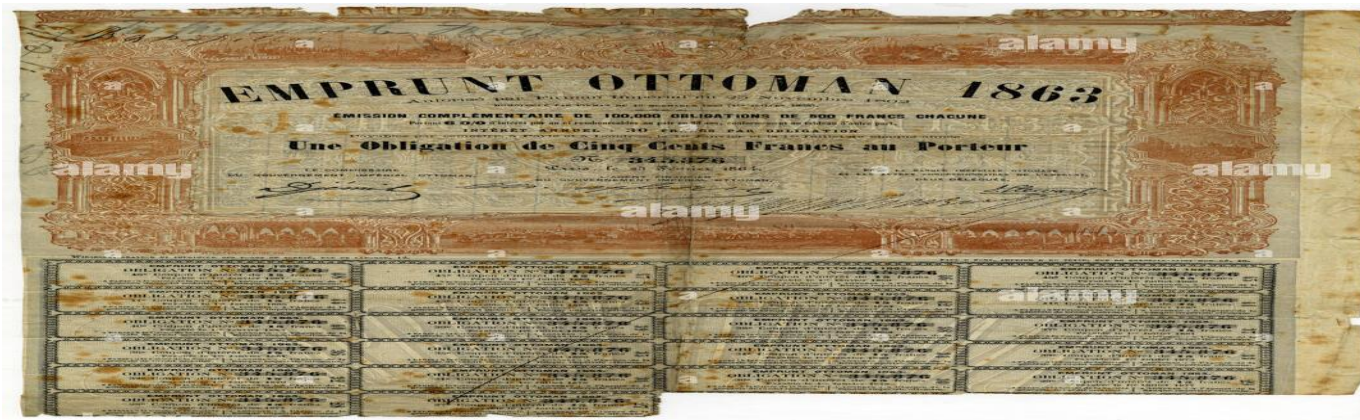
- **coupon payments** interest payments on a bond.

- a **perpetuity** is a bond without a maturity date. Its owners and heirs receive interest payments on a regular basis as long as the firm exists. In general, a security that is a perpetuity pays a constant periodic cash flow as long as the issuer exists.

Bondholders have legal status as creditors, not owners, of the firm. As such, they have priority claims on the firm's cash flows and assets. This means that bondholders must receive their interest payments before the firm's owners receive their dividends. In the case of bankruptcy, the debt holders must receive the funds owed to them before funds are distributed to the firm's owners. Because of this first claim on a firm's cash flow and assets, debt is a less risky investment than equity.

Offsetting the advantages of owning debt is its lower return. The interest payments creditors receive usually are considerably less over a period of years than the returns received by equity holders. Also, as long as the corporation meets its contractual obligations, the creditors have little choice in its management and control except for those formal agreements and restrictions that are stated in the loan contract.

Long-term corporate debt securities fall into two categories: secured obligations and unsecured obligations. A single firm can have many types of debt contracts outstanding. Although ownership of many shares of stock may be evidenced by a single stock certificate, the bondholder has a separate security for each bond owned. Bonds can be registered bonds or bearer bonds. Bonds currently issued in the United States are **registered bonds** in that the issuer knows the bondholders' names and interest payments are sent directly to the bondholder. **Bearer bonds** have coupons that are “clipped” from the side of the bond certificate and presented, like a check, to a bank for payment. Thus, the bond issuer does not know who is receiving the interest payments. Bearer bonds are more prevalent outside of the United States. Regulations prevent their issuance in the United States, primarily because unscrupulous investors may evade income taxes on the clipped coupons



Bonds can be sold in the public market, following registration with the U.S. Securities and Exchange Commission (SEC), and traded by investors. There is a “private” market, too; bonds can be sold in a private placement to qualified investors, typically institutional investors such as insurance companies and wealthy individuals. Other forms of debt capital exist in addition to bonds. Businesses can borrow from banks.

Who Buys Bonds?

The U.S. Treasury has a Treasury Direct program to sell Treasury securities directly to individual investors, but the main buyers of Treasury bonds are large institutions, such as pension funds or insurance companies, which hold them for investment purposes. Others, such as investment banks, may purchase them and then resell them to smaller investors.

