Chapter 14
FINANCIAL MARKETS AND SECURITIES

NOTE: This chapter duplicates some of the material contained in Chapter 8 of the second edition of Fundamentals of Healthcare Finance. However, it includes much more information than the text chapter.

Learning Objectives
After studying this chapter, you will be able to

- Describe how interest rates are set in the economy.
- Discuss the various types of long-term debt instruments and their features.
- Discuss the components that make up the interest rate on a debt security.
- Describe the key features associated with equity financing.
- Discuss the investment banking process.

Introduction
If a business is to operate, it must have assets. To acquire assets, it must raise capital. Capital comes in two basic forms: debt and equity. Historically, capital furnished by the owners of investor-owned businesses (i.e., stockholders of for-profit corporations) was called equity capital, while capital obtained by not-for-profit businesses from grants, contributions, and retained earnings was called fund capital. Both types of capital serve the same purpose in financing businesses—providing a permanent financing base without a contractually fixed cost—so today the term equity is often used to represent nonliability capital regardless of ownership type.

In addition to equity financing, most healthcare businesses use a considerable amount of debt financing, which is provided by creditors. For example, Yahoo! Finance reports that, on average, for-profit healthcare-sector businesses finance their assets with roughly 5 percent short-term debt (and liabilities), 43 percent long-term debt, and 52 percent equity as measured by balance sheet amounts. Thus, almost one-half of the sector’s financing comes from debt. In this chapter, many facets of debt and equity financing are discussed, including important background material related to how interest rates are set in the economy.
The Cost of Money
Capital in a free economy is allocated through the price system. The interest rate is the price paid to obtain debt capital, whereas in the case of equity capital in for-profit firms, investors’ returns come in the form of dividends and capital gains or losses. The four most fundamental factors that affect the supply of and demand for investment capital, and hence the cost of money, are investment opportunities, time preferences for consumption, risk, and inflation. To see how these factors operate, visualize the situation facing Lori Gibbs, an entrepreneur who is planning to found a new home health agency. Lori does not have sufficient personal funds to start the business, so she must supplement her equity capital with debt financing.

Investment Opportunities
If Lori estimates that the business will be highly profitable, she will be able to pay creditors a higher interest rate than if it is barely profitable. Thus, her ability to pay for borrowed capital depends on the business’s investment opportunities. The higher the profitability of the business, the higher the interest rate that Lori can afford to pay lenders for use of their savings.

Time Preferences for Consumption
The interest rate lenders will charge depends in large part on their time preferences for consumption. For example, one potential lender, Jane Wright, may be saving for retirement, so she may be willing to loan funds at a relatively low rate because her preference is for future consumption. Another person, John Davis, may have a wife and several young children to clothe and feed, so he may be willing to lend funds out of current income, and hence forgo consumption, only if the interest rate is very high. John is said to have a high time preference for consumption and Jane a low time preference. If the entire population of an economy were living right at the subsistence level, time preferences for current consumption would necessarily be high, aggregate savings would be low, interest rates would be high, and capital formation would be difficult.

Risk
The risk inherent in the prospective home health care business, and thus in Lori’s ability to repay the loan, would also affect the return lenders would require: the higher the risk, the higher the
interest rate. Investors would be unwilling to lend to high-risk businesses unless the interest rate was higher than on loans to low-risk businesses.

**Inflation**
Finally, because the value of money in the future is affected by *inflation*, the higher the expected rate of inflation, the higher the interest rate demanded by savers. Debt suppliers must demand higher interest rates when inflation is high to offset the resulting loss of purchasing power.

Note that to simplify matters, the illustration implies that savers would lend directly to businesses that need capital, but in most cases the funds would actually pass through a *financial intermediary* such as a bank or a mutual fund. Also note that we use the interest rate on debt capital to illustrate the four factors, but the same logic applies to the cost of all investment capital.

**Self-Test Questions**
1. What is the “price” of debt capital?
2. What four factors affect the cost of money?

**Common Long-Term Debt Instruments**
There are many different types of long-term debt, which, in general, is defined as debt that has a maturity greater than one year. Some types, such as home mortgages and auto loans, are used by individuals, while other types are use primarily by businesses. In this section, we discuss the long-term debt types most commonly used by healthcare businesses.

**Term Loans**
A *term loan* is a contract under which a borrower agrees to make a series of interest and principal payments, on specified dates, to a lender. Investment bankers generally are not involved; term loans are negotiated directly between the borrowing business and the lender. Typically, the lender is a financial institution such as a commercial bank, a mutual fund, an insurance company, or a pension fund, but it can also be a wealthy private investor. Most term loans have maturities of 3 to 15 years.

Like home mortgages, term loans are usually amortized in equal installments over the life of the loan, so part of the principal of the loan is retired with each payment. For example,
Sacramento Cardiology Group has a $100,000 five-year term loan with Bank of America to fund the purchase of new diagnostic equipment. The interest rate on the fixed-rate loan is 10 percent, which obligates the Group to five end-of-year payments of $26,379.75. Thus, loan payments total $131,898.75, of which $31,898.75 is interest and $100,000 is repayment of principal (i.e., the amount borrowed).

Term loans have three major advantages over bonds (the other major category of long-term debt, which we discuss in the next section): speed, flexibility, and low administrative costs. Because term loans are negotiated directly between an institutional lender and the borrower, as opposed to being sold to the general public, formal documentation is minimized. The key provisions of the loan can be worked out much more quickly, and with more flexibility, than can those for a public issue. Furthermore, it is not necessary for a term loan to go through the Securities and Exchange Commission (SEC) registration process. Finally, after a term loan has been negotiated, changes can be renegotiated more easily than with bonds if financial circumstances so dictate.

The interest rate on a term loan either can be fixed for the life of the loan or variable. If it is fixed, the rate used will be close to the rate on equivalent maturity bonds issued by businesses of comparable risk. If the rate is variable, it is usually set at a certain number of percentage points over an index rate such as the prime rate. When the index rate goes up or down, so does the interest rate that must be paid on the outstanding balance of the term loan.

**Bonds**

Like a term loan, a *bond* is a long-term contract under which a borrower agrees to make payments of interest and principal, on specific dates, to the holder of the bond. Although bonds are similar in many ways to term loans, a bond issue generally is registered with the SEC, advertised, offered to the public through investment bankers, and actually sold to many different investors. Indeed, thousands of individual and institutional investors may participate when a firm, such as HCA, sells a bond issue, while there usually is only one lender in the case of a term loan.

Bonds are categorized as either government (Treasury), corporate, or municipal. *Government*, or *Treasury*, *bonds* are issued by the US Treasury and are used to raise money for the federal government. Because Treasury bonds are not used by businesses, we do not discuss them here.
Corporate Bonds

Corporate bonds are issued by investor-owned firms, while municipal bonds are issued by governments and governmental agencies other than federal. In this section, the primary focus is on corporate bonds, but much of the discussion also is relevant to municipal bonds. The unique features of municipal bonds are discussed in a later section.

Although corporate bonds generally have maturities in the range of 20 to 30 years, shorter maturities, as well as longer maturities, are occasionally used. In fact, in 1995, HCA (then Columbia/HCA) issued $200 million of 100-year bonds, following the issuance of 100-year bonds by Disney and Coca-Cola in 1993. These ultra-long-term bonds had not been used by any firm since the 1920s. Unlike term loans, bonds usually pay only interest over the life of the bond, with the entire amount of principal returned to lenders at maturity.

Most bonds have fixed interest rates, which lock in the current rate for the entire maturity of the bond and hence minimize interest payment uncertainty. However, some bonds have floating, or variable, rates that are tied to some interest rate index, so the interest payments move up and down with the general level of interest rates.

Some bonds don’t pay interest but are sold at a substantial discount from face (principal) value. Such bonds, called zero-coupon bonds, provide the investor (lender) with capital appreciation rather than interest income. For example, a zero-coupon bond with a $1,000 face value and 10-year maturity might sell for $385.54 when issued. An investor who buys the bond would realize a 10 percent annual rate of return if the bond were held to maturity, even though he or she would receive no interest payments along the way. (Note though, for tax purposes, the difference between par value and the purchase price is amortized and treated as interest income.)

Other bonds, instead of paying interest in cash, pay coupons that grant the lender additional bonds (or a proportion of an additional bond). These bonds are called payment-in-kind (PIK) bonds. PIK bonds usually are issued by companies in poor financial condition that do not have the cash to pay interest, and hence these bonds tend to be risky.

