CHAPTER 14

FINANCING LIABILITIES: BONDS AND LONG-TERM NOTES PAYABLE
A Double-Edged Sword

A company's capital structure refers to the mix of debt and equity it uses to finance its operations. Most companies consider debt financing because they can use debt to increase earnings, a concept known as financial leverage. If a company invests borrowed money in assets that generate profits that are greater than the after-tax cost of the debt, the excess profits will increase the return on equity for the company's shareholders.

For example, assume three companies each have income before interest expense and taxes of $150 and an effective tax rate of 40%, but differ in terms of financial leverage, as shown in the table below. Because Carolina Company is not leveraged, its return on equity will be 9%. However, Dakota and Virginia Companies are using financial leverage to generate greater returns on equity for their shareholders.

<table>
<thead>
<tr>
<th></th>
<th>Carolina Company</th>
<th>Dakota Company</th>
<th>Virginia Company</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average Assets</td>
<td>$1,000</td>
<td>$1,000</td>
<td>$1,000</td>
</tr>
<tr>
<td>Debt (10% interest rate)</td>
<td>0</td>
<td>500</td>
<td>800</td>
</tr>
<tr>
<td>Average Equity</td>
<td>1,000</td>
<td>500</td>
<td>200</td>
</tr>
<tr>
<td>Earnings before Interest Expense and Taxes</td>
<td>150</td>
<td>150</td>
<td>150</td>
</tr>
<tr>
<td>Interest Expense (Debt × 10%)</td>
<td>0</td>
<td>50</td>
<td>80</td>
</tr>
<tr>
<td>Earnings before Taxes</td>
<td>150</td>
<td>100</td>
<td>70</td>
</tr>
<tr>
<td>Tax Expense (Earnings before Taxes × 40%)</td>
<td>60</td>
<td>40</td>
<td>28</td>
</tr>
<tr>
<td>Net Income</td>
<td>90</td>
<td>60</td>
<td>42</td>
</tr>
<tr>
<td>Return on Equity (Net Income ÷ Average Equity)</td>
<td>9%</td>
<td>12%</td>
<td>21%</td>
</tr>
</tbody>
</table>

Results may not always be so positive. Because debt requires interest and principal payments at specified times, companies consider debt financing to be a more risky source of financial capital than equity financing (which does not require specified payments of principal or interest). If times are bad and the company’s return on assets is less than the after-tax cost of debt, shareholders’ earnings are reduced and return on equity will deteriorate rapidly. In extreme cases, the company may be unable to pay the required amounts and be forced to declare bankruptcy.

Companies such as Ford and Caterpillar are considered highly leveraged, while Starbucks has a relatively small amount of debt, and Apple has no financial debt. Because financial leverage magnifies the financial effects of both good and bad years, an understanding of the benefits and risks of financial leverage are critical to analyzing a company’s return and risk.
A company classifies an item as a *long-term liability* if the obligation is not expected to be repaid within one year of the balance sheet date or the current operating cycle whichever is longer. The most common examples of long-term liabilities are bonds payable, long-term notes payable, lease obligations, pension obligations, deferred income taxes and other long-term deferrals, and, occasionally, contingent liabilities. In this chapter, we examine the recording and reporting requirements for financial liabilities, such as bonds payable and long-term notes payable. **Financial liabilities** are contractual obligations that require one entity to deliver cash or another financial asset to another party and normally result from the firm raising cash for operating and investing activities. Long-term liabilities may also result from operating activities, such as offering employee pensions or incurring deferred taxes. We discuss the other types of long-term liabilities elsewhere in this book.

### WHY DO COMPANIES ISSUE LONG-TERM FINANCING LIABILITIES?

Companies seeking to obtain financial resources can consider borrowing, which results in a long-term liability. A company might issue long-term debt rather than offer other types of securities for the following reasons:

- **Debt financing may be the only available source of funds.** Many small- and medium-sized companies have difficulty attracting equity (i.e., capital stock) investments because investors think they are too risky. Debt securities are seen as a less risky investment because, by law, interest and principal are required to be paid on specific dates. Also, some types of debt are secured by a lien against specific company assets which allows the creditor to recover collateral if the debt is not paid.
- **Debt financing typically has a lower cost of capital than equity.** Historically, because debt has a lesser investment risk than stock, investors in debt securities typically expect a lower rate of return than investors in equity securities.
- **Debt financing offers an income tax advantage.** Interest payments to debt holders are deductible as interest expense by a corporation for income tax purposes, whereas dividend payments on equity securities are not.
- **Debt does not carry voting rights.** Corporate shareholders may not want to share ownership and can maintain control by issuing debt.
- **Debt financing offers the opportunity for financial leverage.** By investing borrowed funds, a company expects to earn a return greater than the interest it will pay for the use of the funds, thereby benefiting the shareholders. Earnings in excess of after-tax interest charges increase earnings per share. However, if the return falls below the effective interest rate, earnings per share will decline. Expectations of current and future earnings, inflation, and the debt/equity relationship influence the rate of interest needed to issue debt.

### BONDS PAYABLE

Another option available for companies looking to raise financial capital is to issue bonds. To understand bonds, knowledge of the following terms is essential:

- **Bond:** A debt instrument in which a company agrees to pay the holder the face value at the maturity date and usually to pay periodic interest on the face value at a specified rate. Thus, the company that issues the bonds (the issuer) is borrowing money from the holder of the bonds (the lender).
- **Face Value** (or Par Value): The amount of money that the issuer agrees to pay at maturity. It is the same concept as the principal of a note.
- **Maturity Date:** The date on which the issuer of the bond agrees to pay the bondholder the face value (plus any final amount of interest owed).

---

1 The ASC Master Glossary defines a financial liability as a contractual obligation (1) to deliver cash or another financial instrument to another entity, or (2) to exchange other financial instruments on potentially unfavorable conditions with another entity.
**Contract Rate** (or **Stated**, **Face**, or **Nominal Rate**): The rate at which the issuer of the bond agrees to pay interest each period until maturity.

**Bond Certificate**: A legal document that provides evidence of ownership and specifies the face value, the annual interest rate, the maturity date, and other characteristics of the bond issue.

**Bond Indenture**: A document (contract) that defines the rights of the bondholders.

Bonds usually are issued by corporations, such as Disney, GE, and Coca-Cola, and government entities to borrow large amounts of money. Corporations usually issue bonds so that each bond has a face value of $1,000. The entire bond issue may be sold to one purchaser or to numerous individual purchasers. Thus, a $1 million bond issue includes 1,000 bonds, each with a $1,000 face value. In addition, bonds commonly pay interest twice each year (semiannually) on dates stated on the bond certificate. Therefore, the semiannual interest would be computed as follows:

\[
\text{Annual Interest Rate} \div 2 = \text{Semiannual Interest Rate}
\]

**Characteristics of Bonds**

Different companies issue bonds that may have different characteristics, as shown in Exhibit 14.1. While some of these characteristics are mutually exclusive, several can be combined for a bond issue. The characteristics of a particular bond issue are listed on the bond certificates for that issue and spelled out in detail in the bond indenture. A company may also include in the bond indenture certain restrictive covenants to protect the bondholders and improve the marketability of a bond issue. These restrictions may include limitations on dividends, adherence to certain minimum working capital amounts, maintenance of a debt/equity ratio below some maximum level, or prohibition of issuing additional bonds with superior status in the event of bankruptcy. In this chapter, we focus primarily on the accounting for debenture bonds which are the most common types of bonds.

**Exhibit 14.1** Characteristics of Bonds

| **Debenture Bonds** | Debenture bonds are not secured by specific property. Their marketability is based on the general credit rating of the company. Generally, a company must have a long history of profitability and positive cash flows, as well as expectations of future positive earnings and cash flows, to sell debenture bonds. Debenture bondholders are considered to be general creditors, with the same rights as other creditors if the issuer fails to pay the interest or principal and declares bankruptcy. |
| **Mortgage Bonds** | Mortgage bonds are secured by a lien against specific property of the company. If the company becomes bankrupt and is liquidated, the holders of these bonds have first claim against the proceeds of the sale of the assets that secure their debt. If the proceeds from the sale of pledged assets are not sufficient to repay the debt, mortgage bondholders become general creditors for the balance of the unpaid debt. |
| **Zero-Coupon Bonds** (Deep-Discount Bonds) | Zero-coupon bonds are bonds on which the interest is not paid until the maturity date. That is, the bonds are sold at a price considerably below their face value, interest accrues until maturity, and then the bondholders are paid the interest along with the principal at maturity. |
| **Callable Bonds** | Callable bonds are bonds that the company has the option to repay at a predetermined price (usually at a premium above face value) for a specified period. That is, the company has the right to require the bondholders to return the bonds before the maturity date with the company paying the predetermined price and interest to date. |
| **Convertible Bonds** | Convertible bonds give bondholders the option to convert the bonds into a predetermined number of common equity shares. That is, the owner of each bond has the right to exchange it for a predetermined number of common shares of the company. Thus, upon conversion, the bondholder becomes a shareholder of the company. |
| **Serial Bonds** | Serial bonds are issued at one time, but portions of the total face value mature in a series of periodic installments at different future dates. For example, a serial bond issued in 2013 may have a face value of $50,000, and bonds with a face value of $10,000 mature each year for five years from 2019 through 2023. |
The Bond Issue Process

When a company issues bonds, it may offer them to the public or privately to an institution, such as a financial institution like Wells Fargo, or a pension fund. When the bonds are offered to the public, the company usually deals with an underwriter (a stockbrokerage firm or an investment banker). The underwriter agrees on a price for the bonds, pays the company for them, and then sells the bonds to its clients. Because the issuing company avoids having to find the purchasers and being involved in cash transactions with each purchaser, it pays the underwriter a fee for this service.

When a company issues bonds, it must:

- receive approval from regulatory authorities, such as the Securities and Exchange Commission
- set the terms of the bond issue, such as the contract rate and the maturity date
- make a public announcement of its intent to sell the bonds on a particular date and print the bond certificates

At the time of the sale, the underwriter negotiates with the company to determine an appropriate selling price. The selling price is based on the terms of the bond issue (such as the stated rate of interest and the length of time to maturity) and factors such as the general bond market conditions, the relative risk of the bonds, and the expected state of the economy. The underwriter determines the effective rate (yield) that it believes best reflects the current market conditions for the particular bond issue. The effective rate (yield) is the market rate at which the bonds are actually sold. The yield on the bonds may be different from the contract (stated) rate set by the company and printed on the bond certificates. This difference may result from a difference of opinion between the underwriter and the company about the correct yield. It may also result from a change of economic conditions between the date the company set the terms of the bond issue and the date it was issued.

**HOW IS THE ISSUE PRICE OF BONDS PAYABLE COMPUTED?**

The selling price of the bonds payable is determined by the cash flows paid to creditors. These cash flows are discounted at the effective interest rate, which determines the proceeds received by the issuer when bonds are issued. More specifically, the selling price of the bond is determined by summing the present value of the principal and interest payments discounted at the effective interest (yield) rate. Three alternatives are possible for a company selling bonds:

- **At Par**: Purchasers of the bonds pay the face value of the bonds. The effective interest (yield) rate is equal to the contract interest rate.
- **At a Discount**: Purchasers of the bonds pay an amount less than the face value of the bonds. The effective interest rate is greater than the contract interest rate.
- **At a Premium**: Purchasers of the bonds pay an amount greater than the face value of the bonds. The effective interest rate is less than the contract interest rate.

**Example: Bonds Issued at Par**

Jet Company decides to sell $100,000 of 5-year bonds that pay semiannual interest with a contract rate of 12% when the effective interest rate is also 12%. Because the contract rate is equal to the effective rate, the bonds will sell at par value. To determine this selling price, the effective rate is applied to both the future principal and periodic interest payments, as shown in the following computations. In present value analyses (see the Time Value of Money Module) when interest is paid semiannually, the

---

2 After a company has issued bonds, their yield will fluctuate in the bond market as changes occur in the risk premium and expected inflation rate. It is the yield at the time of issuance, however, that is relevant to the company in accounting for the bonds.
effective rate is divided by the interest periods per year to determine the effective rate per semiannual period, computed for Jet as follows:

\[ 12\% \div 2 \text{ periods} = 6\% \text{ semiannual rate} \]

Similarly, the time to maturity is expressed in semiannual periods:

5-year bonds \( \times 2 \text{ periods} = 10 \text{ semiannual periods} \)

The selling price is computed as follows:

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Present value of principal: ( $100,000 \times 0.558395 )</td>
<td>$ 55,839.50</td>
</tr>
<tr>
<td>Present value of interest: ( $6,000 \times 7.360087 )</td>
<td>$ 44,160.50 ( ^a )</td>
</tr>
<tr>
<td>Selling price</td>
<td>$100,000.00</td>
</tr>
</tbody>
</table>

\( ^a \) From Present Value of 1 Table \( (n = 10; i = 0.06) \)

\( ^b \) \( \$100,000 \times 0.12 \div 1/2 \)

\( ^c \) From Present Value of an Ordinary Annuity of 1 Table \( (n = 10; i = 0.06) \)

\( ^d \) Difference due to \$0.02 rounding error

**Example: Bonds Issued at a Discount**

Jet Company decides to sell the \$100,000 of 5-year bonds when the effective interest rate is 14%. Recall that the bonds have a contract rate of 12% and because the contract rate is less than the effective rate, the bonds will sell at a discount to par value. The discount of \$7,023.61 is computed using the semiannual 7% effective rate as follows:

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Present value of principal: ( $100,000 \times 0.508349 )</td>
<td>$ 50,834.90</td>
</tr>
<tr>
<td>Present value of interest: ( $6,000 \times 7.023582 )</td>
<td>$ 42,141.49 ( ^c )</td>
</tr>
<tr>
<td>Selling price</td>
<td>$ 92,976.39</td>
</tr>
<tr>
<td>Face value</td>
<td>$100,000.00</td>
</tr>
<tr>
<td>Selling price</td>
<td>(92,976.39)</td>
</tr>
<tr>
<td>Discount</td>
<td>$ 7,023.61</td>
</tr>
</tbody>
</table>

\( ^a \) From Present Value of 1 Table \( (n = 10; i = 0.07) \)

\( ^b \) \( \$100,000 \times 0.12 \div 1/2 \)

\( ^c \) From Present Value of an Ordinary Annuity of 1 Table \( (n = 10; i = 0.07) \)

**Example: Bonds Issued at a Premium**

If Jet Company sells the bonds when the effective rate is 10%, the bonds will sell at a premium to par value. The premium of \$7,721.71 is computed as follows (to compute the present value, the effective rate is expressed on a semiannual basis, 5%, and the time to maturity is expressed in semiannual periods, 10):

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Present value of principal: ( $100,000 \times 0.613913 )</td>
<td>$ 61,391.30</td>
</tr>
<tr>
<td>Present value of interest: ( $6,000 \times 7.721735 )</td>
<td>$ 46,330.41 ( ^c )</td>
</tr>
<tr>
<td>Selling price</td>
<td>$107,721.71</td>
</tr>
<tr>
<td>Selling price</td>
<td>$107,721.71</td>
</tr>
<tr>
<td>Face value</td>
<td>(100,000.00)</td>
</tr>
<tr>
<td>Premium</td>
<td>$ 7,721.71</td>
</tr>
</tbody>
</table>

\( ^a \) From Present Value of 1 Table \( (n = 10; i = 0.05) \)

\( ^b \) From Present Value of an Ordinary Annuity of 1 Table \( (n = 10; i = 0.05) \)

**Face Value and Price**

On financial websites, like Yahoo! Finance and InvestinginBonds.com, a bond’s price is often quoted as a percentage of the face value. For example, bonds with a face value of \$100,000 that are quoted at 103 (meaning 103% of the face value) are selling for \$103,000—that is, at a premium of \$3,000. Alternatively, bonds with a \$200,000 face value quoted at 98 are selling for \$196,000 (\$200,000 \times 0.98), a \$4,000 discount.

It is important to understand why bonds sell at a price different from the face value, and, therefore, the yield is different from the contract rate. The difference between the price paid and the face value essentially adjusts the yield to the purchaser.
When bonds are sold at a discount the yield is higher than the contract rate. The “savings” (i.e., the discount) between the lower purchase price and the face value at maturity, along with the contract interest received by the purchaser each period, result in a yield that is greater than the contract rate.

When bonds are sold at a premium, the yield is lower than the contract rate. The “excess” paid (i.e., the premium) between the higher selling price and the face value, along with the contract interest received by the purchaser each period, results in a yield lower than the contract rate.

These relationships are summarized in Exhibit 14.2.

<table>
<thead>
<tr>
<th>Bonds Sold at</th>
<th>Yield Compared to Contract Rate</th>
<th>Interest Over the Life of the Bonds</th>
</tr>
</thead>
<tbody>
<tr>
<td>Premium ↑</td>
<td>Yield &lt; Contract Rate</td>
<td>Interest Expense &lt; Interest Paid</td>
</tr>
<tr>
<td>Par ↓</td>
<td>Yield = Contract Rate</td>
<td>Interest Expense = Interest Paid</td>
</tr>
<tr>
<td>Discount</td>
<td>Yield &gt; Contract Rate</td>
<td>Interest Expense &gt; Interest Paid</td>
</tr>
</tbody>
</table>

When the bonds yield a rate either lower (for bonds sold at a premium) or higher (for bonds sold at a discount) than the contract rate, the interest expense recorded by the issuing company each period is different from the interest paid.

- When bonds are sold at a premium, the interest expense is less than the interest paid.
- When bonds are sold at a discount, the interest expense is more than the interest paid.

The difference between the interest expense and the interest payment is the amount of the premium or discount amortized by the issuing company in the period (which we discuss later).

**RECORDING THE ISSUANCE OF BONDS PAYABLE**

At the time of issue, the issuing company records the face value of bonds in a Bonds Payable account and the proceeds received as a debit to the Cash account.

- If the bonds are issued with a contract interest rate that is greater than the effective interest rate, the issuer will record a premium in a separate account titled Premium on Bonds Payable.
- When bonds are issued with a contract interest rate below the effective interest rate, the issuer will record a discount in a separate account titled Discount on Bonds Payable.
- When bonds are issued at par value, the company will have no Discount or Premium account.

**Example: Recording the Issuance of Bonds Payable**

Return to the Jet Company examples discussed earlier.

**Bonds Issued at Par**  When Jet issued bonds payable at par, it would record the sale as follows:

- **Cash**  100,000
- **Bonds Payable**  100,000

© Cengage Learning. All rights reserved. No distribution allowed without express authorization.
Bonds Issued at a Discount  When Jet issued bonds payable at a discount, it would record the sale as follows:

<table>
<thead>
<tr>
<th>Cash</th>
<th>$92,976.39</th>
</tr>
</thead>
<tbody>
<tr>
<td>Discount on Bonds Payable</td>
<td>$7,023.61</td>
</tr>
<tr>
<td>Bonds Payable</td>
<td>$100,000</td>
</tr>
</tbody>
</table>

A Discount account is a **contra** account and is subtracted from the Bonds Payable account on the balance sheet.

The book value (carrying value) of the bond issue at any time is the face value minus any unamortized discount:

\[
\text{Book Value} = \text{Face Value} - \text{Unamortized Discount}
\]

Bonds Issued at a Premium  When Jet issued bonds payable at a premium, it would record the sale as follows:

<table>
<thead>
<tr>
<th>Cash</th>
<th>$107,721.71</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bonds Payable</td>
<td>$100,000.00</td>
</tr>
<tr>
<td>Premium on Bonds Payable</td>
<td>$7,721.71</td>
</tr>
</tbody>
</table>

A Premium account is an **adjunct** account and is added to the Bonds Payable account in the long-term liability section of the balance sheet.

The book value (carrying value) of the bond issue at any time is the face value plus any unamortized premium:

\[
\text{Book Value} = \text{Face Value} + \text{Unamortized Premium}
\]

Bonds Issued between Interest Payment Dates  Recall that the interest on bonds usually is paid semiannually on the dates indicated on the bond certificates. Bonds often are sold after their authorization date and between interest payment dates. In such cases, the issuing company must pay interest only for the period of time the bonds are outstanding—that is, from the sale date to the next interest payment date. When a company sells bonds between interest dates, the company normally will collect from the investors both the selling price and the interest accrued on the bonds from the interest payment date prior to the date of sale. This procedure reduces the record keeping for the first interest payment. This interest amount collected typically is **credited** to Interest Expense and is **computed by multiplying the face value by the stated interest rate for the fraction of the year from the interest payment date prior to the sale date.** On the next interest payment date, the company pays each bondholder six months of interest and records Interest Expense as usual. Exhibit 14.3 illustrates this situation.

**Example**  On March 1, 2013, Grimes Corporation issues $800,000 of 10-year bonds dated January 1, 2013, at par. The bonds have a contract (stated) interest rate of 12% and pay interest semiannually on January 1 and July 1. On March 1, because two months have elapsed since the interest payment date prior to the sale, Grimes collects $16,000 ($800,000 \times 0.12 \times \frac{2}{12}) accrued interest in addition to the face value. Grimes records the issue of the bonds on March 1, 2013, as follows:

<table>
<thead>
<tr>
<th>Cash</th>
<th>$816,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interest Expense</td>
<td>$16,000</td>
</tr>
<tr>
<td>Bonds Payable</td>
<td>$800,000</td>
</tr>
</tbody>
</table>

On July 1, 2013, Grimes records the first semiannual interest payment as follows:

| Interest Expense ($800,000 \times 0.12 \times \frac{6}{12}) | $48,000 |
| Cash | $48,000 |
As a result of the preceding journal entries, on July 1, 2013, the Interest Expense account has a debit balance of $32,000 ($48,000 – $16,000) representing the interest cost ($800,000 / 0.12 / 4/12) since the bonds were issued.

Alternatively, it is possible to record the previous transaction by using a liability account because part of the proceeds (i.e., the accrued interest) will be repaid in the future. Using this approach, Grimes would record the original transaction as follows:

- **Cash**: $816,000
- **Interest Payable**: $16,000
- **Bonds Payable**: $800,000

On July 1, 2013, Grimes would record the first interest payment as follows:

- **Interest Expense** ($800,000 × 0.12 × 4/12): $32,000
- **Interest Payable**: $16,000
- **Cash**: $48,000

Companies generally use the first method because it has less potential for errors in later transactions. Also, this method enables a company to develop a single routine in its computerized accounting system for recording and distributing all interest payments.

**AMORTIZING DISCOUNTS AND PREMIUMS**

Recall that when a company sells bonds at a discount or premium, it is incurring an effective interest rate (yield) that is more, or less, than the contract rate of interest. When a company pays the interest on the bonds, this **payment** is an amount based on the **contract** rate. However, to properly report the interest cost on the bonds, the **Interest Expense** on the company’s income statement must show an amount based on the **effective** interest rate and the book value of the bonds. The **effective interest expense amount** is computed as follows:

\[
\text{Interest Expense} = \text{Effective Interest Rate} \times \text{Book Value at Beginning of Period}
\]

Consequently, a portion of the bond discount or premium is amortized, and this amortization is the difference between the amount of interest expense and the cash payments.
payment. This process is known as the effective interest method (interest method) of amortization.

**Straight-Line Method**

Another approach is the straight-line method of amortization, in which the discount or premium to interest expense is amortized in equal amounts each period during the life of the bonds. Therefore, the straight-line method amortizes the bond discount or premium so that the interest expense is an average cost for the period.

**Example: Bond Discount (Straight Line)**

Recall that Jet Company sells bonds for $92,976.39 on January 1, 2013. The bonds have a face value of $100,000 and a 12% stated annual interest rate. Interest is paid semiannually on June 30 and December 31, and the bonds mature on December 31, 2017. Thus, the bonds have a 5-year life, with 10 semiannual interest periods. Jet records the sale on January 1, 2013, as follows:

<table>
<thead>
<tr>
<th>Cash</th>
<th>92,976.39</th>
</tr>
</thead>
<tbody>
<tr>
<td>Discount on Bonds Payable</td>
<td>7,023.61</td>
</tr>
<tr>
<td>Bonds Payable</td>
<td>100,000.00</td>
</tr>
</tbody>
</table>

On the first interest payment date, Jet records both the cash payment and discount amortization. It computes the discount amortization per period as:

\[
\text{Discount Amortization per Period} = \frac{\text{Total Discount} \times \text{Number of Interest Periods}}{10}
\]

\[
= \frac{702.36 \times 10}{10} = 702.36
\]

* Semiannual, monthly, or yearly amortization periods may be used (whichever is more convenient).