Similarly, corporate debt markets are oriented toward the large institutional investor who can purchase millions of dollars of bonds at a time. But several innovative firms, such as Ally Financial (formerly GMAC), IBM, United Parcel Service (UPS), Caterpillar, and GE Capital, initiated programs in recent years to sell \$1,000 par value bonds directly to the retail, or individual, investor. Called InterNotes, medium-term notes, or direct access notes (depending on the issuer and the investment banker selling them), the programs target small investors who have only a few thousand dollars rather than millions to invest in bonds.

Bond Covenants

The trust indenture is an extensive document that details the various provisions and covenants of the loan arrangement. A trustee represents the bondholders to ensure the bond issuer respects the indenture's provisions. In essence, the indenture is a contract between the bondholders and the issuing firm. The indenture details the par value, maturity date, and coupon rate of the issue. A bond indenture may include covenants, which can impose restrictions or extra duties on the firm.

Examples of covenants include keep pledged assets in good working order, and send audited financial statements to bondholders. Others include restrictions on the amount of the firm's debt, total annual dividend payments, the amount and type of additional covenants it may undertake, and asset sales.

These examples illustrate the purpose of covenants, which is to protect the bond-holders' stake in the firm. Bonds have value, first, because of the firm's ability to pay coupon interest and, second, because of the value of the assets or collateral backing the bonds in case of default. Without proper covenant protection, the value of a bond can decline sharply if a firm's liquidity and assets depreciate or if its debt grows disproportionately to its equity. These provisions affect the issue's bond rating (discussed below) and the firm's financing costs, since bonds giving greater protection to the investor can be sold with lower coupon rates. The firm must decide if the restrictions and duties in the covenants are worth the access to lower-cost funds.

Bond Ratings

Most bond issuers purchase bond ratings from one or more agencies, such as Standard & Poor's (S&P), Moody's, or Fitch. For a one-time fee, the rater examines the credit quality of the firm (e.g., its ability to pay the promised coupon interest), the indenture provisions, covenants, and the expected trends of firm and industry operations. From its analysis and discussions with management, the agency assigns a bond rating (as shown in Table 10.2) that indicates the likelihood of default (nonpayment of coupon or par value, or violation of the bond indenture) on the bond issue.⁴ In addition, the rating agency commits to continually reexamine the issue's risk. For example, should the financial position of the firm weaken or improve, S&P may place the issue on its *Credit Watch* list, with negative or positive implications. After that, S&P will downgrade, upgrade, or reaffirm the original rating.

TABLE 10.2		Examples of Bond Rating Categories	
Moody's	Standard & Poors	Fitch	
Aaa	AAA	AAA	Best quality, least credit risk
Aa1	AA+	AA+	High quality, slightly more risk than a top-rated bond
Aa2	AA	AA	
Aa3	AA−	AA−	
A1	A+	A+	Upper-medium grade, possible future credit quality difficulties
A2	A	A	
A3	A−	A−	
Baa1	BBB+	BBB+	Medium-quality bonds
Baa2	BBB	BBB	
Baa3	BBB−		
Ba1	BB+	BB+	Speculative issues, greater credit risk
Ba2	BB	BB	
Ba3	BB−	BB−	
B1	B+	B+	Very speculative, likelihood of future default
B2	B	B	
B3	B−	B−	
Caa	CCC	CCC	Highly speculative, in default or high likelihood of going into default
Ca	CC	CC	
C	C	C	
	D	DDD	
		DD	
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Despite the initial cost and the issuer's concern of receiving a lower-than-expected rating, a bond rating makes it much easier to sell the bonds to the public. The rating acts as a signal to the market that an independent agency has examined the qualities of the issuer and the bond issue, and has determined that the credit risk of the bond issue justifies the published rating.

An unrated bond issue will likely obtain a cool reception from investors. Investors may have good reason to wonder, "What is the firm trying to hide? If this was an attractive bond issue, the firm would have rated it." In addition, certain types of investors, such as pension funds and insurance companies, may face restrictions against purchasing unrated public debt. Collateral provisions affect its credit rating.

Bonds with junior or unsecured claims receive lower bond ratings, leading investors to demand higher yields to compensate for the higher risk. Thus, bond issues of a single firm can have different bond ratings if their security provisions differ.