In rare cases, bonds have step-up provisions, which mean that the interest rate paid on the bond is increased if the bond’s rating is downgraded. (A downgrading means that the company’s financial condition has deteriorated. Bond ratings are discussed in a later section.) A step-up provision is very risky for the issuing company because it must pay a higher interest rate at the
worst possible time—when its financial condition weakens. Conversely, such a provision reduces the risk to buyers (lenders).

The bottom line here is that bonds in general, and corporate bonds in particular, come in many different flavors. In an introductory healthcare finance text, we can only scratch the surface.

**Mortgage Bonds**

With a *mortgage bond*, the issuer pledges certain real assets as security for the bond. To illustrate the concept, consider the following example. Mid-Texas Healthcare System recently needed $100 million to purchase land and to build a new hospital. *First mortgage bonds* in the amount of $30 million, secured by a mortgage on the property, were issued. If the firm *defaults* (fails to make the promised payments) on the bonds, the bondholders could foreclose on the hospital and sell it to satisfy their claims.

Mid-Texas could, if it so chose, also issue *second mortgage bonds* secured by the same $100 million hospital. In the event of bankruptcy and liquidation, the holders of these second mortgage bonds would have a claim against the property only after the first mortgage bondholders had been paid off in full. Thus, second mortgages are sometimes called *junior mortgages*, or *junior liens*, because they are junior in priority to claims of senior mortgages, or first mortgage bonds.

**Debentures**

A *debenture* is an unsecured bond, and as such, it has no lien against specific property as security for the obligation. For example, Mid-Texas Healthcare System has $5 million of debentures outstanding. These bonds are not secured by real property but are backed instead by the revenue-producing power of the corporation. Debenture holders are, therefore, general creditors whose claims, in the event of bankruptcy, are protected by property not otherwise pledged. In practice, the use of debentures depends on the nature of the firm’s assets and general credit strength. If a firm’s credit position is exceptionally strong, it can issue debentures because it simply does not need to pledge specific assets as security. Debentures are also issued by firms with only a small amount of assets suitable as collateral. Finally, firms that have used up their capacity to borrow in the lower-cost mortgage market may be forced to use higher-cost debentures.
Subordinated Debentures
The term *subordinate* means “below” or “inferior.” Thus, *subordinated debt* has a claim on assets in the event of bankruptcy only after senior debt has been paid off. Debentures may be subordinated either to designated debt—usually bank loans—or to all other debt. In the event of liquidation, holders of subordinated debentures cannot be paid until senior debt, as named in the debenture, has been paid. Subordinated debentures are normally quite risky and hence carry interest rates that are much higher than the rate on mortgage bonds.

Municipal Bonds
*Municipal, or muni, bonds* are long-term debt obligations issued by states and their political subdivisions such as counties, cities, port authorities, toll road or bridge authorities, and so on. Short-term municipal securities are used primarily to meet temporary cash needs, while municipal bonds are usually used to finance capital projects.

There are several types of municipal bonds. For example, *general obligation bonds* are secured by the full faith and credit of the issuing municipality (i.e., they are backed by the full taxing authority of the issuer). Conversely, *special tax bonds* are secured by a specified tax such as a tax on utility services. *Revenue bonds* are bonds that are not backed by taxing power but by the revenues derived from such projects as roads or bridges, airports, and water and sewage systems. Revenue bonds are of particular interest to not-for-profit healthcare providers because these organizations are legally entitled to issue such securities through government-sponsored healthcare financing authorities.

Not-for-profit healthcare firms issue large amounts of municipal debt, as shown by the over $200 billion in bonds outstanding. Recently, about 20 percent of the dollar volume of healthcare muni bonds has had floating rates, while the remaining 80 percent has had fixed rates. Floating rate bonds are riskier to the issuer because interest rates could rise in the future. Conversely, floating rate bonds are less risky to buyers because rising rates will trigger an increase in the amount of each interest payment. However, virtually all such municipal debt has call provisions that permit issuers to replace the floating rate debt with fixed rate debt should interest rates rise substantially. The ability to redeem the debt should interest rates soar places a cap on the riskiness to the borrower as well as on the potential gains to floating rate bondholders. (Call provisions are discussed in more detail in a later section.)
Most municipal bonds are sold in *serial* form—that is, a portion of the issue comes due periodically, anywhere from six months to 30 years or more after issue. Thus, a single issue actually consists of a series of sub-issues of different maturities. In effect, the bond issue is amortized, with a portion of the issue retired every year. The purpose of structuring a bond issue in this way is to match the overall maturity of the issue to the maturity of the assets being financed. For example, a new hospital that has a predicted useful life of about 30 years might be financed with a 30-year serial issue. Over time, some of the revenues associated with the new hospital will be used to meet the *debt service requirements* (i.e., the interest and principal payments). At the end of 30 years, the entire issue will be paid off, and the issuer can plan for a replacement facility or major renovation that would be funded, at least in part, by another debt issue.

Whereas the vast majority of federal government and corporate bonds are held by institutions, close to half of all municipal bonds outstanding are held by individual investors. The primary attraction of most municipal bonds is their exemption from federal and state (in the state of issue) taxes. To illustrate, the interest rate on an AAA-rated, long-term corporate bond in May 2012 was 3.8 percent, while the rate on a similar risk healthcare muni was also 3.8 percent. (Because of the Federal Reserve’s actions to attempt to stimulate a weak economy, interest rates in general have been lower than normal for several years and some relationships between rates have been altered.) To an individual investor in the 40 percent federal-plus-state tax bracket, the corporate bond’s after-tax yield was $3.8\% \times (1 - 0.40) = 3.8\% \times 0.6 = 2.3\%$, while the muni’s after-tax yield was the same as its before-tax yield, 3.8 percent. This yield differential on otherwise similar securities illustrates why investors in high tax brackets are so enthusiastic about municipal bonds.

Most healthcare municipal bonds are issued by large hospitals in amounts of $100$ million or more, because the administrative costs associated with stand-alone issues make it cost-prohibitive for small hospitals needing only small amounts of debt financing. To provide the benefits associated with tax-exempt financing to small hospitals, many state hospital associations have established municipal *bond pools*. These pools raise funds by issuing municipal bonds that are then loaned to not-for-profit hospitals that are too small to “tap” the muni market directly. To avoid abuses of tax-sheltered debt, federal law requires that there be an expectation up front that at least 95 percent of the bond pool will be loaned out to individual hospitals within three years. Unfortunately, some pools, which loaned out only a small percentage of the total funds available,
were unable to demonstrate that this requirement had been met and were fined for violating federal law.

**Private Versus Public Placement**

Most bonds, including Treasury, corporate, and municipal, are sold primarily through investment bankers to the public at large. For example, the New York State Medical Care Facilities Financing Agency recently sold a $675 million municipal mortgage revenue issue for New York Hospital. The issue was marketed both to the public at large and to institutional investors by Goldman Sachs & Co., one of the top underwriters of tax-exempt healthcare issues. However, smaller bond issues, typically $10 million or less, often are sold directly to a single buyer or a small group of buyers. Issues placed directly with lenders, or *private placements*, have the same advantages as term loans, which were discussed in a previous section.

Although the interest rate on private placements is generally higher than the interest rate set on public issues, the administrative costs of placing an issue, such as legal, accounting, printing, and selling fees, are less for private placements than for public issues. Moreover, because there is direct negotiation between the borrower and lender, the opportunity is greater to structure bond terms that are more favorable to the borrower than the terms routinely contained in public debt issues.

**Self-Test Questions**

1. Describe the primary features of the following long-term debt securities:
   a. Term loan
   b. Bond
   c. First mortgage bond
   d. Junior mortgage
   e. Debenture
   f. Subordinated debenture
   g. Municipal bond
2. What is the primary advantage of municipal bonds to investors?

3. What are the key differences between a private placement and a public issue?

4. What is the purpose of a bond pool?

**Debt Contracts**

Debt contracts, which spell out the rights of the borrower and lender(s), have different names depending on the type of debt. The contract between the issuer and bondholders is called an indenture. Indentures tend to be long—some run several hundred pages in length. For other types of debt, a similar, but much shorter, document called a loan agreement or promissory note is used. Health services managers are most concerned about the overall cost of debt, including administrative costs, as well as any provisions that may restrict the business’s future actions. In this section, some relevant debt contract features are discussed.

