

CHAPTER 10

Liabilities

After studying this chapter, you should be able to:

Learning Objectives

LO10-1

Define *liabilities* and distinguish between current and long-term liabilities.

LO10-2

Account for notes payable and interest expense.

LO10-3

Describe the costs and the basic accounting activities relating to payrolls.

LO10-4

Prepare an amortization table allocating payments between interest and principal.

LO10-5

Describe corporate bonds and explain the tax advantage of debt financing.

LO10-6

Account for bonds issued at a discount or premium.

LO10-7

Explain the concept of present value as it relates to bond prices.

LO10-8

Explain how estimated liabilities, loss contingencies, and commitments are disclosed in financial statements.

LO10-9

Evaluate the safety of creditors' claims.

LO10-10

Describe reporting issues related to leases, postretirement benefits, and deferred taxes.



PROCTER & GAMBLE

Buying items on credit is a characteristic of modern business. Each day, large retailers and credit card companies encourage consumers to go deeper and deeper into debt. Add to credit card and other consumer debt various long-term obligations—such as home mortgages and automobile loans—and it's no wonder that payments on total household debt make up a high percentage of total disposable income in the United States.

Large corporations also borrow large amounts of capital by issuing debt to finance expansion, acquisitions, and for a wide variety of other purposes. The tremendous debt service costs associated with corporate borrowing can require a significant portion of a company's operating cash flows.

Consider the case of corporate giant Procter & Gamble (P&G). In the company's recent balance sheet,

total liabilities are over \$66 billion, which represents over 50 percent of the company's assets. Included in this amount are noncurrent liabilities of over \$36.7 billion, including 22 different issues of bonds and other forms of debt instruments with varying repayment dates that range as far out in the future as 2037.

From this illustration, you can see that long-term debt financing is a major source of capital for large companies like Procter & Gamble. Debt has a significant impact on all of P&G's financial statements. It also places significant responsibility on management in terms of having available the necessary cash to service the debt each year, as well as being in the financial position required to repay the debt as it matures. Debt financing is one of the major financial resources of companies. ■

Creditors and investors evaluate carefully the liabilities appearing in financial reports. Understanding short-term versus long-term debt is important for managers choosing how to finance their businesses. This chapter provides a basic understanding of concepts related to liabilities and describes how liabilities are recorded and later presented in the financial statements. In addition, the impact of debt on various financial ratios is illustrated.

THE NATURE OF LIABILITIES

Liabilities may be defined as debts or obligations arising from past transactions or events that require settlement at a future date. All liabilities have certain characteristics in common; however, the specific terms of different liabilities and the rights of the creditors vary greatly.

LO10-1

LEARNING OBJECTIVE
Define *liabilities* and distinguish between current and long-term liabilities.

Distinction between Debt and Equity Businesses have two basic sources of financing: liabilities and owners' equity. Owner's equity can be further separated into the original investments of owners and equity that was earned by the company and retained in the business. Liabilities differ from owners' equity in several respects. The feature that most clearly distinguishes the claims of creditors from owners' equity is that all liabilities eventually *mature*—that is, they come due and must be repaid. Owners' equity does not mature. The date on which a liability comes due is called the **maturity date**.¹

Although liabilities must eventually be repaid, their maturity dates vary. Some liabilities require repayment so soon that they are paid before the financial statements are prepared. Long-term liabilities, in contrast, may not mature for many years. The maturity dates of key liabilities may be a critical factor in the solvency of a business.

The providers of borrowed capital are creditors of the business, not owners. As creditors, they have financial claims against the business but usually do not have the right to control business operations. The traditional roles of owners, managers, and creditors may be modified, however, in an indenture contract. Creditors sometimes insist on being granted some control over business operations as a condition of making a loan, particularly if the business is in weak financial condition. Indenture contracts may impose such restrictions as limits on management salaries and on dividends, and may require the creditor's approval for additional borrowing or for large capital expenditures.

The claims of creditors have legal priority over the claims of owners. If a business ceases operations and liquidates, creditors must be paid in full before any distributions can be made to the owners. The relative security of creditors' claims, however, can vary among the creditors. Sometimes the borrower pledges title to specific assets as **collateral** for a loan. If the borrower defaults on a secured loan, the creditor may foreclose on the pledged assets. Assets that have been pledged as security for loans should be identified in notes accompanying the borrower's financial statements.

Liabilities that are not secured by specific assets are termed *general credit obligations*. The priorities of general credit obligations vary with the nature of the liability and the terms of indenture contracts.

Many Liabilities Bear Interest Many long-term liabilities, and some short-term ones, require the borrower to pay interest. Only interest accrued as of the balance sheet date appears as a liability in the borrower's balance sheet. The borrower's obligation to pay interest in future periods may be disclosed in the notes to the financial statements, but it is not an existing liability.

Estimated Liabilities Many liabilities are for a definite dollar amount, clearly stated by contract. Examples include notes payable, accounts payable, and accrued expenses, such as interest payable and salaries payable. In some cases, however, the dollar amount of a liability must be estimated at the balance sheet date.