Viewing Table 10.2, investment-grade bonds are those with ratings of Baa3, BBB–, or better. They are called “investment grade” as, historically, investors (individuals and managed funds, such as bank trust department portfolios and pension funds) were allowed to invest in such bonds. Bonds below an investment-grade rating were deemed too risky for such conservative portfolios and were not allowed to be held.

Times and regulations change, however, and bonds that are below investment grade, meaning they have ratings of Ba1, BB+, or lower, have gained a spot in many investment portfolios. Known as **junk bonds** or (euphemistically) high-yield bonds, they have more risk but offer higher expected returns and have benefits in lowering unsystematic risk in diversified portfolios.

Formerly, issuing companies would seek the highest bond rating possible for new issues for two reasons. **First**, having high-rated debt added prestige to the company; an AAA- rated firm was viewed as being managed well, financially stable, and strong. In addition, such bonds gave the appearance of being a safe investment and, as they had an investment-grade rating, they would find demand among investors such as trust departments and pension funds.

The **second main reason** for seeking a high bond rating is that the higher rating saves the firm interest expense, as coupon rates on highly rated bonds are lower than those on lower-rated bonds because of the risk—expected return trade-off.

Global Bond Market

Many U.S. corporations have issued Eurodollar bonds. Eurodollar bonds are dollar- denominated bonds that are sold outside the United States. Because of this, they escape review by the SEC, somewhat reducing the expense of issuing the bonds. Eurodollar bonds usually have fixed coupons with annual coupon payments. Most mature in five to ten years, so they are not attractive for firms that want to issue long-term debt. Most Eurodollar bonds are debentures. This is not a major concern to investors, as only the largest, financially strongest firms have access to the Eurobond market. Investors do care that the bonds are sold in bearer form because investors can remain anonymous and evade taxes on coupon income. Some researchers believe this is the main reason Eurodollar bond interest rates are low relative to U.S. rates.

U.S. firms aren't the only issuers of securities outside their national borders. For example, foreign firms can issue securities in the United States if they follow U.S. security registration procedures. **Yankee bonds** are U.S. dollar denominated bonds that are issued in the United States by a foreign issuer. Some issuers find the longer maturities of Yankees attractive to meet long-term financing needs. While Eurodollar bonds typically mature in five to ten years, Yankees may have maturities as long as 30 years. Nonetheless, the euro is becoming a strong competitor to the U.S. dollar for firms that want to raise funds in a currency that has broad appeal to many investors.

For instance, Company ABC is headquartered in France. If Company ABC issues bonds in the United States that are denominated in U.S. dollars, the bonds are Yankee bonds.

Global bonds :Increasingly, the international bond market is ignoring national boundaries. A growing number of debt issues are being sold globally.

Different Types of Bonds

There are a number of different types of bonds, each offering different levels of security to their investors:

Mortgage bonds, despite their name, are not secured by home mortgages. Rather, they are backed, or secured, by specifically pledged property of a firm. As a rule, the mortgage applies only to real estate, buildings, and other assets classified as real property. For a corporation that issues bonds to expand its plant facilities, the mortgage usually includes a lien, or legal claim, on the facilities to be constructed.

When a parcel of real estate has more than one mortgage lien against it, the first mortgage filed for recording at the appropriate government office—generally, the county recorder’s office—has priority. Because first mortgage bonds have priority with respect to asset distribution if the business fails, they generally provide a lower yield to investors than the later liens.

An **equipment trust certificate** is a type of mortgage bond that gives the bondholder a claim to specific “rolling stock” (movable assets), such as railroad cars or airplanes. The serial numbers of the specific items of rolling stock are listed in the bond indenture and the collateral is periodically examined by the trustee to ensure its proper maintenance and repair.

There are two basic types of mortgage bonds. A **closed-end mortgage bond** does not permit future bond issues to be secured by any of the assets pledged as security under the closed-end issue. Alternatively, an **open-end mortgage bond** is one that allows the same assets to be used as security in future issues. As a rule, open-end mortgages usually stipulate that any additional real property acquired by the company automatically becomes a part of the property secured under the mortgage. This provides added protection to the lender.

Debenture bonds are unsecured obligations and depend on the general credit strength of the corporation for their security. They represent no specific pledge of property. Debenture bonds are used by governmental bodies and by many industrial and utility corporations.

