

Accounting for Derivative Instruments

"Risky Business"

It has been said that until the early 1970s most financial managers worked in a cozy, if unthrilling world. Since then, however, constant change caused by volatile markets, new technology, and deregulation has increased the risks to businesses. For example, in 1971 currencies were allowed to float freely. After that came oil price shocks, high inflation, and wide swings in interest rates. The response from the financial community was to develop products to manage the risks due to changes in market prices. These products—often referred to as derivatives—are useful for risk management because the fair values or cash flows of these instruments can be used to offset the changes in fair values or cash flows of the assets that are at risk. The growth in use of derivatives has been aided by the development of powerful computing and communication technology, which provides new ways to analyze information about markets as well as the power to process high volumes of payments.

However, derivatives cause problems. The following table shows five companies that have experienced substantial losses in the derivative's market.

| Company | Pretax Loss (in millions) | Type of Derivative | Who Pays |
|---------------------------------|------------------------------|---|--------------|
| Showa Shell Sekiyu (Japan) | \$1,580 | Currency derivatives | Stockholders |
| Metalgesellschaft (Germany) | \$1,340 | Oil derivatives | Stockholders |
| Codelco (Chile) | \$200 | Metals derivatives | Taxpayers |
| Procter & Gamble (U.S.) | \$157 | Leveraged currency swaps | Stockholders |
| Air Prod. & Chemicals (U.S.) | \$113 | Leveraged interest rate and currency swaps | Stockholders |

Source: *Fortune*, July 25, 1994, p. 107.

Although these losses are substantial, derivatives do not introduce risks that are fundamentally different from the risks already present in the financial markets. Nonetheless, derivative instruments raise questions about off-balance-sheet financing, unjustifiable deferrals of losses, premature recognition of gains, and inadequate disclosure of information in financial statements about risks, fair values, and other attributes of these instruments. Thus, developing accounting and disclosure standards for these instruments has been a major challenge for the accounting profession.

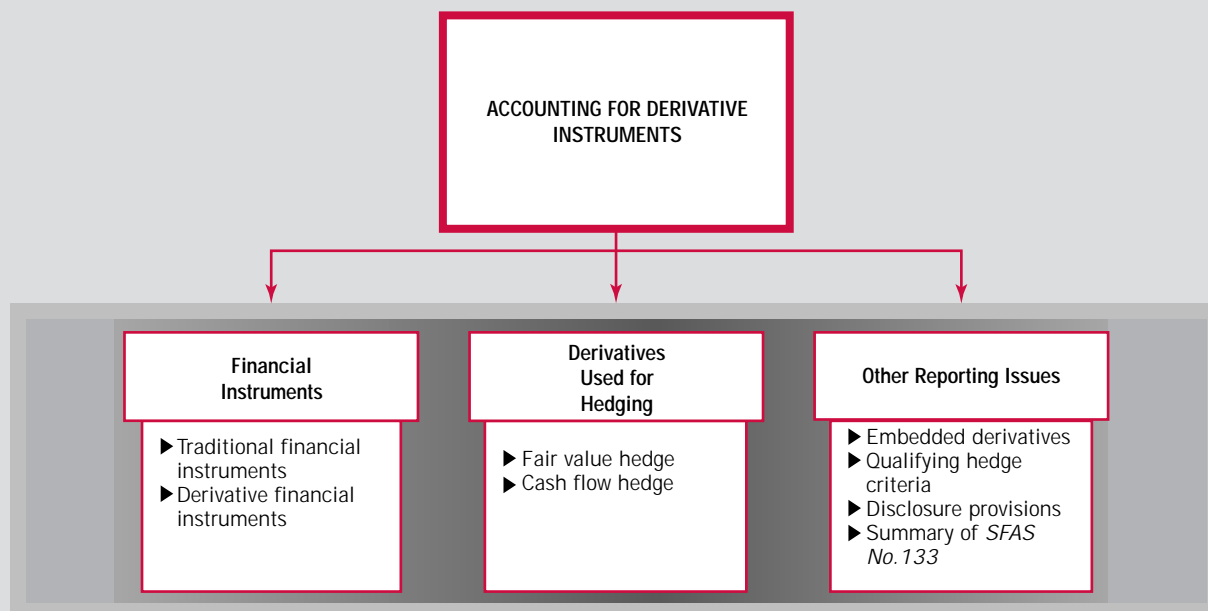
LEARNING OBJECTIVES

After studying this chapter, you should be able to:

- 1 Explain the difference in valuation basis between a traditional and derivative financial instrument.
- 2 Describe the accounting for traditional financial instruments.
- 3 Describe the accounting for derivative financial instruments.
- 4 Explain how to account for a fair value hedge.
- 5 Explain how to account for a cash flow hedge.
- 6 Identify special reporting issues related to derivative financial instruments that cause unique accounting problems.
- 7 Describe the disclosure requirements for traditional and derivative financial instruments.

Preview of Chapter 26

As the opening story indicates, the issues related to derivative instruments have resulted in a number of challenges. In this chapter, we examine the accounting and disclosure requirements for derivative instruments, as recently addressed in *SFAS No. 133* "Accounting for Derivative Instruments and Hedging Activities."¹ The content and organization of the chapter are as follows:



Objective 1

Explain the difference in valuation basis between a traditional and derivative financial instrument.

❖ FINANCIAL INSTRUMENTS

Financial instruments are defined as cash, an ownership interest in an entity, or a contractual right to receive or deliver cash or another financial instrument on favorable or unfavorable terms.² By this definition, traditional assets and liabilities such as accounts and notes receivable, accounts and notes payable, investments in debt and equity securities, and bonds payable are considered financial instruments. Illustration 26-1 presents examples of **traditional financial instruments** and their basis for valuation.³

¹"Accounting for Derivative Instruments and Hedging Activities," *Statement of Financial Accounting Standards No. 133* (Stamford, Conn.: FASB, 1998). All derivative instruments, whether financial or not, are covered under this standard. Our discussion in this chapter focuses on derivative financial instruments because of their widespread use in practice.

²According to *SFAS No. 133* (Appendix F), financial instruments are defined as cash, ownership interest in an entity, or a contract that both: (a) imposes on one entity a contractual obligation to deliver cash or another financial instrument to a second entity or to exchange other financial instruments on potentially unfavorable terms with the second entity; and (b) conveys to that second entity a contractual right to receive cash or another financial instrument from the first entity or exchange other financial instruments on potentially favorable terms with the first entity.

| Traditional Financial Instrument | Valuation Basis |
|----------------------------------|---|
| Cash | Fair value |
| Accounts and notes receivable | Fair value |
| Investments in debt securities | Fair value or amortized cost, depending on classification of securities |
| Investments in equity securities | Fair value |
| Accounts and notes payable | Cost or amortized cost |
| Bonds payable | Cost or amortized cost |

ILLUSTRATION 26-1
Traditional Financial Instruments

As indicated, many traditional financial instruments are reported at fair value. The FASB is now examining whether *all* traditional financial instruments should be reported at **fair value**.⁴ The definition of financial instruments also includes many innovative and complex financial instruments such as futures, options, forwards, swaps, and caps. These innovative financial instruments are referred to as **derivative financial instruments** (or simply **derivatives**), because their value is derived from values of other assets (e.g., stocks, bonds, or commodities) or is related to a market-determined indicator (e.g., interest rates or the Standard and Poor's 500 Stock Composite Index).

As indicated in the opening story, when the values of these underlying assets (or simply, **underlyings**) change, firms that hold derivatives on them can experience significant losses or gains. Illustration 26-2 summarizes common derivatives, their related underlyings, and their basis for valuation.

UNDERLYING CONCEPTS

Items which meet the definitions of assets or liabilities and which are reliably measurable should be recognized in the financial statements.

| Derivative Financial Instrument | Underlyings | Valuation Basis |
|---------------------------------------|------------------------------|-----------------|
| Interest rate swaps and options | Interest rates | Fair value |
| Stock index futures and stock options | Stock prices | |
| Commodity futures and options | Commodity prices | |
| Currency futures and options | Exchange rates | |
| Caps, floors, and collars | Stock prices, interest rates | |
| Swaptions and leaps | Interest rates, stock prices | |

ILLUSTRATION 26-2
Derivative Financial Instruments and Related Underlyings

In *SFAS No. 133* the Financial Accounting Standards Board concluded that **derivatives meet the definitions of assets or liabilities and should be recognized in financial statements**. The Board also mandated that all **derivatives should be reported at fair value**, stating that fair value accounting will provide statement users the best information about derivative financial instruments in the balance sheet and income statement.⁵ Relying on some other basis of valuation for derivatives, such as historical cost, does not make sense because many derivatives have a historical cost of zero. Furthermore, given the well-developed markets for derivatives and for the assets from which derivatives derive their value, the Board believed that reliable fair value amounts could be determined for derivative financial instruments.