Current Liabilities

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Estimated liabilities have two basic characteristics: The liability is known to exist, but the precise dollar amount cannot be determined until a later date. For instance, the automobiles sold by most automakers are accompanied by a warranty obligating the automaker to replace defective parts for a period of several years. As each car is sold, the automaker incurs a liability to perform any work that may be required under the warranty. The dollar amount of this liability, however, can only be estimated.

Current Liabilities

Current liabilities are obligations that are expected to be paid within one year or within the operating cycle, whichever is longer. Another requirement for classification as a current liability is the expectation that the debt will be paid from current assets (or through the rendering of services). Liabilities that do not meet these conditions are classified as long-term or noncurrent liabilities.

The time period used in defining current liabilities parallels that used in defining current assets. The amount of *working capital* (current assets less current liabilities) and the *current ratio* (current assets divided by current liabilities) are valuable indicators of a company's ability to pay its debts in the near future.

Among the most common examples of current liabilities are accounts payable, short-term notes payable, the current portion of long-term debt, accrued liabilities (such as interest payable, income taxes payable, and payroll liabilities), and unearned revenue.

ACCOUNTS PAYABLE

Accounts payable often are subdivided into the categories of *trade* accounts payable and *other* accounts payable. Trade accounts payable are short-term obligations to suppliers for purchases of merchandise. Other accounts payable include liabilities for any goods and services other than merchandise.

The date at which a trade account payable becomes a liability for the buyer depends on the terms under which the goods are shipped, that is whether goods are purchased F.O.B. (free on board) shipping point or F.O.B. destination. Under F.O.B. shipping point, a liability arises and title to the goods transfers when the merchandise is shipped by the supplier. Under F.O.B. destination, a liability does not arise and title of ownership does not transfer until the goods are received by the buyer. However, unless material amounts of merchandise are purchased on terms F.O.B. shipping point, most companies follow the convenient practice of recording trade accounts payable when merchandise is received.

NOTES PAYABLE

Notes payable usually are issued when bank loans are obtained. Other transactions that may give rise to notes payable include the purchase of real estate or costly equipment, the purchase of merchandise, and the substitution of a note for a past-due account payable.

Notes payable usually require the borrower to pay an interest charge. Normally, the interest rate is stated separately from the **principal amount** of the note.²

To illustrate, assume that on November 1, Porter Company borrows \$10,000 from its bank for a period of six months at an annual interest rate of 6 percent. Six months later on May 1, Porter Company will have to pay the bank the principal amount of \$10,000, plus \$300 interest ($\$10,000 \times 0.06 \times \frac{6}{12}$). As evidence of this loan, the bank will require Porter Company to issue a note payable similar to the one in Exhibit 10-1. Notice that the interest percentage is for a year, not the duration of the note.

LO10-2

LEARNING OBJECTIVE
Account for notes payable and interest expense.

² An alternative is to include the interest charges in the face amount of the note. This form of note is seldom used today, largely because of the disclosure requirements under "truth-in-lending" laws.

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EXHIBIT 10-1
A Note Payable

November 1, 20__

San Antonio, Texas

Porter Company

Six months **AFTER THIS DATE**

PROMISES TO PAY TO SECURITY NATIONAL BANK THE SUM OF \$ \$10,000

WITH INTEREST AT THE RATE OF 6% **PER ANNUM.**

SIGNED *John Caldwell*

TITLE Treasurer

The journal entry in Porter Company's accounting records for this November 1 borrowing is as follows.

A=L+LOE
The liability is recorded at the face amount of the note

Cash	10,000
Notes Payable	10,000
Borrowed \$10,000 for 6 months at 6% interest per year.	

No liability is recorded for the interest charges when the note is issued. At the date the \$10,000 is borrowed, the borrower has a liability only for the principal amount of the loan; the liability for interest accrues gradually over the life of the loan. At December 31, two months' interest expense has accrued, and the following year-end adjusting entry is made.

A=L+LOE
A liability for interest accrues day by day

Interest Expense	100
Interest Payable	100
To record interest expense incurred through year-end on 6%, 6-month note dated Nov. 1 ($\$10,000 \times 6\% \times \frac{2}{12} = \100).	

For simplicity, we assume that Porter Company makes adjusting entries only at year-end. The entry on May 1 to record payment of the note will be as follows.

A=L+LOE
Payment of principal and interest

Notes Payable	10,000
Interest Payable	100
Interest Expense	200
Cash	10,300
To record payment of 6%, 6-month note on maturity date and to recognize interest expense accrued since Dec. 31 ($\$10,000 \times 6\% \times \frac{4}{12} = \200).	

If Porter Company paid this note prior to May 1, interest charges usually would be computed only through the date of early payment.³

THE CURRENT PORTION OF LONG-TERM DEBT

Some long-term debts, such as mortgage loans, are payable in a series of monthly or quarterly installments. In these cases, the principal amount due within one year (or the operating cycle) is regarded as a current liability, and the remainder of the obligation is classified as a long-term liability.