The interest expense is calculated as the sum of the cash payment and the discount amortization:

\[
\text{Straight-Line Interest Expense} = \text{Coupon Interest Payment} + \text{Discount Amortization}
\]

\[
= 6,000 + 702.36 = 6,702.36
\]

Jet records the first interest payment on June 30, 2013, as follows:

<table>
<thead>
<tr>
<th>Interest Expense ($6,000 + $702.36)</th>
<th>6,702.36</th>
</tr>
</thead>
<tbody>
<tr>
<td>Discount on Bonds Payable ($7,023.61 ÷ 10)</td>
<td>702.36</td>
</tr>
<tr>
<td>Cash ($100,000 × 0.12 × 1/2)</td>
<td>6,000.00</td>
</tr>
</tbody>
</table>

In this case, the interest expense is higher than the cash paid, indicating that the effective rate is higher than the stated rate. Jet makes a similar journal entry to record the second interest payment on December 31, 2013, and every six months after that. After this second entry, the long-term liabilities section of Jet’s December 31, 2013, balance sheet includes the following:

<table>
<thead>
<tr>
<th>Bonds Payable</th>
<th>$100,000.00</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less: Discount on Bonds Payable</td>
<td>(5,618.89)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$94,381.11</strong></td>
</tr>
</tbody>
</table>

Note that the unamortized discount of $5,618.89 ($7,023.61 – $702.36 – $702.36) is subtracted from the $100,000 face value of the bonds to determine the $94,381.11 book value.

**Example: Bond Premium (Straight Line)**

The straight-line amortization of a bond premium follows the same methods. In our second example, when the effective rate was 10%, Jet Company sold bonds on January

\[\text{Note that the maturity date of bonds is established on the date they are authorized. When bonds are issued later than the authorization date, any discount or premium is amortized over the remaining life until the maturity date.}\]
1, 2013, for $107,721.71. In this case, the premium amortization per semiannual period is:

\[
\text{Premium Amortization per Period} = \frac{\text{Total Premium}}{\text{Number of Interest Periods}} \\
= \frac{7,721.71}{10} = 772.17
\]

Interest expense is the cash payment minus the premium amortization:

\[
\text{Straight-Line Interest Expense} = \text{Coupon Interest Payment} - \text{Premium Amortization} \\
= \frac{6,000.00}{10} - 772.17 = 5,227.83
\]

Jet records the sale and first interest payment as follows:

**January 1, 2013**

<table>
<thead>
<tr>
<th>Account</th>
<th>Debit</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cash</td>
<td>107,721.71</td>
<td></td>
</tr>
<tr>
<td>Bonds Payable</td>
<td>100,000.00</td>
<td></td>
</tr>
<tr>
<td>Premium on Bonds Payable</td>
<td>7,721.71</td>
<td></td>
</tr>
</tbody>
</table>

**June 30, 2013**

<table>
<thead>
<tr>
<th>Account</th>
<th>Debit</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interest Expense ($6,000 – $772.17)</td>
<td>5,227.83</td>
<td></td>
</tr>
<tr>
<td>Premium on Bonds Payable ($7,721.71 ÷ 10)</td>
<td>772.17</td>
<td></td>
</tr>
<tr>
<td>Cash ($100,000 × 0.12 × 1/2)</td>
<td>6,000.00</td>
<td></td>
</tr>
</tbody>
</table>

Here the interest expense is lower than the cash paid, indicating an effective rate lower than the stated rate. After a similar journal entry to record the second interest payment, Jet’s December 31, 2013, balance sheet includes the following:

<table>
<thead>
<tr>
<th>Account</th>
<th>Debit</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bonds Payable</td>
<td>$100,000.00</td>
<td></td>
</tr>
<tr>
<td>Add: Premium on Bonds Payable</td>
<td>6,177.37</td>
<td></td>
</tr>
<tr>
<td></td>
<td>$106,177.37</td>
<td></td>
</tr>
</tbody>
</table>

Note that the $6,177.37 ($7,721.71 – $772.17 – $772.17) unamortized premium is added to the $100,000 face value of the bonds to determine the $106,177.37 book value. □

In both situations, the total discount or premium will be amortized by the maturity date, and the book value will equal the maturity value.

**QUICK CHECK 14-1**

- Bonds are financing instruments that obligate a company to repay a stated amount (the face value) plus interest on a specified maturity date.
- The selling price of a bond is based on the relationship between the yield (effective rate) and the contract rate of interest.
- If the yield is equal to the contract rate, the bonds sell at par and the periodic interest expense is equal to the interest paid.
- If the yield is lower than the contract rate, the bonds sell at a premium and the periodic interest expense is less than the interest paid.
- If the yield is greater than the contract rate, the bonds sell at a discount and the periodic interest expense is greater than the interest paid.
- For both premiums and discounts, the straight-line method results in a constant amount of interest expense each semiannual period even though the book value of the liability changes each period.
- The straight-line method results in the same interest entry being made on each interest date.
- At the bond’s maturity date, the company will pay the principal amount of the bonds payable to the creditor and debit Bonds Payable and credit Cash.
- The straight-line method is acceptable only when it results in amounts of interest expense and book value that are not materially different from those computed by using the effective interest method.

**Effective Interest Method**

As noted earlier, the book value (carrying value) of the bond issue at any time is its face value plus any unamortized premium or minus any unamortized discount. This results in a change in the book value with each successive premium or discount amortization.
amortization. The book value when using the effective interest method of amortization is equal to the present value of the remaining cash payments. (Under the straight-line method, the book value is not equal to the present value of the remaining cash payments.) Because the bonds were issued to yield a particular interest rate, interest expense over the life of the bond issue should be based on this effective interest rate. The effective interest method applies the semiannual yield to the book value of the bonds at the beginning of each successive semiannual period to determine the interest expense for that period. In this procedure, the discount or premium amortization is the difference between the interest expense computed under the effective interest method and the cash payment. This method is based on the compound interest techniques discussed in the Time Value of Money Module. The relationships among the interest paid, interest expense, and the amortization are shown in Exhibit 14.4.

### Example: Bond Discount (Effective Interest Method)

After Jet Company sold bonds for $92,976.39 (yielding an effective annual interest rate of 14%), it records the first interest payment under the effective interest method as follows:

**June 30, 2013**

- **Interest Expense** ($92,976.39 \times 0.14 \times \frac{1}{2}) = $6,508.35
- **Discount on Bonds Payable** ($6,508.35 – $6,000.00) = $508.35
- **Cash** ($100,000 \times 0.12 \times \frac{1}{2}) = $6,000.00

After the first interest entry, the book value of the bonds payable would increase by $508.35 (the amount of discount amortized) from $92,976.39 to $93,484.74. This new book value will be used to determine interest expense for the next interest period:

**December 31, 2013**

- **Interest Expense** [($93,484.74 \times 0.14 \times \frac{1}{2})] = $6,543.93
- **Discount on Bonds Payable** ($6,543.93 – $6,000.00) = $543.93
- **Cash** = $6,000.00

### Example: Bond Premium (Effective Interest Method)

Alternatively, if Jet Company sold the bonds for $107,721.71 (equivalent to an annual yield rate of 10%), it records the first interest payment under the effective interest method as follows:

**June 30, 2013**

- **Interest Expense** ($107,721.71 \times 0.10 \times \frac{1}{2}) = $5,386.09
- **Premium on Bonds Payable** ($6,000.00 – $5,386.09) = $613.91
- **Cash** ($100,000 \times 0.12 \times \frac{1}{2}) = $6,000.00

After this interest date, Jet would decrease the book value of its bonds payable by $613.91 from $107,721.71 to $107,107.80. This new book value will be used to determine interest expense for the next interest period:
**Amortizing Discounts and Premiums**

December 31, 2013

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interest Expense</td>
<td>$5,355.39</td>
</tr>
<tr>
<td>Premium on Bonds Payable</td>
<td>$644.61</td>
</tr>
<tr>
<td>Cash</td>
<td>$6,000.00</td>
</tr>
</tbody>
</table>

After this second interest period, the bonds payable will have a book value of $106,463.19 which is equal to the beginning of the period book value less the premium amortized during the period ($107,107.80 – $644.61). In addition, it is important to understand that the book value will be equal to the discounted value of the remaining cash flows. After the first two interest dates, the book value of $106,463.19 is equal to the discounted cash flows over the remaining eight interest periods:

- **Present value of principal:** $100,000 \times 0.676839\(^a\) = $67,683.90
- **Present value of interest:** $6,000 \times 6.463213\(^b\) = $38,779.29
- **Selling price:** $106,463.19

\(^a\) From Present Value of 1 Table (n = 8; i = 0.05)
\(^b\) From Present Value of an Ordinary Annuity of 1 Table (n = 8; i = 0.05)
\(^c\) Difference due to $0.01 rounding error

---

**WHY IT MATTERS**

Investors, creditors, and others are interested in a company's long-run solvency and stability. As companies acquire more debt, risk typically increases for debt holders and common equity shareholders. This risk arises from two sources. First, debt usually requires periodic interest payments, and failure to make these payments can lead to default and possibly bankruptcy. Second, in the event of bankruptcy, the creditors' claims are satisfied first. Two ratios that provide evidence of this risk that can affect a company's long-run solvency and stability are:

- **debt-to-assets ratio**, which measures the proportion of assets financed with debt capital rather than equity capital
- **times-interest-earned ratio**, which indicates the number of times the firm's operating income could cover the interest charges

Both ratios are indicators of credit risk, although in different directions. Higher debt-to-assets ratios, compared to competitors or industry averages, indicate more financial leverage and greater credit risk, whereas higher times-interest-earned ratios indicate less risk. Below are excerpts from Starbucks' 2010 annual report.

<table>
<thead>
<tr>
<th>(in millions)</th>
<th>2010</th>
<th>2009</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Assets</td>
<td>$6,385.9</td>
<td>$5,576.8</td>
</tr>
<tr>
<td>Total Liabilities</td>
<td>$2,703.6</td>
<td>$2,531.1</td>
</tr>
<tr>
<td>Interest Expense</td>
<td>$32.0</td>
<td>$39.1</td>
</tr>
<tr>
<td>Income before Income Taxes</td>
<td>$1,437.2</td>
<td>$559.2</td>
</tr>
</tbody>
</table>

Starbucks's debt-to-assets ratio is computed as follows:

2010: \[
\frac{\text{Total Liabilities}}{\text{Total Assets}} = \frac{2,703.6}{6,385.9} = 0.42
\]

2009: \[
\frac{\text{Total Liabilities}}{\text{Total Assets}} = \frac{2,531.1}{5,576.8} = 0.45
\]

Subtracting this ratio from 100%, shareholders have contributed 58% and 55% of the total assets for 2010 and 2009, respectively. The interest coverage ratio is:

2010: \[
\frac{\text{Pretax Operating Income}}{\text{Interest Expense}} = \frac{1,437.2 + 32.0}{32.0} = 45.9
\]

2009: \[
\frac{\text{Pretax Operating Income}}{\text{Interest Expense}} = \frac{559.2 + 39.1}{39.1} = 15.3
\]

These results show that Starbucks has decreased its leverage slightly from 2009 to 2010, which is usually viewed as becoming less risky. In addition, Starbucks’s interest coverage ratio reflects that there is more operating income available to pay interest which is also consistent with a less risky investment.
Bond Issue Costs

GAAP requires that a company capitalize as an asset any costs connected with a bond issue (such as legal and accounting fees, printing costs, or registration fees). Conceptually, a company could expense the issue costs or defer them and compute a new yield. However, because bond issue costs are recorded as an asset, they are usually amortized over the life of the bond issue by the straight-line method.

**Example** On January 1, 2013, Graham Company issues 10-year bonds with a face value of $500,000 at 104, or $520,000 ($500,000 \times 1.04). Costs connected with the issue totaled $8,000. Graham records this issue as follows:

<table>
<thead>
<tr>
<th>Cash ($520,000 – $8,000)</th>
<th>512,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deferred Bond Issue Costs</td>
<td>8,000</td>
</tr>
<tr>
<td>Premium on Bonds Payable (0.04 \times $500,000)</td>
<td>20,000</td>
</tr>
<tr>
<td>Bonds Payable</td>
<td>500,000</td>
</tr>
</tbody>
</table>

Graham amortizes deferred bond issue costs of $800 to bond interest expense (i.e., debit Bond Interest Expense and credit Deferred Bond Issue Costs) each year over the 10-year life of the bonds. The unamortized deferred bond issue costs typically are reported as other assets or deferred charges on the balance sheet.

**Bond Interest Schedules—Effective Interest Method**

Schedules may be developed to show the interest expense, amortization of discounts and premiums, and book values using the effective interest method. **Example 14.1** illustrates a schedule for Jet Company’s bonds issued at a discount. **Example 14.2** illustrates a schedule for these bonds issued at a premium. Note that the amount of interest expense using the effective interest method is based on a constant rate applied to the remaining book value of the bonds. (In contrast, under the straight-line method, the amount of interest expense remains constant.)

### Example 14.1
Bond Interest Expense and Discount Amortization Schedule: Effective Interest Method

<table>
<thead>
<tr>
<th>Date</th>
<th>Cash (Credit)</th>
<th>Effective Interest Expense (Debit)</th>
<th>Amortization of Bond Discount (Credit)</th>
<th>Book Value of Bonds</th>
</tr>
</thead>
<tbody>
<tr>
<td>01/01/13</td>
<td>$6,000.00</td>
<td>$6,508.35</td>
<td>$508.35</td>
<td>$92,976.39</td>
</tr>
<tr>
<td>06/30/13</td>
<td>$6,000.00</td>
<td>$6,543.93</td>
<td>543.93</td>
<td>93,484.74</td>
</tr>
<tr>
<td>12/31/13</td>
<td>$6,000.00</td>
<td>$6,582.01</td>
<td>582.01</td>
<td>94,028.67</td>
</tr>
<tr>
<td>06/30/14</td>
<td>$6,000.00</td>
<td>$6,622.75</td>
<td>622.75</td>
<td>95,233.43</td>
</tr>
<tr>
<td>12/31/14</td>
<td>$6,000.00</td>
<td>$6,666.34</td>
<td>666.34</td>
<td>95,899.77</td>
</tr>
<tr>
<td>06/30/15</td>
<td>$6,000.00</td>
<td>$6,712.98</td>
<td>712.98</td>
<td>96,612.75</td>
</tr>
<tr>
<td>12/31/15</td>
<td>$6,000.00</td>
<td>$6,762.89</td>
<td>762.89</td>
<td>97,375.64</td>
</tr>
<tr>
<td>06/30/16</td>
<td>$6,000.00</td>
<td>$6,816.29</td>
<td>816.29</td>
<td>98,191.93</td>
</tr>
<tr>
<td>12/31/16</td>
<td>$6,000.00</td>
<td>$6,873.44</td>
<td>873.44</td>
<td>99,065.37</td>
</tr>
<tr>
<td>06/30/17</td>
<td>$6,000.00</td>
<td>$6,794.63</td>
<td>934.63</td>
<td>100,000.00</td>
</tr>
</tbody>
</table>

- **a** Credit to cash amounts are equal to $100,000 (face value) \times 0.12 (stated annual interest rate) \times 1/2 (year).
- **b** Effective interest expense amounts are determined as the previous book value \times 0.14 (effective interest rate) \times 1/2 (year).
- **c** Amortization amounts are determined as cash interest payments minus the effective interest expense amounts.
- **d** Previous Book Value + Amortization Amount
- **e** Difference due to $0.05 rounding error

---

4 FASB ASC 835-30-45, Interest Imputation of Interest.
Accruing Bond Interest

In the previous examples, the semiannual interest payments coincided with the company’s fiscal year. However, frequently companies issue bonds with interest payment dates that differ from the fiscal year. In such cases, the company must accrue interest expense and interest payable and recognize partial period amortization of the bond premium or discount at the end of the fiscal year.

**Example** Olivia Company issues $200,000 of 10%, 5-year bonds on October 1, 2013, for $185,279.87. Interest on these bonds is payable each October 1 and April 1. On October 1, 2013, Olivia records this issuance of the bonds as follows:

- **Cash** 185,279.87
- **Discount on Bonds Payable** 14,720.13
- **Bonds Payable** 200,000.00

At the end of the fiscal year, December 31, 2013, Olivia must accrue interest and amortize the discount for the months of October, November, and December. Thus, it must compute and record the amount of interest expense in 2013 for these three months. Olivia records this adjusting entry (assuming straight-line amortization) as follows:

- **Interest Expense** 5,736.01
- **Discount on Bonds Payable ($14,720.13 ÷ 5) × 3/12** 736.01
- **Interest Payable ($200,000 × 0.10 × 3/12)** 5,000.00

Typically, the company will record a reversing entry on January 1, 2014, so that it can make the April 1, 2014, entry to record interest expense as usual. If the company does not make a reversing entry, when it records interest expense it eliminates the Interest Payable account and records the three months of interest expense incurred in 2014.
If a company uses the effective interest method to amortize a premium or discount, it determines the amount of interest expense it accrues on December 31, 2013, by computing the semiannual effective interest cost for the next interest and amortization period, and allocating this amount over the number of months of interest accrual.

**Example**  Return to the Olivia example discussed earlier, but assume that effective annual interest rate is 12% and Olivia uses the effective interest method. In order to record the interest entry at December 31, 2013, Olivia first calculates the amount of semiannual interest for the six-month period from October 1, 2013, to April 1, 2014, as follows:

\[
\text{Interest Expense} = \frac{185,279.87}{0.12} \times \frac{1}{2} = $11,116.79
\]

There are six months in the interest period and the elapsed time since the date of issue (October 1) to the fiscal period end is three months; therefore, the company expenses $5,558.40, or 3/6 of the $11,116.79 semiannual interest charge. It computes the amount of discount amortization as the difference between the effective interest expense, $5,558.40, and the $5,000.00 ($200,000 \times 0.10 \times 3/12) amount of interest owed, or $558.40. Using the effective interest method of discount amortization, Olivia records the accrued interest on December 31, 2013, as follows:

<table>
<thead>
<tr>
<th>Account</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interest Expense</td>
<td>5,558.40</td>
</tr>
<tr>
<td>Discount on Bonds Payable</td>
<td>558.40</td>
</tr>
<tr>
<td>Interest Payable</td>
<td>5,000.00</td>
</tr>
</tbody>
</table>

**Zero-Coupon Bonds**

As defined in Exhibit 14.1, zero-coupon bonds are bonds sold at a “deep” discount. As the name implies, zero-coupon bonds pay no interest each period. The only cash outflow for the bonds is the payment of the face value on the maturity date. The calculation of the selling price follows the principles we discussed earlier; that is, it is the present value (based on the yield) of the face value. A company records the issuance of zero-coupon bonds in the usual way; it debits the discount account for the difference between the selling price and the face value.

Even though the bonds pay no interest each period, the company must still recognize interest expense because it has incurred a cost each period on the amount borrowed. It computes the interest expense, as we discussed earlier, by multiplying the yield times the book value of the bonds at the beginning of the period. (Alternatively, the company may use the straight-line method.) Because the company makes no cash payment for interest each period, it recognizes the interest expense each period as a decrease (credit) in the discount account (and therefore increases the book value of the bonds). The accounting for a non-interest-bearing note is illustrated on page 14-30. Accounting for a zero-coupon bond follows the same procedures.

**Fair Value Option**

As discussed in Chapter 4, both GAAP and IFRS allow a company to value any financial instrument at fair value. Under GAAP, fair value is defined as an exit value. The fair value option allows any company to value any of its bonds payable (or any other financial liability) at fair value. This decision must be made at the time the bonds payable or other financial liability is issued and then must be continually applied throughout the life of the liability. To measure fair value, a company must use the valuation method consistent with the fair value hierarchy. For example, a company might decide that it is most appropriate to value its bonds payable by discounting the future cash flows using an estimate of the current market yield. When a company chooses this fair value option for a debt instrument, it reports:

- the debt instrument on its balance sheet separately from any debt instruments that are not reported at fair value
- any change in the fair value in its income statement for that period

Real Report 14.1 shows the liabilities section of Bank of America’s 2010 balance sheet, which discloses a number of its financial instrument liabilities measured at fair value and disclosed parenthetically.
**REAL REPORT**

<table>
<thead>
<tr>
<th>Bank of America Corporation and Subsidiaries</th>
</tr>
</thead>
<tbody>
<tr>
<td>CONSOLIDATED BALANCE SHEET (continued)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>(Dollars in millions)</th>
<th>December 31</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2010</td>
</tr>
<tr>
<td>Liabilities</td>
<td></td>
</tr>
<tr>
<td>Deposits in U.S. offices:</td>
<td></td>
</tr>
<tr>
<td>Noninterest-bearing</td>
<td>$285,200</td>
</tr>
<tr>
<td>Interest-bearing</td>
<td>645,713</td>
</tr>
<tr>
<td>(includes $2,732 and $1,663 measured at fair value)</td>
<td></td>
</tr>
<tr>
<td>Deposits in non-U.S. offices:</td>
<td></td>
</tr>
<tr>
<td>Noninterest-bearing</td>
<td>6,101</td>
</tr>
<tr>
<td>Interest-bearing</td>
<td>73,416</td>
</tr>
<tr>
<td>Total deposits</td>
<td>1,010,430</td>
</tr>
<tr>
<td>Federal funds purchased and securities loaned or sold under agreements to repurchase (includes $37,424 and $37,325 measured at fair value)</td>
<td>245,359</td>
</tr>
<tr>
<td>Trading account liabilities</td>
<td>71,985</td>
</tr>
<tr>
<td>Derivative liabilities</td>
<td>55,914</td>
</tr>
<tr>
<td>Commercial paper and other short-term borrowings (includes $7,178 and $1,520 measured at fair value)</td>
<td>59,962</td>
</tr>
<tr>
<td>Accrued expenses and other liabilities (includes $33,229 and $18,308 measured at fair value and $1,188 and $1,487 of reserve for unfunded lending commitments)</td>
<td>144,580</td>
</tr>
<tr>
<td>Long-term debt (includes $50,984 and $45,451 measured at fair value)</td>
<td>448,431</td>
</tr>
<tr>
<td>Total liabilities</td>
<td>2,036,661</td>
</tr>
</tbody>
</table>

**Questions:**
1. What is the total amount of Bank of America’s liabilities valued at fair value as of December 31, 2010?
2. Why would financial statement users be concerned with the amount of liabilities recorded at fair value?
3. Why do you think that Bank of America only values a portion of its long-term debt at fair value?

**QUICK CHECK 14-2**

- The book value of a bond issue is the face value plus any unamortized premium or minus any unamortized discount.
- When a bond is sold between interest payment dates, the issuing company will normally collect the selling price plus any accrued interest since the last interest payment date.
- Because a company pays interest based on the contract rate but records interest expense based on the effective interest rate (yield), any premium or discount is amortized to account for this difference.
- Under the effective interest method, periodic interest expense is computed by multiplying the effective interest rate by the book value of the bonds.
- Bond issue costs are recorded as an asset and amortized to Bond Issue Expense over the life of the bond issue by the straight-line method.
- GAAP and IFRS allow a company to value any financial instrument, including its financial liabilities, at fair value.
EXTINGUISHMENT OF LIABILITIES

The agreement between the bondholders and the issuing company always includes a specified maturity date. On this date, the company agrees to repay the face value of the bonds to the bondholders. At this time, any premium or discount will be completely amortized so that the book value of the bonds is equal to the face value. Occasionally under certain circumstances, bonds may be retired (extinguished) prior to their scheduled maturity date.

Over the past three decades, both of the accounting standard setters have considered the various circumstances under which liabilities should be considered to be extinguished and what, if any, gain or loss should be recognized on that extinguishment. Under GAAP, a liability is derecognized (extinguished) for financial reporting purposes if one of the following occurs:

- debtor pays the creditor and is relieved of its obligation for the liability
- debtor is released legally from being the primary obligor under the liability

Bonds may be extinguished by retirement at maturity or prior to maturity.

**Bonds Retired at Maturity**

On the balance sheet issued within one year prior to the maturity date, a company reclassifies the face value (and any related premium or discount) of the bonds to be retired from a noncurrent (long-term) to a current liability. On the maturity date after the last interest payment is recorded, any premium or discount on bonds payable is fully amortized. Therefore, the book value of the bonds is equal to the maturity value. The company records the retirement of bonds on the maturity date by a debit to Bonds Payable (to eliminate the liability) and a credit to Cash.

**Bonds Retired Prior to Maturity**

Many companies will issue long-term financing instruments, such as bonds or notes, including a call provision. A call provision gives the issuing company the option to recall and repay the debt issue prior to maturity, usually at a prestated percentage above the face value of the debt. Companies might call a bond for the following reasons:

- to repay the debt to reduce their level of debt
- to eliminate any restrictions on operations included in the bond contract
- to protect themselves from the inability to take advantage of future favorable changes in market conditions

Because the call price is generally set above the issue price, a loss occurs when the company recalls the debt.