INTERNATIONAL PERSPECTIVE

The International Accounting Standards Committee (IASC) has also adopted comprehensive accounting standards for financial instruments, including derivatives.

³The reporting for many of these traditional financial instruments is addressed elsewhere in the textbook: Cash and notes receivable in Chapter 7; accounts and notes payable in Chapter 13; bonds payable in Chapter 14; convertible bonds in Chapter 17; bond and equity investments in Chapter 18.

⁴The Board's long-term objective is to require fair value measurement and recognition for all financial instruments (*SFAS No. 133*, para. 216).

⁵*Fair value* is defined as the amount at which an asset (or liability) could be bought (incurred) or sold (settled) between two willing parties (i.e., not forced or in liquidation). Quoted market prices in active markets are the best evidence of fair value and should be used if available. In the absence of market prices, the prices of similar assets or liabilities or accepted present value techniques can be used. "Disclosures About Fair Value of Financial Instruments" *Statement of Financial Accounting Standards No. 107* (Stanford, Conn.: FASB, 1991) paras. 5–6, 11.

Objective 2

Describe the accounting for traditional financial instruments.

Illustration of Traditional Financial Instrument

To illustrate the accounting for a traditional financial instrument, assume that Hale Company purchases 1,000 shares of Laredo Inc. common stock for \$100,000 on January 2, 2000. These securities are classified as **trading securities** because they are held with the intent of selling them after a short period of time. The entry to record the investment on January 2, 2000, is as follows:

| January 2, 2000 | | |
|--------------------|---------|---------|
| Trading Securities | 100,000 | |
| Cash | | 100,000 |

On March 31, the price of Laredo stock has increased by \$20 per share, and therefore the fair value of Hale's investment in Laredo is now \$120,000. Because trading securities are reported at fair value with unrealized holding gains or losses reported in income, the following adjusting entry is made on March 31, 2000:

| March 31, 2000 | | |
|--|--------|--------|
| Securities Fair Value Adjustment (Trading) | 20,000 | |
| Unrealized Holding Gain or Loss—Income | | 20,000 |

On April 1, 2000, Hale sold its holdings of Laredo shares for \$120,000 and made the following entry:

| April 1, 2000 | | |
|----------------------------|---------|---------|
| Cash | 120,000 | |
| Trading Securities | | 100,000 |
| Gain on Sale of Securities | | 20,000 |

At the end of the reporting period on June 30, 2000, Hale Co. makes the following entry to eliminate the Securities Fair Value Adjustment (Trading) account (assuming it has no other trading securities):

| June 30, 2000 | | |
|--|--------|--------|
| Unrealized Holding Gain or Loss—Income | 20,000 | |
| Securities Fair Value Adjustment (Trading) | | 20,000 |

In Illustration 26-3, we summarize the amounts reported in income for the Hale investment in the Laredo Inc. financial instrument.

ILLUSTRATION 26-3
Effect on Income—
Traditional Financial
Instrument

| Date | Transaction | Income (Loss) Effect |
|----------------|---|----------------------|
| March 31, 2000 | Increase in fair value of Laredo Inc. stock | \$ 20,000 |
| April 1, 2000 | Sale of Laredo Inc. stock | 20,000 |
| June 30, 2000 | Eliminate unrealized holding gain | (20,000) |
| | Total net income | <u>\$ 20,000</u> |

As indicated in Illustration 26-3, use of fair value accounting for this financial instrument results in \$20,000 in income being reported in the first quarter (January 1–March 31), when the Laredo shares increased in value; no income is reported in the second quarter (April 1–June 30). In addition, Hale Company reported the trading security at its fair value on the balance sheet at the appropriate reporting dates.⁶

Objective 3

Describe the accounting for derivative financial instruments.

Illustration of Derivative Financial Instrument

To illustrate the measurement and reporting of a derivative financial instrument, we examine a derivative whose value is related to the market price of Laredo Inc. common stock. Instead of purchasing the stock, Hale could realize a gain from the increase in the

⁶If Laredo paid dividends on its common shares, Hale also would record dividend revenue while holding these shares.

value of the Laredo shares with the use of a derivative financial instrument, such as a call option.⁷ A **call option** gives the holder the option to buy shares at a preset price (often referred to as the **option price** or the **strike price**).

For example, assume Hale enters into a call option contract with Baird Investment Co., which gives Hale the option to purchase Laredo stock at \$100 per share.⁸ If the price of Laredo stock increases above \$100, Hale can exercise its option and purchase the shares for \$100 per share. If Laredo's stock never increases above \$100 per share, the call option is worthless and Hale recognizes a loss.

To illustrate the accounting for a call option, assume that Hale purchased a call option contract on January 2, 2000 when Laredo shares are trading at \$100 per share. The terms of the contract give Hale the option to purchase 1,000 shares (referred to as the **notional amount**) of Laredo stock at an option price of \$100 per share; the option expires on April 30, 2000. Hale purchases the call option for \$400 and makes the following entry:

| January 2, 2000 | | |
|-----------------|-----|-----|
| Call Option | 400 | |
| Cash | | 400 |

This payment (referred to as the **option premium**) is generally much less than the cost of purchasing the shares directly and indicates the value of the call option at this point in time. In this case, the option has a fair value greater than zero, because there is some expectation that the price of the Laredo shares will increase above the option price during the option term (this is often referred to as the **time value** of the option).⁹

On March 31, 2000, the price of Laredo shares has increased to \$120 per share and the **intrinsic value** of the call option contract is now \$20,000 to Hale. The intrinsic value is the difference between the market price and the preset option price at any point in time. That is, Hale could exercise the call option and purchase 1,000 shares from Baird Co. for \$100 per share and then sell the shares in the market for \$120 per share. This gives Hale a gain of \$20,000 (\$120,000 – \$100,000) on the option contract.¹⁰ The entry to record the increase in the intrinsic value of the option is as follows:

| March 31, 2000 | | |
|--|--------|--------|
| Call Option | 20,000 | |
| Unrealized Holding Gain or Loss—Income | | 20,000 |

A market appraisal indicates that the time value of the option at March 31, 2000 is \$100.¹¹ The entry to record this change in value of the option is as follows:

| March 31, 2000 | | |
|--|-----|-----|
| Unrealized Holding Gain or Loss—Income | 300 | |
| Call Option (\$400 – \$100) | | 300 |

⁷Hale could use a different type of option contract—a **put option**—to realize a gain if it speculates that the Laredo stock will decline in value. A put option gives the holder the option to sell shares at a preset price. Thus, a put option **increases** in value when the underlying asset **decreases** in value.

⁸Baird Investment Company is referred to as the counter-party. Counter-parties frequently are investment bankers or other entities that hold inventories of financial instruments.

⁹This cost is estimated using option-pricing models, such as the Black-Scholes model. The fair value estimate is affected by the volatility of the underlying stock, the expected life of the option, the risk-free rate of interest, and expected dividends on the underlying stock during the option term.

¹⁰In practice, Hale generally does not have to actually buy and sell the Laredo shares to settle the option and realize the gain. This is referred to as the **net settlement** feature of option contracts.

¹¹The decline in value reflects both the decreased likelihood that the Laredo shares will continue to increase in value over the option period and the shorter time to maturity of the option contract.

At March 31, 2000, the call option is reported at fair value in the balance sheet of Hale Co. at \$20,100.¹² The unrealized holding gain increases net income for the period while the loss on the time value of the option decreases net income.

On April 1, 2000, the entry to record the settlement of the call option contract with Baird Investment Co. is as follows:

| April 1, 2000 | | | |
|-----------------------------------|--|--------|--------|
| Cash | | 20,000 | |
| Loss on Settlement of Call Option | | 100 | |
| Call Option | | | 20,100 |

Illustration 26-4 summarizes the effects of the call option contract on Hale's net income.