The riskiest type of bond is a **subordinated debenture**. As the name implies, the claims of these bondholders are subordinate, or junior, to the claims of debenture holders. Most junk bonds or high-yield bonds, which we discussed earlier, are subordinated debentures.

Another bond market innovation is “**asset securitization**.” Securitization involves issuing bonds whose coupon and principal payments arise from another existing cash flow stream. Suppose a mortgage lender, by virtue of previously issued mortgages, has a steady cash flow stream coming into the firm. By selling bonds which use that cash flow stream as collateral, the mortgage banker can receive funds today rather than waiting for the mortgages to be paid off over time.

Principal and interest on the newly issued bonds will be paid by homeowners' mortgage payments. In essence, the mortgage payments will “pass through” the original mortgage lender to the investor who purchased the mortgage-backed securities. However, not all the interest payments are passed on; the mortgage lender will be paid a servicing fee from these cash flows to compensate them for collecting the mortgage payments and distributing them to the bondholders.

Securitization allows the original lender to reduce the risk exposure, as any homeowner defaults are a risk borne by the investor. In addition, the lender receives new funds, which can, in turn, form the basis for new loans and new issues of mortgage-backed securities. In 2007–2008, the agency issues of this arrangement became clearly known. It led to efforts to encourage loans of questionable quality (“subprime” mortgage loans), as the loans would be packaged and sold to others.

A straight bond will have a set time to maturity. That is, it will pay coupon interest every six months until the bond matures, at which time the final interest payment is made and the bond's par value is paid to investors. But a variety of features can affect the bond's final maturity.

Geography can play a role. U.S. firms routinely issue bonds with ten to 30-year maturities (and even longer in some instances). Bonds in the European market rarely extend their maturity past the seven to ten-year range. Indeed, as interest rates have been quite low, some firms and governments are issuing very long-term bonds to “lock in” low interest rates.

A **convertible bond** can be changed or converted, at the investor's option, into a specified number of shares of the issuer's common stock (defined as the bond's **conversion ratio**). The conversion ratio is set initially to make conversion unattractive. If the firm meets with success, however, its stock price will rise and the bond's price will be affected by its **conversion value** (the stock price times the conversion ratio) rather than its value as a straight bond.

For example, suppose a firm has issued a \$1,000 par value convertible bond. Its conversion ratio is 30 and the stock currently sells for \$25 a share. The conversion value of the bond is $30 \times \$25/\text{share}$ or \$750. It makes sense to hold onto the bond rather than convert a bond with a purchase price of about \$1,000 into stock that is worth only \$750. Should the stock's price rise to \$40, the bond's conversion value will be $30 \times \$40/\text{share}$ or \$1,200. Now it may be appropriate for investors to convert their bond into the more valuable shares. **Why would a firm issue convertible bonds?** Some may do so as way to raise equity at a time when the firm's stock or the overall stock market is out of favor. By selling convertible bonds, they can raise capital and erase the debt from their books when the bonds are converted after the stock price rises.

Callable bonds can be redeemed prior to maturity by the firm. Such bonds will be called and redeemed if, for example, a decline in interest rates makes it attractive for the firm to issue lower coupon debt to replace high coupon debt. A firm with cash from successful marketing efforts or a recent stock issue also may decide to retire its callable debt.

Most indentures state that, if called, a callable bond must be redeemed at its **call price**; typically, par value plus a call premium of one year's interest. Thus, to call a 12 percent coupon, \$1,000 par value bond, an issuer must pay the bondholder \$1,120.

Investors in callable bonds are said to be subject to **call risk**. Despite receiving the call price, investors are usually displeased when their bonds are called away. As bonds are typically called after a substantial decline in interest rates, the call eliminates their high coupon payments; investors will have to reinvest the proceeds in bonds that offer lower yields.

To attract investors, callable bonds must offer higher coupons or yields than noncallable bonds of similar credit quality and maturity.

Puttable bonds (sometimes called **retractable bonds**) allow investors to force the issuer to redeem them prior to maturity. Indenture terms differ as to the circumstances when an investor can “put” the bond to the issuer prior to the maturity date and receive its par value. Some bond issues can be put only on certain dates. Others can be put to the issuer in case of a bond rating downgrade. The put option allows the investor to receive the full face value of the bond, plus accrued interest. Since this protection is valuable, investors “pay” for it in the form of a lower coupon rate.