An alternative method of retiring bonds prior to their maturity is for the company to purchase them on the open market, if they are traded. Then a gain or loss arises depending on the relationship between the book value and the market value of the bonds. The extinguishment of debt may take one of the following forms:

- borrowed funds may no longer be needed, and the debt is not replaced (debt retirement)
- existing debt may be replaced with another debt issue (debt refunding)

Under GAAP, all extinguishments of debt securities prior to maturity (whether retirements or refundings) are accounted for in the same way. Any gain or loss is reported in the period of extinguishment and is included as a component of income from continuing operations. In rare cases, a company would report the gain or loss as extraordinary if it is considered to be unusual and infrequent.

---

6 FASB ASC 470-50-40, Debt, Modifications and Extinguishments.
7 FASB ASC 470-50-45, Debt, Modifications and Extinguishments.
Example: Retirement Prior to Maturity

Rodgers Corporation originally issued $100,000 of 12% bonds at 97 on January 1, 2008. The bonds have a 10-year life, pay interest on January 1 and July 1, and are callable at 105 plus accrued interest. Assume, for simplicity, that Rodgers amortizes the discount by the straight-line method. On June 30, 2013, the company recalls the bonds.

First, Rodgers records the current interest expense and liability, including the amortization of the discount that expired since the last interest payment, as follows:

- **Interest Expense**: 6,150
- **Discount on Bonds Payable**: ([$3,000 ÷ 10] × 1/2) = 150
- **Interest Payable**: ($100,000 × 0.12 × 1/2) = 6,000

Rodgers then records the reacquisition of the bonds as follows:

- **Bonds Payable**: 100,000
- **Interest Payable**: 6,000
- **Loss on Bond Redemption**: 6,350
- **Discount on Bonds Payable**: 1,350
- **Cash**: ($100,000 × 1.05) + $6,000 = 111,000

**a** Call price (excluding interest)

- **Face value**: $100,000
- **Unamortized discount**: (1,350)
- **Less: Carrying value**: (98,650)
- **Loss on bond redemption**: $6,350

**b** Original discount

- **Amortization on straight-line basis for 5 1/2 years = 5.5 × $300**: (1,650)
- **Unamortized discount 6/30/12**: $1,350

Rodgers reports the loss of $6,350 in income from continuing operations on its 2013 income statement.

In addition to retirement at maturity or prior to maturity, a liability can be extinguished through loan **defeasance**, in which the debtor is legally released from being the primary obligor of the liability. This situation arises when:

- an affiliated company agrees to become the primary obligor for the bonds
- the issuing company transfers a sufficient amount of assets (such as investment securities) into a legally separate entity (such as a trust) to be used for bond retirement at maturity

The parent company derecognizes the liability (e.g., bonds payable) from its balance sheet, recognizes a reduction in an investment account (either an investment in affiliate account or an investment securities account) and reports a gain or loss on the transaction, if appropriate. The bond issuer may still be required to disclose a contingent liability if the issuer has been released from being the primary obligor because a third party has assumed the debt, but the creditor requires the issuer to be a guarantor of the third party’s debt.

**HOW DO WE ACCOUNT FOR BONDS WITH EQUITY CHARACTERISTICS?**

A company may issue bonds that allow creditors to ultimately become shareholders either by attaching stock warrants to the bonds or including a conversion feature in the bond indenture. **Stock warrants** give holders the option to purchase a specified number of common shares at a predetermined price for a period of time, whereas **conversion** allows bondholders to exchange bonds for common equity shares at a predetermined exchange ratio. In either case, the bondholder has acquired a dual set of rights:

- the right to receive interest and principal repayments on the bonds
- the right to acquire common stock, either by exercising the warrants and purchasing shares or by exchanging bonds for shares, and to participate in future dividends and the potential appreciation of the market value of the company’s common stock

**OBJECTIVE 7**

Understand bonds with equity characteristics.
Conceptually, it can be argued that the economic substance of issuing bonds with either detachable warrants or a conversion feature is similar (but not identical) because both give bondholders the rights to acquire common shares. For consistency, therefore, a portion of the proceeds of a bond issue carrying either of these features could be assigned to shareholders’ equity. However, GAAP differs in its treatment of these securities.

**Bonds Issued with Detachable Stock Warrants**

When a company issues bonds with detachable stock warrants, these warrants represent rights that enable the security holder to acquire a specified number of common shares at a given price within a certain time period. Stock warrants are attached to bonds to increase their marketability. They generally result in either a lower interest rate or greater proceeds when compared with other bond issues with similar risk but without such rights. (The terms stock warrants and stock rights often are used interchangeably.) Because these warrants are detachable, they usually trade separately from the bonds on the open market.

GAAP requires that a portion of the proceeds of bonds issued with detachable warrants be allocated to the stock warrants and accounted for as additional paid-in capital. This allocation is based on the relative fair values of the bonds and warrants as soon as both elements trade separately on the open market. The allocation is made as follows:

\[
\text{Amount Assigned to Bonds} = \frac{\text{Market Value of Bonds without Warrants}}{\text{Market Value of Bonds without Warrants} + \text{Market Value of Warrants}} \times \text{Issuance Price}
\]

\[
\text{Amount Assigned to Warrants} = \frac{\text{Market Value of Warrants}}{\text{Market Value of Bonds without Warrants} + \text{Market Value of Warrants}} \times \text{Issuance Price}
\]

\[
\text{Amount Assigned to Bonds} + \text{Amount Assigned to Warrants} = \text{Issuance Price}
\]

**Example: Bonds Issued with Detachable Warrants**

Grant Company sold $800,000 of 12% bonds at 101, or $808,000. Each $1,000 bond carried 10 warrants, and each warrant allows the holder to acquire one share of $5 par common stock for $25 per share. After issuance, the bonds are quoted at 99 ex rights (without the rights attached), and the warrants (rights) are quoted at $3 each. Grant calculates the values assigned to each security as follows:

\[
\text{Value Assigned to Bonds} = \frac{990 \times 800}{990 \times 800 + (3 \times 800 \times 10)} \times 808,000
\]

\[
= \frac{792,000}{792,000 + 24,000} \times 808,000 = 784,235.29
\]

\[
\text{Value Assigned to Warrants} = \frac{3 \times 800 \times 10}{990 \times 800 + (3 \times 800 \times 10)} \times 808,000
\]

\[
= \frac{24,000}{792,000 + 24,000} \times 808,000 = 23,764.71
\]

In the denominator of each equation, note that the $792,000 fair value of the bonds without warrants is computed by multiplying the $990 (99 ex rights) quoted price times the 800 bonds. The fair value of the warrants is determined by multiplying the $3 quoted price times the 8,000 warrants (800 x 10). Grant records the transaction as follows:

Cash 808,000.00
Discount on Bonds Payable ($800,000 – 784,235.29) 15,764.71
Bonds Payable 800,000.00
Common Stock Warrants 23,764.71

This journal entry recognizes the fact that the bonds with detachable warrants are hybrid financing instruments comprised of two components: bonds (liabilities) and warrants (options) on common shares (common equity). Each warrant is assigned a value of
$2.971 ($23,764.71 \div 8,000). If 500 of the warrants were later exercised at the $25 per share exercise price, Grant would record the following journal entry:

```
Cash ($25 \times 500) 12,500.00
Common Stock Warrants ($2.971 \times 500) 1,485.50
Common Stock ($5 \times 500) 2,500.00
Additional Paid-in Capital on Common Stock 11,485.50
```

If the remaining 7,500 warrants expire, Grant would record the following journal entry:

```
Common Stock Warrants ($23,764.71 – $1,485.50) 22,279.21
Additional Paid-in Capital from Expired Warrants 22,279.21
```

This journal entry transfers the value assigned to the warrants to the existing shareholders.

**Convertible Bonds**

A company may also issue bonds that are convertible into common stock. At conversion, the bondholder (creditor) exchanges the bonds for a specified number of common shares and becomes a shareholder. Debt securities that are convertible into common stock often play a role in corporate financing, and this role appears to be growing. The use of these financial instruments raises two questions:

- Why do companies issue such securities?
- Are the securities really bonds or are they a form of common stock or a hybrid?

Most financial analysts agree that a company sells convertible bonds for one of two primary reasons:

- The company wants to increase its equity capital at a later date and decides that the issuance of convertible bonds is the best way to do so.
- The company wants to increase its debt and finds the conversion feature necessary to make the bonds sufficiently marketable at a reasonable interest rate.

Several other factors have motivated companies to issue convertible bonds rather than common stock. For example, a company may wish to:

- avoid potential downward price pressures on its stock which could result from a large new issue of common stock
- avoid the direct sale of common stock when it believes its stock currently is undervalued in the market
- penetrate that segment of the capital market that is unwilling or unable to participate in a direct common stock issue
- minimize the costs associated with selling securities

For similar reasons, companies may issue convertible preferred stock (discussed in Chapter 15). In this chapter, we focus only on accounting for convertible bonds.

**Recording the Issuance** Conceptually, there are two methods for recording the issuance of convertible debt. The company could:

- attribute part of the proceeds from the sale of the security to the conversion privilege and allocate this to additional paid-in capital as part of shareholders’ equity
- treat the issue solely as debt

Advocates of the first position argue that because both the conversion feature and the right to receive interest are valuable to an investor, the conversion feature often carries a lower interest rate or a higher selling price (or both) than might otherwise have been available. Since the conversion feature is valuable, an amount equal to the difference between the price at which the bonds might have been sold without the conversion privilege and the actual issue price should be allocated to additional paid-in capital. While this
position was originally included in GAAP, it was removed due to opposition from corporate interests.

**Current GAAP requires companies to treat the proceeds from the issuance of convertible debt solely as debt.** The argument is that the debt and the conversion option are not separable for trading purposes and that separate values are not reliable. Thus, a company records the issuance of convertible debt in the same manner as the issuance of nonconvertible debt, without separately recording a value for the conversion feature. However, the FASB is considering revisiting this issue and requiring that the equity component be separately valued, as we discuss later in the chapter.

**Recording the Conversion** When bondholders convert bonds into common stock, a company must determine the amount to record as shareholders’ equity. If the conversion takes place between interest dates, the company first must record interest expense, interest payable, and any discount or premium amortization to bring the book value of the bonds up to date. There are two GAAP methods for a company to record the conversion, as shown in Exhibit 14.5.

**EXHIBIT 14.5 Accounting for Convertible Bonds Payable**

Conversion of Bonds

- **Book Value Method**: The shareholders’ equity (common stock and additional paid-in capital) is recorded at the book value of the convertible bonds on the date of conversion, and no gain or loss is recorded upon conversion. (If the par value of the common stock is greater than the book value of the bonds, the difference is recorded as a reduction of retained earnings.)
- **Market Value Method**: The shareholders’ equity (common stock and additional paid-in capital) is recorded at the market value of the shares issued on the date of conversion, and a loss is recorded. The loss is computed by comparing the market value of the shares with the book value of the bonds at the time of conversion. (For a gain to be recognized, the market value of the shares would have to be less than the book value of the bonds—which would make conversion unlikely.) This loss is reported in income from continuing operations on the company’s income statement.

**Example: Conversion of Bonds**

Shannon Corporation has outstanding convertible bonds with a face value of $10,000. It has just paid interest on these bonds, and the bonds have a book value of $10,500. Each

---

8 FASB ASC 470-20, Debt, Debt with Conversion and Other Options.
$1,000 bond is convertible into 40 shares of common stock (par value $20 per share). If all the bonds are converted into common stock when the market value of Shannon's common stock is $26.50 per share, it may record the following alternative journal entries:

**Book Value Method**

<table>
<thead>
<tr>
<th>Account</th>
<th>Debit</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bonds Payable</td>
<td>10,000</td>
<td></td>
</tr>
<tr>
<td>Premium on Bonds Payable</td>
<td>500</td>
<td></td>
</tr>
<tr>
<td>Common Stock (40 ( \times 10 \times 20))</td>
<td>8,000</td>
<td></td>
</tr>
<tr>
<td>Additional Paid-in Capital from Bond</td>
<td></td>
<td>2,500</td>
</tr>
<tr>
<td>Conversion ($10,500 – $8,000)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Market Value Method**

<table>
<thead>
<tr>
<th>Account</th>
<th>Debit</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bonds Payable</td>
<td>10,000</td>
<td></td>
</tr>
<tr>
<td>Premium on Bonds Payable</td>
<td>500</td>
<td></td>
</tr>
<tr>
<td>Loss on Conversion ($10,600 – $10,500)</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>Common Stock (40 ( \times 10 \times 20))</td>
<td>8,000</td>
<td></td>
</tr>
<tr>
<td>Additional Paid-in Capital from Bond</td>
<td></td>
<td>2,600</td>
</tr>
<tr>
<td>Conversion (40 ( \times 10 \times 6.50))</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Some users favor the market value method because they view the conversion as an economic event that should be recorded at fair value. Also, the company could have sold the stock at the market price and used the proceeds to retire the debt. Others criticize the market value method because it allows a company to manipulate its income by recording a loss on transactions involving its own securities. They also argue that the book value method should be used because the conversion is not a new economic event, but rather a continuation of the contract terms established when the bonds were issued initially. For these reasons, most companies use the book value method, although both methods are acceptable under GAAP.

**Induced Conversions** A company that has issued convertible bonds may want to induce conversion of these bonds to common stock to reduce interest costs, improve its debt/equity ratio, or for other reasons. To induce conversion, the company may add a "sweetener" to the convertible bond issue so that the conversion privileges are changed or additional consideration is paid to the bondholder.

GAAP covers situations where the conversion privileges:

- are changed after the initial issuance
- are effective for a limited period of time
- involve additional consideration
- are made to induce conversion

The changed terms (privileges) may involve a reduction of the original conversion price resulting in the following:

- issuance of additional shares of common stock
- issuance of warrants or other securities not included in the original conversion terms
- payment of cash to bondholders who convert during the specified time period

When convertible bonds are converted to common stock in such a situation, the debtor company recognizes an expense equal to the excess of the fair value of the common stock (and any other consideration) transferred in the transaction over the fair value of the common stock issuable under the original conversion terms. The fair values are measured on the date the inducement offer is accepted by the convertible bondholders.9

**Example** Matthews Company previously had issued convertible bonds with a face value of $10,000 at par. At the time of issuance, the conversion terms allowed each $1,000 bond to be converted into 40 shares of no-par common stock. To induce conversion, Matthews later changed the conversion terms so that each bond is convertible into 50 shares of no-par common stock if conversion is made in 60 days. All the bonds are

---

9 FASB ASC 470-20-40-26, Debt, Debt with Conversion and Other Options
converted within the time limit when the market price of the common stock is $30 per share. Bond conversion expense is calculated as:

<table>
<thead>
<tr>
<th>Description</th>
<th>Calculation</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fair value of no-par common stock issued to induce conversion</td>
<td>$10 bonds × $30 per common share = $300 × 10</td>
<td></td>
</tr>
<tr>
<td>Less: Fair value of no-par common stock under original contract</td>
<td>$10 bonds × $30 per common share = $300 × 10</td>
<td></td>
</tr>
<tr>
<td>Bond issue expense</td>
<td>$3,000</td>
<td></td>
</tr>
</tbody>
</table>

Under the book value method, Matthews records the bond conversion expense at $3,000, eliminates the $10,000 par value of the bonds payable, and records the no-par common stock at $13,000 as follows:

<table>
<thead>
<tr>
<th>Account</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bonds Payable</td>
<td>10,000</td>
</tr>
<tr>
<td>Bond Conversion Expense</td>
<td>3,000</td>
</tr>
<tr>
<td>Common Stock, no par</td>
<td>13,000</td>
</tr>
</tbody>
</table>

If Matthews had decided instead to use the market value method it would have recorded the Common Stock at its fair value of $15,000 and the bond conversion expense at $5,000 and removed the $10,000 par value of bonds payable. Matthews reports the bond conversion expense in its income from continuing operations.

**Convertible Bonds that May Be Settled with a Cash Payment** Sometimes a company may settle a convertible bond by paying cash to the owner of the bond. These types of convertible bonds normally are settled in one of three ways:

- **Net Share Settlement:** The bond issuer pays the face value of the bonds in cash and delivers shares for the in-the-money amount of the conversion option.
- **Cash or Stock in Any Combination:** The bond issuer pays cash or delivers stock in any combination at its discretion.
- **Cash Settlement:** The bond issuer pays cash equal to conversion value.

A cash or partial cash settlement usually occurs when the bond has an artificially low interest rate and an attractive conversion feature.

**Example** Jennings Company issues a $1,000 bond that pays annual interest of 1% and is convertible into 50 shares of its $5 par value common stock at the end of three years. It sells the bond for its face value of $1,000. At the date of issuance, the company’s common stock is selling for $18 per share, so the stock price only has to increase by at least $2 per share before the conversion becomes “in the money” ($50 shares × $20 = $1,000).

When a convertible bond can be settled by paying cash, the company must separately report the debt and the conversion feature. A company does this by estimating the current market rate on nonconvertible debt and allocating the remainder of the selling price to the conversion feature. For example, suppose Jennings Company estimates that the current market rate on a 3-year bond is 12%. Then, it would value the bond as follows:

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Present value of principal: $1,000</td>
<td>$711.78</td>
</tr>
<tr>
<td>Present value of interest: $100 × 2.401831</td>
<td>24.02</td>
</tr>
<tr>
<td>Selling price</td>
<td>$735.80</td>
</tr>
</tbody>
</table>

Jennings records the issuance of the bond as follows:

<table>
<thead>
<tr>
<th>Account</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cash</td>
<td>1,000.00</td>
</tr>
<tr>
<td>Discount on Bonds Payable</td>
<td>264.20</td>
</tr>
<tr>
<td>Bonds Payable</td>
<td>1,000.00</td>
</tr>
<tr>
<td>Additional Paid-in Capital:</td>
<td>264.20</td>
</tr>
</tbody>
</table>

10 FASB ASC 470-20-30, Debt, Debt with Conversion and Other Options, Initial Measurement. If the debt is convertible before the maturity date, the company uses the expected life to compute the present value and to amortize the discount.
At the end of the first year, Jennings records the interest as follows:

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interest Expense ($735.80 \times 0.12)</td>
<td>88.30</td>
</tr>
<tr>
<td>Discount on Bonds Payable</td>
<td>78.30</td>
</tr>
<tr>
<td>Cash</td>
<td>10.00</td>
</tr>
</tbody>
</table>

Note that Jennings’ interest expense is $88.30, compared to the $10 it would have been if the conversion feature had not been separately valued. Also, note that the interest expense would have been only $10 if the bond did not have a cash payment feature. Over the life of the bond, Jennings recognizes the interest expense using the effective interest method to “accrete” the bond to its $1,000 face value at the end of three years.

If the owner of the bond chooses the cash settlement at the end of three years (which would occur if the stock price is still below $20 per share), Jennings would record the following:

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bonds Payable</td>
<td>1,000.00</td>
</tr>
<tr>
<td>Cash</td>
<td>1,000.00</td>
</tr>
</tbody>
</table>

Alternatively, if the owner of the bond chooses the conversion feature at the end of three years (which would occur if the stock price is above $20 per share), Jennings would record the following:

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bonds Payable</td>
<td>1,000.00</td>
</tr>
<tr>
<td>Additional Paid-in Capital: Conversion Feature</td>
<td>264.20</td>
</tr>
<tr>
<td>Common Stock</td>
<td>250.00</td>
</tr>
<tr>
<td>Additional Paid-in Capital from Bond Conversion</td>
<td>1,014.20</td>
</tr>
</tbody>
</table>

Real Report 14.2 shows the financing arrangements note from Sandisk’s third quarter 2010 financial statements, describing Sandisk’s 1% convertible debt which may be settled with a cash payment.

### REAL REPORT

**CASH SETTLED CONVERTIBLE BONDS**

#### 7. Financing Arrangements

The following table reflects the carrying value of the Company’s convertible debt as of October 3, 2010 and January 3, 2010 (in millions):

<table>
<thead>
<tr>
<th>Description</th>
<th>October 3, 2010</th>
<th>January 3, 2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>1% Notes due 2013</td>
<td>$1,150.0</td>
<td>$1,150.0</td>
</tr>
<tr>
<td>Less: Unamortized interest discount</td>
<td>(171.8)</td>
<td>(215.3)</td>
</tr>
<tr>
<td>Net carrying amount of 1% Notes due 2013</td>
<td>978.2</td>
<td>934.7</td>
</tr>
<tr>
<td>1.5% Notes due 2017</td>
<td>1,000.0</td>
<td>—</td>
</tr>
<tr>
<td>Less: Unamortized interest discount</td>
<td>(290.4)</td>
<td>—</td>
</tr>
<tr>
<td>Net carrying amount of 1.5% Notes due 2017</td>
<td>709.6</td>
<td>—</td>
</tr>
<tr>
<td>1% Notes due 2035</td>
<td>—</td>
<td>75.0</td>
</tr>
<tr>
<td>Total convertible debt</td>
<td>1,687.8</td>
<td>1,099.7</td>
</tr>
<tr>
<td>Less: Convertible short-term debt</td>
<td>—</td>
<td>(75.0)</td>
</tr>
<tr>
<td>Convertible long-term debt</td>
<td>$1,687.8</td>
<td>$924.7</td>
</tr>
</tbody>
</table>

1% Convertible Senior Notes Due 2013. In May 2006, the Company issued and sold $1.15 billion in aggregate principal amount of 1% Convertible Senior Notes due May 15, 2013 (the “1% Notes due 2013”) at par. The 1% Notes due 2013 may be converted, under certain circumstances, based on an initial conversion rate of 12.1426 shares of common stock per $1,000 principal amount of notes (which represents an initial conversion price of approximately $82.36 per share). The net proceeds to the Company from the sale of the 1% Notes due 2013 were $1.13 billion.
The Company separately accounts for the liability and equity components of the 1% Notes due 2013. The principal amount of the liability component of $753.5 million as of the date of issuance was recognized at the present value of its cash flows using a discount rate of 7.4%, the Company's borrowing rate at the date of the issuance for a similar debt instrument without the conversion feature. The carrying value of the equity component was $241.9 million as of October 3, 2010 and January 3, 2010. The effective interest rate on the liability component of the 1% Notes due 2013 for each of the three and nine months ended October 3, 2010 and September 27, 2009 was 7.4%.

The following table presents the amount of interest cost recognized for the periods relating to both the contractual interest coupon and amortization of the discount on the liability component of the 1% Notes due 2013 (in millions):

<table>
<thead>
<tr>
<th></th>
<th>Three months ended</th>
<th>Nine months ended</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contractual interest coupon</td>
<td>$ 2.9</td>
<td>$ 2.9</td>
</tr>
<tr>
<td>Amortization of interest discount</td>
<td>14.7</td>
<td>13.7</td>
</tr>
<tr>
<td>Total interest cost recognized</td>
<td>$17.6</td>
<td>$16.6</td>
</tr>
</tbody>
</table>

The remaining bond discount of $171.8 million as of October 3, 2010 will be amortized over the remaining life of the 1% Notes due 2013, which is approximately 2.6 years.

Questions:
1. What is the maturity amount of the 1% convertible Senior Notes due 2013?
2. For the 1% convertible Senior Notes due 2013, what amount of interest was paid for the three months ended October 3, 2010?
3. For the 1% convertible Senior Notes due 2013, what amount of interest was expensed for the three months ended October 3, 2010?

**QUICK CHECK 14-3**

- If bonds are extinguished prior to their maturity date, any difference between the book value of the bonds and the amount paid to retire the bonds is recognized as either a gain or loss in income from continuing operations.
- If bonds are issued with detachable stock warrants that give the bondholder the option to acquire shares of stock, the issue price is allocated between the bonds and the warrants based on their relative fair values.
- When convertible bonds contain both debt and equity components that are not separable, GAAP requires that the issuance of such bonds is accounted for solely as debt due to the inseparability of the debt and conversion options and the lack of sufficiently reliable market valuations.
- Companies may record the conversion of bonds into stock using either the book value method (the equity is recorded at the book value of the debt) or the market value method (the equity is recorded at market value, which generally results in a loss).
- When convertible bonds may be settled with a cash payment, an equity component should be recognized at issuance.

**INTERNATIONAL DIMENSION**

**FINANCING LIABILITIES**

IFRS for long-term financing liabilities are generally similar to U.S. GAAP; however, there are some differences:

- Both GAAP and IFRS require the use of the effective interest method, however GAAP also allows the use of the straight-line method if the results are not materially
different from those obtained by using the effective interest method.\textsuperscript{11} In addition, under IFRS premiums and discounts are not recorded separately as they are under GAAP. Bonds payable are simply disclosed at their net amount.