**Restrictive Covenants**

Many debt contracts include provisions, called restrictive covenants, which are designed to protect creditors from managerial actions that would be detrimental to their best interests. For example, the indenture for Palm Coast Medical Center’s municipal bond issues contains several restrictive covenants, including the covenant that the issuer must maintain a minimum current ratio of 2.0. The current ratio is defined as current assets divided by current liabilities, so a current ratio of 2.0 indicates that current assets are twice as large as current liabilities. Because the current ratio measures a business’s liquidity—the ability to meet cash obligations as they become due—a minimum current ratio provides some assurance to bondholders that the interest and principal payments coming due can be covered. If Palm Coast violates any of its restrictive covenants—say, by allowing its current ratio to drop below 2.0—it is said to be in technical default. (Regular or debt services default occurs when an interest or principal payment is not paid on time.)

**Trustees**

When debt is supplied by a single creditor, there is a one-to-one relationship between the lender and borrower. However, bond issues can have thousands of lenders, so a single voice is needed to represent bondholders. This function is performed by a trustee, usually an institution such as a bank, which represents the bondholders and ensures that the terms of the indenture are being
carried out. The trustee is responsible for monitoring the issuer and for taking appropriate action if a covenant violation occurs. What constitutes appropriate action varies with the circumstances. A trustee has the power to *foreclose* on an issue in default, which makes the full amount of principal and unpaid interest due and payable immediately. However, insisting on immediate payment may result in bankruptcy and possibly large losses on the bonds. In such a case, the trustee may decide that the bondholders would be better served by giving the issuer a chance to work out its problems, which would avoid forcing the business into bankruptcy.

**Call Provisions**

A *call provision* gives the issuer the right to call a bond for *redemption* prior to maturity; that is, the issuer can pay off the bondholders in entirety and *redeem*, or *retire*, the issue. If it is used, the call provision generally states that the firm must pay an amount greater than the initial amount borrowed. The additional sum required is defined as the *call premium*.

Many callable bonds offer a period of call protection, which protects investors from a call just a short time after the bonds are issued. For example, the 20-year callable bonds issued by Palm Coast Medical Center in 2012 are not callable until 2022, ten years after the original issue date. This type of call provision is known as a *deferred call*.

The call privilege is valuable to the issuer but potentially detrimental to bondholders, especially if the bonds are issued in a period when interest rates are cyclically high. In general, bonds are called when interest rates have fallen because the issuer usually replaces the old, high-interest issue with a new, lower-interest issue and hence reduces annual interest expense. When this occurs, investors are forced to reinvest the principal returned in new securities at the then current (lower) rate. As readers will see later, the added risk to lenders of a call provision causes the interest rate on a new issue of callable bonds to exceed that on a similar new issue of noncallable bonds.

If a bond or another debt security has a call provision and interest rates drop, the issuer has to make a decision, called a *refunding decision*, whether or not to call the issue. In essence, the decision involves a cost/benefit analysis wherein the costs are the administrative costs associated with calling one bond and issuing another and the benefits are lower future interest payments.
Self-Test Questions

1. Describe the following debt contract features:
   a. Bond indenture
   b. Restrictive covenant
   c. Trustee
   d. Call provision

2. What is the difference between technical default and “regular” default?
3. What impact does a call provision have on an issue’s interest rate?

Debt (Bond) Ratings

Since the early 1900s, bonds have been assigned quality ratings that reflect their probability of going into default. Today, many types of debt, including bonds, are assigned ratings. The three primary rating agencies are Fitch Ratings, Moody’s Investors Service (Moody’s), and Standard & Poor’s (S&P). All three agencies rate both corporate and municipal bonds. Standard & Poor’s rating designations are shown below, but all three have similar rating designations. Bonds with a BBB (triple B) or higher rating are called investment grade, while BB (double B) or lower-rated bonds, called junk bonds, are more speculative in nature because they have a much higher probability of going into default than do higher-rated bonds.

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<th>Credit Category</th>
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<td>Prime</td>
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<td>Excellent</td>
<td>AA</td>
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<tr>
<td>Upper medium</td>
<td>A</td>
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<tr>
<td>Lower medium</td>
<td>BBB</td>
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<tr>
<td>Speculative</td>
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<tr>
<td>Very speculative</td>
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<td>In default</td>
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Note that S&P uses plus and minus modifiers for bond ratings below triple A. For example, A+ designates the strongest A-rated bond and A− the weakest.

**Bond Rating Criteria**

Although the rating assignments are subjective, they are based on both qualitative characteristics, such as quality of management, and quantitative factors, such as a business’s financial strength. Analysts at the rating agencies have consistently stated that no precise formula is used to set a firm’s rating—many factors are taken into account, but not in a mathematically precise manner. Statistical studies have supported this contention. Researchers who have tried to predict bond ratings on the basis of quantitative data have had only limited success, which indicates that the agencies do indeed use a good deal of judgment to establish a bond rating.

**Importance of Bond Ratings**

Bond ratings are important both to businesses and to investors. First, a bond’s rating is an indicator of its default risk, so the rating has a direct, measurable influence on the interest rate required by investors and hence on the firm’s cost of debt capital. Second, most corporate (i.e., taxable) bonds are purchased by institutional investors rather than by individuals. Many of these institutions are restricted to investment-grade securities. Also, most individual investors who buy municipal bonds are unwilling to take high risks in their bond purchases. Thus, if an issuer’s bonds fall below BBB, it will be more difficult to sell new bonds because the number of potential purchasers is reduced. As a result of their higher risk and more restricted market, low-grade bonds typically carry much higher interest rates than do high-grade bonds. For example, in May 2012, long-term BBB-rated corporate bonds had an interest rate that was 1.4 percentage points above AAA-rate bonds.

**Changes in Ratings**

A change in a firm’s bond rating will have a significant effect on its ability to borrow long-term capital and on the cost of that capital. Rating agencies review outstanding bonds on a periodic basis, and occasionally they upgrade or downgrade a bond as a result of the issuer’s changed circumstances. Also, an announcement that a company plans to sell a new debt issue, or to merge with another company and pay for the acquisition by exchanging bonds for the stock of the acquired company, will trigger an agency review and possibly lead to a rating change. If a firm’s
situation has deteriorated somewhat but its bonds have not been reviewed and downgraded, it may choose to use a term loan or short-term debt rather than to finance through a public bond issue. This will perhaps postpone a rating agency review until the situation has improved.

**Self-Test Questions**

1. What are the three major rating agencies?
2. What are some criteria that the rating agencies use when assigning ratings?
3. What impact do bond ratings have on the cost of debt to the issuing firm?

**Interest Rate Components**

As we discussed previously, investors require compensation for time value, inflation, and risk. For debt investments, the rate of return (i.e., the interest rate) required by investors consists of several components. By understanding the components, it is possible to gain insights on why interest rates change over time, differ among borrowers, and even differ on separate issues by the same borrower.

**Real Risk-Free Rate (RRF)**

The base upon which all interest rates are built is the *real risk-free rate* (RRF). This is the rate that investors would demand on a debt security that is totally riskless when there is no inflation. Thus, the RRF compensates investors for the time value of money but considers no other factors. Although difficult to measure, the RRF is thought to fall somewhere in the range of 2 to 4 percent. In the real world, inflation is rarely zero, and most debt securities have some risk; thus, the actual interest rate on a given debt security will typically be higher than the real risk-free rate.

**Inflation Premium (IP)**

Inflation has a major impact on required interest rates because it erodes the purchasing power of the dollar and lowers the value of investment returns. Creditors, who are the suppliers of debt capital, are well aware of the impact of inflation. Thus, they build an *inflation premium* (IP) into the interest rate that is equal to the expected inflation rate over the life of the security.
For example, suppose that the real risk-free rate was $RRF = 3\%$ and that inflation was expected to be $2\%$ (and hence $IP = 2\%$) during the next year. The rate of interest on a one-year riskless debt security would be $3\% + 2\% = 5\%$.

The rate of inflation built into interest rates is the rate of inflation expected in the future, not the rate experienced in the past. Thus, the latest reported figures may show an annual inflation rate of 3 percent, but that is for a past period. If investors expect a 2 percent inflation rate in the future, then 2 percent would be built into the current rate of interest. Also, the inflation rate reflected in any interest rate is the average rate of inflation expected over the life of the security. Thus, the inflation rate built into a one-year bond is the expected inflation rate for the next year, but the inflation rate built into a 30-year bond is the average rate of inflation expected over the next 30 years. Note that the combination of the RRF and IP is called the risk-free rate ($RF$). Thus, the risk-free rate incorporates inflation expectations, but it does not incorporate any risk factors. In this example, $RF = 5\%$.