Extendable notes have their coupons reset every two or three years to reflect the current interest rate environment and any changes in the firm’s credit quality. At each reset, the investor may accept the new coupon rate (and effectively extend the maturity of the investment) or put the bonds back to the firm.

Income From Bonds

A typical bond will pay a fixed amount of interest each year over the bond's life. U.S. bonds pay interest semi-annually while Eurobonds pay interest annually.

Zero-coupon bonds pay no interest over the life of the bond. The investor buys the bond at a steep discount from its par value; the return to the investor over time is the difference between the purchase price and the bond's par value when it matures. A drawback to taxable investors is that the Internal Revenue Service (IRS) assumes interest is paid over the life of the bond so investors must pay tax on interest they don't receive. Because of these tax implications, zero-coupon bonds are best suited for tax-deferred investment accounts, such as individual retirement accounts (IRAs) or tax-exempt investment organizations, such as pension funds.

Why would an investor purchase a zero-coupon bond? Many bond investors have long-term time horizons before the invested funds are needed (to pay for a child's college education, personal retirement, or other financial goals). Such investors will not spend the bond's coupon interest when it is received; they will reinvest it in other securities. When these investors purchase regular bonds, they face the risk of not knowing what the return will be on the reinvested coupons over the life of the bond. Interest rates may rise, fall, or cycle up and down over the life of the investment. Zero-coupon bonds eliminate this uncertainty by, in essence, locking in the return (the difference between the price paid and the par value) when the bond is purchased.

A large risk faced by bond investors is an unexpected change in inflation. An unexpected increase in inflation can cause lower real returns to an investor as the bond's fixed interest rate does not adjust to varying inflation. In 1997, the U.S. Treasury offered an innovation to investors in U.S. debt: [Treasury Inflation Protected Securities](#). They are issued in \$1,000 minimum denominations and the principal value of the notes changes in accordance with changes in the consumer price index (CPI).

Here's how Treasury Inflation Protected Securities (TIPS) work. Interest payments are computed based upon the inflation-adjusted principal value. In times of rising consumer prices, the principal value and interest payments rise in line with inflation. Should the CPI fall, the principal amount is reduced accordingly. As an example, suppose an inflation-indexed note with a \$1,000 par value is sold at a 3 percent interest rate. If inflation over the next year is 4 percent, the principal value rises to \$1,000 plus 4 percent, or \$1,040. The annual interest payment will be 3 percent of \$1,040; that is, $0.03 \times \$1,040$, or \$31.20. With 4 percent inflation, the principal rises by 4 percent (from \$1,000 to \$1,040) as does the interest (from \$30 to \$31.20).

2. Corporate Equity Capital

Corporate equity capital is the financial capital supplied by the owners of a corporation.

Common stock (see [Table 10.3](#)) represents ownership shares in a corporation. Ownership gives common stockholders certain rights and privileges that bondholders do not have. Common shareholders can vote to select the corporation's board of directors. The board of directors, in turn, exercises general control over the firm. In addition to voting for the board, common shareholders may vote on major issues facing the firm, such as mergers.

TABLE 10.3**Elements of Common Stock**

- **Represents an ownership claim**
- **Board of directors (board) oversees the firm on behalf of the shareholders and enforces the corporate charter**
- **Voting rights for board members and other important issues allowed by the corporate charter**
- **Lowest claim on assets and cash flow**
- **Par value is meaningless, and many firms have low or no-par stock**
- **Dividends:** Received only if declared by the firm's board
 - Paid out from after-tax earnings and cash flow; not tax deductible
 - Dividends are taxable when received by the shareholder
 - Can vary over time
- **Maturity:** Never; stock remains in existence until firm goes bankrupt, merges with another firm, or is acquired by another firm

The common shareholders have a claim on all business profits that remain after the holders of all other classes of debt and equity securities have received their coupon payments or returns. But the firm may wish to retain some of those profits to reinvest in the firm to finance modernization, expansion, and growth. When so declared by the board of directors, owners of a firm's common stock receive dividend payments. The dividend is typically a cash payment that allows shareholders to receive some income from their investment. To many investors, an attractive characteristic of common stock dividends is their potential to increase over time. As a firm achieves success, its profits should grow and the shareholders can expect to see the dollar amount of their dividends rise. Of course, success and growth are not guaranteed. A firm may experience poor earnings or losses, in which case shareholders bear the risk of smaller dividends or the elimination of dividend payments until the firm's financial situation improves.