ILLUSTRATION 26-4
Effect on Income—
Derivative Financial
Instrument

| Date | Transaction | Income (Loss) Effect |
|----------------|--|----------------------|
| March 31, 2000 | Net increase in value of call option (\$20,000 – \$300) | \$19,700 |
| April 1, 2000 | Settle call option | (100) |
| | Total net income | <u>\$19,600</u> |

The accounting summarized in Illustration 26-4 is in accord with *SFAS No. 133*. That is, because the call option meets the definition of an asset, it is recorded in the balance sheet on March 31, 2000. Furthermore, the call option is reported at fair value with any gains or losses reported in income.

What is the difference between a traditional and derivative financial instrument? It should be recognized that a derivative financial instrument has three basic characteristics.¹³

- 1 The instrument has (1) one or more underlyings and (2) an identified payment provision.** As indicated earlier, an underlying is a specified interest rate, security price, commodity price, index of prices or rates, or other market-related variable. Payment is determined by the interaction of the underlying with the face amount or the number of shares, or other units specified in the derivative contract (these elements are referred to as notional amounts). For example, the value of the call option increased in value when the value of the Laredo stock increased. In this case, the underlying was the stock price. The change in the stock price is multiplied by the number of shares (notional amount) to arrive at the payment provision.
- 2 The instrument requires little or no investment at the inception of the contract.** To illustrate, Hale Company paid a small premium to purchase the call option—an amount much less than if the Laredo shares were purchased as a direct investment.
- 3 The instrument requires or permits net settlement.** As indicated in the call option example, Hale could realize a profit on the call option without taking possession of the shares. The feature is referred to as net settlement and serves to reduce the transaction costs associated with derivatives.

ILLUSTRATION 26-5
Features of Traditional
and Derivative Financial
Instruments

| Feature | Traditional Financial Instrument (Trading Security) | Derivative Financial Instrument (Call Option) |
|--------------------|--|--|
| Payment Provision | Stock price times the number of shares. | Change in stock price (underlying) times number of shares (notional amount). |
| Initial Investment | Investor pays full cost. | Initial investment is less than full cost. |
| Settlement | Deliver stock to receive cash. | Receive cash equivalent, based on changes in stock price times the number of shares. |

¹²The total value of the option at any point in time is equal to the intrinsic value plus the time value.

¹³In *SFAS No. 133*, the FASB identifies these same features as the key characteristics of derivatives. FASB used these broad characteristics so that the definitions and hence the standard could be applied to yet-to-be-developed derivatives (para 249).

Illustration 26-5 on the previous page summarizes the differences between a traditional and derivative financial instrument. We use a trading security for the traditional financial instrument and a call option as an example of a derivative financial instrument.

As indicated, to make the initial investment in Laredo stock (traditional financial instrument), Hale had to pay the full cost of this stock. If Hale purchases the Laredo stock and the price increases, Hale could profit. But Hale is also at risk for a loss if the Laredo shares decline in value. In contrast, derivatives require little initial investment and most derivatives are not exposed to all risks associated with ownership in the underlying. For example, the call option contract only can increase in value. That is, if the price of Laredo stock falls below \$100 per share, Hale will not exercise the option, because the call option is worthless.

Finally, unlike a traditional financial instrument, Hale could realize a profit on the call option (related to the price of the Laredo stock) without ever having to take possession of the shares. This feature is referred to as net settlement and serves to reduce the transaction costs associated with derivatives. These distinctions between traditional and derivative financial instruments explain in part the popularity of derivatives but also suggest that the accounting might be different.

❖ DERIVATIVES USED FOR HEDGING

Flexibility in use and the low-cost features of derivatives relative to traditional financial instruments explain why derivatives have become so popular in recent years. An additional use for derivatives is in risk management. For example, companies such as Coca-Cola, Exxon, and General Electric, which borrow and lend substantial amounts in credit markets are exposed to significant **interest rate risk**. That is, they face substantial risk that the fair values or cash flows of interest-sensitive assets or liabilities will change if interest rates increase or decrease. These same companies also have significant international operations and are exposed to **exchange rate risk**—the risk that changes in foreign currency exchange rates will negatively impact the profitability of their international businesses.

Because the value and/or cash flows of derivative financial instruments can vary according to changes in interest rates or foreign currency exchange rates, derivatives can be used to offset the risks that a firm's fair values or cash flows will be negatively impacted by these market forces. This use of derivatives is referred to as **hedging**.

SFAS No. 133 established accounting and reporting standards for derivative financial instruments used in hedging activities.¹⁴ Special accounting is allowed for two types of hedges—fair value and cash flow hedges.¹⁵

Fair Value Hedge

In a **fair value hedge**, a derivative is used to hedge or offset the exposure to changes in the fair value of a recognized asset or liability or of an unrecognized firm commitment. In a perfectly hedged position, the gain or loss on the fair value of the derivative and that of the hedged asset or liability should be equal and offsetting. A common type of fair value hedge is the use of interest rate swaps (discussed below) to hedge the risk that

Objective 4

Explain how to account for a fair value hedge.

¹⁴The hedge accounting provisions of *SFAS No. 133* are the major new elements in the standard and contain some of the more difficult accounting issues. The provisions were needed because of growth in the quantity and variety of derivative financial instruments used for hedging and due to the lack of, and inconsistency in, existing accounting standards for derivatives used in hedging transactions.

¹⁵*SFAS No. 133* also addresses the accounting for certain foreign currency hedging transactions. In general, these transactions are special cases of the two hedges discussed here. Understanding of foreign currency hedging transactions requires knowledge of consolidation of multinational entities, which is beyond the scope of this textbook.

changes in interest rates will impact the fair value of debt obligations. Another typical fair value hedge is the use of put options to hedge the risk that an equity investment will decline in value.

Illustration of Interest Rate Swap

To illustrate the accounting for a fair value hedge, assume that Jones Company issues \$1,000,000 of 5-year 8% fixed-rate bonds on January 2, 2001. The entry to record this transaction is as follows:

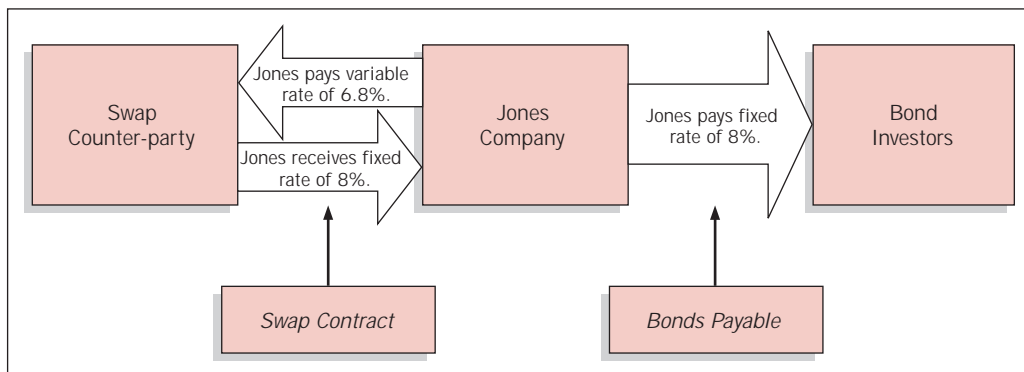
| January 2, 2001 | | |
|-----------------|-----------|-----------|
| Cash | 1,000,000 | |
| Bonds Payable | | 1,000,000 |

A fixed interest rate was offered to appeal to investors, but Jones is concerned that if market interest rates decline, the fair value of the liability will increase and the company will suffer an economic loss.¹⁶ To protect against the risk of loss, Jones decides to hedge the risk of a decline in interest rates by entering into a 5-year **interest rate swap** contract. The terms of the swap contract to Jones are:

- ① Jones will receive fixed payments at 8% (based on the \$1,000,000 amount).
- ② Jones will pay variable rates, based on the market rate in effect throughout the life of the swap contract. The variable rate at the inception of the contract is 6.8%.

As depicted in Illustration 26-6, by using this swap Jones can change the interest on the bonds payable from a fixed rate to a variable rate.