**Default Risk Premium (DRP)**

The risk that a borrower will default (not make the promised payments) has a significant impact on the interest rate set on a debt security. This risk, along with the possible consequences of default, is captured by a default risk premium (DRP). Treasury securities have no default risk; thus, they carry the lowest interest rates on taxable securities in the United States. For corporate and municipal bonds, the higher the bond’s rating, the lower its default risk. All else the same, the lower the default risk, the lower the DRP and interest rate.

**Liquidity Premium (LP)**

A liquid asset is one that can be sold quickly at a predictable fair market price, and thus can be converted to a known amount of cash on short notice. Active markets, which provide liquidity, exist for Treasury securities and for the stocks and bonds of larger corporations. Securities issued by small companies, including healthcare providers that issue municipal bonds, are illiquid—one bought, they can be resold by the owner, but not quickly and not at a predictable price. Furthermore, illiquid securities are normally difficult to sell and hence have relatively high transactions costs. (Transactions costs include commissions, fees, and other expenses associated with selling securities.)
If a security is illiquid, investors will add a *liquidity premium* (*LP*) when they set their required interest rate. It is very difficult to measure liquidity premiums with precision, but a differential of at least 2 percentage points is thought to exist between the least liquid and the most liquid securities of similar default risk and maturity.

**Price Risk Premium (PRP)**
The market value (price) of a long-term bond declines sharply when interest rates rise. Because interest rates can and do rise, all long-term bonds, including Treasury bonds, have an element of risk called *price risk*. For example, assume an individual bought a 30-year Treasury bond for $1,000 when the long-term interest rate on Treasury securities was 7 percent. Then, if 10 years later T-bond rates had risen to 14 percent, the value of the bond would have fallen to under $600. That would represent a sizeable loss on the investment, which demonstrates that long-term bonds—even US Treasury bonds—are not riskless.

As a general rule, the bonds of any organization, from the US government to Manor Care to St. Vincent’s Community Hospital, have more price risk the longer the maturity of the bond. Therefore, a *price risk premium* (*PRP*), which is tied directly to the term to maturity, must be included in the interest rate. The effect of price risk premiums is to raise interest rates on long-term bonds relative to those on short-term bonds. This premium, like the others, is extremely difficult to measure, but it seems to vary over time; it rises when interest rates are more volatile and uncertain and falls when they are more stable. In recent years, the price risk premium on 30-year T-bonds appears to have been generally in the range of 0.5 to 2 percentage points.

**Call Risk Premium (CRP)**
Bonds that are callable are riskier for investors than those that are noncallable because callable bonds have uncertain maturities. Furthermore, bonds typically are called when interest rates fall, so bondholders must reinvest the call proceeds at a lower interest rate. To compensate for bearing call risk, investors charge a *call risk premium* (*CRP*) on callable bonds. The amount of the premium depends on such factors as the interest rate on the bond, current interest rate levels, and time to first call (the call deferral period). Historically, call risk premiums have been in the range of 30 to 50 basis points.
Combining the Components

When all the interest rate components are taken into account, the interest rate required on any debt security can be expressed as follows:

\[ \text{Interest rate} = \text{RRF} + \text{IP} + \text{DRP} + \text{LP} + \text{PRP} + \text{CRP}. \]

First consider one-year Treasury bills. Assume that RRF is 2 percent and inflation is expected to average 3 percent in the coming year. Because T-bills have no default, liquidity, or call risk, and almost no price risk, the interest rate on a one-year T-bill would be 5 percent:

\[ \text{Interest rate}_{\text{T-bill}} = \text{RRF} + \text{IP} + \text{DRP} + \text{LP} + \text{PRP} + \text{CRP} \]
\[ = 2\% + 3\% + 0 + 0 + 0 + 0 = 5\%. \]

As discussed previously, the combination of RRF and IP is the risk-fee rate, so RF = 5%. In general, the rate of interest on short-term Treasury securities (T-bills) is used as a proxy for the short-term risk-free rate.

Consider another illustration, the callable 30-year corporate bonds issued by HealthWest Corporation. Assume that these bonds have an inflation premium of 4 percent; default risk, liquidity, and price risk premiums of 1 percent each; and a call risk premium of 40 basis points. Under these assumptions, these bonds would have an interest rate of 9.4 percent:

\[ \text{Interest rate}_{\text{30-year bonds}} = \text{RRF} + \text{IP} + \text{DRP} + \text{LP} + \text{PRP} + \text{CRP} \]
\[ = 2\% + 4\% + 1\% + 1\% + 1\% + 0.4\% = 9.4\%. \]

When interest rates are viewed as the sum of a base rate plus premiums for inflation and risk, it is easy to visualize the underlying economic forces that cause interest rates to vary among different issues and over time.

Self-Test Questions

1. Write out an equation for the required interest rate on a debt security.
2. What is the difference between the real risk-free rate, RRF, and the risk-free rate, RF?
3. Do the interest rates on Treasury securities include a default risk premium? A liquidity premium? A price risk premium? Explain your answer.
4. Why are callable bonds riskier for investors than are similar bonds without a call provision?
5. What is price risk? What type of debt securities would have the largest price risk premium?

The Term Structure of Interest Rates
At certain times, short-term interest rates are lower than long-term rates; at other times, short-term rates are higher than long-term rates; and at yet other times, short-term and long-term rates are roughly equal. The relationship between long- and short-term rates, which is called the term structure of interest rates, is important to health services managers who must decide whether to borrow by issuing long- or short-term debt and to investors who must decide whether to buy long- or short-term debt.

To examine the current term structure, look up the interest rates on debt of various maturities by a single issuer (usually the US Treasury) in a source such as the Wall Street Journal. For example, we present below the interest rates for Treasury securities of different maturities on two dates.

<table>
<thead>
<tr>
<th>Term to Maturity</th>
<th>March 1980</th>
<th>March 2004</th>
</tr>
</thead>
<tbody>
<tr>
<td>6 months</td>
<td>15.0%</td>
<td>1.0%</td>
</tr>
<tr>
<td>1 year</td>
<td>14.0</td>
<td>1.3</td>
</tr>
<tr>
<td>5 years</td>
<td>13.5</td>
<td>3.2</td>
</tr>
<tr>
<td>10 years</td>
<td>12.8</td>
<td>4.2</td>
</tr>
<tr>
<td>20 years</td>
<td>12.5</td>
<td>5.0</td>
</tr>
</tbody>
</table>

The set of data for a given date, when plotted on a graph, is called a yield curve. The yield curve changes both in position and in shape over time. Had the yield curve been drawn during January of 1982, it would have been essentially horizontal because long-term and short-term bonds at that time had about the same rate of interest.
On average, long-term rates have been higher than short-term rates, so the yield curve usually slopes upward. An upward sloping curve would be expected if the inflation premium is relatively constant across all maturities because the price risk premium applied to long-term issues will push long-term rates above short-term rates. Because an upward-sloping yield curve is most prevalent, this shape is also called a normal yield curve. Conversely, a yield curve that slopes downward is called an inverted, or abnormal, yield curve. Thus, the yield curve for March 1980 is inverted, but the one for March 2004 is normal.

The data presented here are for US Treasury securities, but the curves could have been constructed for similarly rated corporate or municipal (i.e., tax-exempt) debt, if the data were available. In each case, the yield curve would be approximately the same shape but would differ in vertical position. For example, had the yield curve been constructed for Manor Care, a for-profit nursing home operator, it would fall above the Treasury curve because interest rates on corporate debt include default risk premiums, while Treasury rates do not. Conversely, the curve for Baptist Medical Center, a not-for-profit hospital, would probably fall below the Treasury curve because the tax-exemption benefit, which lowers the interest rate on tax-exempt securities, generally outweighs the default risk premium. In every case, however, the riskier the issuer (i.e., the lower the debt is rated), the higher the yield curve plots on the graph.

Health services managers use yield curve information to help make decisions regarding debt maturities. To illustrate, assume for the moment that it is December 2012 and that the yield curve as illustrated in tabular form on the previous page applies to Baptist Medical Center. Now, assume that the hospital plans to issue $10 million of debt to finance a new outpatient clinic with a 30-year life. If it were to borrow on a short-term basis—say for one year—Baptist’s interest cost for that year would be 1.0 percent, or $100,000. If it were to use long-term (20-year) financing, its cost would be 5.0 percent, or $500,000. Therefore, at first glance, it would seem that Baptist should use short-term debt.