Preferred stock (see [Table 10.4](#)) is an equity security that has a preference, or senior claim, to the firm's earnings and assets over common stock. Preferred shareholders must receive their fixed dividend before common shareholders can receive a dividend. In liquidation, the claims of the preferred shareholders are to be satisfied before common shareholders receive any proceeds. In contrast with common stock, preferred stock generally carries a stated fixed dividend. The dividend is specified as a percentage of par value or as a fixed number of dollars per year.

For example, a preferred stock may be a 9 percent preferred, meaning that its annual dividend is 9 percent of its par or stated value. In such cases, unlike common stock, a preferred stock's par value does have important meaning, much like par value for a bond. The dividend for no-par preferred stock is stated in terms of a dollar amount, for example, preferred as to dividends in the amount of \$9 annually. The holder of preferred stock accepts the limitation on the amount of dividends as a fair exchange for the priority held in the earnings and assets of the company. Thus, unlike with common stock, the par value of a preferred stock is important. Dividends often are expressed as a percentage of par, and the par value represents the holder's claim on corporate assets in case of liquidation.

TABLE 10.4**Elements of Preferred Stock**

- **Does not represent an ownership claim**
- **No voting rights unless dividends are missed**
- **Claim on assets and cash flow lies between those of bondholders (specifically, subordinated debenture holders) and common shareholders**
- **Par value is meaningful as it can determine the fixed annual dividend**
- **Dividends:** Annual dividends are stated as a dollar amount or as a percentage of par value
 - Received only if declared by the firm's board
 - Are paid out from after-tax earnings and cash flow; not tax deductible
 - Taxable when received by the shareholder
 - May be cumulative
- **Maturity:** Unless it has a callable or convertible feature, the stock never matures; it remains in existence until firm goes bankrupt, merges with another firm, or is acquired by another firm

Because preferred stocks are frequently nonvoting, many corporations issue them as a means of obtaining equity capital without diluting the control of the current stockholders. Unlike coupon interest on bonds, the fixed preferred stock dividend is not a tax-deductible expense.

Preferred stock may have special features. For example, it may be cumulative or noncumulative. **Cumulative preferred stock** requires that before dividends on common stock are paid, preferred dividends must be paid for the current period and for all previous periods in which preferred dividends were missed. Unlike debt holders, the preferred stockholders cannot force the payment of their dividends. They may have to wait until earnings are adequate to pay dividends. Cumulative preferred stock offers some protection for periods during which dividends are not declared.

Callable preferred stock gives the corporation the right to retire the preferred stock at its option.

Convertible preferred stock has a special provision that makes it possible to convert it to common stock of the corporation, generally at the stockholder's option. This, like many of the special features that preferred stock may have, exists primarily to attract investors to buy securities at times when distribution would otherwise be difficult. Preferred stock that is cumulative and convertible is a popular financing choice for investors purchasing shares of stock in small firms with high growth potential.

Participating preferred stock allows preferred shareholders to participate with common shareholders when larger dividend payouts are available. Holders get a larger dividend, if sufficient earnings exist and if common shareholders will be getting a dividend larger than the preferred shareholders. It is a rarely used feature except in some private equity and venture capital investments.

Dividends and Stock Repurchases

Dividends, as we've learned, are not a legal obligation of the firm and may be skipped, decreased, increased, stopped, and started according to the collective wisdom of the corporation's board of directors. When they are paid, they are typically paid on a quarterly basis, four times over the course of a year.

Many firms offer shareholders the choice to receive a check for the amount of their dividends or to reinvest the dividends in the firm's stock. [Dividend reinvestment plans \(DRIPs\)](#) allow shareholders to purchase additional shares automatically with all or part of the investor's dividends. Fractional shares can be purchased and DRIP purchases have no or low commissions. Suppose an investor owns sufficient shares to receive \$10 in dividends on a stock from its quarterly declared dividend. If the stock price is \$25, the DRIP program allows the investor to purchase $\$10/\25 , or a 0.40 share of the firm's stock. If the stock price is \$8, the investor's reinvested dividends will purchase $\$10/\8 or 1.25 shares of the stock. Whether the dividends are received as cash or reinvested, the investor must pay taxes on them.