- Under IFRS, bond issue costs, also referred to as transaction costs, are treated as a reduction of the carrying value of the bond payable liability. Under GAAP, bond issue costs are recorded as an asset. This results in amortizing of interest expense using the effective interest method.
- IFRS contain a general principle that an instrument would be classified as a financial liability when it contains an obligation to transfer resources (e.g., cash or other financial assets) regardless of the legal form of the instrument. Because U.S. GAAP contains no such general principle but instead addresses the classification of specific instruments, instruments that are classified as equity under U.S. GAAP may be classified as liabilities under IFRS.
- IFRS require a company that issues a compound financial instrument containing both liability and equity components to report each component separately on its balance sheet. While this is similar to U.S. GAAP with respect to bonds with detachable stock warrants, IFRS require companies which issue convertible debt to report the debt instrument and the conversion option (an equity instrument) separately, regardless of whether the conversion feature can be settled in stock or cash.

**IFRS Application** On January 1, 2013, Chivay Corporation, a Norwegian company, originally issued €500,000 of 10-year bonds that pay annual interest with a contract rate of 8%. Transaction costs connected with the issuance totaled €7,200. Chivay received proceeds after deducting the transaction costs of €476,263.15, which is equivalent to an effective rate for the bonds of 8.731%.\textsuperscript{12} Chivay would record the issuance of the bonds as follows:

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cash</td>
<td>476,263.15</td>
</tr>
<tr>
<td>Bonds Payable</td>
<td>476,263.15</td>
</tr>
</tbody>
</table>

Chivay records its first interest payment on December 31, 2013, as follows:

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interest Expense (476,263.15 × 8.731%)</td>
<td>41,582.54</td>
</tr>
<tr>
<td>Bonds Payable</td>
<td>1,582.54</td>
</tr>
<tr>
<td>Cash (500,000 × 8%)</td>
<td>40,000.00</td>
</tr>
</tbody>
</table>

Chivay would report a Bonds payable liability of €477,845.69 (476,263.15 + 1,582.54) in its December 31, 2013, balance sheet. Note that because IFRS nets the bond discounts and premiums and any bond issue costs against the principal whereas U.S. GAAP does not, recognized book values of bonds will be different across the two sets of standards.

Source: IAS 32 (See Appendix C at the end of this book.)

---

**LONG-TERM NOTES PAYABLE**

A long-term note is economically similar to a debenture bond because it represents a future obligation of the borrower to repay debt in more than a year. Also, in many cases, no collateral backs the note. Like bonds, long-term notes generally require payments of interest on the borrowed funds, and the rate of interest charged will depend on such factors as the credit risk of the borrower, the amount of current debt, and other issues. Although GAAP addresses the accounting for most notes payable, it specifically exempts normal trade transactions not exceeding one year, as we discussed in Chapter 6.\textsuperscript{13}

\textsuperscript{11} FASB ASC 835-30-55-2 Interest, Imputation of Interest.
\textsuperscript{12} An accurate interest rate can be obtained by solving for the implicit interest rate that equates the net proceeds of €476,263.15 with the present value of the principal plus the present value of the interest payments.
\textsuperscript{13} FASB ASC 835-30-15 and 35, Interest, Imputation of Interest, Scope and Scope Exceptions and Subsequent Measurement.
In some commercial arrangements, corporate lenders will lend financial capital to companies or employees, and the long-term notes will not require explicit interest payments. These lending arrangements are sometimes used to maintain favorable customer, supplier, or employee relations or to ensure future services. GAAP provides guidelines for cases in which a long-term note does not stipulate a rate of interest or the stated interest rate is clearly below market. The basic principle is that, regardless of how a note is structured legally, GAAP recognizes the underlying economics of the arrangement, requiring the borrower to record the note payable at its present value and use the effective interest method to record the interest expense. This means that the accounting for a note is based on its economic substance and not its legal form, thereby providing more relevant and representationally faithful information about the borrowing arrangement to financial statement users. When the present value of the note is known, the borrower calculates the interest rate implicit in the transaction and uses this rate to apply the effective interest method. When present value is not known, the borrower uses its incremental interest rate to determine the present value and to apply the effective interest method. The incremental interest rate is the rate that the borrower would be required to pay to obtain similar financing in the credit market at the time the note is issued. The three major categories of notes are as follows:

- notes exchanged for cash
- notes exchanged for cash and rights or privileges
- notes exchanged for property, goods, or services

**Notes Payable Issued for Cash**

When a company borrows cash and issues a long-term note payable bearing a stated (and fair) interest rate, it records the note initially at its face value (because it is equal to the present value). Subsequently, it records interest payments and accruals as debits to Interest Expense and credits to Cash or Interest Payable. Upon payment at maturity, it eliminates the Notes Payable account.

When the interest rate agreed to in a note is not fair, for example a long-term non-interest-bearing note, an accountant may need to use an imputed interest rate, which is an estimated interest rate based on the rate that an independent borrower and an independent lender would negotiate for a similar transaction under comparable terms and conditions. Accounting standards require interest to be imputed in the following situations:

- when a note is non-interest-bearing or no interest rate is stated
- when an interest rate is stated but the interest rate is unrealistically low

In both cases, an accountant is required to view the substance of a lending transaction and cannot rely on the stated interest rate.

When a long-term, non-interest-bearing note is exchanged solely for cash, the note is assumed to have a present value equal to the cash proceeds. The difference between the cash proceeds and the face value of the note is recorded as a discount and amortized over the life of the note by the effective interest method. To apply the effective interest method, a company must determine the implicit (effective) interest rate of the note. Because the cash received is the present value of the note and the face value is the future value of the note at maturity, the effective (implicit) interest rate is the rate that equates the future value on the maturity date to the present value.

**Example: Note Payable Issued for Cash**

On January 1 of the current year, Backes Company issues a 3-year, non-interest-bearing note with a face value of $8,000 and receives $5,694.24 in exchange. Backes records the issuance of the note as follows:

14 The straight-line method may be used if the results obtained are not materially different from the effective interest method.
15 FASB ASC 835-30-05-2 Interest, Imputation of Interest, Overview and Background.
Cash 5,694.24
Discount on Notes Payable 2,305.76
Notes Payable 8,000.00

The discount account is a contra account and is subtracted from the Notes Payable account on Backes’ balance sheet to report the carrying (book) value of the note.16

In order to determine the implicit interest rate, Backes must solve for the interest rate that equates the present value of $5,694.24 with the future value of $8,000 at the end of three years. This is done by solving the following formula for the present value of 1 factor:

\[
P_{0} = \frac{F_{3}}{(1+i)^{3}}
\]

The value of 0.711780 is the present value of 1 factor from the Present Value of 1 Table in the Time Value of Money Module. The interest rate can be solved by reading across the 3 period until the value 0.711780 is found. The present value factor represents an interest rate of 12%.

Backes computes the interest expense each year by multiplying the 12% effective interest rate by the carrying value at the beginning of the year. This amount also increases the carrying value of the note by reducing the discount. Backes computes the interest each year as follows:

<table>
<thead>
<tr>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Note payable</td>
<td>$8,000.00</td>
<td>$8,000.00</td>
</tr>
<tr>
<td>Less: Unamortized discount</td>
<td>(2,305.76)</td>
<td>(1,622.45)</td>
</tr>
<tr>
<td>Carrying value at beginning of year</td>
<td>$5,694.24</td>
<td>$6,377.55</td>
</tr>
<tr>
<td>Effective interest rate</td>
<td>0.12</td>
<td>0.12</td>
</tr>
<tr>
<td>Interest expense and discount amortization</td>
<td>$683.31</td>
<td>$765.31</td>
</tr>
</tbody>
</table>

Backes records the $683.31 interest expense for the first year as follows:

Interest Expense ($5,694.24 \times 0.12) 683.31
Discount on Notes Payable 683.31

Backes records interest expense for the next two years in the same way so that the Discount account has a zero balance at the end of the third year. Therefore, the carrying value at the end of the third year is $8,000 (the face value of the note), and the repayment involves a debit to Notes Payable and credit to Cash for the $8,000 face value of the note.

Notes Payable Exchanged for Cash and Rights or Privileges

Long-term notes exchanged for cash may include special rights or privileges. A company must consider these rights or privileges when accounting for such long-term notes. For instance, a company might sign a contract with a customer in which the company borrows cash from the customer on a non-interest-bearing basis with the understanding that the customer has the right to purchase certain goods from the company at less than prevailing prices over the period of the contract. In this situation, the consideration received from the customer for the note is, in essence, a prepayment for future purchases. In such a case, for the company issuing the note:

16 An alternative method is to record the Notes Payable account at its present value without the use of a Discount account. In this case, the adjusting entries for interest involve a debit to Interest Expense and a credit directly to the Notes Payable account. When a company uses this method, it discloses the difference between the maturity value and the carrying value parenthetically on its balance sheet as the amount of the discount.
the note is recorded at its present value at the time of issuance by discounting the maturity value using the incremental interest rate of the borrower
interest expense is recorded each period over the life of the note using the effective interest method
the difference between the cash proceeds and the present value of the note is recorded as unearned revenue, and revenue is recognized over the life of the contract using appropriate revenue recognition criteria

For instance, revenue might be recognized on a per-unit basis as goods are sold, or evenly throughout the contract on a straight-line basis.

Example: Exchange for Cash and Rights or Privileges
Rose Company borrows $100,000 by issuing a 3-year, non-interest-bearing note to a customer. In addition, Rose agrees to sell fixed amounts of inventory to the customer at reduced prices over a 5-year period. Rose’s incremental borrowing rate is 12%, so the present value of $100,000 to be repaid at the end of three years is $71,178 ($100,000 × 0.71178, from the Present Value of 1 Table). The customer agrees to purchase the fixed amounts of inventory each year over the 5-year period so that a straight-line method of revenue recognition is appropriate (any additional inventory purchases over the fixed amounts will be at the normal, undiscounted price). In this situation, Rose records the following journal entries during the first two years:

**Issuing the Note**

<table>
<thead>
<tr>
<th>Description</th>
<th>Debit</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cash</td>
<td>100,000.00</td>
<td></td>
</tr>
<tr>
<td>Discount on Notes Payable ($100,000 – $71,178)</td>
<td>28,822.00</td>
<td></td>
</tr>
<tr>
<td>Notes Payable</td>
<td></td>
<td>100,000.00</td>
</tr>
<tr>
<td>Unearned Revenue</td>
<td></td>
<td>28,822.00</td>
</tr>
</tbody>
</table>

**End of First Year**

<table>
<thead>
<tr>
<th>Description</th>
<th>Debit</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interest Expense ($71,178 × 0.12)</td>
<td>8,541.36</td>
<td></td>
</tr>
<tr>
<td>Discount on Notes Payable</td>
<td></td>
<td>8,541.36</td>
</tr>
<tr>
<td>Unearned Revenue ($28,822 ÷ 5 years)</td>
<td>5,764.40</td>
<td></td>
</tr>
<tr>
<td>Sales Revenue</td>
<td></td>
<td>5,764.40</td>
</tr>
</tbody>
</table>

**End of Second Year**

<table>
<thead>
<tr>
<th>Description</th>
<th>Debit</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interest Expense ([$71,178 + $8,541.36] × 0.12]</td>
<td>9,566.32</td>
<td></td>
</tr>
<tr>
<td>Discount on Notes Payable</td>
<td></td>
<td>9,566.32</td>
</tr>
<tr>
<td>Unearned Revenue</td>
<td>5,764.40</td>
<td></td>
</tr>
<tr>
<td>Sales Revenue</td>
<td>5,764.40</td>
<td></td>
</tr>
</tbody>
</table>

Recording the transactions according to these procedures results in the proper recognition of both the revenue and expense components, so the financial statements can provide relevant and representationally faithful information about this agreement. The company’s income statement recognizes revenue as it earns it over the 5-year purchase agreement and recognizes the expense over the 3-year life of the loan. The company’s balance sheet recognizes a liability for the present value of the note payable and a liability for the obligation associated with unearned revenue in the inventory purchase agreement.

**LOOKING AHEAD**

Changes on the horizon could have significant effects on how some companies account for liabilities. The Financial Instruments with Characteristics of Equity project, with which the FASB and IASB are currently involved, will change the accounting for what the FASB has identified as multiple component financing instruments. These financial instruments have characteristics of both liabilities and equity. This project would require, in most cases, a company that issues a multiple component instrument to separately classify the liability component and the equity component. In measuring the amount to classify as each component, it would allocate the proceeds received to its liabilities and its
Notes Payable Exchanged for Property, Goods, or Services

When a note is exchanged solely for property, goods, or services in an external transaction, GAAP says that the stated rate of interest should be presumed fair. This presumption can be overcome only if:

- no interest is stated, or
- stated rate of interest is clearly unreasonable, or
- face value of the note is materially different from the cash sales price of the property, goods, or services, or the fair value of the note, at the date of the transaction.\(^\text{17}\)

In any of these cases, the note is recorded at the fair value of the property, goods, or services, or the fair value of the note, whichever can be measured with greater reliability. The interest rate implicit in the transaction is used to calculate the interest expense and the carrying value of the note each period using the effective interest method. If neither of these fair values is determinable, the note is recorded at its present value by discounting the future cash flow(s) using the incremental interest rate of the borrower. The incremental interest rate then is used to apply the effective interest method to determine the interest expense and the carrying value of the note.

In either situation, the carrying value of the note and the cost of the assets or services acquired are recorded at an amount that is less than the face value of the note. If the liability and asset had been erroneously recorded at the face value of the note, both would be overstated in the current period. Additionally, this would result in an overstatement of depreciation expense (or cost of goods sold) and an understatement of interest expense over the life of the asset and note, respectively. Recording the asset and the note at fair (present) value results in correct asset and liability valuations and in the proper timing of expense recognition.

\(^{17}\) FASB ASC 835-30-25 Interest, Imputation of Interest
Example: Exchange for Property

On January 1, 2013, Madsen Company purchases used equipment from Jordy Company, issuing a non-interest-bearing, $10,000, 5-year note in exchange. Neither the fair value of the equipment nor that of the note is determinable, so Madsen uses its incremental interest rate to compute the present value. If Madsen’s incremental borrowing rate is 12%, the present value of $10,000 to be repaid at the end of five years at 12% is $5,674.27 ($10,000 \times 0.567427$, from Present Value of 1 Table). Assume the remaining asset life is 10 years (no residual value). Madsen records the issuance of the note, the first two interest payments, and annual straight-line depreciation as follows:

<table>
<thead>
<tr>
<th>Date</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>January 1, 2013</td>
<td>Equipment 5,674.27, Discount on Notes Payable 4,325.73, Notes Payable 10,000.00</td>
</tr>
<tr>
<td>December 31, 2010</td>
<td>Interest Expense ([$10,000 – $4,325.73) \times 0.12] 680.91, Discount on Notes Payable 680.91, Depreciation Expense 567.43, Accumulated Depreciation (5,674.27 \div 10) 567.43</td>
</tr>
<tr>
<td>December 31, 2011</td>
<td>Interest Expense ([$10,000 – (4,325.73 – 680.91)] \times 0.12) 762.62, Discount on Notes Payable 762.62, Depreciation Expense 567.43, Accumulated Depreciation 567.43</td>
</tr>
</tbody>
</table>

This example assumes that a 12% interest rate is appropriate for the transaction, but a borrower should attempt to determine the fair values of the property and of the note before applying its incremental interest rate. If either the fair value of the property or of the note is used, the note payable is recorded at the fair value, and the company must find the implicit interest rate that equates the recorded (fair) value to the face value over the term of the loan.

For example, assume in the previous example that Madsen determines that the fair value of the equipment is $6,209.21. From the Present Value of 1 Table, the rate that equates $6,209.21 to $10,000 at the end of five years is 10%. Madsen would record the note payable initially at $6,209.21, and then would record the interest expense of 10% on the carrying value of the note each year over the life of the note.

This example also assumes the issuance of a non-interest-bearing note. As discussed earlier, the same principles apply in the case where a note carries a stated interest rate that is unreasonable. For example, assume that on January 1, 2013, Fox Company issues a $30,000, 3-year note bearing interest of 2% for equipment when its incremental borrowing rate is 10%. If the fair value of the equipment or the note is not determinable, Fox records the transaction using the present value of the future cash flows with the 10% rate for the 3-year life. In this case, it records the equipment and note at $24,031.56 [(30,000 face value \times 0.751315) + ($600 annual interest \times 2.486852)]. It then applies the effective interest method using the 10% rate at the end of each year to determine the interest expense. For instance, at the end of 2013, it debits Interest Expense for $2,403.16 ($24,031.56 \times 0.10), credits Cash for $600 ($30,000 \times 0.02), and increases the book value of the note by $1,803.16.

Guarantees

Sometimes a company may guarantee another company’s debt. For example, suppose Probst Company sells a product to Metcalf Company for $10 million. Since Metcalf does not have sufficient cash, it decides to obtain a bank loan to finance the purchase. However, its financial status is such that the bank will not provide an unsecured loan. So Probst agrees to guarantee Metcalf’s loan from the bank so that it can make the sale.

\[ \text{\$6,209.21}/\text{\$10,000} = 0.620921. \] In the n = 5 row, we find 0.620921 in the 10% column.
GAAP requires Probst to determine the fair value of the guarantee and recognize it as a liability. The company has a liability because it has an obligation to “stand ready” to perform over the life of the guarantee if the specific triggering events or conditions occur. For Probst, it would have to repay the bank loan if Metcalf defaulted. In addition to recognizing a liability, Probst would reduce the profit it recognizes on the sale.

GAAP does not explicitly state how the guarantee is to be accounted for in future periods. However, it is presumed that the company would determine the fair value each period, and recognize the change in value in its income for the period. In most situations, the fair value would decrease each period and a gain would be recognized.

GAAP also requires the company to make certain disclosures including the nature of the guarantee, its approximate term, how it arose, and the events or circumstances that would require the company to perform under the guarantee. Other disclosures include the maximum potential future undiscounted payments that the company could be required to make and the current carrying value of the liability. This GAAP does not apply to some guarantees, such as insurance and warranty contracts.

DISCLOSURE OF LONG-TERM LIABILITIES

We discussed how company balance sheets report long-term financing from bonds and notes payable earlier in the chapter. However, companies’ balance sheets often disclose the book value of the liability net of any premiums or discounts and do not separately disclose the premiums or discounts. We also discussed how company income statements report any gains or losses on the retirement of long-term liabilities.

Companies generally report cash flows associated with long-term liability transactions in the financing section of the statement of cash flows:

- Cash received from the issuance of notes payable or bonds payable—whether issued at face value, at a premium, or at a discount—is reported as a cash inflow from financing activities.
- Cash paid to retire bonds payable or notes payable is reported as a cash outflow for financing activities.

Cash paid for interest, however, is included in the operating activities section. Even though the interest paid is related to a financing activity, GAAP requires it to be included in operating activities because the related interest expense is included in the company’s income statement. Under IFRS, firms have the option of disclosing interest payments in either the operating or financing activities section of the cash flow statement. However, once a decision is made it must be applied consistently.
If a company has amortized a discount (premium) on bonds payable, under the indirect method for the statement of cash flows, the company adds (subtracts) the discount (premium) to net income in the operating activities section. It also includes any gains or losses on the retirement of its long-term liabilities as adjustments to net income in the operating activities section of its statement of cash flows when prepared using the indirect method. If a company converts bonds into common stock, it discloses this transaction as a noncash financing activity.

A company also must disclose the various characteristics of its long-term debt. It normally does so in the notes to its financial statements. Real Report 14.3 shows Starbucks’ disclosure of its long-term (and short-term) debt. Also included are disclosures about scheduled repayments of long-term debt, interest payments, capitalized interest, and lines of credit.

### Revolving Credit Facility and Commercial Paper Program

Our existing $1 billion unsecured credit facility was replaced in November 2010 with a new $500 million unsecured credit facility with various banks, of which $100 million may be used for issuances of letters of credit. As with the 2005 credit facility, the new 2010 credit facility is available for working capital, capital expenditures and other corporate purposes, including acquisitions and share repurchases. The 2010 credit facility is currently set to mature in November 2014. The interest rate for any borrowings under the 2010 credit facility, based on Starbucks current ratings and fixed charge coverage ratio, is 1.50% over LIBOR. The specific spread over LIBOR will depend upon our long-term credit ratings assigned by Moody’s and Standard & Poor’s rating agencies and our fixed charge coverage ratio. The 2010 credit facility contains provisions requiring us to maintain compliance with certain covenants, including a minimum fixed charge coverage ratio which measures our ability to cover financing expenses. Starbucks has the option, subject to negotiation and agreement with the related banks, to increase the maximum commitment amount by an additional $500 million.

Under our commercial paper program we may issue unsecured commercial paper notes, up to a maximum aggregate amount outstanding at any time of $500 million under the new credit facility, with individual maturities that may vary, but not exceed, 397 days from the date of issue. The program is backstopped by our new credit facility, and the combined borrowing limit is $500 million for the commercial paper program and the credit facility. We may issue commercial paper from time to time, and the proceeds of the commercial paper financing will be used for working capital needs, capital expenditures and other corporate purposes, including acquisitions and share repurchases.

As of October 3, 2010, we had $15 million in letters of credit outstanding under the old credit facility. As of September 27, 2009, letters of credit totaling $14 million were outstanding.

### Long-Term Debt

In August 2007, we issued $550 million of 6.25% Senior Notes (the “notes”) due in August 2017, in an underwritten registered public offering. Interest is payable semi-annually on February 15 and August 15 of each year. The notes require us to maintain compliance with certain covenants, which limit future liens and sale and leaseback transactions on certain material properties.
Interest Expense
Interest expense, net of interest capitalized, was $32.7 million, $39.1 million and $53.4 million in fiscal 2010, 2009 and 2008, respectively. In fiscal 2010, 2009 and 2008, $4.9 million, $2.9 million and $7.2 million, respectively, of interest was capitalized for new store and other asset construction projects, and included in net property, plant and equipment on the consolidated balance sheets.

Questions:
1. Does Starbucks have financial flexibility?
2. Was Starbucks’s long-term debt issued at a premium or discount?
3. What amount of interest is accrued on Starbucks’s long-term debt at October 3, 2010, its fiscal year-end?

Quick Check 14-4
• Long-term notes are recorded at their present value with periodic interest determined using the effective interest method.
• When a note is exchanged for cash and special rights or privileges, these rights and privileges represent unearned revenue (measured as the difference between the cash proceeds and the present value of the note) which is recognized over the life of the contract.
• A note issued in exchange for property, goods, or services is recorded at the fair value of the property, goods, or services or the fair value of the note, whichever is more reliable.

Appendix 14.1: Troubled Debt Restructurings
Some companies experiencing difficulty in repaying long-term debt obligations enter into financial arrangements with their creditors in order to avoid bankruptcy. GAAP states that a troubled debt restructuring occurs when a creditor for economic or legal reasons related to a debtor’s financial difficulties grants a concession to the debtor that it would not otherwise consider. A troubled debt restructuring may include, but is not limited to, one or any combination of the following:

• modification of terms of a debt, such as one or a combination of:
  • reduction of the stated interest rate for the remaining original life of the debt
  • extension of the maturity date at a stated interest rate lower than the current market rate for new debt with similar risk
  • reduction of the face amount or maturity amount of the debt
  • reduction of accrued interest
• issuance or other granting of an equity interest to the creditor by the debtor to satisfy a debt unless the equity interest is granted under existing terms for converting the debt into an equity interest
• transfer of receivables, real estate, or other assets from the debtor to the creditor to satisfy a debt

How Does a Debtor Account for Troubled Debt Restructuring?
We first discuss the debtor’s accounting for a troubled debt restructuring. Later we discuss the creditor’s accounting.

Modification of Terms When a restructuring agreement involves only a modification of terms, the carrying value of the liability (face value of the debt plus any unpaid interest expense, net of interest capitalized, was $32.7 million, $39.1 million and $53.4 million in fiscal 2010, 2009 and 2008, respectively. In fiscal 2010, 2009 and 2008, $4.9 million, $2.9 million and $7.2 million, respectively, of interest was capitalized for new store and other asset construction projects, and included in net property, plant and equipment on the consolidated balance sheets.

Questions:
1. Does Starbucks have financial flexibility?
2. Was Starbucks’s long-term debt issued at a premium or discount?
3. What amount of interest is accrued on Starbucks’s long-term debt at October 3, 2010, its fiscal year-end?