However, if the hospital uses short-term debt, it will have to renew the loan every year at the then current short-term rate. Although unlikely, it is possible that interest rates could soar to 1980 levels. If this happened, by 2015 or so the hospital might be paying 14 percent, or $1.4 million, per year. Conversely, if Baptist used long-term financing in 2012, its interest costs would remain constant at $500,000 per year, so an increase in interest rates in the economy would not hurt the hospital.
Financing decisions would be easy if managers could accurately forecast interest rates. Unfortunately, predicting future interest rates with consistent accuracy is somewhere between difficult and impossible—people who make a living by selling interest rate forecasts say it is difficult, but many others say it is impossible. Sound financial policy, therefore, calls for using a mix of long- and short-term debt, as well as equity, in such a manner that the business can survive in all but the most severe, and hence unlikely, interest rate environments. Furthermore, the optimal financing policy depends in an important way on the maturities of the firm’s assets: In general, to reduce risk, managers try to match the maturities of the financing with the maturities of the assets being financed.

Self-Test Questions
1. What is a yield curve, and what information is needed to create this curve?
2. What is the difference between a normal yield curve and an abnormal one?
3. If short-term rates are lower than long-term rates, why may a business still choose to finance with long-term debt?
4. Explain the following statement: “A firm’s financing policy depends in large part on the nature of its assets.”

Economic Factors That Influence Interest Rate Levels
The general level of interest rates, as opposed to the rate set on a particular debt issue, as well as the shape of the yield curve, is influenced by economic factors. The three most important of these factors are (1) Federal Reserve policy, (2) federal budgetary policy, and (3) the overall level of economic activity.

Federal Reserve Policy
The money supply has a significant effect on the level of economic activity and the inflation rate, which affect the level of interest rates. In the United States, the money supply and short-term interest rates are controlled by the Federal Reserve Board (the Fed). If the Fed wants to stimulate the economy, it increases the growth of the money supply and lowers the short-term interest rate that banks charge one another to borrow funds. Alternatively, if the Fed believes that the economy is overheated and inflation will be a problem in the future, it tightens (reduces) the money supply
and raises short-term rates. During periods when the Fed is actively intervening in the credit markets, interest rates are affected and the yield curve may be temporarily distorted—that is, short-term rates may temporarily be “too high” or “too low.” Typically, the impact of Fed actions on short-term interest rates is much greater than on long-term rates.

**Federal Budgetary Policy**
If the federal government spends more than it receives in tax revenues, it runs a deficit. Typically the shortfall is covered by government borrowing (issuing treasury securities), which increases the demand for debt capital and raises the general level of interest rates. The relative impact on short-term and long-term rates depends on how the deficit is financed. Reliance on short-term debt would raise short-term rates, while reliance on long-term debt would increase long-term rates. Over the past several decades, the federal government has, except for a few years, had an annual deficit, which has pushed the national debt to more than $15 trillion. Clearly, federal borrowing has exerted upward pressure on the overall level of interest rates. Because the government uses both short- and long-term borrowing to finance its deficits, the impact on the yield curve is uncertain.

**Level of Economic Activity**
Business conditions have a significant effect on interest rates. Consumer demand slows during recessions and low-growth periods, which means that fewer goods and services are sold, especially durable goods (houses, automobiles, and the like). At the same time, companies hire fewer employees and spend less on new capital assets (land, buildings, and equipment). The net result is downward pressure on inflation and on the demand for borrowed funds, resulting in downward pressure on interest rates. At the same time, the Fed is trying to stimulate the economy by increasing the money supply and lowering short-term rates. In general, these conditions tend to have more of an impact on short-term rates than on long-term rates because (1) the Fed operates in the short end of the credit markets, and (2) long-term inflation expectations are not as volatile as short-term expectations. The story is reversed when the economy is booming.

**Self-Test Questions**
1. Describe three economic factors that influence the general level of interest rates.
2. Do these factors have a greater influence on short-term or long-term rates? Explain.
**Equity Financing**

Within investor-owned, or for-profit, firms, equity financing is obtained from shareholders through the sale of *common stock* and by retaining earnings within the business. The equivalent financing in not-for-profit firms, which is sometimes called *fund capital*, is raised through contributions and grants and by retaining earnings. From a financial perspective, common stock and fund financing serve the same basic purpose, so the generic term *equity* will be used to refer to all non-debt capital, regardless of a business’s ownership.

**Equity in For-Profit Businesses**

In for-profit businesses, equity financing is supplied by the owners of the business, either directly through the purchase of an equity interest in the business or indirectly through earnings retention. Because most large for-profit businesses are organized as corporations, the discussion here focuses on corporate stockholders as opposed to proprietors or partners, although many of the concepts apply to all owners.

Stockholders are the owners of for-profit corporations, and as such they have certain rights and privileges. The most important of these rights and privileges are discussed in this section.

**Claim on Residual Earnings**

The reason most people buy common stock is to gain the right to a proportionate share of the *residual earnings* of the firm. A firm’s net income, which is the residual earnings after all expenses have been paid, belongs to the firm’s stockholders. Some portion of net income may be paid out in *dividends*, in which case stockholders receive quarterly cash payments.

The portion of net income that is retained within the business will be invested in new assets, which presumably will increase the firm’s earnings, and hence dividends, over time. An increasing dividend stream means that the stock will be more valuable in the future than it is today because dividends will be higher—for example, in five years—than they are now. Thus, stockholders typically expect to be able to sell their stock at some time in the future at a higher price than they paid for it and hence realize a *capital gain*. 
Control of the Firm

Common stockholders have the right to elect the firm’s directors, who in turn elect the officers who will manage the business. In small firms, the major stockholder often assumes the positions of chief executive officer (CEO) and chairman of the board of directors. In large, publicly owned firms, managers typically own some stock, but their personal holdings are insufficient to allow them to exercise voting control. Thus, stockholders can remove the management of most publicly owned firms if they decide a management team is ineffective.

Various state and federal laws stipulate how stockholder control is to be exercised. First, corporations must hold an election of directors periodically, usually once a year, with the vote taken at the annual meeting. Frequently, one-third of the directors are elected each year for a three-year term. Each share of stock has one vote; thus, the owner of 1,000 shares has 1,000 votes. Stockholders can appear at the annual meeting and vote in person, but typically they transfer their right to vote to a second party by means of a proxy. Management always solicits stockholders’ proxies and usually gets them. However, if common stockholders are dissatisfied with current management, an outside group may solicit the proxies in an effort to overthrow management and take control of the business. Such a bid for control is known as a proxy fight.

A hostile takeover occurs when a control change takes place without approval by the managers of the firm being bought. Managers who do not have majority control are very concerned about hostile takeovers. One of the most common tactics to thwart a hostile takeover is to place a poison pill provision in the corporate charter. A poison pill typically permits stockholders of the firm that is taken over to buy shares of the firm that instituted the takeover at a greatly reduced price. Obviously, shareholders of the acquiring firm do not want an outside group to get bargain-priced stock, so such provisions effectively stop hostile takeovers. Although poison pill provisions of this type might appear to be illegal, they have withheld all court challenges. The ultimate effect of poison pills is to force acquiring firms to get the approval of the managers of the other firm prior to the takeover. Although the stated reason for poison pills is to protect shareholders against a hostile takeover at a price that is too low, many people believe that they protect managers more than stockholders.
The Preemptive Right

Common stockholders sometimes have the right, called the preemptive right, to purchase any new shares sold by the firm. The purpose of the preemptive right is twofold. First, it protects the present stockholders’ power of control. If it were not for this safeguard, the management of a corporation under criticism from stockholders could secure its position by issuing a large number of additional shares and purchasing the shares themselves or selling them to a friendly party. Management would thereby gain control of the corporation and frustrate current stockholders.

The second, and more important, purpose for the preemptive right is that it protects stockholders against dilution of value should new shares be issued at less than the current market price. For example, suppose HealthOne HMO has 1,000 shares of common stock outstanding, each with a price of $100, making a total market value of $100,000. If an additional 1,000 shares were sold to friends and relatives of management at $50 a share, for a total of $50,000, this sale would presumably raise the total market value of HealthOne’s stock to $150,000. When the new market value is divided by the new number of shares outstanding, a share price of $75 is obtained. HealthOne’s old stockholders thus lose $25 per share, and the new stockholders have an instant profit of $25 per share. As demonstrated by this example, selling common stock at a price below the current market price dilutes value and transfers wealth from the present stockholders to those who purchase the new shares. The preemptive right, which gives current stockholders the first opportunity to buy any new shares, protects them against such dilution of value.

Self-Test Questions

1. In what forms do common stock investors receive returns?
2. How do common stockholders exercise their right of control?
3. What is the preemptive right, and what is its purpose?