³ Computing interest charges only through the date of payment is the normal business practice. However, some notes are written in a manner requiring the borrower to pay interest for the full term of the note even if payment is made early. Borrowers should look carefully at these terms.

As the maturity date of a long-term liability approaches, the entire obligation eventually becomes due within the current period. Long-term liabilities that become payable within one year of the balance sheet date are reclassified in the balance sheet as current liabilities.⁴ Changing the classification of a liability does not require a journal entry; the obligation is simply shown in a different section of the balance sheet.

ACCRUED LIABILITIES

Accrued liabilities arise from the recognition of expenses for which payment will be made in a future period. For this reason, accrued liabilities are sometimes referred to as *accrued expenses*. Examples of accrued liabilities include interest payable, income taxes payable, and a number of liabilities relating to payrolls. As accrued liabilities stem from the recording of expenses, the matching principle governs the timing of their recognition.

All companies incur accrued liabilities. In most cases, however, these liabilities are paid at frequent intervals. Therefore, they usually do not accumulate to large amounts. In a balance sheet, small amounts of various types of accrued liabilities are sometimes combined and presented as a single accrued liabilities amount or even combined with other current liabilities, such as accounts payable.

PAYROLL LIABILITIES

The preparation of a payroll is a specialized accounting function beyond the scope of this text. But we believe that every student should have some understanding of the various costs associated with payrolls. Employers must compute, record, and pay a number of costs in addition to the wages and salaries owed to employees. In fact, the total wages and salaries expense (or gross pay) represents only the starting point of payroll computations.

To illustrate, assume that Fulbright Medical Lab employs 20 highly skilled employees. If monthly wages for this workforce in January were \$100,000, the total payroll costs incurred by this employer would actually be much higher, as shown in Exhibit 10-2.

L010-3

LEARNING OBJECTIVE
Describe the costs and the basic accounting activities relating to payrolls.

Gross pay (wages expense)	\$100,000
Social Security and Medicare taxes	7,650
Federal and state unemployment taxes	6,200
Workers' Compensation Insurance	4,000
Group health and life insurance benefits	6,000
Employee pension plan benefits	9,500
Total payroll costs for January	<u>\$133,350</u>

EXHIBIT 10-2

The Computation of Total Payroll Costs

The amounts in Exhibit 10-2 shown in red are **payroll taxes** and insurance premiums required by law. Costs shown in green currently are not required by law but often are included in the total compensation package provided to employees at the discretion of the employer.

In this example, total payroll-related costs exceed wages expense by more than 30 percent. This relationship will vary from one employer to another, and this example uses assumed, but reasonable, rates that may not reflect the actual rates in effect at any point in time.

Payroll Taxes and Mandated Costs All employers must pay Social Security and Medicare taxes on the wages or salary paid to each employee. The percentages of the employee's earnings subject to these taxes vary from year to year. Federal unemployment taxes apply only to the first set dollar amount earned by each employee during the year (state unemployment taxes may vary). As a result, these taxes tend to decline dramatically as the year progresses.

⁴ Exceptions are made to this rule if the liability will be *refinanced* (that is, extended or renewed) on a long-term basis and certain specific conditions are met or if a special *sinking fund* has been accumulated for the purpose of repaying this obligation. In these cases, the debt remains classified as a long-term liability, even though it will mature within the current period.

Workers' Compensation Insurance is a state-mandated program that provides insurance to employees against job-related injury. Like most other insurance policies, the premiums are generally paid in advance by establishing or increasing a current asset account, Prepaid Workers' Compensation Insurance, and by crediting Cash. The premiums vary greatly by state and by occupational classification. In some high-risk industries (for example, roofers), workers' compensation premiums may exceed 50 percent of the employees' wages.

Other Payroll-Related Costs Many employers pay some or all of the costs of health and life insurance for their employees and their family members, as well as make contributions to employee pension plans. Contributions to employee pension plans, if any, vary greatly among employers.

Amounts Withheld from Employees' Pay Thus far, our illustration has specified only those taxes and other mandated costs levied on the employer. Employees, too, incur taxes on their earnings. In addition to federal and state income taxes, employees share in paying Social Security and Medicare taxes.⁵ Employers withhold these amounts from their employees' pay and forward them directly to the appropriate tax authorities.⁶ (The net amount of cash actually paid to employees after all required withholdings have been made is often referred to as the employees' take-home pay.)

In our illustration, Fulbright Medical Lab's 20 employees earned gross wages of \$100,000 in January. Their take-home pay will be significantly less than the gross amount, as shown in Exhibit 10-3, using assumed numbers for state and federal income tax withholdings.

EXHIBIT 10-3

Computation of Employee Take-Home Pay

Gross pay (wages expense)	\$100,000
Less:	
State income tax withholdings	(2,350)
Federal income tax withholdings	(22,500)
Social Security and Medicare tax withholdings	(7,650)
Employee take-home pay for January	<u>\$ 67,500</u>

An important distinction is that amounts withheld from employees' pay do *not* represent taxes on the employer. The amounts withheld are simply a portion of the gross wages and salaries expense that must be sent directly by the employer to the tax authorities, rather than paid to the employees. In essence, the employer is required by law to act as the tax collector. In the employer's balance sheet, these withholdings represent current liabilities until they are forwarded to the proper tax authorities, but they do not represent payroll taxes of the employer.