Quick Check 14-4
• Long-term notes are recorded at their present value with periodic interest determined using the effective interest method.
• When a note is exchanged for cash and special rights or privileges, these rights and privileges represent unearned revenue (measured as the difference between the cash proceeds and the present value of the note) which is recognized over the life of the contract.
• A note issued in exchange for property, goods, or services is recorded at the fair value of the property, goods, or services or the fair value of the note, whichever is more reliable.

Appendix 14.1: Troubled Debt Restructurings
Some companies experiencing difficulty in repaying long-term debt obligations enter into financial arrangements with their creditors in order to avoid bankruptcy. GAAP states that a troubled debt restructuring occurs when a creditor for economic or legal reasons related to a debtor’s financial difficulties grants a concession to the debtor that it would not otherwise consider. A troubled debt restructuring may include, but is not limited to, one or any combination of the following:

• modification of terms of a debt, such as one or a combination of:
  • reduction of the stated interest rate for the remaining original life of the debt
  • extension of the maturity date at a stated interest rate lower than the current market rate for new debt with similar risk
  • reduction of the face amount or maturity amount of the debt
  • reduction of accrued interest
• issuance or other granting of an equity interest to the creditor by the debtor to satisfy a debt unless the equity interest is granted under existing terms for converting the debt into an equity interest
• transfer of receivables, real estate, or other assets from the debtor to the creditor to satisfy a debt

How Does a Debtor Account for Troubled Debt Restructuring?
We first discuss the debtor’s accounting for a troubled debt restructuring. Later we discuss the creditor’s accounting.

Modification of Terms When a restructuring agreement involves only a modification of terms, the carrying value of the liability (face value of the debt plus any unpaid interest expense, net of interest capitalized, was $32.7 million, $39.1 million and $53.4 million in fiscal 2010, 2009 and 2008, respectively. In fiscal 2010, 2009 and 2008, $4.9 million, $2.9 million and $7.2 million, respectively, of interest was capitalized for new store and other asset construction projects, and included in net property, plant and equipment on the consolidated balance sheets.

Questions:
1. Does Starbucks have financial flexibility?
2. Was Starbucks’s long-term debt issued at a premium or discount?
3. What amount of interest is accrued on Starbucks’s long-term debt at October 3, 2010, its fiscal year-end?

Quick Check 14-4
• Long-term notes are recorded at their present value with periodic interest determined using the effective interest method.
• When a note is exchanged for cash and special rights or privileges, these rights and privileges represent unearned revenue (measured as the difference between the cash proceeds and the present value of the note) which is recognized over the life of the contract.
• A note issued in exchange for property, goods, or services is recorded at the fair value of the property, goods, or services or the fair value of the note, whichever is more reliable.

Appendix 14.1: Troubled Debt Restructurings
Some companies experiencing difficulty in repaying long-term debt obligations enter into financial arrangements with their creditors in order to avoid bankruptcy. GAAP states that a troubled debt restructuring occurs when a creditor for economic or legal reasons related to a debtor’s financial difficulties grants a concession to the debtor that it would not otherwise consider. A troubled debt restructuring may include, but is not limited to, one or any combination of the following:

• modification of terms of a debt, such as one or a combination of:
  • reduction of the stated interest rate for the remaining original life of the debt
  • extension of the maturity date at a stated interest rate lower than the current market rate for new debt with similar risk
  • reduction of the face amount or maturity amount of the debt
  • reduction of accrued interest
• issuance or other granting of an equity interest to the creditor by the debtor to satisfy a debt unless the equity interest is granted under existing terms for converting the debt into an equity interest
• transfer of receivables, real estate, or other assets from the debtor to the creditor to satisfy a debt

How Does a Debtor Account for Troubled Debt Restructuring?
We first discuss the debtor’s accounting for a troubled debt restructuring. Later we discuss the creditor’s accounting.

Modification of Terms When a restructuring agreement involves only a modification of terms, the carrying value of the liability (face value of the debt plus any unpaid interest expense, net of interest capitalized, was $32.7 million, $39.1 million and $53.4 million in fiscal 2010, 2009 and 2008, respectively. In fiscal 2010, 2009 and 2008, $4.9 million, $2.9 million and $7.2 million, respectively, of interest was capitalized for new store and other asset construction projects, and included in net property, plant and equipment on the consolidated balance sheets.

Questions:
1. Does Starbucks have financial flexibility?
2. Was Starbucks’s long-term debt issued at a premium or discount?
3. What amount of interest is accrued on Starbucks’s long-term debt at October 3, 2010, its fiscal year-end?

Quick Check 14-4
• Long-term notes are recorded at their present value with periodic interest determined using the effective interest method.
• When a note is exchanged for cash and special rights or privileges, these rights and privileges represent unearned revenue (measured as the difference between the cash proceeds and the present value of the note) which is recognized over the life of the contract.
• A note issued in exchange for property, goods, or services is recorded at the fair value of the property, goods, or services or the fair value of the note, whichever is more reliable.

Appendix 14.1: Troubled Debt Restructurings
Some companies experiencing difficulty in repaying long-term debt obligations enter into financial arrangements with their creditors in order to avoid bankruptcy. GAAP states that a troubled debt restructuring occurs when a creditor for economic or legal reasons related to a debtor’s financial difficulties grants a concession to the debtor that it would not otherwise consider. A troubled debt restructuring may include, but is not limited to, one or any combination of the following:

• modification of terms of a debt, such as one or a combination of:
  • reduction of the stated interest rate for the remaining original life of the debt
  • extension of the maturity date at a stated interest rate lower than the current market rate for new debt with similar risk
  • reduction of the face amount or maturity amount of the debt
  • reduction of accrued interest
• issuance or other granting of an equity interest to the creditor by the debtor to satisfy a debt unless the equity interest is granted under existing terms for converting the debt into an equity interest
• transfer of receivables, real estate, or other assets from the debtor to the creditor to satisfy a debt

How Does a Debtor Account for Troubled Debt Restructuring?
We first discuss the debtor’s accounting for a troubled debt restructuring. Later we discuss the creditor’s accounting.

Modification of Terms When a restructuring agreement involves only a modification of terms, the carrying value of the liability (face value of the debt plus any unpaid
accrued interest) is compared to the undiscounted future cash payments (principal plus interest) specified by the new terms:

- If the undiscounted total future cash payments are equal to or greater than the carrying value of the liability, the debtor does not recognize a gain, the carrying value of the liability is not reduced, and interest expense is recognized in future periods using an imputed interest rate.
- If the future cash payments are less than the carrying value of the liability, the debtor recognizes a gain, the carrying value of the liability is reduced, and interest expense is not recognized in future periods.

When there is a modification of terms and the total cash to be repaid over the remaining life of the loan is equal to or greater than the carrying value of the liability, the debtor completes the following steps:

- Debtor makes no adjustment to the carrying value.
- Debtor recognizes annual interest expense using the effective interest method. The imputed interest rate used is the rate that equates the total amount of cash to be paid with the current carrying value of the debt.
- Debtor records a portion of each cash payment as interest expense and records the remainder as a reduction in the carrying value of the liability.

**Example: No Gain Recognized by the Debtor**

On December 31, 2013, Chapin Company restructures a $1,178,073 debt with its bank (a note payable of $1,100,000 plus accrued interest of $78,073). The bank makes the following modifications:

- forgives the $78,073 of accrued interest and $100,000 of principal
- extends the maturity date from December 31, 2013, to December 31, 2018
- reduces the interest rate from 10% to 8%

The total future cash payments under the new terms are $1,400,000 (principal of $1,000,000 at the end of five years and interest of $80,000 at the end of each year for five years). Because the undiscounted amount of the principal and interest to be paid ($1,400,000) exceeds the carrying value of the liability ($1,178,073), Chapin does not record a gain and, therefore, does not reduce the carrying value of the liability. It records the difference of $221,927 as interest expense over the next five years by using the effective interest method. It determines the interest expense each period by multiplying the effective interest rate times the carrying value at the beginning of the period.

The effective interest rate is that rate which discounts the principal of $1,000,000 and the interest payments of $80,000 to the $1,178,073 carrying value of the note. This discounting procedure involves two present value calculations, as summarized in Exhibit 14.6.
This rate is 4%, as demonstrated below.

Present Value of Interest Payments:
(Present Value of an Ordinary Annuity Table in
Time Value of Money Module, \( n = 5, i = 0.04 \))

\[
\text{Present Value of Interest Payments} = 80,000 \times 4.451822 = 356,146
\]

Present Value of Principal:
(Present Value of 1 Table in Time Value of Money Module,
\( n = 5, i = 0.04 \))

\[
\text{Present Value of Principal} = 1,000,000 \times 0.821927 = 821,927
\]

Carrying Value of the Debt on 12/31/2013 $1,178,073

On December 31, 2013, Chapin transfers the accrued Interest Payable balance to the Notes Payable account as follows:

- Interest Payable 78,073
- Notes Payable 78,073

The Notes Payable account now contains the entire $1,178,073 carrying value of the note. Chapin computes the interest expense to be recorded in each period by applying the effective interest rate of 4% to the carrying value of the note each year. Example 14.3 illustrates the computation of the interest expense and principal reduction for each year of the Chapin’s restructuring agreement.

### Debt Restructuring Agreement: Schedule to Compute Interest Expense

<table>
<thead>
<tr>
<th>Date</th>
<th>Cash Credit</th>
<th>Interest Expense Debit</th>
<th>Notes Payable Debit</th>
<th>Carrying Value of Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>12/31/13</td>
<td>$80,000</td>
<td>$47,122.92</td>
<td>$32,877.08</td>
<td>$1,178,073.00</td>
</tr>
<tr>
<td>12/31/14</td>
<td>$80,000</td>
<td>45,807.84</td>
<td>34,192.16</td>
<td>1,145,195.92</td>
</tr>
<tr>
<td>12/31/15</td>
<td>80,000</td>
<td>44,440.15</td>
<td>35,559.85</td>
<td>1,075,443.91</td>
</tr>
<tr>
<td>12/31/16</td>
<td>80,000</td>
<td>43,017.76</td>
<td>36,982.24</td>
<td>1,038,461.67</td>
</tr>
<tr>
<td>12/31/17</td>
<td>1,080,000</td>
<td>41,538.33</td>
<td>1,038,461.67</td>
<td>0</td>
</tr>
<tr>
<td>12/31/18</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Cash payments are specified in the terms of restructuring agreement.
* Previous carrying value times the effective interest rate of 4%.
* Cash payment amount minus the amount attributable to interest expense.
* Previous carrying value of the note minus the amount of the cash payment attributable to reducing the note payable balance.
* Difference due to $0.14 rounding error.

In reviewing Example 14.3, note that each cash payment is separated into interest and principal components as follows:

\[
\text{Carrying Value} \times \text{Imputed Interest Rate} = \text{Interest Expense}
\]

\[
$1,178,073.00 \times 4\% = 47,122.92
\]

\[
\text{Modified Cash Interest Payment} = \text{Principal Reduction}
\]

\[
80,000.00 - 47,122.92 = 32,877.08
\]

Chapin records the difference between the interest expense and each cash payment as a reduction in the carrying value of the note payable. For example, Chapin records the following journal entry on December 31, 2014:

- Interest Expense 47,122.92
- Notes Payable 32,877.08
- Cash 80,000.00
An adjustment to the carrying value of the liability is required if the total cash to be repaid over the remaining life of the loan is less than that carrying value. In this case, the debtor recognizes a gain equal to the excess of the carrying value (face value plus accrued interest) over the sum of the future payments.

**Example: Gain Recognized by the Debtor**

Assume that Chapin was allowed the terms stated previously (reduction of principal by $100,000, forgiveness of $78,073 of accrued interest, and extension of repayment period by five years) except that the stated interest rate was reduced to 3%. The aggregate future cash payments in this case total $1,150,000 ($1,000,000 principal and $30,000 interest per year for five years). This amount is $28,073 less than the carrying value of $1,178,073 ($1,100,000 face value + $78,073 accrued interest). Chapin reports this amount as a gain in its income from continuing operations for 2013, eliminates the accrued interest, and credits the difference between the gain and the accrued interest to the Notes Payable account so that the balance is now $1,150,000. Chapin records the restructuring on December 31, 2013, as follows:

- Interest Payable 78,073
- Notes Payable 50,000
- Gain on Debt Restructure 28,073

Each future cash payment reduces the carrying value of the payable, and Chapin does not recognize interest expense since the effective interest rate is 0%. That is, since the amount to be repaid is less than the original carrying value of the liability, the creditor is, in effect, accepting repayment without an accompanying interest charge. Chapin records the first cash payment on December 31, 2014, as follows:

- Notes Payable 30,000
- Cash 30,000

The reduction of the Notes Payable account by $30,000 each year for five years will reduce this account to $1,000,000. This amount will then be eliminated at the time of the lump-sum principal payment at the end of the fifth year.

**Equity or Asset Exchange** When a debtor satisfies a liability by exchanging an equity interest or an asset of lesser value, it records the transfer on the basis of the fair value of the equity interest or asset transferred and recognizes a gain on the debt restructuring. Also, when an asset is exchanged, if the fair value is greater or less than its carrying value, the debtor also records a gain or loss on the disposal of the asset.

**Example: Equity Exchange**

On December 31, 2013, Chapin repays the note payable and the accrued interest totaling $1,178,073 by issuing 35,000 shares of its own common stock to the bank. The shares have a par value of $10 per share and are selling currently for $25 per share on the open market. Chapin records the stock at the fair value of $875,000 (35,000 shares x $25), reduces the liability by $1,178,073, and recognizes a gain of $303,073 ($1,178,073 – $875,000). Chapin records the debt restructuring as follows:

- Notes Payable 1,100,000
- Interest Payable 78,073
- Common Stock (35,000 x $10) 350,000
- Additional Paid-in Capital on Common Stock 525,000
- Gain on Debt Restructure 303,073

**Example: Asset Exchange**

Assume the same information as the equity exchange except that Chapin repays the liability by transferring land it owns to the bank. The land has a fair value of $800,000 and had cost Chapin $600,000 five years ago. Chapin recognizes a gain of $378,073 ($1,178,073 – $800,000) on the restructuring and a gain of $200,000
($800,000 – $600,000) on the disposal of the land. Chapin records the debt restructuring as follows:

<table>
<thead>
<tr>
<th>Notes Payable</th>
<th>1,100,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interest Payable</td>
<td>78,073</td>
</tr>
<tr>
<td>Gain on Debt Restructure</td>
<td>378,073</td>
</tr>
<tr>
<td>Gain on Disposal of Land</td>
<td>200,000</td>
</tr>
<tr>
<td>Land</td>
<td>600,000</td>
</tr>
</tbody>
</table>

**Equity or Asset Exchange Combined with a Modification of Terms** In some situations, a troubled debt restructuring includes an equity or asset exchange as well as a modification of terms. In this case, the following steps are necessary:

- Debtor records the equity or asset transfer first at the fair value as we discussed previously.
- Debtor compares the remaining carrying value of the liability, after deducting the fair value of the equity or assets transferred, to the total undiscounted future cash payments specified under the new terms.
  - If the remaining carrying value is less than the total payments, the debtor does not recognize a gain, does not reduce the carrying value of the liability, and recognizes interest expense in future periods using an imputed interest rate.
  - If the remaining carrying value is greater than the total payments, the debtor recognizes a gain and reduces the carrying value of the liability, but does not record interest expense in future periods.

The accounting procedures to be followed in these two situations are the same as those discussed earlier.

**Disclosure of Restructuring Agreements** The following disclosures are required for debtors who have entered into restructuring agreements:

- description of the principal changes in terms and/or the major features of settlement for each restructuring agreement
- aggregate gain on debt restructurings and the related income tax effect
- per share amount of the aggregate gain on restructuring, net of the related income tax effect
- aggregate gain or loss recognized during the period on transfers of assets
- information on any contingent payments

The following is an example of the disclosure required for Chapin’s exchange of equity securities discussed previously (ignoring income taxes):

During the year, Chapin Company gave common stock with a fair value of $875,000 to the bank in exchange for full settlement of a 10% note in the amount of $1,100,000 and accrued interest of $78,073. As a result of this exchange, the company recognized a gain of $303,073 and increased earnings per share by $0.11.

**How Does a Creditor Account for Troubled Debt Restructuring?**

Under GAAP, some of the elements of accounting for the creditor in a troubled debt restructuring are the mirror image of that for the debtor, while other elements are quite different.

**Modification of Terms** The accounting for a modification of terms differs for debtors and creditors because the creditor must recognize a new value for the loan. In this case, the creditor completes the following steps:

- Creditor values the investment in the restructured loan by discounting the total future cash flows specified by the new contractual terms to their present value.

21 For debtors this topic is covered in FASB ASC 470-60-50 Debt, Troubled Restructurings by Debtors, Disclosure. For creditors this topic is covered in FASB ASC 310-40-50 Receivables, Troubled Debt Restructurings by Creditors, Disclosure.
Creditor records a loss as the difference between the present value of the future cash flows and the carrying value of the receivable.

Creditor uses the original (contractual) interest rate on the loan (i.e., the same interest rate used for a loan impairment) as the effective interest rate in the present value calculation, and not the rate specified in the restructuring agreement.  

A loan whose terms are modified in a troubled debt restructuring usually will have been identified as impaired in a previous period. We discussed the GAAP for an impaired loan in Chapter 13.

Example: Modification of Terms

To illustrate the accounting for a modification of terms in a troubled debt restructuring, consider the first Chapin example. Assume that the loan was from Tenth National Bank and that the bank has not recognized a previous impairment. The bank’s note receivable is $1,100,000 and the accrued interest is $78,073. On December 31, 2013, the bank restructures the note so that the new principal is $1,000,000, payable in five years, with an interest rate of 8% (i.e., the annual interest payment is $80,000). Since 10% is the original interest rate on the loan to Chapin, the loan is valued as follows:

\[
\text{Present Value of Principal} = \frac{1,000,000 \times \text{Present Value of a single sum for 5 years at 10\% (from the Present Value of 1 Table)}}{1,000,000 \times 0.620921} = 620,921.00
\]

\[
\text{Present Value of Interest} = \frac{80,000 \times \text{Present Value of an annuity for 5 years at 10\% (from the Present Value of an Ordinary Annuity of 1 Table)}}{80,000 \times 3.790787} = 303,262.96
\]

\[
\text{Value of the Restructured Loan} = 620,921.00 + 303,262.96 = 924,183.96
\]

On December 31, 2013, the bank records a loss of $253,889.04 ($1,178,073 – $924,183.96) on the restructuring as follows:

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Loss on Restructured Loan</td>
<td>253,889.04</td>
</tr>
<tr>
<td>Interest Receivable</td>
<td>78,073.00</td>
</tr>
<tr>
<td>Notes Receivable</td>
<td>175,816.04</td>
</tr>
</tbody>
</table>

The carrying value of the Notes Receivable is now $924,183.96 ($1,100,000 – $175,816.04).

In later periods, the bank earns interest at the original rate of 10% applied to the current carrying value. The bank recognizes interest revenue for 2014 of $92,418.40 (10% × $924,183.96) on December 31, 2014, as follows:

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cash</td>
<td>80,000.00</td>
</tr>
<tr>
<td>Notes Receivable</td>
<td>12,418.40</td>
</tr>
<tr>
<td>Interest Revenue</td>
<td>92,418.40</td>
</tr>
</tbody>
</table>

After five years of recording interest under the effective interest method, the Notes Receivable will grow to the principal amount of $1,000,000.

It is important to note the following difference between the accounting by the debtor and creditor for a modification of terms:

- Debtor does not record the liability at a present value and, therefore, either recognizes no interest expense at all or recognizes an interest expense that is based on a below-market rate that was never part of the contractual agreement.
- Creditor records the receivable at a present value and, therefore, recognizes interest revenue at the original contractual rate.

---

22 FASB ASC 310-40-35 Receivables, Troubled Debt Restructurings by Creditors, Subsequent Remeasurement.
Equity or Asset Exchange  The accounting by the creditor (e.g., the bank) for a troubled debt restructuring that involves an equity or asset exchange is a mirror image of the accounting by the debtor. Thus, when a creditor receives an equity interest or asset to satisfy the receivable, the creditor records the equity or asset investment at fair value, eliminates the carrying value of the receivable, and recognizes a loss.

Example 14.4 shows the journal entries used by Tenth National Bank to record the equity and asset exchanges for the troubled debt restructuring of Chapin Company. It is helpful to observe the mirror image by contrasting the bank’s journal entries with those of Chapin shown earlier.

| Creditor Journal Entries for Troubled Debt Restructuring |
|---------------|-----------------|-----------|
| **Equity Exchange** | 12/31/13 | **Asset Exchange** |
| Investment in Chapin | 875,000 | Land | 800,000 |
| Loss on Restructured Loan | 303,073 | Loss on Restructured Loan | 378,073 |
| Notes Receivable | 1,100,000 | Notes Receivable | 1,100,000 |
| Interest Receivable | 78,073 | Interest Receivable | 78,073 |

Equity or Asset Exchange Combined with Modification of Terms  When an equity interest or asset is received and a modification of terms is made, the creditor completes the following steps:

- **Step 1.** Creditor records the equity or asset first at its fair value.
- **Step 2.** Creditor then discounts the future cash receipts to their present value at the effective (contractual) rate of interest.
- **Step 3.** Creditor records a loss as the difference between the carrying value of the receivable and the sum of the fair value of the equity interest or asset plus the present value of the future cash flows.

Exhibit 14.7 provides a summary of the GAAP we have discussed.

| Creditor Accounting for Troubled Debt Restructuring |
|----------------|----------------|--------|
| **Modification of Terms** | **Equity or Asset Exchange** |
| **Debtor** | **Creditor** | **Debtor** | **Creditor** |
| (a) If undiscounted cash flows ≥ carrying value, no gain and impute new interest rate | Compute present value using the original (contractual) interest rate | Record at fair value, recognize gain | Record at fair value, recognize loss |
| (b) If undiscounted cash flows ≤ carrying value, recognize gain (no interest recognized) | | | |

Not For Sale
Conceptual Evaluation of Accounting for Troubled Debt Restructurings

When the original GAAP was issued, many accountants and financial statement users criticized the principles for the modification of terms for a troubled debt restructuring. With the issuance of revised GAAP, these criticisms apply only to the accounting by the debtor because there is no longer a mirror image between the debtor and creditor, as discussed earlier. The critics argue that the GAAP for the debtor (i.e., a limited or no gain) leads to inconsistencies in recording events that have similar economic substance (i.e., a modification of terms and an asset or equity exchange). They view a modification of terms as an economic event that should be recorded at a present value. In other words, they argue that the debtor should follow the GAAP that is now required for the creditor.

At the time that the original GAAP was issued, it was widely believed that the rules to be followed by the creditor in a modification of terms were the result of lobbying by financial institutions. These institutions argued that the recognition of large losses under the fair value approach would undermine the public’s confidence in the banking system and have an adverse effect on the economy. A counterargument was that the nonrecognition of losses enabled banks to continue in business longer than they should have, resulting in larger payments by taxpayers to “bail out” failing banks.

Since the GAAP for the creditor has now been superceded, it seems logical that the GAAP for the debtor should also be modified. However, some supporters of the original GAAP point out that the FASB was just being conservative in its approach so as to minimize the gain recognized by a financially distressed debtor in a restructuring. Therefore, the choice of the GAAP for debtors is based on whether a person believes that conservatism or the recognition of fair value is more important to external decision makers.

APPENDIX 14.2: SERIAL BONDS

In the main part of this chapter, we focused on accounting for bonds in which the entire face value was due on one maturity date. Bonds may require the issuer to repay the face value in periodic installments over a number of years; these bonds are termed serial bonds. Serial bonds may be especially attractive in cases where the bond issue is used to finance a particular project, because the issuer can use the yearly cash flow from that project to retire the bond issue.

Recording the Issuance and Interest Expense of Serial Bonds

Serial bonds may sell at a premium or discount because of differences between the prevailing market rate and the stated rate of interest. Because the bonds mature over a number of periods and interest rates depend partly on the terms of the issue, some accountants have questioned the use of a single interest rate to record the initial issue of serial bonds. There are, however, no generally accepted principles for determining whether different interest rates should be assigned to each individual installment or what those rates should be. So the accounting methods assume that the same rate of interest applies to the entire serial bond and each of the installments. Thus, a company records the initial issuance of serial bonds in the same manner as other types of bonds. That is, the company records the entire face value in a Bonds Payable account and any discount or premium in a separate contra or adjunct account. After issuance, it computes interest expense and any premium or discount amortization on serial bonds by the effective interest method. Alternatively, it may use a method similar to the straight-line method, known as the bonds outstanding method. This method results in recording an amount of discount or premium amortization proportionate to the face value of the bonds outstanding. Under this method, if serial bonds are to be repaid in equal installments, a proportionate (fractional) share of any premium or
discount is amortized over the number of periods each installment is outstanding. The denominator of this fraction is derived by summing the face values of the bonds outstanding at the beginning of each period over the life of the entire issue. The numerator of this fraction is the face value of bonds outstanding at the beginning of each period.