ILLUSTRATION 26-6
Interest Rate Swap



The settlement dates for the swap correspond to the interest payment dates on the debt (December 31). On each interest payment (settlement date), Jones and the counterparty will compute the difference between current market interest rates and the fixed rate of 8% and determine the value of the swap.¹⁷ As a result, if interest rates decline, the value of the swap contract to Jones increases (Jones has a gain), while at the same time Jones's fixed-rate debt obligation increases (Jones has an economic loss). The swap is an effective risk management tool in this setting because its value is related to the same underlying (interest rates) that will affect the value of the fixed-rate bond payable. Thus, if the value of the swap goes up, it offsets the loss related to the debt obligation.

¹⁶This economic loss arises because Jones is locked into the 8% interest payments even if rates decline.

¹⁷The underlying for an interest rate swap is some index of market interest rates. The most commonly used index is the London Interbank Offer Rate, or LIBOR. In this example, we assumed the LIBOR is 6.8%.

Assuming that the swap was entered into on January 2, 2001 (the same date as the issuance of the debt), the swap at this time has no value; therefore no entry is necessary:

January 2, 2001

No entry required—Memorandum to note that the swap contract is signed.

At the end of 2001, the interest payment on the bonds is made. The journal entry to record this transaction is as follows:

December 31, 2001

| | | |
|-----------------------------------|--------|--------|
| Interest Expense | 80,000 | |
| Cash ($8\% \times \$1,000,000$) | | 80,000 |

At the end of 2001, market interest rates have declined substantially and therefore the value of the swap contract has increased. Recall (see Illustration 26-6) that in the swap, Jones is to receive a fixed rate of 8% or \$80,000 ($\$1,000,000 \times 8\%$) and pay a variable rate (which in this case is 6.8%) or \$68,000. Jones therefore receives \$12,000 ($\$80,000 - \$68,000$) as a settlement payment on the swap contract on the first interest payment date. The entry to record this transaction is as follows:

December 31, 2001

| | | |
|------------------|--------|--------|
| Cash | 12,000 | |
| Interest Expense | | 12,000 |

In addition, a market appraisal indicates that the value of the interest rate swap has increased \$40,000. This increase in value is recorded as follows:¹⁸

December 31, 2001

| | | |
|--|--------|--------|
| Swap Contract | 40,000 | |
| Unrealized Holding Gain or Loss—Income | | 40,000 |

This swap contract is reported in the balance sheet, and the gain on the hedging transaction is reported in the income statement. Because interest rates have declined, the company records a loss and a related increase in its liability as follows:

December 31, 2001

| | | |
|--|--------|--------|
| Unrealized Holding Gain or Loss—Income | 40,000 | |
| Bonds Payable | | 40,000 |

The loss on the hedging activity is reported in net income, and bonds payable in the balance sheet is adjusted to fair value. Illustration 26-7 indicates how the asset and liability related to this hedging transaction are reported on the balance sheet.

| Jones Company BALANCE SHEET (Partial) December 31, 2001 | |
|---|-------------|
| <u>Current assets</u> | |
| Swap contract | \$40,000 |
| <u>Liabilities</u> | |
| Bonds payable | \$1,040,000 |

ILLUSTRATION 26-7
Balance Sheet
Presentation of Fair Value
Hedge

The effect on the Jones Company balance sheet is the addition of the swap asset and an increase in the carrying value of the bonds payable. Illustration 26-8 indicates how the effects of this swap transaction are reported in the income statement.

¹⁸Theoretically, this fair value change reflects the present value of expected future differences in variable and fixed interest rates.

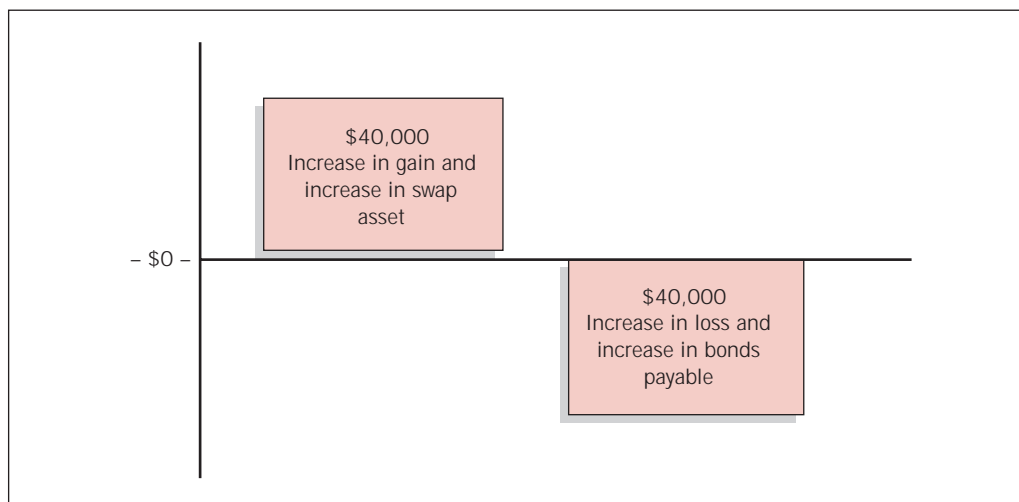
ILLUSTRATION 26-8
Income Statement
Presentation of Fair Value
Hedge

| Jones Company INCOME STATEMENT (Partial) For the Year Ended December 31, 2001 | | |
|---|-----------------|----------|
| Interest Expense (\$80,000 – \$12,000) | | \$68,000 |
| <u>Other income</u> | | |
| Unrealized Holding Gain—Swap | \$ 40,000 | |
| Unrealized Holding Loss—Bonds Payable | <u>(40,000)</u> | |
| Net gain (loss) | | \$0 |

On the income statement, interest expense of \$68,000 is reported. Jones has effectively changed the debt's interest rate from fixed to variable. That is, by receiving a fixed rate and paying a variable rate on the swap, the fixed rate on the bond payable is converted to variable, which results in an effective interest rate of 6.8% in 2001.¹⁹ Also, the gain on the swap offsets the loss related to the debt obligation, and therefore the net gain or loss on the hedging activity is zero.

The overall impact of the swap transaction on the financial statements is shown in Illustration 26-9.

ILLUSTRATION 26-9
Impact on Financial
Statements of Fair Value
Hedge



In summary, the accounting for fair value hedges (as illustrated in the Jones example) records the derivative at its fair value in the balance sheet with any gains and losses recorded in income. Thus, the gain on the swap offsets or hedges the loss on the bond payable due to the decline in interest rates. By adjusting the hedged item (the bond payable in the Jones case) to fair value, with the gain or loss recorded in earnings, the accounting for the Jones bond payable deviates from amortized cost. This special accounting is justified in order to report accurately the nature of the hedging relationship between the swap and the bond payable in the balance sheet (both the swap and the debt obligation are recorded at fair value) and the income statement (offsetting gains and losses are reported in the same period).

Objective 5

Explain how to account for a cash flow hedge.

Cash Flow Hedge

Cash flow hedges are used to hedge exposures to **cash flow risk**, which is exposure to the variability in cash flows. Special accounting is allowed for cash flow hedges. Generally, derivatives are measured and reported at fair value on the balance sheet, and

¹⁹Similar accounting and measurement will be applied at future interest payment dates. Thus, if interest rates increase Jones will continue to receive 8% on the swap (records a loss) but will also be locked into the fixed payments to the bondholders at an 8% rate (records a gain).

gains and losses are reported directly in net income. However, derivatives used in cash flow hedges are accounted for at fair value on the balance sheet, but **gains or losses are recorded in equity as part of other comprehensive income.**

To illustrate the accounting for cash flow hedges, assume that in September 2000, Allied Can Co. anticipates purchasing 1,000 metric tons of aluminum in January 2001. Allied is concerned that prices for aluminum will increase in the next few months. To control its costs in producing cans, Allied wants to protect against possible price increases for aluminum inventory. To hedge the risk that it might have to pay higher prices for inventory in January 2001, Allied enters into an aluminum futures contract.