How Do Firms Decide on the Dollar Amount of Dividends?

Most firms that issue dividends try to maintain a consistent dividend payout ratio, which is dividends per share divided by earnings per share (EPS). The dividend payout ratio for example, Microsoft company's dividend is \$1.44 per share divided by earnings per share, \$1.48:

Dividend payout ratio = $\$1.44 / \$1.48 = 0.97$ or 97 percent

This is quite high. If this were the case, Microsoft likely expects its earnings to rise in the coming year. Rare is the firm that wants to continually return all of its earnings to shareholders as dividends; typically, funds are retained to finance growth and expansion.

A key component of the “how much?” decision is what level of dividends is sustainable over time? A firm does not want to announce it will begin paying dividends and then have to reduce or eliminate the dividend at a later time due to the need to conserve cash. Dividends are thought to send a signal to investors about management’s view of the future cash-generating ability of the firm. Managers and the board of directors have private information about the strategies, competitive responses, and opportunities facing the firm that are not known to the investing public. Thus, if the firm increases dividends, that is a positive signal or indicator to the financial markets that management believes the future looks stable, or improving, for the firm. A reduction in dividends is taken to be a pessimistic indicator of the firm’s future, so firms set dividend levels so future reductions are unlikely given their current perspective on the firm’s future.

As the firm generates more cash, the firm will increase its dollar amount of dividends per share as well as its dividend payout ratio. After a while, the firm will determine a “target” dividend payout ratio that it seeks to maintain over time. However, dividends will not automatically rise along with earnings. If future earnings rise, dividends will not increase until the board feels the higher level of earnings are sustainable. (Remember, firms do not want to ever cut the dollar amount of the dividends per share if they can avoid it.) If the higher earnings appear to be sustainable, the firm will adjust the dividends per share accordingly toward the “target” dividend payout ratio. Some call this the **target dividend payout policy**.

Some firms follow a different dividend strategy of consistently paying a low regular dividend but declaring a **special dividend** when times are particularly good. For a firm in a cyclical industry, with highly variable sales and earnings, this may be a strategy to conserve cash during industry recessions while maintaining the low but stable regular dividend. Shareholders are rewarded when rising earnings allow the company to declare an extra or special dividend. While such a dividend policy may help management control their cash balance, investors, who generally prefer certainty to uncertainty, do not favor such a strategy.

Note please: A cyclical industry is a type of industry that is sensitive to the business cycle, such that revenues generally are higher in periods of economic prosperity and expansion and are lower in periods of economic downturn and contraction.

Other dividend payment strategies suffer from the same drawback of creating investor uncertainty due to variable dividend levels. The **residual dividend policy** states that dividends will vary based upon how much excess funds the firm has from year to year.

Under a **constant payout ratio** strategy, the firm pays a constant percentage of earnings as dividends; as earnings rise and fall, so does the dollar amount of dividends.

Please note that this is not the same as the target payout policy. The firm adjusts dividends around the target over time, depending on earnings sustainability; during some years, the actual payout ratio will exceed the target, and during others, it will be under it in order to have stable, predictable changes in dividends. The constant payout ratio maintains the payout ratio at the expense of a varying dollar amount of dividends per share.

The board of directors and management will consider several factors as they examine the level of dividend payout. Some of these factors are the following:

- Ability of the firm to generate cash to sustain the level of dividends. Recall that investors react badly to reductions in dividends. If a dividend level is thought to be unsustainable, the firm's stock price will fall as investors sell the stock.
- Legal and contractual considerations. Dividends, when they are paid, reduce a firm's equity. A firm cannot pay dividends if doing so will reduce the firm's equity below the par value of the common stock. In addition, a bond's indenture (or loan agreement with a bank) may restrict the dollar amount of dividends to ensure adequate cash is available to pay loan interest and principal.
- Growth opportunities. Growing firms require capital, and they will likely want to reinvest all profits into the company to finance expansion and move into new products or markets. Growing firms may seek additional funds from loans, bond issues, and new issues of stock. It is unlikely firms facing growth opportunities will want to initiate or significantly increase their dividends.