**Example: Serial Bonds**

Wallace Corporation issues $400,000 of serial bonds with a 13% stated rate of interest for $410,460.90 on January 1, 2013. During the first two years, Wallace will only make interest payments. Starting in Year 3, Wallace will repay the bonds in four semiannual $100,000 installments beginning June 30, 2015. In addition, during this period, Wallace will continue to pay interest semiannually, but only on the outstanding amount. Exhibit 14.8 illustrates these cash flows.

### Cash Flows for Wallace Corporation

<table>
<thead>
<tr>
<th>Date</th>
<th>Cash Interest Payment</th>
<th>Principal Repayment</th>
<th>Remaining Liability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jan. 1, 2013 (Issue Date)</td>
<td>$26,000</td>
<td>$0</td>
<td>$400,000</td>
</tr>
<tr>
<td>June 30, 2013</td>
<td>$26,000</td>
<td>$0</td>
<td>$400,000</td>
</tr>
<tr>
<td>Dec. 31, 2013</td>
<td>$26,000</td>
<td>$0</td>
<td>$400,000</td>
</tr>
<tr>
<td>June 30, 2014</td>
<td>$26,000</td>
<td>$0</td>
<td>$400,000</td>
</tr>
<tr>
<td>Dec. 31, 2014</td>
<td>$26,000</td>
<td>$0</td>
<td>$400,000</td>
</tr>
<tr>
<td>June 30, 2015</td>
<td>$26,000</td>
<td>$0</td>
<td>$400,000</td>
</tr>
<tr>
<td>Dec. 31, 2015</td>
<td>$19,500</td>
<td>$0</td>
<td>$300,000</td>
</tr>
<tr>
<td>June 30, 2016</td>
<td>$13,000</td>
<td>$0</td>
<td>$200,000</td>
</tr>
<tr>
<td>Dec. 31, 2016</td>
<td>$6,500</td>
<td>$0</td>
<td>$100,000</td>
</tr>
<tr>
<td>TOTAL</td>
<td>$94,154.51</td>
<td>$100,000</td>
<td>$100,000</td>
</tr>
</tbody>
</table>

The $410,460.90 selling price of this serial bond issue reflects a yield of 12%, as we show in the following calculations using factors from the Time Value of Money Module:

<table>
<thead>
<tr>
<th>Date of Cash Flows</th>
<th>Cash Flows</th>
<th>Present Value Factor</th>
<th>Present Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>06/30/13</td>
<td>$26,000</td>
<td>0.943396</td>
<td>$24,528.30</td>
</tr>
<tr>
<td>12/31/13</td>
<td>$26,000</td>
<td>0.889996</td>
<td>23,139.90</td>
</tr>
<tr>
<td>06/30/14</td>
<td>$26,000</td>
<td>0.839619</td>
<td>21,830.09</td>
</tr>
<tr>
<td>12/31/14</td>
<td>$26,000</td>
<td>0.792094</td>
<td>20,594.44</td>
</tr>
<tr>
<td>06/30/15</td>
<td>$126,000</td>
<td>0.747258</td>
<td>94,154.51</td>
</tr>
<tr>
<td>12/31/15</td>
<td>$119,500</td>
<td>0.704961</td>
<td>84,242.84</td>
</tr>
<tr>
<td>06/30/16</td>
<td>$113,000</td>
<td>0.665057</td>
<td>75,151.44</td>
</tr>
<tr>
<td>12/31/16</td>
<td>$106,500</td>
<td>0.627412</td>
<td>66,819.38</td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td></td>
<td>$410,460.90</td>
</tr>
</tbody>
</table>

**Example 14.5** (p. 14-44) shows the use of the bonds outstanding (straight-line) method of amortization for these serial bonds. **Example 14.6** (p. 14-44) shows the use of the effective interest method for the same bonds.

The company records the issuance as follows:

- Cash 410,460.90
- Bonds Payable 400,000.00
- Premium on Bonds Payable 10,460.90

In **Examples 14.5 and 14.6**, the Interest Expense Debit column shows the interest that Wallace records for each period. The interest expense for the semiannual periods in
2013 and 2016 decreases because the company makes partial repayments during these periods. The cash credit column during these periods also reflects these repayments. For example, on December 31, 2015, the company records the interest expense and partial retirement of the bonds (using straight-line amortization) as follows:

### EXAMPLE 14.5

**Interest Expense and Premium Amortization Schedule for Serial Bonds:**
**Straight-Line (Bonds Outstanding) Method**

<table>
<thead>
<tr>
<th>Date</th>
<th>Cash Credit</th>
<th>Premium Amortization Debit</th>
<th>Interest Expense Debit</th>
<th>Unamortized Premium</th>
<th>Bonds Payable Debit</th>
<th>Bonds Outstanding</th>
<th>Book Value of Bonds</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/01/13</td>
<td>4/26</td>
<td>$1,609.37</td>
<td>$24,390.63</td>
<td>8,851.53</td>
<td>400,000</td>
<td>$410,460.90</td>
<td></td>
</tr>
<tr>
<td>6/30/13</td>
<td>4/26</td>
<td>$1,609.37</td>
<td>$24,390.63</td>
<td>7,242.16</td>
<td>400,000</td>
<td>407,242.16</td>
<td></td>
</tr>
<tr>
<td>12/31/13</td>
<td>4/26</td>
<td>$1,609.37</td>
<td>$24,390.63</td>
<td>5,632.79</td>
<td>400,000</td>
<td>405,632.79</td>
<td></td>
</tr>
<tr>
<td>6/30/14</td>
<td>4/26</td>
<td>$1,609.37</td>
<td>$24,390.63</td>
<td>4,023.42</td>
<td>400,000</td>
<td>404,023.42</td>
<td></td>
</tr>
<tr>
<td>12/31/14</td>
<td>4/26</td>
<td>$1,609.37</td>
<td>$24,390.63</td>
<td>2,414.05</td>
<td>100,000</td>
<td>300,000</td>
<td>302,414.05</td>
</tr>
<tr>
<td>6/30/15</td>
<td>3/26</td>
<td>$1,207.02</td>
<td>1,207.02</td>
<td>100,000</td>
<td>200,000</td>
<td>201,207.02</td>
<td></td>
</tr>
<tr>
<td>12/31/15</td>
<td>3/26</td>
<td>$1,207.02</td>
<td>1,207.02</td>
<td>100,000</td>
<td>100,000</td>
<td>100,000</td>
<td></td>
</tr>
<tr>
<td>6/30/16</td>
<td>2/26</td>
<td>$804.68</td>
<td>1,215.32</td>
<td>402.34</td>
<td>100,000</td>
<td>100,000</td>
<td>100,402.34</td>
</tr>
<tr>
<td>12/31/16</td>
<td>1/26</td>
<td>$402.34</td>
<td>1,215.32</td>
<td>0</td>
<td>100,000</td>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>

**Notes:**
- a: Bonds Outstanding at Beginning of Each Period ÷ Sum of Bonds Outstanding, or $400,000 ÷ $2,600,000 in the first period
- b: Bonds Outstanding ($400,000 in first period) × Interest Rate (0.13) × 6/12 + Installment Payment (amount from footnote f)
- c: $10,460.90 × Fraction from Footnote a
- d: Amount from Footnote b – Amount from Footnote c – Installment Payment
- e: Previous Balance – Amount from Footnote c
- f: Interest Rate (0.13) × 6/12 + Installment Payment
- g: Face Value – Amount from Footnote f
- h: Amount from Footnote e + Amount from Footnote g

### EXAMPLE 14.6

**Interest Expense and Premium Amortization Schedule for Serial Bonds:**
**Effective Interest Method—13% Bonds Sold to Yield 12%**

<table>
<thead>
<tr>
<th>Date</th>
<th>Cash Credit</th>
<th>Interest Expense Debit</th>
<th>Premium Amortization Debit</th>
<th>Unamortized Premium</th>
<th>Bonds Payable Debit</th>
<th>Book Value of Bonds</th>
</tr>
</thead>
<tbody>
<tr>
<td>01/01/13</td>
<td>$26,000</td>
<td>$24,627.65</td>
<td>$1,372.35</td>
<td>9,088.55</td>
<td>409,088.55</td>
<td>$410,460.90</td>
</tr>
<tr>
<td>06/30/13</td>
<td>$26,000</td>
<td>$24,545.31</td>
<td>1,454.69</td>
<td>7,633.86</td>
<td>407,633.86</td>
<td></td>
</tr>
<tr>
<td>12/31/13</td>
<td>$26,000</td>
<td>$24,458.03</td>
<td>1,541.97</td>
<td>6,091.89</td>
<td>406,091.89</td>
<td></td>
</tr>
<tr>
<td>06/30/14</td>
<td>$26,000</td>
<td>$24,365.51</td>
<td>1,634.49</td>
<td>4,457.40</td>
<td>404,457.40</td>
<td></td>
</tr>
<tr>
<td>06/30/15</td>
<td>$126,000</td>
<td>$24,267.44</td>
<td>1,732.56</td>
<td>2,724.84</td>
<td>302,724.84</td>
<td></td>
</tr>
<tr>
<td>12/31/15</td>
<td>$119,500</td>
<td>$18,163.49</td>
<td>1,336.51</td>
<td>1,388.33</td>
<td>201,388.33</td>
<td></td>
</tr>
<tr>
<td>06/30/16</td>
<td>$113,000</td>
<td>$12,083.30</td>
<td>916.70</td>
<td>471.63</td>
<td>100,000</td>
<td>100,471.63</td>
</tr>
<tr>
<td>12/31/16</td>
<td>$106,500</td>
<td>$6,028.37</td>
<td>471.63</td>
<td>0</td>
<td>100,000</td>
<td>0</td>
</tr>
</tbody>
</table>

**Notes:**
- a: Bonds Outstanding ($400,000 in first period) × Interest Rate (0.13) × 6/12 + Installment Payment (amount from footnote e)
- b: Previous Balance of Footnote f × 0.12 × 6/12
- c: Amount from Footnote a – Amount from Footnote b – Installment Payment
- d: Previous Balance – Amount from Footnote c
- e: Installment Payment
- f: Previous Balance – Amount from Footnote c – Amount from Footnote e
- g: Difference due to $0.07 rounding error
Early Redemption of Serial Bonds

If a company redeems bonds from any individual series prior to their maturity date, it eliminates the amount of unamortized discount or premium for these bonds. When the bonds outstanding method is used, this amount can be determined from the amortization table by applying the following formula:

\[
\text{Number of Periods before Maturity of Issue} \times \frac{\text{Par Value of Bonds Redeemed}}{\text{Total of Bonds Outstanding Column}} \times \frac{\text{Total Premium or Discount}}{\text{Total of Bonds Outstanding Column}}
\]

**Example** On January 1, 2015, the $100,000 of the Wallace Corporation bonds due December 31, 2016, are redeemed. The unamortized premium associated with this redemption is calculated as:

\[
4 \text{ Periods} \times \frac{$100,000}{2,600,000} \times $10,460.90 = $1,609.37
\]

When the company records the redemption, it debits the Unamortized Premium account for $1,609.37 and calculates a gain or loss on the transaction by comparing the book value of the bonds redeemed with the redemption price. In addition, it reduces the amount of premium amortization shown in Example 14.5 by $402.34 ($1,609.37 ÷ 4) for each semiannual period in 2015 and 2016.

When a company uses the effective interest method, the book value of the bonds being retired is the present value of the future cash payments required (principal and interest) on the bonds being retired at that time. The company calculates the book value by discounting the future principal and interest payments to the retirement date, using the effective interest rate. It computes and reports the gain or loss as we discussed in the preceding paragraph, and eliminates the book value of the retired bonds.

### SUMMARY

At the beginning of the chapter, we discussed how the use of debt can benefit shareholders by increasing the company’s return on equity. However, the use of debt comes at a cost of making the company more risky. In addition, we identified several objectives you would accomplish after reading the chapter. The objectives are listed below.

1. **Explain the reasons for issuing long-term financing liabilities, such as bonds and notes payable.** Five basic reasons why a company might issue long-term debt rather than offer other types of securities are as follows: (1) debt may be the only available source of funds, (2) debt financing may have a lower cost, (3) debt financing offers an income tax advantage, (4) debt does not carry voting rights and so does not dilute common shareholders’ control of the company, and (5) debt financing offers the opportunity for financial leverage.

2. **Understand the characteristics of bonds payable.** A bond is a type of debt instrument in which a company agrees to pay the holder the face value at the maturity...
date and usually to pay interest periodically at a specified rate on the face value. The face value (or par value) is the amount of money that the issuer agrees to pay at maturity. The maturity date is the date on which the issuer of the bond agrees to pay the face value to the holder. The contract rate is the rate at which the issuer of the bonds agrees to pay interest each period until maturity.

3. **Compute the selling price of bonds.** The selling price of a bond issue is calculated by summing the present value of the principal and interest payments discounted at the effective interest (yield) rate.

4. **Record the issuance of bonds.** At the time of sale, the company records the face value of the bonds in a Bonds Payable account and it records any premium or discount in a separate account entitled Premium on Bonds Payable or Discount on Bonds Payable. A premium account is an adjunct account and a discount account is a contra account.

5. **Amortize bond discounts and bond premiums.** Under the straight-line method, any discount or premium is amortized to interest expense in equal amounts each period during the life of the bonds. Interest expense is the sum of the cash payment plus the discount amortization or minus the premium amortization. Under the effective interest method, interest expense is calculated by multiplying the effective interest rate by the beginning of period book value. The discount or premium amortization is the difference between the interest expense and the cash payment.

6. **Explain extinguishment of liabilities.** A liability is extinguished for financial reporting purposes when either (1) the debtor pays the creditor and is relieved of its obligation for the liability, or (2) the debtor is released legally from being the primary obligor under the liability.

7. **Understand bonds with equity characteristics.** A company may issue bonds that allow creditors to ultimately become shareholders by attaching stock warrants to the bonds or including a conversion feature. In either case, the investor has acquired the right to receive principal payments and interest on the bonds and the right to either acquire common stock by exercising the warrants or by converting the bonds into common equity shares.

8. **Account for long-term notes payable.** A note payable is recorded at its present value, and the effective interest method is used to record the subsequent interest. A note exchanged for property, goods, or services is recorded at the fair value of the property, goods, or services, or the fair value of the note, whichever can be measured with greater reliability. If neither of these fair values is determinable, the note is recorded at its present value by discounting the future cash flow(s) using the incremental interest rate of the borrower.

9. **Understand the disclosure of long-term financial liabilities.** A company must disclose many characteristics of its long-term debt, including the book value, interest rates, maturity dates, scheduled repayments for each of the next five years, interest expense, interest paid, and capitalized interest. It normally makes these disclosures in the notes to its financial statements.

10. **(Appendix 14.1) Understand troubled debt restructurings.** A troubled debt restructuring occurs when a creditor, for economic or legal reasons related to a debtor's financial difficulties, grants a concession to the debtor that it would not otherwise consider. A troubled debt restructuring may include a modification of terms, the issuance or other granting of an equity interest, and the transfer of an asset.

11. **(Appendix 14.2) Account for serial bonds.** Serial bonds require the issuer to repay the face value in periodic installments over a number of years. The initial issuance of the bonds is recorded in the same manner as other bonds. Subsequently, the company computes the interest expense and any premium or discount amortization by the effective interest method. Alternatively, it may use a method similar to the straight-line method known as the bonds outstanding method.
KEY TERMS

at a discount, p. 14-5
at a premium, p. 14-5
at par, p. 14-5
bond certificate, p. 14-4
bond indenture, p. 14-4
bond, p. 14-3
book value method, p. 14-22
book value, p. 14-11
capital structure, p. 14-2
carrying value, p. 14-11
contract rate, p. 14-4
conversion, p. 14-19
debt-to-assets ratio, p. 14-13
defeasance, p. 14-19
effective interest method, p. 14-10
effective rate, p. 14-5
face value, p. 14-3
face rate, p. 14-4
financial leverage, p. 14-2
financial liabilities, p. 14-3
imputed interest rate, p. 14-28
interest method, p. 14-10
market value method, p. 14-22
maturity date, p. 14-3
nominal rate, p. 14-4
par value, p. 14-4
serial bonds, p. 14-42
stated rate, p. 14-4
stock warrants, p. 14-19
straight-line method, p. 14-10
times-interest-earned ratio, p. 14-13
troubled debt restructuring, p. 14-35
yield, p. 14-5

ANSWERS TO REAL REPORT QUESTIONS

Real Report 14-1 Answers Bank of America—Financial Liabilities at Fair Value

1. Bank of America reports $131,547 million of its liabilities at fair value at the end of 2010:

   Deposits in U.S. offices $ 2,732
   Federal funds purchased and securities loaned or sold under agreements to repurchase 37,424
   Commercial paper and other short-term borrowings 7,178
   Accrued expenses and other liabilities 33,229
   Long-term debt 50,984

   This represents approximately 6.5% of the company’s total liabilities.

2. As interest rates change, the market value of liabilities will also change. This will allow users of the financial statements to assess the firm’s ability to repay its debts at an amount that is greater or less than the liabilities book value.

3. There are a number of reasons, but, most commonly, debt that is being hedged with derivative securities is reported at fair value to make the accounting simpler.

Real Report 14-2 Answers Sandisk—Cash Settled Convertible Bonds

1. The maturity amount of the 1% notes is $1,150 million.

2. The amount of interest paid for the three months ended October 3, 2010, was $2.9 million.

3. The amount of interest expensed for the three months ended October 3, 2010, was $17.6 million.

Real Report 14-3 Answers Starbucks—Disclosure of Debt

1. Financial flexibility allows a company to change the amounts and timing of its cash flows in response to unexpected needs and opportunities. With slightly less than $1 billion in an unused credit facility at October 3, 2010, Starbucks has financial flexibility.

2. The long-term debt was issued at a discount as its carrying value is less than its maturity amount.

3. To calculate interest payable at October 3, 2010, we would take $550 million × 0.0625 × (49 days / 365) = $4,614,726.03.
QUESTIONs

Q14-1 LO1 Why may a company that requires additional funds choose to issue long-term liabilities rather than equity securities?

Q14-2 LO2 What is a bond? Define face value, maturity date, contract rate, bond certificate, and bond indenture.

Q14-3 LO2 Distinguish between mortgage and debenture bonds.

Q14-4 LO2 What are callable bonds? Convertible bonds?

Q14-5 LO3 Why do bond discounts and bond premiums arise at the time of sale?

Q14-6 LO2 Why does the stated (contract) rate and the effective rate (yield) of interest on bonds frequently differ?

Q14-7 LO3 How is the amount of proceeds from a bond issue determined once the market (yield) rate of interest is specified?

Q14-8 LO4 Distinguish between bond premiums or discounts and bond issue costs.

Q14-9 LO4 Why does the recorded amount of interest expense for the first interest payment differ from the expense recorded for other interest payments when bonds are issued between interest payment dates?

Q14-10 LO5 What two methods may a company use to amortize a premium or discount over the life of a bond issue? Briefly describe each method.

Q14-11 LO5 How is the amount of interest expense a company records each period affected by the amortization of a bond discount using the straight-line method?

Q14-12 LO5 How is the amount of interest expense a company records each period affected by the amortization of a bond premium using the straight-line method?

Q14-13 LO6 What is a call provision? Why do companies often include call provisions on bond issues?

Q14-14 LO6 Distinguish between bond retirements and bond refundings.

Q14-15 LO6 When do companies recognize gains and losses from the extinguishment of debt? Where are the gains and losses disclosed in the income statement?

Q14-16 LO7 Why does a company issue a bond with detachable warrants (rights)? At what value is each of these securities recorded at the time of the bond issuance?

Q14-17 LO7 What are convertible bonds? Why would a company issue convertible debt?

Q14-18 LO7 What two alternative methods are available to account for the issuance of convertible debt? What method did GAAP finally require? Why?

Q14-19 LO7 If a company that uses IFRS had a significant amount of convertible debt, how would its debt-to-equity ratio be affected relative to if the company had used U.S. GAAP?

Q14-20 LO8 When a company exchanges a long-term non-interest-bearing note for cash and no interest rate is stated, how does it determine the effective interest?

Q14-21 LO8 Describe the steps necessary for a company to determine the value at which to record a non-interest-bearing note payable exchanged for property, goods, or services.

Q14-22 LO8 What is the incremental interest rate of a borrower? When and for what calculations is this rate used if a company exchanges a note for property, goods, or services?

Q14-23 LO9 When a company retires long-term financing liabilities, what information should be reported in the statement of cash flows?

Q14-24 LO10 (Appendix 14.1) When does a troubled debt restructuring occur? What are three conditions a troubled debt restructuring may involve?

Q14-25 LO11 (Appendix 14.2) When a company redeems bonds from an individual series of serial bonds prior to the maturity date how does it determine the amount unamortized discount or premium to be eliminated under the bond outstanding method?
MULTIPLE-CHOICE (AICPA ADAPTED)

Select the best answer for each of the following.

M14-1 On January 1, 2012, Bay Company issues bonds with a face value of $850,000 that pay 9% interest semiannually and mature in 15 years. The market interest rate at the date of issuance is 8%. What is the issue price of the bond?

a. $850,000.00  
b. $923,491.41  
c. $815,386.52  
d. $567,656.32

M14-2 Should legal fees and underwriting costs associated with issuing bonds be expensed as incurred?

<table>
<thead>
<tr>
<th></th>
<th>Legal Fees</th>
<th>Underwriting Costs</th>
</tr>
</thead>
<tbody>
<tr>
<td>a.</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>b.</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>c.</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>d.</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>

M14-3 On April 1, 2013, Granville Corporation issued, at 98 plus accrued interest, 400 of its 10%, $1,000 bonds. The bonds are dated January 1, 2013 and mature on January 1, 2020. Interest is payable semiannually on January 1 and July 1. From the bond issuance Granville would realize net cash receipts of:

a. $382,000  
b. $392,000  
c. $397,000  
d. $402,000

M14-4 When the interest payment dates of a bond are May 1 and November 1, and a bond is issued on June 1, the amount of cash received by the issuer will be:

a. increased by accrued interest from June 1 to November 1  
b. increased by accrued interest from May 1 to June 1  
c. decreased by accrued interest from June 1 to November 1  
d. decreased by accrued interest from May 1 to June 1

M14-5 For the issuer of a 10-year term bond, the amount of amortization using the effective interest method would increase each year if the bond was sold at a:

<table>
<thead>
<tr>
<th></th>
<th>Discount</th>
<th>Premium</th>
</tr>
</thead>
<tbody>
<tr>
<td>a.</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>b.</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>c.</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>d.</td>
<td>Yes</td>
<td>No</td>
</tr>
</tbody>
</table>

M14-6 On January 1, 2013, when the market rate for bond interest was 14%, Lenoir Corporation issued bonds in the face amount of $500,000 with interest at 12% payable semiannually. The bonds mature on December 31, 2020, and were issued at a discount of $53,180. How much of the discount should be amortized by the effective interest method at July 1, 2013?

a. $1,277  
b. $2,659  
c. $3,191  
d. $3,723

M14-7 When the issuer of bonds exercises the call provision to retire the bonds, the excess of the cash paid over the carrying amount of the bonds should be recognized separately as a(n):

a. extraordinary loss  
b. extraordinary gain  
c. loss from continuing operations  
d. loss from discontinued operations

M14-8 When the cash proceeds from a bond issued with detachable stock purchase warrants exceed the sum of the par value of the bonds and the fair value of the warrants, the excess should be credited to:

a. Additional Paid-in Capital  
b. Retained Earnings  
c. Premium on Bonds Payable  
d. Detachable Stock Warrants Outstanding

M14-9 On December 31, 2012, Dare Corporation had outstanding 8%, $2,000,000 face value convertible bonds maturing on December 31, 2016. Interest is payable annually on December 31. Each $1,000 bond is convertible into 60 shares of Dare’s $10 par value common stock. The unamortized balance on December 31, 2013, in the Premium on Bonds Payable account was $45,000. On December 31, 2013, an individual holding 200 of the bonds exercised the conversion privilege when the market value of Dare’s common stock was $18 per share. Using the book value method, Dare’s entry to record the conversion should include a credit to additional paid-in capital of:

a. $80,000  
b. $84,500  
c. $96,000  
d. $125,000
M14-10 On July 1, 2011, Rix Corporation had $10,000,000 of 9% bonds outstanding. The maturity date is June 30, 2016. Interest is paid semi-annually every June 30 and December 31. All the bonds were redeemed on July 1, 2011, at 98. At the time of the bond redemption, there was un-amortized bond premium of $60,000 and un-amortized bond issue costs of $100,000. What is the amount of the gain on the bond redemption?

a. $80,000 gain
b. $160,000 gain
c. $240,000 gain
d. $0

M14-11 On January 1, 2013, Onslow Company borrowed $360,000 from a major customer evidenced by a non-interest-bearing note due in 3 years. Onslow agreed to supply the customer’s inventory needs for the loan period at lower than market price. At the 12% imputed interest rate for this type of loan, the present value of the note is $255,000 at January 1, 2013. What amount of interest expense should be included in Onslow’s 2013 income statement?

a. $43,200
b. $35,000
c. $30,600
d. $0

(Appendix 14.1) Pamlico Company has a $500,000, 15%, 3-year note dated January 1, 2013, payable to Forest National Bank. On December 31, 2014, the bank agreed to settle the note and unpaid interest of $75,000 for $50,000 cash and marketable securities having a current market value of $375,000. Pamlico’s acquisition cost of the securities is $385,000. Ignoring income taxes, what amount should Pamlico report as a gain from the debt restructuring in its 2013 income statement?

a. $65,000
b. $75,000
c. $140,000
d. $150,000

REVIEW EXERCISES

RE14-1 On January 1, Canglon, Inc., issues 10%, 5-year bonds with a face value of $150,000 when the effective rate is 12%. Interest is to be paid semiannually. Prepare calculations to prove that the selling price of the bonds is $138,959.90.