A **futures contract** gives the holder the right to purchase an asset at a preset price for a specified period of time. In this case, the aluminum futures contract gives Allied the right to purchase 1,000 metric tons of aluminum for \$1,550 per ton. This price is good until the contract expires in January 2001. The underlying for this derivative is the price of aluminum. If the price of aluminum rises above \$1,550, the value of the futures contract to Allied increases, because Allied will be able to purchase the aluminum at the lower price of \$1,550 per ton.²⁰

Assuming that the futures contract was entered into on September 1, 2000, and that the price to be paid today for inventory to be delivered in January—the **spot price**—was equal to the option price, the futures contract has no value. Therefore no entry is necessary:

September, 2000

No entry required. Memorandum entry to indicate that the futures contract is signed.

At December 31, 2000, the price for January delivery of aluminum has increased to \$1,575 per metric ton. Allied would make the following entry to record the increase in the value of the futures contract:

December 31, 2000

| | | |
|---|--------|--------|
| Futures Contract | 25,000 | |
| Unrealized Holding Gain or Loss—Equity | | 25,000 |
| $(\$1,575 - \$1,550) \times 1,000 \text{ tons}$ | | |

The futures contract is reported in the balance sheet as a current asset. The gain on the futures contract is reported as part of other comprehensive income. Since Allied has not yet purchased and sold the inventory, this is an **anticipated transaction**, and gains or losses on the futures contract are accumulated in equity as part of other comprehensive income until the period in which the inventory is sold and earnings is affected.

In January 2001, Allied purchases 1,000 metric tons of aluminum for \$1,575 and makes the following entry:²¹

January, 2001

| | | |
|--|-----------|-----------|
| Aluminum Inventory | 1,575,000 | |
| Cash $(\$1,575 \times 1,000 \text{ tons})$ | | 1,575,000 |

At the same time, Allied makes final settlement on the futures contract and makes the following entry:

January, 2001

| | | |
|--|--------|--------|
| Cash | 25,000 | |
| Futures Contract $(\$1,575,000 - \$1,550,000)$ | | 25,000 |

Through use of the futures contract derivative, Allied has been able to fix the cost of its inventory. The \$25,000 futures contract settlement offsets the amount paid to purchase the inventory at the prevailing market price of \$1,575,000, so that the net cash out-



INTERNATIONAL PERSPECTIVE

Under IASC rules, unrealized holding gains or losses on cash flow hedges are recorded as adjustments to the value of the hedged item, not in other comprehensive income.

²⁰As with the earlier call option example, the actual aluminum does not have to be exchanged. Rather, the parties to the futures contract settle by paying the cash difference between the futures price and the price of aluminum on each settlement date.

²¹In practice, futures contracts are settled on a daily basis; for our purposes we show only one settlement for the entire amount.

flow is at \$1,550 per metric ton, as desired. In this way, Allied has hedged the cash flow for the purchase of inventory, as depicted in Illustration 26-10.

ILLUSTRATION 26-10
Effect of Hedge on Cash Flows

| | | |
|--|---|---|
| <i>Anticipated Cash Flows</i> | | <i>Actual Cash Flows</i> |
| Wish to fix cash paid for inventory at \$1,550,000. | = | Actual cash paid \$1,575,000 Less: Cash received on futures contract (25,000) Final cash paid <u>\$1,550,000</u> |

There are no income effects at this point. The gain on the futures contract is accumulated in equity as part of other comprehensive income until the period when the inventory is sold and earnings is affected through cost of goods sold.

For example, assume that the aluminum is processed into finished goods (cans). The total cost of the cans (including the aluminum purchases in January 2001) is \$1,700,000. Allied sells the cans in July 2001 for \$2,000,000. The entry to record this sale is as follows:

| July 2001 | | |
|--------------------|-----------|-----------|
| Cash | 2,000,000 | |
| Sales Revenue | | 2,000,000 |
| Cost of Goods Sold | 1,700,000 | |
| Inventory (Cans) | | 1,700,000 |

Since the effect of the anticipated transaction has now affected earnings, Allied makes the following entry related to the hedging transaction:

| July 2001 | | |
|--|--------|--------|
| Unrealized Holding Gain or Loss—Equity | 25,000 | |
| Cost of Goods Sold | | 25,000 |

The gain on the futures contract, which was reported as part of other comprehensive income, now reduces cost of goods sold. As a result, the cost of aluminum included in the overall cost of goods sold is \$1,550,000 and the futures contract has worked as planned to manage the cash paid for aluminum inventory.

Objective 6

Identify special reporting issues related to derivative financial instruments that cause unique accounting problems.

❖ OTHER REPORTING ISSUES

The examples above illustrate the basic reporting issues related to the accounting for derivatives. Additional issues of importance are as follows:

- ❶ The accounting for embedded derivatives.
- ❷ Qualifying hedge criteria.
- ❸ Disclosures about financial instruments and derivatives.

Embedded Derivatives

As indicated in the opening story, a major impetus for developing an accounting standard for derivatives was the rapid innovation in the development of complex financial instruments. In recent years, this innovation has led to the development of *hybrid secu-*

rities, which have characteristics of both debt and equity and often are a combination of traditional and derivative financial instruments. For example, a convertible bond (as discussed in Chapter 17) is a hybrid instrument because it is comprised of a debt security, referred to as the **host security**, combined with an option to convert the bond to shares of common stock, the **embedded derivative**.

To provide consistency in accounting for similar derivative instruments, embedded derivatives are required to be accounted for similarly to other derivative instruments. Therefore, a derivative that is embedded in a hybrid security should be separated from the host security and accounted for using the accounting for derivatives. This separation process is referred to as **bifurcation**.²² Thus, an investor in a convertible bond is required to separate the stock option component of the instrument and account for the derivative (the stock option) at fair value and the host instrument (the debt) according to GAAP, as if there were no embedded derivative.²³

Qualifying Hedge Criteria

The FASB identified certain criteria that hedging transactions must meet before the special accounting for hedges is required; these criteria are designed to ensure that hedge accounting is used in a consistent manner across different hedge transactions. The general criteria relate to the following areas:



INTERNATIONAL PERSPECTIVE

IASC qualifying hedge criteria are similar to those used in SFAS No. 133.

- 1 **Designation, documentation, and risk management.** At inception of the hedge, there must be formal **documentation** of the hedging relationship, the entity's **risk management** objective, and the **strategy** for undertaking the hedge. **Designation** refers to identifying the hedging instrument, the hedged item or transaction, the nature of the risk being hedged, and how the hedging instrument will offset changes in the fair value or cash flows attributable to the hedged risk. The FASB decided that designation and documentation is critical to the implementation of the special hedge accounting model. Without these requirements, there was concern that companies would try to apply the hedge accounting provisions retroactively only in response to negative changes in market conditions, in order to offset the negative impact of a transaction on the financial statements. Allowing special hedge accounting in such a setting could mask the speculative nature of the original transaction.
- 2 **Effectiveness of the hedging relationship.** At inception and on an ongoing basis, the hedging relationship is expected to be **highly effective** in achieving offsetting changes in fair value or cash flows. Assessment of effectiveness is required whenever financial statements are prepared. The general guideline for effectiveness is that the fair values or cash flows of the hedging instrument (the derivative) and the hedged item exhibit a high degree of correlation. In practice, high effectiveness is assumed when the correlation is close to one (within plus or minus .10). In our earlier hedging examples (interest rate swap and the futures contract on inventory), the fair values and cash flows were exactly correlated. That is, when the cash payment for the inventory purchase increased, it was offset dollar for dollar by the cash received on the futures contract. If the effectiveness criterion is not met, either at inception or because of changes following inception of the hedging relationship, special hedge accounting is no longer allowed, and the derivative should be accounted for as a free-standing derivative.²⁴

²²Such a derivative can also be designated as a hedging instrument, and the hedge accounting provisions outlined earlier in the chapter would be applied.

²³The **issuer** of the convertible bonds would not bifurcate the option component of the convertible bonds payable. SFAS No. 133 explicitly precludes embedded derivative accounting for an embedded derivative that is indexed to an entity's own common stock. If the conversion feature was tied to **another company's** stock, this derivative would be bifurcated.

²⁴The accounting for the part of a derivative that is not effective in a hedge is at fair value with gains and losses recorded in income.