Recording Payroll Activities We conclude our illustration of Fulbright Medical Lab by making the necessary entries to record its payroll activities. In Exhibit 10-2, the lab's total payroll costs for January were computed as \$133,350. Of this amount, \$100,000 represented gross wages earned by employees, \$17,850 represented employer payroll taxes and other mandated costs (shown in red), and \$15,500 represented other employee benefits paid by the employer (shown in green). The accounting for these three amounts by Fulbright Medical Lab is summarized in Exhibit 10-4.

⁵ Social Security and Medicare taxes are levied on employees at the same percentage rate as levied upon employers. Thus, total Social Security and Medicare taxes amount to more than 15 percent of gross wages and salaries. There is a cap on the portion of an employee's earnings that is subject to Social Security taxes. There is no cap on employee wages or salaries subject to Medicare taxes.

⁶ In many companies, employers make additional withholdings when their employees share in paying for the cost of health insurance, life insurance, retirement contributions, and other fringe benefits.

Long-Term Liabilities

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A. Record gross wages, employee withholdings, and employee take-home pay (withholdings and take-home pay figures taken from Exhibit 10-3).

Wages Expense		
State Income Tax Payable	100,000	
Federal Income Tax Payable		2,350
Social Security and Medicare Taxes Payable		22,500
Cash (or Wages Payable)		7,650
To record gross wages, employee withholdings, and employee take-home pay.		67,500

B. Record employer's payroll tax expense (red figures taken from Exhibit 10-2).

Payroll Tax Expense		
Social Security and Medicare Taxes Payable	17,850	
Federal and State Unemployment Taxes Payable		7,650
Prepaid Workers' Compensation Insurance		6,200
To record employer payroll tax expense, \$4,000 of which is the expiration of prepaid workers' compensation insurance premiums.		4,000

C. Record employee benefit expenses (green figures taken from Exhibit 10-2).

Employee Health and Life Insurance Expense		
Pension Fund Expense	6,000	
Prepaid Employee Health and Life Insurance		9,500
Cash (or Pension Benefits Payable)		6,000
To record employee benefit expenses, \$6,000 of which is the expiration of prepaid employee health and life insurance premiums.		9,500

EXHIBIT 10-4
Payroll Activities Recorded by the Employer**UNEARNED REVENUE**

A liability for unearned revenue arises when a customer pays in advance. Upon receipt of an advance payment from a customer, the company debits Cash and credits a liability account such as Unearned Revenue or Customers' Deposits. As the services are rendered to the customer, an entry is made debiting or reducing the liability account and crediting or increasing a revenue account. Most liabilities are expected to be repaid with cash. Notice, however, that a liability for unearned revenue normally is satisfied by delivering goods or rendering services to the creditor, rather than by making cash payments.

Unearned revenue ordinarily is classified as a current liability because activities involved in earning revenue are part of the business's normal operating cycle.

Long-Term Liabilities

Long-term obligations usually arise from major financial requirements, such as funding a start-up company, expanding an existing company, acquiring plant assets, purchasing another company, or refinancing an existing long-term obligation that is about to mature. Transactions involving long-term liabilities are relatively few in number but usually involve large dollar amounts. In contrast, current liabilities usually arise from routine operating transactions.

Many businesses regard long-term liabilities as an alternative to owners' equity as a source of permanent financing. Although long-term liabilities eventually mature, they often are *refinanced*—that is, the maturing obligation simply is replaced with a new long-term liability. As a result, long-term debt financing becomes a permanent part of the financial structure of the business.

MATURING OBLIGATIONS INTENDED TO BE REFINANCED

One special type of long-term liability is an obligation that will mature in the current period but that is expected to be refinanced on a long-term basis. For example, a company may have

a bank loan that comes due each year but is routinely extended for the following year. Both the company and the bank may intend for this arrangement to continue on a long-term basis.

If management has both the intent and the ability to refinance soon-to-mature obligations on a long-term basis, these obligations are classified as long-term liabilities. In this situation, the accountant looks to the economic substance of the situation rather than to its legal form.

When the economic substance of a transaction differs from its legal form or its outward appearance, financial statements should reflect the economic substance. Accountants summarize this concept with the phrase “Substance takes precedence over form.” Today’s business world is characterized by transactions of ever-increasing complexity. Recognizing those situations in which the substance of a transaction differs from its form is an important challenge confronting the accounting profession.



INTERNATIONAL CASE IN POINT

It is typical in Japan for short-term debt to have lower interest rates than long-term debt. As a result, Japanese managers find short-term debt more attractive than long-term debt. In addition, banks are willing to renew these loans because this allows them to adjust the interest rates to changing market conditions. The outcome is that short-term debt in Japan works like long-term debt elsewhere. In fact, the use of short-term debt to finance long-term assets appears to be the rule, not the exception, in Japan.