RE14-2 Refer to the information in RE14-1. Assume Canglon uses the effective interest method to amortize the discount. Prepare the journal entry to record the first interest payment.

RE14-3 On January 1, Lightfoot Corporation issues 10%, 5-year bonds with a face value of $275,000 when the effective interest rate is 9%. Interest is to be paid semiannually. Prepare calculations to prove that the selling price of the bonds is $285,880.07.

RE14-4 Refer to the information in RE14-3. Lightfoot uses the effective interest method to amortize the premium. Prepare the journal entry to record the first interest payment.

RE14-5 On January 1, 2013, North Company issued $2,000,000 of bonds with a stated rate of 10% that are due to mature December 31, 2022, and pay interest semiannually. The market rate of interest was 9% at the date of issuance. Prepare the journal entry for the sale of the bonds on January 1, 2013.

RE14-6 On January 1 (the authorization date) of the current year, Temple Company issues $500,000 of 9% bonds at 103. These bonds pay interest on June 30 and December 31. Prepare the journal entry to record the issuance of the bonds.

RE14-7 Use the information in RE14-6, except assume that Temple issues its bonds on March 1 at par, plus accrued interest. Prepare the journal entries to record the issuance of the bonds (adjust interest expense for the accrued interest) and the first semiannual interest payment.

RE14-8 Bangles Corporation issued 5-year, 11% bonds with a face value of $300,000 on April 1 for $288,800. Interest is paid semiannually at October 1 and April 1. Prepare the journal entries to record the issuance on April 1 and the first interest payment on October 1. Use the straight-line method to amortize the discount.

RE14-9 Use the information in RE14-8, except assume that the bonds are sold for $318,000. Prepare the journal entries to record the issuance on April 1 and the first interest payment on October 1. Use the straight-line method to amortize the premium.
RE14-10  On June 1, Fignon Company recalls bonds with a face value of $200,000 and a current book value of $190,000. Fignon pays $192,000 to retire the bonds. Prepare the journal entry to record the retirement of the bonds.

RE14-11  Langdon & Co. issues bonds with a face value of $50,000 for $51,000. Each $1,000 bond carries 10 warrants, and each warrant allows the holder to acquire 1 share of $1 par common stock for $40 per share. Immediately after the issuance, the bonds are quoted at 99 ex rights and the warrants are quoted at $5 each. Calculate the value to be assigned to the bonds and to the warrants.

RE14-12  Nolan Corporation has outstanding convertible bonds with a face value of $15,000 and a current book value of $17,500. Each $1,000 bond is convertible into 25 shares of common stock (par value $5 per share). All the bonds are converted into common stock when the market value of Nolan’s common stock is $50 per share. Using the book value method, prepare the journal entry for Nolan to record the conversion.

RE14-13  On January 1, Boater Company issues a $20,000 non-interest-bearing, 5-year note for equipment. Neither the fair value of the note nor the equipment is determinable. Boater’s incremental borrowing rate is 9%. The asset has a useful life of 7 years. Prepare the journal entry for Boater to record the issuance of the note on January 1.

RE14-14  On January 2, 2013, Jennings Company purchases machinery and equipment and borrows $200,000 on a 5-year non-interest-bearing note. The principal of $200,000 will be paid at the maturity date of December 31, 2017. To place a fair value on the transaction, the accountant will impute an interest rate and use that rate to compute the present value of the note. Assuming that an 8% interest rate is applicable, record the journal entry for interest expense for the year ended December 31, 2013.

EXERCISES

E14-1  Determining the Proceeds from Bond Issues  Madison Corporation is authorized to issue $800,000 of 5-year bonds dated June 30, 2013, with a stated rate of interest of 11%. Interest on the bonds is payable semiannually, and the bonds are sold on June 30, 2013.

Required:
Determine the proceeds that the company will receive if it sells (1) the bonds to yield 12%, and (2) the bonds to yield 10%.

E14-2  Recording Bond Issue and Interest Payments  Synergy Corporation is authorized to issue $500,000 of 8% bonds. Interest on the bonds is payable semiannually; the bonds are dated January 1, 2013, and are due December 31, 2018.

Required:
Prepare the journal entries to record the following:
   a. January 1, 2013    Sold the bonds at par
   b. June 30, 2013     First interest payment
   c. December 31, 2013 Second interest payment

E14-3  Recording Bond Issue and Interest Payments  Burris Corporation is authorized to issue $800,000 of 9% bonds. Interest on the bonds is payable semiannually; the bonds are dated January 1, 2013, and are due December 31, 2017.

Required:
Prepare the journal entries to record the following:
   a. April 1, 2013      Sold the bonds at par plus accrued interest
   b. June 30, 2013     First interest payment
   c. December 31, 2013 Second interest payment

E14-4  Recording Bond Issuance  On January 1, 2013, Knorr Corporation issued $1,000,000 of 9%, 5-year bonds dated January 1, 2103. The bonds pay interest annually on December 31. The bonds were issued to yield 10%. Bond issue costs associated with the bonds totaled $18,000.

Excel Templates are provided online for select end-of-chapter exercises and problems, providing assistance to students as they set up and work the assignment.
Required:
1. Prepare the journal entries to record the following:
   January 1, 2013  Sold the bonds at an effective rate of 10%
   December 31, 2013  First interest payment using the effective interest method
   December 31, 2013  Amortization of bond issue costs using the straight-line method
   December 31, 2014  Second interest payment using the effective interest method
   December 31, 2014  Amortization of bond issue costs using the straight-line method

2. Assume that the company uses IFRS and that it issued the bonds for net proceeds (after deducting the bond issue costs of $18,000) of $944,091.83, which is consistent with an effective interest rate of 10.49%. Prepare the journal entries for the sale of the bonds and the first two interest payments.

**E14-5 Straight-Line Premium Amortization**
On January 1, 2013, Hackman Corporation issued $1 million face value 12% bonds dated January 1, 2013, for $1,023,000. The bonds pay interest semiannually on June 30 and December 31 and are due December 31, 2017. Hackman uses the straight-line amortization method.

Required:
Record the issuance of the bonds and the first two interest payments.

**E14-6 Straight-Line Discount Amortization**
Bryan Company issued $500,000 of 10% face value bonds on January 1, 2013, for $486,000. The bonds are due December 31, 2015 and pay interest semiannually on June 30 and December 31. Bryan uses the straight-line amortization method.

Required:
Prepare the journal entries to record the issuance of the bonds and the first two interest payments.

**E14-7 Effective Interest Discount Amortization**
Chowan Corporation issued $100,000 of 10% bonds dated January 1, 2013, for $96,832.72 on January 1, 2013. The bonds are due December 31, 2016, were issued to yield 11%, and pay interest semiannually on June 30 and December 31. Chowan uses the effective interest method of amortization.

Required:
Prepare the journal entries to record the issuance of the bonds on January 1, 2013, and the interest payments on June 30, 2013, December 31, 2013, and June 30, 2014. In addition, prepare a bond interest expense and discount amortization schedule for the bonds through June 30, 2014.

**E14-8 Effective Interest Premium Amortization**
Polk Incorporated issued $200,000 of 13% bonds on July 1, 2013, for $206,801.60. The bonds were dated January 1, 2013, pay interest on each June 30 and December 31, are due December 31, 2017, and were issued to yield 12%. Polk uses the effective interest method of amortization.

Required:
Prepare the journal entries to record the issuance of the bonds on July 1, 2013, and the interest payments on December 31, 2013, and June 30, 2014. In addition, prepare a bond interest expense and premium amortization schedule for the bonds through June 30, 2014.

**E14-9 Effective Interest Amortization of Premium or Discount**
Taylor Company issued $100,000 of 13% bonds on January 1, 2013. The bonds pay interest semiannually on June 30 and December 31 and are due December 31, 2015.

Required:
1. Assume the company sells the bonds for $102,458.71 to yield 12%. Prepare the journal entries to record:
   a. the sale of the bonds
   b. each 2013 semiannual interest payment and premium amortization, using the effective interest method
2. Assume the company sells the bonds for $97,616.71 to yield 14%. Prepare the journal entries to record:
   a. the sale of the bonds
   b. each 2013 semiannual interest payment and discount amortization, using the effective interest method.

**E14-10 Bond Amortization Tables**
On January 1, 2013, Calvert Company issues 12%, $100,000 face value bonds for $103,545.91, a price to yield 10%. The bonds mature on December 31, 2014. Interest is paid semiannually on June 30 and December 31.

Required:
1. Prepare a bond interest expense and premium amortization schedule using the straight-line method.
2. Prepare a bond interest expense and premium amortization schedule using the effective interest method.
3. Prepare the journal entries to record the interest payments on June 30, 2013, and December 31, 2013, using both methods.
E14-11 Effective Interest versus Straight-Line Discount Amortization  Burr Motor Company, a manufacturer of small- to medium-sized electric motors, needs additional funds to market a revolutionary new motor. Burr has arranged for private placement of a $50,000, 5-year, 11% bond issue. Interest on these bonds is paid annually each year on August 31. The issue was dated and sold on September 1, 2012, for proceeds of $48,197.62 to yield 12%. The company reverses any year-end adjusting entries.

Required:
1. Prepare a bond interest expense and discount amortization schedule showing interest expense for each year using the effective interest method. (Round to the nearest whole dollar.)
2. Prepare journal entries to record the issuance of the bonds and the interest payments for 2013 and 2014 using (a) the effective interest method, and (b) the straight-line method.

E14-12 Redemption of Bonds Prior to Maturity  Hill Corporation issued $1,500,000 of 11% bonds at 98 on January 2, 2011. Interest is paid semiannually on June 30 and December 31. The bonds had a 10-year life from the date of issue, and the company uses the straight-line method of amortization. On March 31, 2014, Hill recalls the bonds at the call price of 107 plus accrued interest.

Required:
Prepare the journal entries to record the reacquisition (recall) of Hill’s bonds.

E14-13 Extinguishment of Bonds Prior to Maturity  On January 1, 2005, Davis Corporation issued $3,000,000 of 8% bonds at 103. Interest is paid annually on December 31 of each year. The bonds mature on December 31, 2024, and the company uses the straight-line method of amortization. On January 2, 2013, Davis reacquired the bonds and recognizes a loss of $96,000.

Required:
Next Level  Calculate the reacquisition price of the bonds on January 2, 2013, and prepare the journal entry to record the reacquisition of Davis’ bonds.

E14-14 Extinguishment of Bonds Prior to Maturity  On December 1, 2011, Cone Company issued its 10%, $2 million face value bonds for $2.3 million, plus accrued interest. Interest is payable on November 1 and May 1. On December 31, 2013, the book value of the bonds, inclusive of the unamortized premium, was $2.1 million. On July 1, 2014, Cone reacquired the bonds at 98 plus accrued interest. Cone appropriately uses the straight-line method for the amortization because the results do not materially differ from those of the effective interest method.

Required:
Prepare a schedule to compute the gain or loss on this redemption of debt. Show supporting computations in good form.

E14-15 Premium Amortization and Partial Retirement  Rockwood Company issued $100,000 of 10% bonds on November 1, 2013, at 103. Interest on the bonds is payable on November 1 and May 1 of each year, and the maturity date is November 1, 2023. Rockwood retired bonds with a face value of $20,000 on February 1, 2015, at 98 plus accrued interest. Rockwood uses straight-line amortization and reverses any calendar year-end adjusting entries.

Required:
1. Prepare the journal entry to record the issuance of the bonds on November 1, 2013.
2. Prepare all the journal entries to record the interest expense during 2014.
3. Prepare the journal entries to record the retirement of $20,000 of the bonds on February 1, 2015.

E14-16 Convertible Bonds  On January 1, 2012, when its $30 par value common stock was selling for $80 per share, a corporation issued $10 million of 10% convertible debentures due in 10 years. The conversion option allowed the holder of each $1,000 bond to convert it into 6 shares of the corporation’s $30 par value common stock. The debentures were issued for $11 million. At the time of issuance, the present value of the bond payments was $8.5 million, and the corporation believes the difference between the present value and the amount paid is attributable to the conversion feature. On January 1, 2013, the corporation’s $30 par value common stock was split 3 for 1. On January 1, 2014, when the corporation’s $10 par value common stock was selling for $90 per share, holders of 40% of the convertible debentures exercised their conversion options. The corporation uses the straight-line method for amortizing any bond discounts or premiums.

These requirements challenge students to go beyond accounting procedures to develop critical-thinking and analysis skills.
Required:
1. Prepare the journal entry to record the original issuance of the convertible debentures.
2. Prepare the journal entry to record the exercise of the conversion option, using the book value method. Show supporting computations in good form.

E14-17 Induced Conversion On July 1, 2014, Tuttle Company had bonds payable outstanding with a face value of $200,000 and a book value of $194,000. The interest on these bonds was paid on June 30. When these bonds were issued, each $1,000 bond was convertible into 20 shares of $10 par common stock. To induce conversion, on June 15, 2014, the terms were changed so that each bond was convertible into 22 shares of common stock if the conversion was made within 30 days. All the bonds were converted on July 1, 2014, when the market price of the common stock was $50 per share.

Required:
Next Level Using the book value method, record the conversion of the bonds on July 1, 2014.

E14-18 Detachable Stock Warrants Conroe Corporation sold $500,000 of 13% bonds at 107. Each $1,000 bond carried 20 warrants, and each warrant allowed the holder to acquire 1 share of $10 par value common stock for $20 per share. Subsequent to the issuance of the securities, the bonds were quoted at 102 ex rights, and the warrants were quoted at $4 each.

Required:
1. Determine the value to be assigned to the bonds and the warrants and prepare the journal entry to record the issuance of the convertible bonds.
2. Assume that 4,000 warrants are subsequently exercised. Prepare the journal entry for the issuance of the common stock.

E14-19 Bonds with Detachable Warrants On July 1, 2013, Salem Corporation issued $3 million of 12% bonds payable in 10 years. The bonds pay interest semiannually. The bonds include detachable warrants giving the bondholder the right to purchase for $30, 1 share of $1 par value common stock at any time during the next 10 years. Salem sold the bonds for $3 million. The value of the warrants at the time of issuance was $200,000.

Required:
Prepare in general journal format the entry to record the issuance of the bonds.

E14-20 Convertible Bond Entries On July 2, 2012, McGraw Corporation issued $500,000 of convertible bonds. Each $1,000 bond could be converted into 20 shares of the company’s $5 par value stock. On July 3, 2014, when the bonds had an unamortized discount of $7,400 and the market value of the McGraw shares was $52 per share, all the bonds were converted into common stock.

Required:
1. Prepare the journal entry to record the conversion of the bonds under (a) the book value method, and (b) the market value method.
2. Compute the company’s debt-to-equity ratio (total liabilities divided by total shareholders’ equity, as described in Chapter 6) under each alternative. Assume the company’s other liabilities are $2 million and shareholders’ equity before the conversion is $3 million.
3. Assume the company uses IFRS and issued the bonds for $487,500 on July 2, 2012. On this date, it determined that the fair value of each bond was $930 and the fair value of the conversion option was $45 per bond. Prepare the journal entry to record the issuance of the bonds.

E14-21 Long-Term Notes Payable On January 1, 2013, Johnson Corporation issued a 2-year note due December 31, 2014, with a face value of $10,000, receiving $7,694.68 in exchange.

Required:
Prepare the journal entries to account for the note:
1. on the date the note is issued
2. at the end of 2013
3. at the end of 2014
E14-22  **Note Payable Exchanged for Cash and Rights**  Spath Company borrows $75,000 by issuing a 4-year, non-interest-bearing note to a customer on January 1, 2013. In addition, Spath agrees to sell inventory to the customer at reduced prices over a 5-year period. Spath’s incremental borrowing rate is 12%. The customer agrees to purchase an equal amount of inventory each year over the 5-year period so that a straight-line method of revenue recognition is appropriate.

**Required:**
Prepare the journal entries on Spath’s books for 2013 and 2014. (Round answers to two decimal places.)

E14-23  **Exchange of a Note Payable for an Asset**  Webb Corporation purchased an asset from Shaw Corporation on January 1, 2013. Shaw accepted a 3-year, non-interest-bearing note of $18,000 due December 31, 2015, in exchange for the asset. Neither the fair value of the asset nor that of the note is available. Webb’s incremental borrowing rate is 12%.

**Required:**
Prepare the journal entries to record the issuance of the note, retirement, and any interest expense on the books of Webb on each of the following dates:
1. January 1, 2013
2. December 31, 2013
3. December 31, 2014
4. December 31, 2015

E14-24  **Note Payable Issued in Exchange for an Asset**  On January 1, 2013, Sanders Corporation purchased equipment having a fair value of $68,301.30 by issuing a non-interest-bearing, $100,000, 4-year note due December 31, 2016.

**Required:**
Prepare the journal entries to record (1) the purchase of the equipment, (2) the annual interest charges over the life of the note, and (3) the repayment of the note.

E14-25  **Note Payable in Installments**  On January 1, 2013, Billips Corporation purchased equipment having a fair value of $72,054.94 by issuing a $90,000 note, payable in three $30,000 annual installments beginning December 31, 2013.

**Required:**
Prepare (1) the journal entry to record the purchase of the equipment, (2) a schedule to compute the annual interest expense, and (3) the journal entries to record yearly interest expense and note repayments over the life of the note.

E14-26  **(Appendix 14.1) Troubled Debt Restructuring (Debtor)—Modification of Terms**  On January 1, 2013, Northfield Corporation becomes delinquent on a $100,000, 14% note to First National Bank, on which $16,651 of interest has accrued. On January 2, 2013, the bank agrees to restructure the note. It forgives the accrued interest, extends the repayment date to December 31, 2015, and reduces the interest rate to 10%.

**Required:**
Prepare a schedule for Northfield to compute the annual interest expense in regard to the preceding note for each year of the restructuring agreement.

E14-27  **(Appendix 14.1) Troubled Debt Restructuring (Debtor)—Equity and Asset Exchange**  On January 1, 2013, Boonville Corporation is delinquent on a $300,000 note to Great National Bank on which $66,000 of interest has accrued. On January 2, 2013, Boonville enters into a debt restructuring agreement with the bank.

**Required:**
Prepare the journal entries for Boonville to record the restructuring agreement assuming:
1. the bank accepts 10,000 shares of Boonville’s $10 par common stock that is currently selling for $35 per share in full settlement of the debt
2. the bank accepts land with a fair value of $342,000 in full settlement of the debt. The land is being carried on Boonville’s books at a cost of $324,000

E14-28  **(Appendix 14.1) Troubled Debt Restructuring (Creditor)—Modification of Terms**  On December 31, 2013, Central Bank agrees to a restructuring of a 12% note with a $200,000 face value and $60,000 of accrued interest owed to the bank by Carter Company. The bank agrees to forgive the accrued interest, extend the maturity date to
December 31, 2016, and reduce the annual interest rate to 6%. Carter paid the interest due on December 31, 2014.

Required:
1. Prepare the journal entry for Central Bank to record the restructuring of the note on December 31, 2013.
2. Prepare the journal entry for Central Bank to record the receipt of the interest on December 31, 2014.

E14-29 *(Appendix 14.1) Troubled Debt Restructuring (Creditor)—Equity and Asset Exchange* Refer to the debt restructuring information in E14-27.

Required:
Prepare the journal entries for Great National Bank to record the restructuring agreement assuming:
1. the bank accepts the 10,000 shares of Boonville’s stock
2. the bank accepts the land

E14-30 *(Appendix 14.2) Serial Bonds Entries* On July 1, 2012, Nicholsen Corporation issued $300,000 of bonds, with a 13% stated rate of interest, for $318,000. The bonds pay interest semiannually on each January 1 and July 1 and are to be repaid in three equal semiannual installments beginning July 1, 2014. Assume Nicholsen’s fiscal year ends May 31 and it makes reversing entries for year-end accruals.

Required:
Prepare the journal entries to account for this serial bond issue on each of the following dates using the bonds outstanding method of amortization:
1. July 1, 2012
2. January 1, 2013
3. July 1, 2013
4. January 1, 2014
5. July 1, 2014
7. July 1, 2015

E14-31 *(Appendix 14.2) Serial Bond Issue Using the Effective Interest Method* Lewis Company sells $200,000 of 13% bonds dated January 1, 2012, on that date, for $204,650.74 to yield 12%. The bonds pay interest annually on December 31, and bonds of $40,000 mature on each December 31 for the next 5 years. Lewis uses the effective interest method of amortization.

Required:
1. Prepare a serial bond premium amortization schedule for these bonds.
2. Prepare the journal entries necessary to record the yearly interest payments, premium amortization, and serial bond redemption.

E14-32 *(Appendix 14.2) Serial Bonds* On January 1, 2012, Mykoo Corporation issued $1 million in 5-year, 10% serial bonds to be repaid in the amount of $200,000 on January 1, 2013, 2014, 2015, 2016, and 2017. Interest is payable at the end of each year. The bonds were sold to yield a rate of 12%. Information on present value and future amount factors is as follows:

<table>
<thead>
<tr>
<th>Present Value of an Ordinary Annuity of $1 for 5 Years</th>
<th>Future Amount of an Ordinary Annuity of $1 for 5 Years</th>
</tr>
</thead>
<tbody>
<tr>
<td>10% 12%</td>
<td>10% 12%</td>
</tr>
<tr>
<td>3.7908 3.6048</td>
<td>6.1051 6.3528</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Number of Years</th>
<th>Present Value of $1</th>
<th>Future Amount of $1</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>10%     12%</td>
<td>10%     12%</td>
</tr>
<tr>
<td>1</td>
<td>0.9091   0.8929</td>
<td>1.1000  1.1200</td>
</tr>
<tr>
<td>2</td>
<td>0.8264   0.7972</td>
<td>1.2100  1.2544</td>
</tr>
<tr>
<td>3</td>
<td>0.7513   0.7118</td>
<td>1.3310  1.4049</td>
</tr>
<tr>
<td>4</td>
<td>0.6830   0.6355</td>
<td>1.4641  1.5735</td>
</tr>
<tr>
<td>5</td>
<td>0.6209   0.5674</td>
<td>1.6105  1.7623</td>
</tr>
</tbody>
</table>
Required:
1. Prepare a schedule showing the computation of the total amount received from the issuance of the serial bonds. Show supporting computations in good form.
2. Assume the company originally sold the bonds at a discount of $46,498. Prepare a schedule of amortization of the bond discount for the first 2 years after issuance, using the interest (effective rate) method. Show supporting computations in good form, rounding to the nearest dollar.

PROBLEMS

P14-1 Computation of Selling Price and Bond Issue Costs
Barnett Industries, Inc. issued $600,000 of 8% bonds on January 1, 2013. The bonds pay interest semiannually on July 1 and January 1. The maturity date on these bonds is December 31, 2022. The firm uses the effective interest method of amortizing discounts and premiums. The bonds were sold to yield an effective interest rate of 9%. Barnett incurred legal and investment banking fees of $22,000 in issuing the bonds and amortizes these costs annually on a straight-line basis.

Required:
1. Calculate the selling price of the bonds.
2. Prepare journal entry for the issuance of the bonds and bond issue costs
3. Assume that Barnett uses IFRS. Prepare the journal entry for the issuance of the bonds.