- ③ **Effect on reported earnings of changes in fair values or cash flows.** A change in the fair value of a hedged item or variation in the cash flow of a hedged forecasted transaction must have the potential to change the amount recognized in reported earnings. There is no need for special hedge accounting, if both the hedging instrument and the hedged item are accounted for at fair value under existing GAAP. In this case, the offsetting gains and losses will be properly reflected in earnings. For example, special accounting is not needed for a fair value hedge of a trading security, because both the investment and the derivative are accounted for at fair value on the balance sheet with gains or losses reported in earnings. Thus, “special” hedge accounting is necessary only when there is a mismatch of the accounting effects for the hedging instrument and the hedged item under GAAP.²⁵

Objective 7

Describe the disclosure requirements for traditional and derivative financial instruments.

Disclosure Provisions

Because *SFAS No. 133* provides comprehensive accounting guidance for derivatives, this standard replaces the disclosure provisions in *SFAS No. 105* and *SFAS No. 119* and amends the disclosure rules in *SFAS No. 107*.²⁶ Thus, *SFAS No. 107* provides general guidance for traditional financial instrument disclosures, and *SFAS No. 133* addresses the disclosures for derivative financial instruments.

As a consequence of these two pronouncements, the primary requirements for disclosures related to financial instruments are as follows:

- ① A company should disclose the fair value and related carrying value of its financial instruments in the body of the financial statements, in a note, or in a summary table form that makes it clear whether the amounts represent assets or liabilities.
- ② The fair value disclosures should distinguish between financial instruments held or issued for purposes other than trading. For derivative financial instruments, the firm should disclose its objectives for holding or issuing those instruments (speculation or hedging), the hedging context (fair value or cash flow), and its strategies for achieving risk management objectives.
- ③ In disclosing fair values of financial instruments, a company should not combine, aggregate, or net the fair value of separate financial instruments, even if those instruments are considered to be related.
- ④ A company should display as a separate classification of other comprehensive income the net gain or loss on derivative instruments designated in cash flow hedges.
- ⑤ Companies are encouraged, but not required, to provide quantitative information about market risks of derivative financial instruments, and also of its other assets and liabilities, that is consistent with the way the company manages and adjusts risks and that is useful for comparing the results of its use of derivative financial instruments.

While these additional disclosures of fair value provide useful information to financial statement users, they are generally provided as supplemental information only. The

²⁵An important criterion specific to cash flow hedges is that the forecasted transaction in a cash flow hedge be probable. This probability (defined as significantly greater than the term “more likely than not”) should be supported by observable facts such as frequency of similar past transactions and the firm’s financial and operational ability to carry out the transaction.

²⁶*SFAS No. 105* refers to “Disclosure of Information about Financial Instruments with Off-Balance Sheet Risk and Financial Instruments with Concentration of Credit Risk,” *Statement of Financial Accounting Standards No. 105* (Stamford, Conn.: FASB, 1990). *SFAS No. 119* refers to “Disclosure about Derivative Financial Instruments and Fair Value of Financial Instruments,” *Statement of Financial Accounting Standards No. 119* (Stamford, Conn.: FASB, 1994).

balance sheet continues to primarily rely on historical cost. Exceptions to this general rule are the fair value requirements for certain investment securities and derivative financial instruments, as illustrated earlier in this chapter. Illustration 26-11 provides a fair value disclosure for Intel Corporation.

ILLUSTRATION 26-11
Intel Corporation Fair
Value Disclosure

| Intel Corporation | | | | |
|---|-----------------|----------------------|-----------------|----------------------|
| Fair values of financial instruments | | | | |
| The estimated fair values of financial instruments outstanding at fiscal year-ends were as follows: | | | | |
| | 1998 | | 1997 | |
| (In millions) | Carrying amount | Estimated fair value | Carrying amount | Estimated fair value |
| Cash and cash equivalents | \$2,038 | \$2,038 | \$4,102 | \$4,102 |
| Short-term investments | \$4,821 | \$4,821 | \$5,561 | \$5,561 |
| Trading assets | \$ 316 | \$ 316 | \$ 195 | \$ 195 |
| Long-term investments | \$5,375 | \$5,375 | \$1,821 | \$1,821 |
| Non-marketable instruments | \$ 571 | \$ 716 | \$ 387 | \$ 497 |
| Options creating synthetic money market instruments | \$ 474 | \$ 474 | \$ — | \$ — |
| Swaps hedging investments in debt securities | \$ (33) | \$ (33) | \$ 64 | \$ 64 |
| Swaps hedging investments in equity securities | \$ 2 | \$ 2 | \$ 8 | \$ 8 |
| Short-term debt | \$ (159) | \$ (159) | \$ (212) | \$ (212) |
| Long-term debt redeemable within one year | \$ — | \$ — | \$ (110) | \$ (109) |
| Long-term debt | \$ (702) | \$ (696) | \$ (448) | \$ (448) |
| Swaps hedging debt | \$ — | \$ 1 | \$ — | \$ (1) |
| Currency forward contracts | \$ (1) | \$ (1) | \$ 26 | \$ 28 |
| Currency options | \$ — | \$ — | \$ 1 | \$ 1 |

The fair values of cash and cash equivalents, short-term investments, and short-term debt approximate cost because of the immediate and short-term maturities of these financial instruments. The fair value of marketable securities (and some derivatives) is based on quoted market prices at the reporting date. The fair value of long-term debt and some derivatives is based on market prices for similar instruments or by discounting expected cash flows at rates currently available to the company for instruments with similar risks and maturities.

If a company is unable to arrive at an estimate of fair value, it must disclose information relevant to the estimate of fair value (such as the terms of the instrument) and the reason why it is unable to disclose the fair value information.²⁷

UNDERLYING CONCEPTS

Providing supplemental information on the fair values of financial instruments illustrates application of the full disclosure principle.

²⁷SEAS No. 107 lists a number of exceptions to this requirement; most of these exceptions are covered in other standards. The exception list includes such items as: pension and post-retirement benefits; employee stock options; insurance contracts; lease contracts; warranties rights and obligations; purchase obligations; equity method investments; minority interests; and instruments classified as stockholders' equity in the entity's balance sheet.

Summary of SFAS No. 133

Illustration 26-12 provides a summary of the accounting provisions for derivatives and hedging transactions.

ILLUSTRATION 26-12
Summary of Derivative
Accounting Under SFAS
133

| Derivative Use | Accounting for Derivative | Accounting for Hedged Item | Common Example |
|-----------------------|---|---|--|
| Free-Standing | At fair value with unrealized holding gains and losses recorded in income. | Not applicable | Call or put option on an equity security. |
| Hedging Fair value | At fair value with unrealized holding gains and losses recorded in income. | At fair value with gains and losses recorded in income. | Interest rate swap hedge of a fixed-rate debt obligation. |
| Cash flow | At fair value with unrealized holding gains and losses from the hedge recorded in other comprehensive income and reclassified in income when the hedged transaction's cash flows affect earnings. | Use generally accepted accounting principles for the hedged item. | Use of a futures contract to hedge a forecasted purchase of inventory. |

As indicated in Illustration 26-12, the general accounting for derivatives is based on fair values. *SFAS No. 133* also establishes **special accounting guidance** when derivatives are used **for hedging purposes**. For example, when an interest rate swap was used to hedge the bonds payable in a fair value hedge (see Jones Co. earlier), unrealized losses on the bonds payable were recorded in earnings, which is not GAAP for bonds issued without such a hedge. This special accounting is justified in order to accurately report the nature of the hedging relationship on the balance sheet (both the swap and the liability are recorded at fair value) and the income statement (offsetting gains and losses are reported in the same period).

Special accounting also is used for cash flow hedges. Derivatives used in qualifying cash flow hedges are accounted for at fair value on the balance sheet, but unrealized holding gains or losses are recorded in other comprehensive income until the hedged item is sold or settled. In a cash flow hedge, the hedged item continues to be recorded at its historical cost.

❖ CONTROVERSY AND CONCLUDING REMARKS

SFAS No. 133 represents FASB's effort to develop accounting guidance for derivatives. Many believe that these new rules are needed to properly measure and report derivatives in financial statements. Others argue that reporting derivatives at fair value results in unrealized gains and losses that are difficult to interpret. Concerns also were raised concerning the complexity and cost of implementing the standard, since prior to *SFAS No. 133*, many derivatives were not recognized in financial statements.