Types of Common Stock

Although most for-profit corporations issue only one type of common stock, in some instances several types of stock are used to meet the special needs of the company. Generally, when special classifications of stock are used, one type is designated Class A, another Class B, and so on. For this reason, such stock is called classified stock.
Small, new companies that seek to obtain funds from outside sources frequently use classified stock. For example, when Genetic Research Inc. went public in 2008, its Class A stock was sold to the public and paid a dividend but carried no voting rights for five years. Its Class B stock was retained by the organizers of the company and carried full voting rights for five years, but dividends could not be paid on the Class B stock until the company had established its earning power by building up retained earnings to a designated level. The firm’s use of classified stock allowed the public to take a position in a conservatively financed growth company without sacrificing income, while the founders retained absolute control during the crucial early stages of the firm’s development. At the same time, outside investors were protected against excessive withdrawals of funds by the original owners. As is often the case in such situations, the Class B stock was also called founders’ shares.

Class A, Class B, and so on, have no standard meanings. Most firms have no classified shares, but a firm that does could designate its Class B shares as founders’ shares and its Class A shares as those sold to the public. Other firms could use the A and B designations for entirely different purposes.

Self-Test Questions
1. What is meant by the term classified stock?
2. Give one reason for using classified stock.

Procedures for Selling New Common Stock
For-profit corporations can sell new common stock in a variety of ways. In this section, we describe the most common methods.

Rights Offerings
As discussed previously, common stockholders often have the preemptive right to purchase any additional shares sold by the firm. If the preemptive right is contained in a particular firm’s charter, the company must offer any newly issued common stock to existing stockholders. If the charter does not prescribe a preemptive right, the firm can choose to sell to its existing stockholders or to the public at large. If it sells its newly issued shares to the existing stockholders, the stock sale is called a rights offering. Each existing stockholder is issued an option giving the holder the right to
buy a certain number of the new shares, typically at a price below the existing market price. The precise terms of the option are listed on a certificate called a *stock purchase right*, or simply a *right*. If the stockholder does not wish to purchase any additional shares in the company, he or she can sell the rights to another person who does want to buy the stock.

**Public Offerings**
If the preemptive right exists in a company’s charter, it must sell new stock through a rights offering. If the preemptive right does not exist, the company may choose to offer the new shares to the general public through a *public offering*. Procedures for public offerings are discussed in detail in a later section.

**Private Placements**
In a *private placement*, securities are sold to one or a few investors, generally institutional investors. As discussed in Chapter 11, private placements are most common with bonds, but they also occur with stock. The primary advantages of private placements are lower administrative costs and greater speed because the shares do not have to go through the SEC registration process.

The primary disadvantage of a private placement is that the securities, because they are unregistered, must be sold to a large, sophisticated investor—usually an insurance company, a mutual fund, or a pension fund. Furthermore, in the event that the original purchaser wants to sell privately placed securities, they must be sold to a similar investor. However, the SEC currently allows any institution with a portfolio of $100 million or more to buy and sell private placement securities. Because thousands of institutions have assets that exceed this limit, there is a large market for the resale of private placements, and hence they are becoming more popular with issuers.

**Employee Stock Purchase Plans**
Many companies have plans that allow employees to purchase stock of the employing firm on favorable terms. Such plans are generically referred to as *employee stock purchase plans*. Under executive incentive *stock option plans*, key managers are given options to purchase stock at a fixed priced. These managers generally have a direct, material influence on the company’s fortunes, so if they perform well, the stock price will go up and the options will become valuable.
Also, many companies have stock purchase plans for lower-level employees. For example, Texas HealthPlans Inc., a regional investor-owned HMO, permits employees who are not participants in its stock option plan to allocate up to 10 percent of their salaries to its stock purchase plan. The funds are then used to buy newly issued shares at 85 percent of the market price on the purchase date. The company’s contribution, the 15 percent discount, is not vested in an employee until five years after the purchase date. Thus, the employee cannot realize the benefit of the company’s contribution without working an additional five years. This type of plan is designed both to improve employee performance and to reduce employee turnover.

**Dividend Reinvestment Plans**

Many large companies have dividend reinvestment plans (DRIPs), whereby stockholders can automatically reinvest their dividends in the stock of the paying corporation. There are two basic types of DRIPs: plans that involve only old stock that is already outstanding and plans that involve newly issued stock. In either case, the stockholder must pay income taxes on the dollar amount of the dividends, even though stock, rather than cash, is received.

Under both types of DRIP, stockholders must choose between continuing to receive cash dividends and using the cash dividends to buy more stock in the corporation. Under the old stock type of plan, a bank, acting as a trustee, takes the total funds available for reinvestment from each quarterly dividend, purchases the corporation’s stock on the open market, and allocates the shares purchased to the participating stockholders on a pro rata basis. The brokerage costs of buying the shares are low because of volume purchases, so these plans benefit small stockholders who do not need cash for current consumption.

The new stock type of DRIP provides for dividends to be invested in newly issued stock; hence, these plans raise new capital for the firm. No fees are charged to participating stockholders, and some companies offer the new stock at a discount of 3 to 5 percent below the prevailing market price. The companies absorb these costs as a trade-off against the issuance costs that would be incurred if the stock were sold through investment bankers rather than through the DRIP.

**Direct Purchase Plans**

In recent years, many companies have established direct purchase plans, which allow individual investors to purchase stock directly from the company. Many of these plans grew out of DRIPs,
which were expanded to allow participants to purchase shares in excess of the dividend amount. In
direct purchase plans, investors usually pay little or no brokerage fees, and many plans offer
convenient features such as fractional share purchases, automatic purchases by bank debit, and
quarterly statements. Although employee purchase plans, DRIPS, and direct purchase plans are
excellent ways for employees and individual investors to purchase stock, they typically do not raise
large sums of new capital for the firm, so other methods must be used when equity needs are great.

Self-Test Questions

1. What is a rights offering?
2. What is a private placement, and what are its primary advantages over a public offering?
3. Briefly, what are employee stock purchase plans?
4. What is a dividend reinvestment plan?
5. What is a direct purchase plan?

The Market for Common Stock

Some for-profit corporations are so small that their common stock is not actively traded—it is
owned by only a few people, usually the companies’ managers. Such companies are said to be
privately held, or closely held, and the stock is said to be closely held stock.

The stocks of some publicly owned firms are not listed on any exchange; they trade in the
over-the-counter (OTC) market. This market is composed of brokers and dealers who belong to a
trade group called the National Association of Securities Dealers (NASD), which licenses brokers
and oversees their trading practices. The computerized trading network that is used for the OTC
market is known as the NASD Automated Quotation System, or NASDAQ. Thus, over-the-counter
transactions are listed in the Wall Street Journal and other publications under the title NASDAQ.

Stocks traded on the OTC market (and their companies) are said to be unlisted.

Most large publicly owned companies apply for listing on an exchange. These companies
and their stocks are said to be listed. Sometimes, companies are first listed on a regional exchange,
such as the Pacific or Midwest; then they move up to the American (AMEX); and finally, if they
grow large enough, to the “Big Board”—the New York Stock Exchange (NYSE). For example,
American Healthcare Management, a company based in King of Prussia, Pennsylvania, that owns
or manages 16 hospitals in nine states, recently listed on the NYSE. The stock had previously
traded on the AMEX, but the firm’s managers believed that listing on the NYSE would increase the trading of its shares and make the company more visible to the investment community, which presumably would have a positive impact on stock price. Many more stocks are traded in the OTC market than on the NYSE, and daily trading volume in the OTC market exceeds that of the NYSE.

Institutional investors such as pension funds, insurance companies, and mutual funds own about 60 percent of all common stocks. However, the institutions buy and sell relatively actively, so they account for about 75 percent of all transactions. Thus, the institutions have a heavy influence on the prices of individual stocks. Stock market transactions can be classified into three distinct categories.

The New Issue Market
A small firm typically is owned by its management and a handful of private investors. At some point, if the firm is to grow further, its stock must be sold to the general public, which is defined as going public. The market for stock that is in the process of going public is often called the new issue market, and the issue is called an initial public offering (IPO). To illustrate, in 2011 BG Medicine, which develops biomarkers used in research related to the causes of disease and the effectiveness of drugs raised $35 million in an IPO by selling 5 million shares at $7 per share.

The Primary Market
In 2011, Opexa Therapeutics, a pharmaceutical company developing a multiple sclerosis drug, sold 4.1 million shares of new common stock at about $2.00 per share, thereby raising more than $8 million of new equity financing. Because the shares sold were newly created, the issue was defined as a primary market offering, but because the firm was already publicly held, the offering was not an IPO. Corporations prefer to obtain equity by retaining earnings because of issuance costs and the tendency for a new stock issue to depress stock prices. Still, if a firm requires more equity funds than can be generated from retained earnings, a stock sale may be required.