INSTALLMENT NOTES PAYABLE

Purchases of real estate and certain types of equipment often are financed by the issuance of long-term notes that call for a series of installment payments. These payments (often called **debt service**) may be due monthly, quarterly, semiannually, or at any other interval. If these installments continue until the debt is completely repaid, the loan is said to be “fully amortizing.” Often, however, installment notes contain a due date at which the remaining unpaid balance is to be repaid in a single “balloon” payment.

Some installment notes call for installment payments equal to the periodic interest charges (an “interest only” note). Under these terms, the principal amount of the loan is payable at a specified maturity date. More often, however, the installment payments are greater than the amount of interest accruing during the period. In this case, a portion of each installment payment represents interest expense, and the remainder of the payment reduces the principal amount of the liability. As the amount owed is reduced by each payment, the portion of each successive payment representing interest expense decreases, and the portion going toward repayment of principal increases.

Allocating Installment Payments between Interest and Principal In accounting for an installment note, the accountant must determine the portion of each payment that represents interest expense and the portion that reduces the principal amount of the liability. This distinction is made by preparing an **amortization table**.

To illustrate, assume that on October 15, Year 1, King’s Inn purchases furnishings at a total cost of \$16,398. In payment, the company issues an installment note payable for this amount, plus interest at 12 percent per annum (or 1 percent per month). This note will be paid in 18 monthly installments of \$1,000 each, beginning on November 15. An amortization table for this installment note payable is shown in Exhibit 10–5 (amounts of interest expense are rounded to the nearest dollar).

LO10-4

LEARNING OBJECTIVE

Prepare an amortization table allocating payments between interest and principal.

Preparing an Amortization Table Let us explore the content of Exhibit 10–5. First, notice that the payments are made on a monthly basis. Therefore, the amounts of the payments (column A), interest expense (column B), and reduction in the unpaid balance (column C) are all monthly amounts.

The interest rate used in the table is of special importance; this rate must coincide with the period of time between payment dates—in this case, one month. Thus, if payments are made

AMORTIZATION TABLE
(12% NOTE PAYABLE FOR \$16,398;
PAYABLE IN 18 MONTHLY INSTALLMENTS OF \$1,000)

Interest Period	Payment Date	(A) Monthly Payment	(B) Interest Expense (1% of the Last Unpaid Balance)	(C) Reduction in Unpaid Balance (A) - (B)	(D) Unpaid Balance
Issue date	Oct. 15, Year 1	—	—	—	—
1	Nov. 15	\$1,000	\$164	—	\$16,398
2	Dec. 15	1,000	156	\$836	15,562
3	Jan. 15, Year 2	1,000	147	844	14,718
4	Feb. 15	1,000	139	853	13,865
5	Mar. 15	1,000	130	861	13,004
6	Apr. 15	1,000	121	870	12,134
7	May 15	1,000	113	879	11,255
8	June 15	1,000	104	887	10,368
9	July 15	1,000	95	896	9,472
10	Aug. 15	1,000	86	905	8,567
11	Sept. 15	1,000	77	914	7,653
12	Oct. 15	1,000	67	923	6,730
13	Nov. 15	1,000	58	933	5,797
14	Dec. 15	1,000	49	942	4,855
15	Jan. 15, Year 3	1,000	39	951	3,904
16	Feb. 15	1,000	29	961	2,943
17	Mar. 15	1,000	20	971	1,972
18	Apr. 15	1,000	8*	980	992
				992	—

EXHIBIT 10-5
 Amortization Table for a Note Payable

* In the last period, interest expense is equal to the amount of the final payment minus the remaining unpaid balance. This compensates for the cumulative effect of rounding interest amounts to the nearest dollar.

monthly, column B must be based on the monthly rate of interest. If payments were made quarterly, this column would use the quarterly rate of interest.

An amortization table begins with the original amount of the liability (\$16,398) listed at the top of the Unpaid Balance column. The amounts of the monthly payments, shown in column A, are specified by the installment contract. The monthly interest expense, shown in column B, is computed for each month by applying the monthly interest rate to the unpaid balance at the beginning of that month. The portion of each payment that reduces the amount of the liability (column C) is simply the remainder of the payment (column A minus column B). Finally, the unpaid balance of the liability (column D) is reduced each month by the amount indicated in column C.

Rather than continuing to make monthly payments, King's Inn could settle this liability at any time by paying the amount currently shown as the unpaid balance. For example, if the loan is paid off in the 14th month (Dec. 15, year 2), the amount due would be \$3,904.

Notice that the amount of interest expense listed in column B decreases each month, because the unpaid balance is continually decreasing.⁷

Preparing each horizontal line in an amortization table involves making the same computations, based on a new unpaid balance. An amortization table of any length can be easily

⁷ If the monthly payments were *less* than the amount of the monthly interest expense, the unpaid balance of the note would *increase* each month. This, in turn, would cause the interest expense to increase each month. This pattern, termed *negative amortization*, occurs temporarily in some "adjustable-rate" home mortgages.