The FASB, as part of its due process, worked to respond to these concerns. For example, from the beginning of the project in 1992, the FASB has held over 100 meetings and received comments from over 400 constituents or constituent groups. In response to these comments, the FASB revised the original proposal to make the provi-

sions easier to apply. And recently, the FASB has delayed the effective date for *SFAS No. 133* to give preparers more time to understand the standard and to develop the information systems necessary to implement the standard. More than 120 companies requested the delay, arguing that the rule could complicate companies' efforts to deal with the year 2000 (Y2K) problem. These Y2K problems arise when computers confuse the years 1900 and 2000 when making calculations.²⁸

The authors believe that the long-term benefits of this standard will far outweigh any short-term implementation costs. As the volume and complexity of derivatives and hedging transactions continues to grow, the risk that investors and creditors will be exposed to unexpected losses arising from derivative transactions also increases. Without this standard, statement readers do not have comprehensive information in financial statements concerning many derivative financial instruments and the effects of hedging transactions using derivatives.

SUMMARY OF LEARNING OBJECTIVES

- 1 **Explain the difference in valuation basis between a traditional and derivative financial instrument.** The valuation basis for most traditional financial instruments is fair value. The FASB is now examining whether all traditional financial instruments should be reported at fair value. The valuation basis for all derivative financial instruments is fair value. The FASB states that fair value accounting will provide statement users the best information about derivative financial instruments and that relying on some other basis of valuation for derivatives, such as historical cost, does not make sense because many derivatives have a historical cost of zero.
- 2 **Describe the accounting for traditional financial instruments.** Traditional financial instruments are reported in the balance sheet at cost, amortized cost, or at fair value. When recorded at fair value unrealized holding gains or losses are reported in income or in other comprehensive income depending upon the type of security involved.
- 3 **Describe the accounting for derivative financial instruments.** Derivative financial instruments are reported in the balance sheet and recorded at fair value. Except for derivatives used in hedging, realized and unrealized gains and losses on derivative financial instruments are recorded in income.
- 4 **Explain how to account for a fair value hedge.** The derivative used in a qualifying fair value hedge is recorded at its fair value in the balance sheet with any gains and losses recorded in income. In addition, the item being hedged with the derivative is also accounted for at fair value. By adjusting the hedged item to fair value, with the gain or loss recorded in earnings, the accounting for the hedged item may deviate from GAAP in the absence of a hedge relationship. This special accounting is justified in order to report accurately the nature of the hedging relationship between the derivative hedging instruments and the hedged item (both are reported in the balance sheet with offsetting gains and losses reported in income in the same period).
- 5 **Explain how to account for a cash flow hedge.** Derivatives used in qualifying cash flow hedges are accounted for at fair value on the balance sheet, but gains or losses are recorded in equity as part of other comprehensive income. These gains or losses are accumulated and reclassified in income when the hedged transac-

KEY TERMS

anticipated transaction, 26-11
 bifurcation, 26-13
 call option, 26-5
 cash flow hedge, 26-10
 derivative financial instrument, derivative, 26-3
 designation, 26-13
 documentation, 26-13
 embedded derivative, 26-13
 fair value, 26-3
 fair value hedge, 26-7
 financial instrument, 26-2
 futures contract, 26-11
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 highly effective, 26-13
 host security, 26-13
 hybrid security, 26-12
 interest rate swap, 26-8
 intrinsic value, 26-5
 net settlement, 26-5
 notional amount, 26-5
 option premium, 26-5
 option price, 26-5
 put option, 26-5
 risk management, 26-13
 spot price, 26-11
 strike price, 26-5
 time value, 26-5
 trading security, 26-4
 underlyings, 26-3

²⁸The original implementation date was set for June 15, 1999; the proposal will delay this until June 15, 2000. Interestingly, some companies have adopted the standard early because the rules provide better accounting for some derivatives relative to the rules in place before *SFAS No. 133*. "U.S. Companies Find New Accounting Rule Costly, Inefficient," by Paula Froelich. Dow Jones News Service (March 2, 1999).

tion's cash flows affect earnings. Accounting is according to GAAP for the hedged item.

- 6 **Identify special reporting issues related to derivative financial instruments that cause unique accounting problems.** A derivative that is embedded in a hybrid security should be separated from the host security and accounted for using the accounting for derivatives. This separation process is referred to as bifurcation. Special hedge accounting is allowed only for hedging relationships that meet certain criteria. The main criteria are that (1) there is formal documentation of the hedging relationship, the entity's risk management objective, and the strategy for undertaking the hedge, and that the derivative is designated as either a cash flow or fair value hedge; (2) the hedging relationship is expected to be highly effective in achieving offsetting changes in fair value or cash flows; and (3) "special" hedge accounting is necessary only when there is a mismatch of the accounting effects for the hedging instrument and the hedged item under GAAP.
- 7 **Describe the disclosure requirements for traditional and derivative financial instruments.** Companies must disclose the fair value and related carrying value of its financial instruments, and these disclosures should distinguish between amounts that represent assets or liabilities. The disclosures should distinguish between financial instruments held or issued for purposes other than trading. For derivative financial instruments, the firm should disclose whether the instruments are used for speculation or hedging. In disclosing fair values of financial instruments, a company should not combine, aggregate, or net the fair value of separate financial instruments, even if those instruments are considered to be related. A company should display as a separate classification of other comprehensive income the net gain or loss on derivative instruments designated in cash flow hedges. Companies are encouraged, but not required, to provide quantitative information about market risks of derivative financial instruments.

Appendix 26A

Comprehensive Hedge Accounting Example

Objective 8

After studying Appendix 26A, you should be able to:
Understand and apply the concepts and procedures related to a fair value hedge of available-for-sale securities.

To demonstrate a comprehensive example of the hedge accounting provisions, using a fair value hedge, let's assume that on April 1, 2000, Hayward Co. purchased 100 shares of Sonoma stock at a market price of \$100 per share. Hayward does not intend to actively trade this investment and consequently classifies the Sonoma investment as "available-for-sale." Hayward makes the following entry to record this available-for-sale investment:

| April 1, 2000 | | |
|-------------------------------|--------|--------|
| Available-for-Sale Securities | 10,000 | |
| Cash | | 10,000 |

Available-for-sale securities are recorded at fair value on the balance sheet, and unrealized gains and losses are reported in equity as part of other comprehensive

income.²⁹ Fortunately for Hayward, the value of the Sonoma shares increases to \$125 per share during 2000. Hayward makes the following entry to record the gain on this investment:

| December 31, 2000 | | |
|---|-------|-------|
| Security Fair Value Adjustment (Available-for-Sale) | 2,500 | |
| Unrealized Holding Gain or Loss—Equity | | 2,500 |

Illustration 26A-1 indicates how the Sonoma investment is reported in Hayward's balance sheet:

| Hayward Co. BALANCE SHEET (Partial) December 31, 2000 | |
|---|----------|
| <u>Assets</u> | |
| Available-for-sale securities (at fair value) | \$12,500 |
| <u>Stockholders' Equity</u> | |
| Accumulated other comprehensive income | |
| Unrealized holding gain | \$2,500 |

ILLUSTRATION 26A-1
Balance Sheet
Presentation of Available-
for-Sale Securities

While Hayward has benefited from an increase in the price of Sonoma shares, it is exposed to the risk that the price of the Sonoma stock will decline. To hedge this risk, Hayward locks in its gain on the Sonoma investment by purchasing a put option on 100 shares of Sonoma stock.

Hayward enters into the put option contract on January 2, 2001, and designates the option as a fair value hedge of the Sonoma investment. This put option (which expires in two years) gives Hayward the option to sell Sonoma shares at a price of \$125. Since the exercise price is equal to the current market price, no entry is necessary at inception of the put option.³⁰

January 2, 2001

No entry required. Memorandum to note that put option contract is signed and is designated as a fair value hedge for the Sonoma investment.

At December 31, 2001, the price of the Sonoma shares has declined to \$120 per share. Hayward records the following entry for the Sonoma investment:

| December 31, 2001 | | |
|---|-----|-----|
| Unrealized Holding Gain or Loss—Income | 500 | |
| Security Fair Value Adjustment (Available-for-Sale) | | 500 |

Note that upon designation of the hedge, the accounting for the available-for-sale security changes from regular GAAP in that the unrealized holding loss is recorded in income, not in equity. If Hayward had not followed this accounting, a mismatch of gains and losses in the income statement would result. Thus, special accounting for the available-for-sale security is necessary in a fair value hedge.