- Cost of other financing sources. Dividends are paid, for the most part, from internally generated funds, meaning cash that remains after the firm's bills, interest, and taxes are paid. If a firm has the ability to easily raise low-cost external financing sources, it will be better able to maintain a higher level of dividends. Firms that can raise outside financing by paying high interest rates or by issuing new shares of stock will likely have lower levels of dividends.
- Tax rates.

In addition to giving cash dividends to shareholders, the firm's board of directors can announce other decisions, such as a stock dividend or stock split, that, at first glance, appear to give extra shares and wealth to shareholders. In reality, as we shall see in the next section, their effect on the value of a firm's stock and the wealth of shareholders is zero. But the board can make one other decision with respect to the firm's shares that will positively affects share- holders: a stock buyback or share repurchase program. We'll examine stock dividends, splits, and repurchases next.

Stock Dividends and Stock Splits

A stock dividend is what it sounds like: a dividend paid with shares of stock rather than cash. Rather than mention a dollar figure, the announcement will state that the firm is distributing a 5 percent (or “X” percent) stock dividend. But a stock dividend has no net effect on the wealth of the shareholders. To see why, consider the following.

Suppose CUL8R Incorporated stock is currently priced at \$10 a share, and there are 100,000 shares outstanding; the total market value of the firm is $\$10 \times 100,000$ or \$1 million. Suppose you own 1,000 shares, meaning you own 1 percent of the shares outstanding and the value of your holdings is $\$10 \times 1,000$ shares or \$10,000. CUL8R’s board has declared a 10 percent stock dividend, so now you own 1,100 shares.

Are you any richer? The answer is no; you still own 1 percent of the shares outstanding, and the value of your CUL8R holdings is still \$10,000. You own 1,100 shares, but the number of shares outstanding is 10 percent larger, too. There are 110,000 total shares, and you own 1 percent of this total. Nothing has happened to the value or the earnings ability of the firm with this paper transaction, so the firm’s stock price will fall and will equal \$1 million/110,000 shares, or approximately \$9.09. The bottom line is a stock dividend distributes nothing to shareholders and removes nothing from the firm. No value is transferred.

A [stock split](#) has a similar effect. The firm distributes extra shares for every share owned in a stock split. For example, a firm may announce a two-for-one stock split; this has the effect of doubling the number of shares outstanding and doubling the holdings of each investor, but as in the case of a stock dividend, the net effect on investor wealth is zero. You may own twice as many shares, but the stock price will be cut in half, leaving your ownership stake (both in terms of value and percentage owned) the same as it was before the stock split. Occasionally, a firm will announce a “[reverse split](#)” in which multiple shares are combined to form one new share. For example, a one-for-four reverse split means four old shares are equal to one new share. When this happens, the stock price will change so again the investor’s wealth remains the same.

You may have noted that there is not much of a difference between a stock split and a stock dividend. They involve paper transactions in which the number of shares is increased but prices adjust downward to maintain investor wealth at a constant level. In terms of accounting, a distribution of five shares for four (a 25 percent stock dividend) is considered to be a stock split; a distribution of less than five for four (less than a 25 percent stock dividend) is considered to be a stock dividend.

Share Repurchases

Rather than distribute funds to shareholders in the form of earnings, a firm can repurchase its shares. Why would a firm repurchase its shares of stock? Some firms purchase shares of their own stock to use in stock-based acquisitions of other firms. That is, they repurchase shares from current shareholders and then distribute them to owners of a newly acquired firm.

A major reason for doing this is to reward longer-term shareholders by enhancing the value of the firm's shares. Increases in stock prices are not taxed until the shares are sold, and if the shares have been held longer than one year, the maximum tax on the increase in value (called a capital gain) is 15 percent for most investors. This tax savings is thought to be a major reason by some researchers for the increase in stock repurchases in recent years.

Another reason for stock repurchases is that the firm has the cash and sees its own stock as one of its most attractive investment alternatives. Rather than investing in expanding the business to new markets, the firm's board of directors and top managers believe the firm's stock is undervalued and offers potential returns. The stock can be purchased at what is perceived to be a low price and re-issued later, after the stock price rises.