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and quickly prepared by computer software. (Most “money management” software includes a program for preparing amortization tables.) Only three items of data need to be entered into such a program: (1) the original amount of the liability, (2) the amount of periodic payments, and (3) the interest rate (per payment period).

Using an Amortization Table Once an amortization table has been prepared, the entries to record each payment are taken directly from the amounts shown in the table. For example, the entry to record the first monthly payment (November 15, year 1) is as follows.

Interest Expense	164
Installment Note Payable	836
Cash	1,000
Made Nov. payment on installment note payable.	

A=L+LOE
Payment is allocated between interest and principal

Similarly, the entry to record the second payment, made on December 15, year 1, is as follows.

Interest Expense	156
Installment Note Payable	844
Cash	1,000
Made Dec. payment on installment note payable.	

A=L+LOE
Notice that interest expense is less in December

If December 31, year 1, is the end of the King's Inn's financial reporting period, the company must make an adjusting entry to record one-half month's accrued interest on this liability. The amount of this adjusting entry is based on the unpaid balance shown in the amortization table as of the last payment (December 15). This entry is as follows.

Interest Expense	74
Interest Payable	74
Adjusting entry to record interest expense on installment note for the last half of Dec.: $\$14,718 \times 1\% \times \frac{1}{2} = \74 .	

A=L+LOE
Year-end adjusting entry

The Current Portion of Long-Term Debt Notice that as of December 31, year 1, the unpaid balance of this note is \$14,718. As of December 31, year 2, however, the unpaid balance will be \$3,904. The principal amount of this note will be reduced by \$10,814 during year 2 ($\$14,718 - \$3,904 = \$10,814$). In the balance sheet prepared at December 31, year 1, the \$10,814 portion of this debt that is scheduled for repayment within the next 12 months is classified as a current liability. The remaining \$3,904 is classified as a long-term liability.

BONDS PAYABLE

Financially sound corporations may arrange limited amounts of long-term financing by issuing notes payable to banks or to insurance companies. But to finance a large project, such as developing an oil field or purchasing a controlling interest in the capital stock of another company, a corporation may need more capital than any single lender can supply. When a corporation needs to raise particularly large amounts of long-term capital—perhaps 50, 100, or 500 million dollars (or more)—it generally sells additional shares of capital stock or issues **bonds payable**.

WHAT ARE BONDS?

The issuance of bonds payable is a technique for splitting a very large loan into many transferable units, called bonds. Each bond represents a long-term, interest-bearing note payable, usually in the face amount (or par value) of \$1,000 or some multiple of \$1,000. The bonds are sold to the investing public, enabling many different investors (bondholders) to participate in the loan.

LO10-5

LEARNING OBJECTIVE

Describe corporate bonds and explain the tax advantage of debt financing.

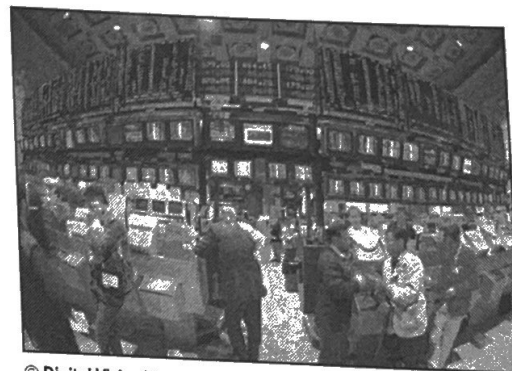
Bonds usually are very long-term notes, maturing in as many as 15 or 30 years. Bonds are transferable, however, so individual bondholders may sell their bonds to other investors at any time. Most bonds call for quarterly or semiannual interest payments to the bondholders, with interest computed at a specified contract rate throughout the life of the bond. Investors often describe bonds as “fixed income” investments.

An example of a corporate bond issue is the 6.9 percent bonds of Macy’s, Inc. With this bond issue, Macy’s borrowed \$250 million that is due in 2032. Each bondholder is issued a single bond certificate indicating the number of bonds purchased. Investors such as mutual funds, banks, and insurance companies often buy thousands of bonds at one time.

The Issuance of Bonds Payable When bonds are issued, the corporation usually utilizes the services of an investment banking firm, called an **underwriter**. The underwriter guarantees the issuing corporation a specific price for the entire bond issue and makes a profit by selling the bonds to the investing public at a higher price. The corporation records the issuance of the bonds at the net amount received from the underwriter. The use of an underwriter assures the corporation that the entire bond issue will be sold without delay and that the entire amount of the proceeds will be available at a specific date.

Transferability of Bonds Corporate bonds, like capital stocks, are traded daily on organized securities exchanges, such as the *New York Bond Exchange*. The holders of a 25-year bond issue need not wait 25 years to convert their investments into cash. By making contact with a broker, an investor may sell bonds almost immediately at the going market price. This *liquidity* is one of the most attractive features of an investment in corporate bonds.