The Secondary Market
If the owner of 100 shares of Tenet Healthcare sells his or her stock, the trade is said to have occurred in the secondary market. The market for shares that have already been issued, and hence are outstanding, is defined as the secondary market. On average, more than 10 million shares of
Tenet were traded daily on the New York Stock Exchange in 2010, but the company did not receive a dime from these transactions.

Self-Test Questions
1. What is an initial public offering (IPO)?
2. What is meant when a stock is listed?
3. What are the differences between Manor Care selling shares in the primary market and its shares being sold in the secondary market?

Regulation of Securities Markets
Sales of securities are regulated by the Securities and Exchange Commission (SEC) and, to a lesser extent, by the Federal Reserve Board and each of the 50 states. Here are the primary elements of SEC regulation:

1. The SEC has jurisdiction over all interstate offerings of new securities to the public in amounts of $1.5 million or more.
2. Newly issued securities must be registered with the SEC at least 20 days before they are offered to the public. The registration statement provides the SEC with financial, legal, and technical information about the company, and the prospectus summarizes this information for investors. SEC lawyers and accountants analyze both the registration statement and the prospectus; if the information is inadequate or misleading, the SEC will delay or stop the public offering.
3. After the registration becomes effective, new securities may be offered, but any sales solicitation must be accompanied by the prospectus. Preliminary, or red herring, prospectuses may be distributed to potential buyers during the 20-day waiting period, but no sales may occur during this time. The red herring prospectus contains all the key information that will appear in the final prospectus except the price, which is generally set after the market closes the day before the new securities are actually offered to the public.
4. If the registration statement or prospectus contains misrepresentations or omissions of material facts, any purchaser who suffers a loss may sue for damages. Severe penalties may be imposed on the issuer or its officers, directors, accountants, engineers, appraisers,
underwriters, and all others who participated in the preparation of the registration statement or prospectus.

5. The SEC also regulates all national stock exchanges. Companies whose securities are listed on an exchange must file annual reports with both the SEC and the exchange.

6. The SEC has control over corporate insiders. Officers, directors, and major stockholders must file monthly reports of changes in their holdings of the stock of the corporation.

7. The SEC has the power to prohibit manipulation by such devices as pools (i.e., large amounts of money used to buy or sell stocks to artificially affect prices) or wash sales (i.e., sales between members of the same group to record artificial transaction prices).

8. The SEC has control over the form of the proxy and the way the company uses it to solicit votes.

Control over the use of credit to buy securities (primarily common stock) is exercised by the Federal Reserve Board through margin requirements, which specify the maximum percentage of the purchase price that can be financed by brokerage borrowings. The current margin requirement is 50 percent, so stock investors can borrow up to half of the cost of a stock purchase from his or her broker. If the stock price of a stock bought on margin falls, then the margin money (50 percent of the original value) becomes more than half the current value, and the investor is forced to put up additional personal funds. Such a demand for more personal money is known as a margin call. The amount of additional funds required depends on the maintenance margin, which is set by the broker supplying the loan. When a large proportion of trades are on margin and the stock market begins a retreat, the volume of margin calls can be substantial. Because most investors who buy on margin do not have a large reserve of personal funds, they are forced to sell some stock to meet margin calls, which, in turn, can accelerate a market decline.

States also exercise control over the issuance of new securities within their boundaries. Such control is usually supervised by a corporation commissioner or someone with a similar title. State laws that relate to security sales are called blue sky laws because they were put into effect to keep unscrupulous promoters from selling securities that offered the “blue sky” (something wonderful) but that actually had no assets or earnings to back up the promises.

The securities industry itself realizes the importance of stable markets, sound brokerage firms, and the absence of price manipulation. Therefore, the various exchanges, as well as other industry
trade groups, work closely with the SEC to monitor transactions and to maintain the integrity and credibility of the system. These industry groups also cooperate with regulatory authorities to set net worth and other standards for securities firms, to develop insurance programs that protect the customers of brokerage houses, and the like.

In general, government regulation of securities trading, as well as industry self-regulation, is designed to ensure that investors receive information that is as accurate as possible, that no one artificially manipulates the market price of a given security, and that corporate insiders do not take advantage of their position to profit in their companies’ securities at the expense of others. Neither the SEC nor state regulators nor the industry itself can prevent investors from making foolish decisions, but they can and do help investors obtain the best information possible, which is the first step in making sound investment decisions.

Self-Test Questions

1. What is the purpose of securities markets regulation?
2. What agencies and groups are involved in such regulation?
3. What is a prospectus?
4. What is a margin requirement?
5. What are “blue sky” laws?

The Investment Banking Process

*Investment banks* are the companies, such as Citigroup and Goldman Sachs, that help businesses sell securities to the public. When new securities will be sold to the public, the first step is to select an investment banker. This can be a difficult decision for a firm that is going public. However, an older firm that has already “been to market” will have an established relationship with an investment banker. Changing bankers is easy, though, if the firm is dissatisfied.

The procedures followed in issuing new securities are collectively known as the *investment banking process*. Generally, the following key decisions regarding the issuance of new securities are made jointly by the issuing company’s managers and the investment bankers that will handle the deal:

**Dollars to be raised.** How much new capital is needed?
**Type of securities used.** Should common stock, bonds, another security, or a combination of securities be used? Furthermore, if common stock is to be issued, should it be done as a rights offering, by a direct sale to the general public, or by a private placement?

**Contractual basis of issue.** If an investment banker is used, will the banker work on a *best efforts* basis or will the banker *underwrite* the issue? In a best efforts sale, the banker guarantees neither the price nor the sale of the securities, only that it will put forth its best efforts to sell the issue. On an underwritten issue, the company does get a guarantee because the banker agrees to buy the entire issue and then resell the securities to its customers. Bankers bear significant risk in underwritten offerings because the banker must bear the loss if the price of the security falls between the time the security is purchased from the issuer and the time of resale to the public.

**Banker’s compensation and other expenses.** The investment banker’s compensation (if one is used) must be negotiated. Also, the firm must estimate the other *issuance expenses* (often called *flotation costs*) it will incur in connection with the issue—lawyers’ fees, accountants’ costs, printing and engraving, and so on. In an underwritten issue, the banker will buy the issue from the company at a discount below the price at which the securities are to be offered to the public, with this spread being set to cover the banker’s costs and to provide a profit. In a best efforts sale, fees to the investment banker are normally set as some percentage of the dollar volume sold. Issuance costs as a percentage of the proceeds are higher for stocks than for bonds, and costs are higher for small than for large issues. The relationship between size of issue and issuance cost primarily is a result of the existence of fixed costs—certain costs must be incurred regardless of the size of the issue, so the percentage cost is quite high for small issues. To illustrate, issuance costs for a $5 million bond issue are about 5 percent, while the costs drop to about 1 percent for issues over $50 million. For a stock issue, the costs are about 12 percent and 4 percent, respectively.

**Setting the offering price.** Usually, the *offering price* will be based on the existing market price of the stock or the yield to maturity on outstanding bonds. On initial public offerings, however, pricing decisions are much more difficult because there is no existing market price for guidance. The investment banker will have an easier job if the issue is priced relatively low, but the issuer of the securities naturally wants as high a price as possible. Conflict of interest on price therefore
arises between the investment banker and the issuer. If the issuer is financially sophisticated and makes comparisons with similar security issues, the investment banker will be forced to price the new security close to its true value.

After the company and its investment banker have decided how much money to raise, the types of securities to issue, and the basis for pricing the issue, they will prepare and file a registration statement and a prospectus (if needed). The final price of the stock or the interest rate on a bond issue is set at the close of business the day the issue clears the SEC, and the securities are offered to the public the following day.

Investors are required to pay for securities within ten days, and the investment banker must pay the issuing firm within four days of the official commencement of the offering. Typically, the banker sells the securities within a day or two after the offering begins. However, on occasion, the banker miscalculates, sets the offering price too high, and thus is unable to move the issue. At other times, the market declines during the offering period, forcing the banker to reduce the price of the stock or bonds. In either instance, on an underwritten offering, the firm receives the agreed-upon dollar amount, so the banker must absorb any losses incurred.

Because they are exposed to large potential losses, investment bankers typically do not handle the purchase and distribution of issues single-handedly unless the issue is a very small one. If the sum of money involved is large, investment bankers form underwriting syndicates in an effort to minimize the risk that each banker carries. The banking house that sets up the deal is called the lead, or managing, underwriter.