P14-2 Computation of Effective Interest Rate
On June 30, 2013, Gaston Corporation sold $800,000 of 11% face value bonds for $761,150.96. On December 31, 2013, Gaston sold $700,000 of this same bond issue for $734,645.28. The bonds were dated January 1, 2013, pay interest semiannually on each December 31 and June 30, and are due December 31, 2020.

Required:
Compute the effective yield rate on each issuance of Gaston’s 11% bonds.

P14-3 Amortizing Bond Issue Costs and Bond Premiums
On January 1, 2013, Gates Corporation issued $100,000 of 5-year bonds due December 31, 2017, for $103,604.79 minus bond issue costs of $3,000. The bonds carry a stated rate of interest of 13% payable annually on December 31 and were issued to yield 12%. The company uses the effective interest method of amortization.

Required:
Prepare the journal entries to record the issuance of the bonds, all the interest payments, premium amortizations, bond issue cost amortizations, and the repayment of the bonds. In addition, prepare a bond interest expense and premium amortization schedule for the bonds.

P14-4 Premium Amortization Schedule with Retirement Before Maturity
Hillis Corporation issued $600,000 of 13% bonds on January 1, 2012, for $614,752.24. The bonds are due December 31, 2014, were issued to yield 12%, and pay interest semiannually on June 30 and December 31. Hillis uses the effective interest method.

Required:
1. Prepare a bond interest expense and premium amortization schedule.
2. Assume the company retired the bonds on September 30, 2014, for $630,000, which includes accrued interest. Prepare the journal entry to record the bond retirement.

P14-5 Comprehensive
Bats Corporation issued $800,000 of 12% face value bonds for $851,705.70. The bonds were dated and issued on April 1, 2013, are due March 31, 2017, and pay interest semiannually on September 30 and March 31. Bats sold the bonds to yield 10%.

Required:
1. Prepare a bond interest expense and premium amortization schedule using the straight-line method.
2. Prepare a bond interest expense and premium amortization schedule using the effective interest method.
3. Prepare any adjusting entries for the end of the fiscal year, December 31, 2013, using the:
   a. straight-line method of amortization
   b. effective interest method of amortization
4. Assume the company retires the bonds on June 30, 2014, at 103 plus accrued interest. Prepare the journal entries to record the bond retirement using the:
   a. straight-line method of amortization
   b. effective interest method of amortization
**P14-6 Discount Amortization Schedule and Retirement** Before maturity, Foster Incorporated sold $500,000 of 12% bonds on January 1, 2013, for $470,143.47, a price that yields a 14% interest rate. The bonds pay interest semiannually on June 30 and December 31 and are due December 31, 2016. Foster uses the effective interest method.

**Required:**
1. Prepare an interest expense and discount amortization schedule.
2. Assume the company reacquired the bonds on July 1, 2015, at 104. Prepare journal entries to record the bond retirement.

**P14-7 Comprehensive** Wilbury Corporation issued $1 million of 13.5% bonds for $985,071.68. The bonds are dated and issued October 1, 2013, are due September 30, 2017, and pay interest semiannually on March 31 and September 30. Assume an effective yield rate of 14%.

**Required:**
1. Prepare a bond interest expense and discount amortization schedule using the straight-line method.
2. Prepare a bond interest expense and discount amortization schedule using the effective interest method.
3. Prepare adjusting entries for the end of the fiscal year December 31, 2013, using the:
   a. straight-line method of amortization
   b. effective interest method of amortization
4. If income before interest and income taxes of 30% in 2014 is $500,000, compute net income under each alternative.
5. Assume the company retired the bonds on June 30, 2014, at 98 plus accrued interest. Prepare the journal entries to record the bond retirement using the:
   a. straight-line method of amortization
   b. effective interest method of amortization
6. Compute the company’s times interest earned (pretax operating income divided by interest expense) for 2014 under each alternative.

**P14-8 Bond Refunding** Baxter Corporation issued $400,000 of 11% bonds for $385,279.91 on January 1, 2013. The bonds pay interest semiannually on June 30 and December 31, were issued to yield 12%, and are due on December 31, 2017. Interest is amortized using the effective interest method, and the bonds are callable at 105. In 2015, Baxter wishes to take advantage of more favorable market interest rate conditions and issues $450,000 of 11%, 10-year bonds at 102 on June 1. Interest on these bonds is payable each May 31 and November 30. Sufficient proceeds from this issue are used to recall the original issue on July 1, 2015.

**Required:**
1. Prepare the journal entries to record (a) the original issue, (b) the new issue, and (c) the recall of the old issue.
2. **Next Level** If the company were required to reflect the current yield each year, explain how it would account for the bonds. For simplicity, assume that the yield changes from 12% to 11% on January 1, 2015. No calculations are required.

**P14-9 Convertible Bonds** Wedge Corporation issued $1,500,000 of 10% convertible bonds for $1,620,000 on March 1, 2013. The bonds are dated March 1, 2013, pay interest semiannually on August 31 and February 28, and the premium is amortized using the straight-line method. The bonds are due on February 28, 2023, and each $1,000 bond is convertible into 25 shares of Wedge’s $10 par common stock. On March 1, 2015, when the shares were selling for $28 per share, $300,000 of bonds were converted. On September 1, 2017, when the shares were selling for $30 per share, the remainder of the bonds were converted.

**Required:**
1. Prepare the journal entries to record each bond conversion using (a) the book value method, and (b) the market value method.
2. **Next Level** If the company were required under GAAP to assign a value to the Conversion feature, explain how the valuation would be determined (no calculations are required).
3. Compute the company’s debt-to-equity ratio (total liabilities divided by total shareholders’ equity, as mentioned in Chapter 6) under each alternative. Assume the company’s other liabilities are $3 million, and that shareholders’ equity before conversion is $3.5 million. Compute the ratio right before and right after the March 1, 2015 transaction under each alternative.
4. Assume the company uses IFRS and issued the bonds for $1,620,000 on March 1, 2013. On this date, it determined that the fair value of each bond was $1,040, and the fair value of the conversion option was $40 per bond. Prepare the journal entry to record the issuance of the bonds.

**P14-10 Bonds with Detachable Warrants**

On January 1, 2013, Berlin Corporation issued $500,000 of 11.5% bonds due January 1, 2020, at 102. The bonds pay interest semiannually on June 30 and December 31. Each $1,000 bond carried 20 warrants, and the exchange of two warrants allowed the holder to acquire 1 share of $10 par common stock for $50. Shortly after the time of issue, the bonds were quoted at 98 ex rights and each individual warrant was quoted at $5. Subsequently, on March 31, 2013, 8,000 rights were exercised.

**Required:**
1. Prepare the journal entry to record the bond issue.
2. Prepare the journal entries on March 31, 2013, to record the exchange of the warrants for common shares.

**P14-11 Notes Payable**

Lubbock Corporation acquires machinery from South Company in exchange for a $20,000 non-interest-bearing, 5-year note on June 30, 2013. The note is due on June 30, 2018. The machinery has a fair value of $11,348.54, is subject to straight-line depreciation, and has an estimated life of 10 years (no residual value). Lubbock’s fiscal year ends June 30.

**Required:**
Prepare the journal entries on each of the following dates to record the preceding information for Lubbock:
1. June 30, 2013
2. June 30, 2014
5. June 30, 2017
6. June 30, 2018

**P14-12 Notes Payable in Installments**

Hamlet Corporation purchases computer equipment at a price of $100,000 on January 1, 2013, paying $40,000 down and agreeing to pay the balance in three $20,000 annual installments beginning December 31, 2013. It is not possible to value either the equipment or the $60,000 note directly; however, Hamlet’s incremental borrowing rate is 12%.

**Required:**
1. Prepare a schedule to compute the interest expense and discount amortization on the note.
2. Prepare all the journal entries for Hamlet to record the issuance of the note, each annual interest expense, and the three annual installment payments.

**P14-13 Comprehensive**

An examination of the accounting records of Durham Corporation on January 1, 2013 (after reversing entries had been made for all accrued interest at the end of 2012) disclosed the following information regarding the company’s long-term debt:

- 12.5% bonds, dated January 1, 2009, paying interest semiannually on June 30 and December 31, and due December 31, 2015: $1,300,000
- 11% convertible bonds, dated April 1, 2011, paying interest semiannually on March 31 and September 30, and due March 31, 2016: $500,000
- Discount on convertible bonds payable: $(17,500)
- 9% bonds, dated March 1, 2012, paying interest annually on February 28, and due February 28, 2017: $100,000
- Discount on bonds payable: $(3,960)
- 4-year, non-interest-bearing note issued January 1, 2012 (Durham’s incremental borrowing rate on the date the note was issued was 10%): $80,000
- Discount on note payable: $(19,895)

Additional information disclosed in the notes to Durham’s 2012 financial statements:
1. The conversion option allows the holder of each $1,000 bond to exchange it for 30 shares of $10 par common stock. Durham uses the book value method to record conversions of bonds to common stock.
2. Each $1,000 bond of the 9% bonds dated March 1, 2012, carries 15 detachable warrants. The company had recorded the 1,500 warrants on the bonds at $4,800 in a Common Stock Warrants account. The exchange of three warrants allows the holder to acquire 1 share of $10 par common stock for $27.

3. The discount on the convertible bonds and the discount on the 9% bonds with detachable warrants are being amortized using the straight-line method.

4. The discount on the note payable is being amortized annually using the effective interest method.

During 2013, Durham engaged in the following long-term debt transactions:

Jan. 1 Issued 11%, $800,000 face value bonds for $820,302, a price to yield 10%. Interest on these bonds is payable semiannually on June 30 and December 31, and they are due December 31, 2015. The effective interest method is to be used to amortize the premium. The bonds are callable at 107.

May 1 600 warrants from the 9% bonds were exercised when the common stock was selling for $42 per share.

Sep. 30 Convertible bonds of $100,000 were exchanged when the common stock was selling for $45 per share.

Nov. 1 Retired $200,000 of the bonds issued on January 1, 2013, at the call price plus accrued interest.

Required:
1. Prepare the journal entries for Durham to record all the transactions that occurred during 2013 relating to the preceding information.

P14-14 (Appendix 14.1) Troubled Debt Restructuring (Debtor) Oakwood Corporation is delinquent on a $2,400,000, 10% note to Second National Bank that was due January 1, 2013. At that time, Oakwood owed the principal amount plus $34,031.82 of accrued interest. Oakwood enters into a debt restructuring agreement with the bank on January 2, 2013.

Required:
Prepare the journal entries for Oakwood to record the debt restructuring agreement and all subsequent interest payments assuming the following independent alternatives:
1. The bank extends the repayment date to December 31, 2016, forgives the accrued interest owed, reduces the principal by $200,000, and reduces the interest rate to 8%.
2. The bank extends the repayment date to December 31, 2016, forgives the accrued interest owed, reduces the principal by $200,000, and reduces the interest rate to 1%.
3. The bank accepts 160,000 shares of Oakwood’s $5 par value common stock, which is currently selling for $14.50 per share, in full settlement of the debt.
4. The bank accepts land with a fair value of $2,300,000 in full settlement of the debt. The land is being carried on Oakwood’s books at a cost of $2,200,000.


Required:
For each of the independent alternatives listed in the “additional information disclosed” sections 1 through 4 of P14-14, prepare the journal entries for Second National Bank to record the debt restructuring agreement and all subsequent interest receipts.

P14-16 (Appendix 14.1) Comprehensive—Loan Impairment and Troubled Debt Restructuring The 10th National Bank has a $200,000, 12% note receivable from Friday Company that is due on December 31, 2016. On December 31, 2013, Friday misses the interest payment due on that date. The bank expects that the company will also miss the next payment, but will pay the principal on the maturity date. On December 31, 2014, Friday misses the interest payment due on that date. On December 31, 2015, Friday pays half the interest payment due on that date and is not expected to pay the other half.

In early January 2016, the bank and the company agree to a loan restructuring because of the financial condition of the company. The bank forgives the unpaid interest, extends the loan to December 31, 2018, and reduces the interest rate to 6%. The market rate for the loan is estimated to be 10% at this time.

Required:
1. Compute the value of the impaired loan on December 31, 2013.
2. Prepare the journal entries from 2013 to 2018 for the bank to record the above events. Assume that Friday makes all required payments under the modified agreement.
P14-17  *(Appendix 14.2) Serial Bond Amortization and Repayment Schedule* On July 1, 2013, Hope Corporation issued $600,000 of bonds with an 8% face rate of interest. The bonds were issued for $589,381.93, pay interest semiannually on June 30 and December 31, carry an effective yield rate of 9%, and are payable in three annual installments of $200,000 each, beginning June 30, 2014.

**Required:**
1. Prepare a serial bond discount amortization schedule using the bonds outstanding method.
2. Prepare a serial bond discount amortization schedule using the effective interest method.
3. Prepare the journal entries necessary to record the payment of interest and the bond retirements on June 30, 2014, June 30, 2015, and June 30, 2016, using (a) the bonds outstanding method and (b) the effective interest method.

P14-18  *(Appendix 14.2) Call Provision of Serial Bonds* Crosby Corporation issued $600,000 of 13% bonds on January 1, 2012, for $636,000. The bonds are payable in three annual $200,000 installments beginning December 31, 2013, pay interest semiannually on June 30 and December 31, and are callable at 107. On January 1, 2014, the bonds due December 31, 2015, are recalled at the call price. Crosby uses the bonds outstanding method of amortization.

**Required:**
Prepare a serial bond premium amortization schedule and the journal entries to record the bond issue, payment of interest, and bond retirement on each of the following dates:
1. January 1, 2012
2. December 31, 2012
3. December 31, 2013
4. January 1, 2014
5. December 31, 2014

**Cases**

**CASES**

**COMMUNICATION**

C14-1  *Capital Expansion and Financing* Your company is rapidly growing and needs additional capital to expand the online retailing portion of its business model. One group of the board of directors proposes that the company issue $800,000 of additional common stock, while a separate group of the board is in favor of issuing the same amount of long-term bonds. As a possible compromise, the company’s investment banker suggests that the company issue convertible bonds. The board asks you to write a memo examining the advantages and disadvantages of convertible bonds. The company currently has 200,000 common shares outstanding, and the stock is currently trading at a price of $30 per share. The company’s effective interest rate is 10%, however the investment banker believes that the convertible debt could be issued at a 6% interest rate.

**Required:**
Write a memo to the board of directors detailing how convertible bonds work and the advantages and disadvantages of the security. In addition, provide details on how the issuance of the security would affect the financial statements compared to if the company simply issued debt or common stock.

C14-2  *Amortization of Bond Premium or Discount* The appropriate method of amortizing a premium or discount on issuance of bonds is the effective interest method.

**Required:**
1. What is the effective interest method of amortization, and how is it different from and similar to the straight-line method of amortization?
2. Explain how a company computes amortization using the effective interest method and why and how amounts obtained using the effective interest method differ from amounts computed under the straight-line method.

C14-3  *Various Bond Characteristics* One way for a corporation to accomplish long-term financing is through the issuance of long-term debt instruments in the form of bonds.

**Required:**
1. Explain how to account for the proceeds from bonds issued with detachable stock purchase warrants.
2. Contrast a serial bond with a term (straight) bond.
3. For a 5-year term bond issued at a premium, why is the amortization in the first year of the
These cases are designed to help students hone their ability to think critically in the accounting environment.

Required:
1. Explain how Aubrey accounts for the conversion of the convertible bonds into common stock under both the book value and market value methods. Discuss the rationale for each method.
2. Were the nonconvertible term bonds sold at par, at a discount, or at a premium? Discuss the rationale for your answer.
3. Identify and discuss the effects on Aubrey’s 2013 income statement associated with the nonconvertible term bonds.

C14-5 Adapted
(Appendix 14.2) Serial Bonds
On November 1, 2013, Janine Company sold directly to underwriters at a lump-sum price, $1,000 face value, 9% serial bonds dated November 1, 2013, at an effective annual interest rate (yield) of 11%. A total of 25% of these serial bonds are due on November 1, 2015, 35% on November 1, 2016, and 40% on November 1, 2017. Interest is payable semiannually, and the first interest payment date is May 1, 2014. Janine uses the interest method of amortization and incurred bond issue costs in preparing and selling the bond issue.

Required:
1. How does the company determine the market price of the serial bonds?
2. How does the company present all items related to the serial bonds, except for bond issue costs, in a balance sheet prepared immediately after it sold the serial bond issue?
3. How does the company determine the amount of interest expense for the serial bonds for 2013?
an interest payment date when the market price of the debentures is 104 and the common stock is selling at $14 per share and that the company records the conversion as follows:

Bonds Payable 100,000
Bond Discount 2,500
Common Stock 80,000
Premium on Common Stock 17,500

Discuss the propriety of the preceding accounting treatment.

C14-7 Debt with Detachable Stock Warrants

Incurring long-term debt with an arrangement whereby lenders receive an option to buy common stock during all or a portion of the time the debt is outstanding is a frequently used corporate financing practice. In some situations, the result is achieved through the issuance of convertible bonds; in others, the debt instruments and the warrants to buy stock are separate.

Required:

1. Assess the above transactions and answer the following questions:
   a. Explain the differences that exist in current accounting for original proceeds of the issuance of convertible bonds and of debt instruments with separate warrants to purchase common stock.
   b. Explain the underlying rationale for the differences described in Requirement 1a.
   c. Summarize the arguments that have been presented for the alternative accounting treatment.

2. At the start of the year, AB Company issued $6 million of 7% notes along with warrants to buy 400,000 shares of its $10 par value common stock at $18 per share. The notes mature over the next 10 years, starting 1 year from date of issuance, with annual maturities of $600,000. At the time, AB had 3,200,000 shares of common stock outstanding, and the market price was $23 per share. The company received $6,680,000 for the notes and the warrants. For AB, 7% was a relatively low borrowing rate. If offered alone, at this time, the notes would have been issued at a 20 to 24% discount. Prepare journal entries for the issuance of the notes and warrants for the cash consideration received.

C14-8 Long-Term Notes Payable

Business transactions often involve the exchange of property, goods, or services for notes or similar instruments that may stipulate no interest rate or an interest rate that varies from prevailing rates.

C14-9 Bonds: Sale, Interest, and Recall

On March 2, 2013, Wesley Company sold its 5-year, $1,000 face value, 8% bonds dated March 2, 2013, at an effective annual interest rate (yield) of 10%. Interest is payable semiannually, and the first interest payment date is September 2, 2013. Wesley uses the interest method of amortization and incurred bond issue costs in preparing and selling the bond issue. Wesley can call the bonds at 101 at any time on or after March 2, 2014.

Required:

1. Based on the above information answer the following questions:
   a. How does the company determine the selling price of the bonds?
   b. Specify, how the company presents all items related to the bonds in a balance sheet prepared immediately after the bond issue is sold.

2. What items related to the bond issue does Wesley include in its 2013 income statement, and how does it determine each?

3. Will the amount of bond discount amortization using the interest method of amortization be lower in the second or third year of the life of the bond issue? Why?

4. Assuming that the bonds are called in and retired on March 2, 2014, how does Wesley report the retirement of the bonds on the 2014 income statement?
through acquisition in the open market for $1,980,000.

On July 1, 2013, Brewster issued 5,000 of its 6-year, $1,000 face value, 10% convertible bonds dated July 1 at an effective annual interest rate (yield) of 12%. The bonds are convertible at the option of the investor into Brewster’s common stock at a ratio of 10 shares of common stock for each bond. Brewster uses the effective interest method of amortization. On July 1, 2014, an investor in Brewster’s convertible bonds tendered 1,500 bonds for conversion into 15,000 shares of Brewster’s common stock, which had a market value of $105 per share at the date of the conversion.

Required:
1. Using the information about Brewster answer the following questions:
   a. Were the 11% bonds issued at par, at a discount, or at a premium? Why?
   b. Is the amount of interest expense for the 11% bonds using the effective interest method of amortization higher in the first or second year of the life of the bond issue? Why?

2. Using the information about Brewster explain the following:
   a. How is a gain or loss on early extinguishment of debt determined? Does the early extinguishment of the 11% bonds result in a gain or loss? Why?
   b. How does Brewster report the early extinguishment of the 11% bonds on the 2014 income statement?

3. Based on the information provided about Brewster answer the following questions:
   a. Does recording the conversion of the 10% convertible bonds into common stock under the book value method affect net income? What is the rationale for the book value method?
   b. Does recording the conversion of the 10% convertible bonds into common stock under the market value method affect net income? What is the rationale for the market value method?

C14-11 Refer to the financial statements for LVMH on the textbook companion website at www.cengage.com/accounting/wahlen. From that homepage, select your textbook, choose the student free companion site, and, under Book Resources, click on “LVMH 2010 Annual Report.”

C14-12 Ethics and Long-Term Liabilities
You are an accountant for the Taos Company which has two items of long-term convertible debt on its balance sheet. Taos’s president calls you into his office and says, “We are too leveraged. So, you remember that convertible debt we issued at the beginning of the year? Let’s figure out the value of the conversion feature and assign that to equity so that we can reduce the amount we report as debt. And I have also been thinking about that convertible debt we issued at par 5 years ago. Now that our shares are trading at $70, obviously that is no longer debt. So let’s classify that debt as equity now.”

Required:
From financial reporting and ethical perspectives, discuss the issues raised by this situation.

C14-13 Analyzing Coca-Cola’s Long-Term Debt Disclosures
Refer to the financial statements for The Coca-Cola Company on the textbook companion website at www.cengage.com/accounting/wahlen. From that homepage, select your textbook, choose the student free companion site, and, under Book Resources, click on “Coca-Cola Company 2010 Annual Report.”

Required:
1. What was the difference between the interest expense and interest paid in 2010?
2. How much long-term debt will mature each year from 2011 through 2015?
3. What was the weighted average interest rate on the company’s long-term debt for the year ended December 31, 2010?
4. Was the current yield at December 31, 2010, on the company’s long-term debt the same as, greater, or less than the average yield at issuance? At December 31, 2009?
C14-14 **Researching GAAP**

**Situation**
You are beginning the 2013 audit of Alta Tierra Company’s long-term debt, and you determine that the company’s long-term note payable requires that it comply with certain financial covenants. The note payable is dated January 1, 2010, has a face value of $1,000,000, is due December 31, 2019, and is held by First Bank of Apex. The note payable requires that Alta Tierra maintain a minimum current ratio of 1.25, and any violation of the covenant allows the lender to call the debt. You find that Alta Tierra’s year-end current ratio is 1.1. Alta Tierra’s Chief Financial Officer, Tony Plush, informs you that the company is in violation of the debt covenant but has been granted a waiver by First Bank of Apex, so there are no consequences to the violation. You find that Alta Tierra’s year-end current ratio is 1.1. Alta Tierra’s Chief Financial Officer, Tony Plush, informs you that the company is in violation of the debt covenant but has been granted a waiver by First Bank of Apex, so there are no consequences to the violation. The waiver allows Alta Tierra 90 days from year-end to increase its current ratio to above 1.25. Your audit partner believes that the violation is an issue and is concerned that the long-term debt must be reclassified as current.

**Required**
Research the related generally accepted accounting principles and prepare a short memo to your audit partner that answers whether the long-term debt should be reclassified as current. How would your answer change if First Bank of Apex granted a 15-month waiver as opposed to the 90-day waiver? How would your answer change if Alta Tierra met the 2013 year-end covenant, but it was probable that the first quarter 2014 current ratio covenant would be violated? Cite your references and applicable paragraph numbers.

C14-15 **Researching GAAP**

**Situation**
Clare Company is constructing a new warehouse facility. On May 15, 2013, the company issued $2,500,000 of short-term notes payable due March 15, 2014, to finance construction of the warehouse. On December 31, 2013, Clare intends to refinance the short-term notes payable by issuing long-term debt. However, because Clare has excess cash on January 12, 2014, it retires $800,000 of the short-term notes payable. On January 20, 2014, Clare completes a $5,000,000 long-term debt offering. Clare uses the proceeds from the long-term debt to:

- retire the remaining $1,700,000 of short-term notes payable on March 15, 2014
- pay $3,300,000 of warehouse construction costs during 2014

As the financial statements for 2013 are being prepared, Steve Share, president of Clare Company, wants to make sure that all $2,500,000 of short-term notes payable are reclassified as long-term because the company borrowed enough to repay the total amount. As the accountant for Clare Company, you know that you can classify short-term debt that is going to be refinanced as a long-term liability but are not certain how much.

**Required**
Research the related generally accepted accounting principles and prepare a short memo to the president of Clare Company that describes how the short-term notes payable should be classified in the 2013 balance sheet. Cite your references and applicable paragraph numbers.