Quoted Market Prices Bond prices are quoted as a percentage of their face value or maturity value, which is usually \$1,000. The maturity value is the amount the issuing company must pay to redeem the bond at the date it matures (becomes due). A \$1,000 bond quoted at 102 has a market price of \$1,020 (102 percent of \$1,000). Similarly, a \$1,000 bond quoted at 98 has a market price of \$980 (98 percent of \$1,000). The following line for a hypothetical company illustrates the type of information available in print or on the Internet summarizing the previous day’s trading in bonds.



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Bonds	Sales	High	Low	Close	Net Change
Alvaro, Inc. 6 19	175	97½	95½	97	+1

This line of condensed information indicates that 175 of Alvaro’s 6 percent, \$1,000 bonds maturing in 2019 were traded during the day. The highest price is reported as 97½, or \$975 for a bond of \$1,000 face value. The lowest price was 95½, or \$955 for a \$1,000 bond. The closing price (last sale of the day) was 97, or \$970. This was one point above the closing price of the previous day, an increase of \$10 in the price of a \$1,000 bond.

Types of Bonds Bonds secured by the pledge of specific assets are called *mortgage bonds*. An unsecured bond is called a *debenture bond*; its value depending on the general credit of the corporation rather than the value of a specific asset. A debenture bond issued by a large and strong corporation may have a higher investment rating than a secured bond issued by a corporation in less satisfactory financial condition.

Bond interest is paid semiannually by transferring to each bondholder six months’ interest on the bonds he or she owns.⁸ Some bonds are *callable*, which means that the corporation has

⁸ In recent years, corporations have issued only *registered* bonds, for which interest is paid by transferring cash by check or electronically to the registered owners of the bonds. In the past, some companies issued *coupon bonds* or *bearer bonds*, which had a series of redeemable coupons attached. At each interest date, the bondholder had to “clip” the coupon and present it to a bank to collect the interest. These bonds posed a considerable hazard to investors—if the investor lost the coupon, or forgot about an interest date, he or she received no interest. In many states, issuing coupon bonds now is illegal.

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the right to redeem the bonds in advance of the maturity date by paying a specified call price. To compensate bondholders for being forced to give up their investments, the call price usually is somewhat higher than the face value of the bonds.

Traditionally, bonds have appealed to conservative investors, interested primarily in a reliable income stream from their investments. To make a bond issue more attractive to these investors, some corporations create a bond **sinking fund**, designated for repaying the bonds at maturity. At regular intervals, the corporation deposits cash into this sinking fund. Even though a bond sinking fund is essentially a cash fund, it is not classified as a current asset, because it is not available for the payment of current liabilities. Such funds are shown in the balance sheet under the caption "Long-Term Investments," which appears after the current asset section.

As an additional attraction to investors, corporations sometimes include a conversion privilege in the bond indenture. A **convertible bond** is one that may be exchanged at the option of the bondholder for a specified number of shares of capital stock. The market value of a convertible bond tends to fluctuate with the market value of an equivalent number of shares of capital stock.

Junk Bonds Some corporations have issued securities that have come to be known as **junk bonds**. This term describes a bond issue that involves a substantially greater risk of default than normal. A company issuing junk bonds usually has so much long-term debt that its ability to meet interest and principal repayment obligations is questionable. To compensate bondholders for this unusual level of risk, junk bonds promise a substantially higher rate of interest than do "investment quality" bonds.

TAX ADVANTAGE OF BOND FINANCING

A principal advantage of raising money by issuing bonds instead of stock is that interest payments are deductible in determining income subject to corporate income taxes. Dividends paid to stockholders, however, are not deductible in computing taxable income.

To illustrate, assume that a corporation pays income taxes at a rate of 30 percent on its taxable income. If this corporation issues \$10 million of 6 percent bonds payable, it will incur interest expense of \$600,000 per year. This interest expense, however, will reduce taxable income by \$600,000, reducing the corporation's annual income taxes by \$180,000. As a result, the after-tax cost of borrowing the \$10 million is only \$420,000.

Interest expense (\$10,000,000 × 6%)	\$600,000
Less: Income tax savings (\$600,000 deduction × 30%)	180,000
After-tax cost of borrowing	<u>\$420,000</u>

This effectively reduces the cost of borrowing to 4.2 percent ($\$420,000/\$10,000,000$), considerably lower than the stated rate of 6%.

A shortcut approach to computing the after-tax cost of borrowing is simply multiplying the interest expense by 1 minus the company's tax rate, as follows: $\$600,000 \times (1 - 0.30) = \$420,000$.

ACCOUNTING FOR BONDS PAYABLE

Accounting for bonds payable closely parallels accounting for notes payable. The accountable events for a bond issue usually are (1) issuance of the bonds, (2) semiannual interest payments, (3) accrual of interest payable at the end of each accounting period, and (4) retirement of the bonds at maturity.⁹

⁹ To simplify our illustrations, we assume in all of our examples and assignment material that adjusting entries for accrued bond interest payable are made only at year-end. In practice, these adjustments usually are made on a monthly basis.