In addition to the underwriting syndicate, on larger offerings even more investment bankers are included in a selling group, which handles the distribution of securities to individual investors. The selling group includes all members of the underwriting syndicate, plus additional dealers who take relatively small percentages of the total issue from members of the underwriting syndicate. Thus, the underwriters act as wholesalers, while members of the selling group act as retailers. The number of investment banks in a selling group depends partly on the size of the issue but also on the number and types of buyers. For example, the selling group that handled a recent $92 million municipal bond issue for Adventist Health System/Sunbelt consisted of three members, while the one that sold $1 billion in B-rated junk bonds for National Medical Enterprises consisted of eight members.
Self-Test Questions

1. What types of decisions must the issuer and its investment banker make?
2. What is the difference between an underwritten issue and a best efforts issue?
3. What conflicts, if any, might arise between the issuer and the investment banker when setting the offering price on a securities issue?

Equity in Not-for-Profit Corporations

Investor-owned businesses have two sources of equity financing: retained earnings and new stock sales. Not-for-profit businesses can and do retain earnings, but they do not have access to the equity markets—that is, they cannot sell common stock to raise equity capital. Not-for-profit firms can, however, raise equity capital through government grants and charitable contributions.

Federal, state, and local governments are concerned about the provision of healthcare services to the general population. Therefore, these public entities often make grants to not-for-profit providers to help offset the costs of services rendered to patients who cannot pay for those services. Sometimes these grants are nonspecific, but often they are to provide specific services such as neonatal intensive care to needy infants.

As for charitable contributions, individuals, as well as companies, are motivated to contribute to not-for-profit health services organizations for a variety of reasons, including concern for the well-being of others, the recognition that often accompanies large contributions, and tax deductibility. Because only contributions to not-for-profit firms are tax deductible, this source of funding is, for all practical purposes, not available to investor-owned health services organizations.

Although charitable contributions are not a substitute for profit retentions, charitable contributions can be a significant source of fund capital. For example, the Association for Healthcare Philanthropy reported that total gifts to not-for-profit hospitals in recent years have averaged over $5 billion per year, of which about half represented immediate cash contributions (as opposed to endowments). However, many healthcare philanthropy experts believe that it will be more difficult to obtain contributions in the future than it has been in the past. The reasons given include intense competition for contribution dollars and some public concern over whether not-for-profit hospitals are truly meeting their charitable missions.

Most not-for-profit hospitals received their initial, start-up equity capital from religious, educational, or governmental entities, and today some hospitals continue to receive funding from
these sources. However, since the 1970s, these sources have provided a much smaller proportion of hospital funding, forcing not-for-profit hospitals to rely more on profits and outside contributions. Additionally, state and local governments, which are also facing significant financial pressures, are finding it more and more difficult to fund grants to healthcare providers.

Finally, a growing trend among legislative bodies and tax authorities is to force not-for-profit hospitals to “earn” their favorable tax treatment by providing a certain amount of charity care. Even more severe, some cities have pressured not-for-profit hospitals to make “voluntary” payments to the city to make up for lost property tax revenue. These trends tend to reduce the ability of not-for-profit health services organizations to raise equity capital by grants and contributions; hence, the result is increased reliance on making money the old fashioned way—by earning it.

On the surface, investor-owned firms may appear to have a significant advantage in raising equity capital. In theory, new common stock can be issued at any time and in any reasonable amount. Conversely, charitable contributions are much less certain. The planning, solicitation, and collection periods can take years, and pledges are not always collected. Therefore, charitable contributions that were counted on may not materialize. Also, the proceeds of new stock sales may be used for any purpose, but charitable contributions often are restricted, in which case they can be used only for a designated purpose.

In reality, however, managers of investor-owned firms do not have complete freedom to raise capital by selling new common stock. First, the issuance expenses associated with a new common stock issue are not trivial. Second, if market conditions are poor and the stock is selling at a low price, a new stock issue can dilute the value of existing shares and hence be harmful to current stockholders. Finally, new stock issues are often viewed by investors as a signal that the firm’s stock is overvalued, and hence new issues often drive the stock price lower.

For all these reasons, managers of investor-owned firms would rather not issue new common stock. The key point here is that yes, for-profit health services organizations do have greater access to equity capital than do not-for-profit organizations. However, the differential access to equity capital may not be as great an advantage as it initially appears. The greatest advantage is for young, growing businesses that need a great deal of new capital. More mature companies have much less flexibility in raising new equity capital.
Self-Test Questions

1. What are the sources of equity (i.e., fund capital) to not-for-profit firms?
2. Are not-for-profit firms at a disadvantage when it comes to raising equity capital? Explain your answer.

Key Concepts

This chapter provides an overview of debt and equity financing, including how interest rates are determined, and the characteristics of the major types of debt securities. Key concepts include the following:

- Any business must have assets to operate, and to acquire assets, the business must raise capital. Capital comes in two basic forms, debt and equity (or fund) capital.

- Capital is allocated through the price system; a price is charged to “rent” money. Lenders charge interest on funds they lend, while equity investors receive dividends and capital gains in return for letting the firm use their money.

- Four fundamental factors affect the cost of money: investment opportunities, time preferences for consumption, risk, and inflation.

- Term loans and bonds are long-term debt contracts under which a borrower agrees to make a series of interest and principal payments on specific dates to the lender. A term loan is generally sold to one (or a few) lenders, while a bond is typically offered to the public and sold to many different investors.

- In general, debt is categorized as Treasury, which is debt issued by the federal government; corporate, which is debt issued by taxable businesses; and municipal, which is debt issued by nonfederal governmental entities, including debt issued on behalf of not-for-profit healthcare providers.

- Many different types of corporate and municipal bonds exist, including mortgage bonds, debentures, and subordinated debentures. Prevailing interest rates, the bond’s riskiness, and tax consequences determine the return required on each type of bond.

- Revenue bonds are municipal bonds in which the revenues derived from such projects as roads or bridges, airports, water and sewage systems, and not-for-profit healthcare facilities are pledged as security for the bonds.
• A bond’s indenture (or a term loan’s agreement) is a legal document that spells out the rights of both lenders and borrowers.

• A trustee is assigned to make sure that the terms of a bond indenture are carried out.

• Bond indentures typically include restrictive covenants, which are provisions designed to protect bondholders against detrimental managerial actions.

• A call provision gives the issuer the right to redeem the bonds prior to maturity under specified terms, usually at a price greater than the maturity value (the difference is a call premium). A firm will call a bond issue and refund it if interest rates fall sufficiently after the bond has been issued.

• Bonds are assigned ratings that reflect the probability of their going into default. The higher a bond’s rating, and the greater the probability of recovering bondholder capital should default occur, the lower its interest rate.

• The interest rate required on a debt security is composed of the real risk-free rate (RRF) plus premiums that reflect inflation (IP), default risk (DRP), liquidity (LP), price risk (PRP), and call risk (CRP):

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\text{Interest rate} = RRF + IP + DRP + LP + PRP + CRP.
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• The relationship between the yield and the term to maturity on a security is known as the term structure of interest rates. The yield curve is a graph of this relationship.

• The general level of interest rates, as well as the shape of the yield curve, is influenced primarily by three factors: (1) Federal Reserve policy, (2) federal budgetary policy, and (3) the level of economic activity.

• The most important common stockholder rights are a claim on the firm’s residual earnings, control, and the preemptive right.

• New common stock may be sold by for-profit corporations in six ways: on a pro rata basis to existing stockholders through a rights offering; through investment bankers to the general public in a public offering; to a single buyer, or small number of buyers, in a private placement; to employees through an employee stock purchase plan; to shareholders through a dividend reinvestment plan; and to individual investors by direct purchase.

• A closely held corporation is one that is owned by a few individuals who typically are the firm’s managers.
• A publicly owned corporation is one that is owned by a relatively large number of individuals, most of whom are not actively involved in its management.

• Securities markets are regulated at the national level by the Securities and Exchange Commission (SEC) and the Federal Reserve Board and at the state level by state agencies that typically are called corporation commissions (or something similar).

• An investment banker assists in the issuing of securities by helping the business determine the size of the issue and the type of securities to be used; by establishing the selling price; by selling the issue; and, in some cases, by maintaining an after-market for the securities.

• Not-for-profit firms do not have access to the equity markets. However, charitable contributions, which are tax deductible to the donor, and governmental grants constitute unique equity sources for not-for-profit firms.