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To illustrate these events, assume that on March 1, 2018, Wells Corporation issues \$1 million of 6 percent, 20-year bonds payable.¹⁰ These bonds are dated March 1, 2018, and interest is computed from this date. Interest on the bonds is payable semiannually, each September 1 and March 1. If all of the bonds are sold at par value (also referred to as face value), the issuance of the bonds on March 1 will be recorded by the following entry.

Cash		
Bonds Payable	1,000,000	
Issued 6%, 20-year bonds payable at a price of 100.		1,000,000

A=L+LOE
Entry at the issuance date

Every September 1 during the term of the bond issue, Wells Corporation will pay \$30,000 to the bondholders ($\$1,000,000 \times 0.06 \times \frac{1}{2} = \$30,000$). This semiannual interest payment will be recorded as shown.

Bond Interest Expense		30,000
Cash	30,000	
Semiannual payment of bond interest.		30,000

A=L+LOE
Entry to record semiannual interest payments

Every December 31, Wells Corporation will make an adjusting entry to record the four months' interest that has accrued since September 1.

Bond Interest Expense		20,000
Bond Interest Payable		20,000
To accrue bond interest payable for four months ended Dec. 31 ($\$1,000,000 \times 0.06 \times \frac{4}{12} = \$20,000$).		

A=L+LOE
Adjusting entry at year-end

The accrued liability for bond interest payable will be paid within a few months and, therefore, is classified as a current liability.

Two months later, on March 1, a semiannual interest payment is made to bondholders. This transaction represents payment of the four months' interest accrued at December 31 and the two months' interest that has accrued since year-end. The entry to record the semiannual interest payments every March 1 will be as follows.

Bond Interest Expense	10,000	
Bond Interest Payable	20,000	
Cash		30,000
To record semiannual interest payment to bondholders, and to recognize two months' interest expense accrued since Dec. 31 ($\$1,000,000 \times 0.06 \times \frac{2}{12} = \$10,000$).		

A=L+LOE
Interest payment following the year-end adjusting entry

When the bonds mature 20 years later on March 1, 2038, two entries are required: one to record the regular semiannual interest payment and a second to record the retirement of the bonds. The entry to record the retirement of the bond issue is as follows.

¹⁰ The amount of \$1 million is used only for purposes of illustration. As explained earlier, actual bond issues are for many millions of dollars.

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A=L+LOE Redeeming the bonds at the maturity date

Bonds Payable	1,000,000
Cash	1,000,000
Paid face amount of bonds at maturity.	

Bonds Issued between Interest Dates The semiannual interest dates (such as January 1 and July 1, or April 1 and October 1) are printed on the bond certificates. However, bonds are often issued between the specified interest dates. The investor is then required to pay the interest accrued to the date of issuance in addition to the stated price of the bond. This practice enables the corporation to pay a full six months' interest on all bonds outstanding at the semiannual interest payment date. The accrued interest collected from investors who purchase bonds between interest payment dates is returned to them on the next interest payment date. To illustrate, let us modify our illustration to assume that Wells Corporation issues \$1 million of 6 percent bonds at par value on May 1—two months after the March interest date printed on the bonds. The amount received from the bond purchasers now will include two months' accrued interest, as follows.

A=L+LOE Bonds issued between interest dates

Cash	1,010,000
Bonds Payable	1,000,000
Bond Interest Payable	10,000
Issued \$1,000,000 of 6%, 20-year bonds at face value plus accrued interest for two months (\$1,000,000 × 6% × ² / ₁₂ = \$10,000).	

Four months later on the regular September 1 semiannual interest payment date, a full six months' interest (\$60 per \$1,000 bond) will be paid to all bondholders, regardless of when they purchased their bonds. The entry for the semiannual interest payment is illustrated as follows.

A=L+LOE Notice only part of the interest payment is charged to expense

Bond Interest Payable	10,000
Bond Interest Expense	20,000
Cash	30,000
Paid semiannual interest on \$1,000,000 face value of 6% bonds.	

Now consider these interest transactions from the standpoint of the investors. They paid for two months' accrued interest (\$10,000) at the time of purchasing the bonds and then received six months' interest (\$30,000) after holding the bonds for only four months.

When bonds are subsequently sold by one investor to another investor, they sell at the quoted market price plus accrued interest since the last interest payment date. This practice enables the issuing corporation to pay all the interest for an interest period to the investor owning the bond at the interest date. Otherwise, the corporation would have to make partial payments to every investor who bought or sold the bond during the interest period.

The amount that investors pay for bonds is the *present value* of the principal and interest payments they will receive. The concept of present value is discussed later in this section. A more in-depth coverage of present value appears in Appendix B at the end of this textbook.

BONDS ISSUED AT A DISCOUNT OR A PREMIUM

Underwriters normally sell corporate bonds to investors either at face value or at a price very close to face value. Therefore, the underwriter usually purchases these bonds from the issuing corporation at a discount—that is, at a price below face value. The discount percentage generally is quite small—perhaps 1 percent or 2 percent of the face amount of the bonds.

LO10-6

LEARNING OBJECTIVE
Account for bonds issued at a discount or premium.