The following journal entry records the increase in value of the put option on Sonoma shares:

| December 31, 2001 | | |
|--|-----|-----|
| Put Option | 500 | |
| Unrealized Holding Gain or Loss—Income | | 500 |

The decline in the price of Sonoma shares results in an increase in the fair value of the put option. That is, Hayward could realize a gain on the put option by purchasing

²⁹The distinction between trading and available-for-sale investments is discussed in Chapter 18.

³⁰To simplify the example, we assume no premium is paid for the option.

100 shares in the open market for \$120 and then exercise the put option, selling the shares for \$125. This results in a gain to Hayward of \$500 (100 shares \times [\$125 – 120]).³¹

Illustration 26A-2 indicates how the amounts related to the Sonoma investment and the put option are reported.

ILLUSTRATION 26A-2
Balance Sheet
Presentation of Fair Value
Hedge

| Hayward Co. BALANCE SHEET (Partial) December 31, 2001 | |
|---|----------|
| <u>Assets</u> | |
| Available-for-sale securities (at fair value) | \$12,000 |
| Put option | \$ 500 |

The increase in fair value on the option offsets or hedges the decline in value on Hayward's available-for-sale security. By using fair value accounting for both financial instruments, the financial statements reflect the underlying substance of Hayward's net exposure to the risks of holding Sonoma stock. By using fair value accounting for both these financial instruments, the balance sheet reports the amount that Hayward would receive on the investment and the put option contract if they were sold and settled respectively.

Illustration 26A-3 illustrates the reporting of the effects of the hedging transaction on income for the year ended December 31, 2001.

ILLUSTRATION 26A-3
Income Statement
Presentation of Fair Value
Hedge

| Hayward Co. INCOME STATEMENT (Partial) For the Year Ended December 31, 2001 | |
|---|-------|
| <u>Other Income</u> | |
| Unrealized holding gain—put option | \$500 |
| Unrealized holding loss—available-for-sale securities | (500) |

The income statement indicates that the gain on the put option offsets the loss on the available-for-sale securities.³² The reporting for these financial instruments, even when they reflect a hedging relationship, illustrates why the FASB argued that fair value accounting provides the most relevant information about financial instruments, including derivatives.

SUMMARY OF LEARNING OBJECTIVE FOR APPENDIX 26A

Understand and apply the concepts and procedures related to a fair value hedge of available-for-sale securities. The derivative used in a fair value hedge is recorded at its fair value in the balance sheet with any gains and losses recorded in income. The available-for-sale security (hedged item) is also recorded at fair value with unrealized holding gains or losses recorded in income. This deviation from GAAP for unrealized holding gains and losses on the hedged item results in offsetting of the gains and losses on the derivative hedging instrument and the hedged item, thereby reflecting the effectiveness of the hedging relationship.

³¹In practice, Hayward generally does not have to actually buy and sell the Sonoma shares to realize this gain. Rather, unless the counter-party wants to hold Hayward shares, the contract can be "closed out" by having the counter-party pay Hayward \$500 in cash. This is an example of the net settlement feature of derivatives.

³²Note that the fair value changes in the option contract will not offset **increases** in the value of the Hayward investment. Should the price of Sonoma stock increase above \$125 per share, Hayward would have no incentive to exercise the put option.

Note: All **asterisked** Questions, Exercises, and Problems relate to material covered in the appendix to this chapter.

❖ QUESTIONS ❖

- ❶ What valuation basis is used for the following six financial instruments on the balance sheet?
 - (a) Notes payable
 - (b) Interest rate swaps
 - (c) Cash
 - (d) Available-for-sale securities
 - (e) Accounts receivable
 - (f) Bonds payable
- ❷ What is meant by the term underlyings as it relates to derivative financial instruments?
- ❸ What are the main distinctions between a traditional financial instrument and a derivative financial instrument?
- ❹ What is the purpose of a fair value hedge?
- ❺ Explain what is meant by a perfectly hedged position.
- ❻ In what situation will bonds payable carrying amounts not be reported at cost or amortized cost?
- ❼ Why might a company become involved in an interest rate swap contract to receive fixed interest payments and pay variable?
- ❽ What is the purpose of a cash flow hedge?
- ❾ Where are gains and losses related to cash flow hedges involving anticipated transactions reported?
- ❿ What are hybrid securities? Give an example of a hybrid security.

❖ EXERCISES ❖

E26-1 (Derivative Transaction) On January 2, 2000, Jones Company purchases a call option for \$300 on Merchant common stock. The call option gives Jones the option to buy 1,000 shares of Merchant at an option price of \$50 per share. The market price of a Merchant share is \$50 on January 2, 2000 (the intrinsic value is therefore \$0). On March 31, 2000, the market price for Merchant stock is \$53 per share and the time value of the option is \$200.

Instructions

- (a) Prepare the journal entry to record the purchase of the call option on January 2, 2000.
- (b) Prepare the journal entry(ies) to recognize the change in the fair value of the call option as of March 31, 2000.
- (c) What was the effect on net income of entering into the derivative transaction for the period January 2 to March 31, 2000?

E26-2 (Fair Value Hedge) On January 2, 2001, MacCloud Co. issued a 4-year \$100,000 note at 6% fixed interest, interest payable semiannually. MacCloud now wants to change the note to a variable rate note.

As a result, on January 2, 2001, MacCloud Co. enters into an interest rate swap where it agrees to receive 6% fixed, and pay LIBOR of 5.7% for the first six months on \$100,000. At each six-month period, the variable rate will be reset. The variable rate is reset to 6.7% on June 30, 2001.

Instructions

- (a) Compute the net interest expense to be reported for this note and related swap transaction as of June 30, 2001.
- (b) Compute the net interest expense to be reported for this note and related swap transaction as of December 31, 2001.

E26-3 (Cash Flow Hedge) On January 2, 2000, Parton Company issues a five-year \$10,000,000 note at LIBOR, with interest paid annually. The variable rate is reset at the end of each year. The LIBOR rate for the first year is 5.8%.

Parton Company decides it wishes fixed rate financing and wants to lock in at a rate of 6%. As a result, Parton enters into an interest rate swap to pay 6% fixed and receive LIBOR based on \$10 million. The variable rate is reset to 6.6% on January 2, 2001.

Instructions

- (a) Compute the net interest expense to be reported for this note and related swap transactions as of December 31, 2000.
- (b) Compute the net interest expense to be reported for this note and related swap transactions as of December 31, 2001.

E26-4 (Fair Value Hedge) Sarazan Company issues a four-year 7.5% fixed rate interest only nonprepayable \$1,000,000 note payable on December 31, 2000. It decides to change the interest rate from a fixed rate to variable rate and enters into a swap agreement with M&S Corp. The swap agreement specifies that Sarazan will receive a fixed rate at 7.5% and pay variable with settlement dates that match the interest payments on the debt. Assume that interest rates have declined during 2001, and that Sarazan received \$13,000 as an adjustment to interest expense for the settlement at December 31, 2001. The loss related to the debt (due to interest rate changes) was \$48,000. The value of the swap contract increased \$48,000.

Instructions

- Prepare the journal entry to record the payment of interest expense on December 31, 2001.
- Prepare the journal entry to record the receipt of the swap settlement on December 31, 2001.
- Prepare the journal entry to record the change in the fair value of the swap contract on December 31, 2001.
- Prepare the journal entry to record the change in the fair value of the debt on December 31, 2001.

***E26-5 (Fair Value Hedge)** Using the same information from E26-4, prepare the entries on the books of M&S Corp. The \$1,000,000 nonprepayable note is classified as an available-for-sale security by M&S Corp.

Instructions

- Prepare the journal entry to record the receipt of interest revenue on December 31, 2001.
- Prepare the journal entry to record the payment of the swap settlement on December 31, 2001.
- Prepare the journal entry to record the change in the fair value of the swap contract on December 31, 2001.
- Prepare the journal entry to record the change in the fair value of the available-for-sale debt security on December 31, 2001.

❖ PROBLEMS ❖

P26-1 (Traditional Financial Instrument) On July 7, 2000, Miller Co. invested idle cash by purchasing 200 shares of Ewing Inc. common stock at a cost of \$70 per share. Miller sold the Ewing shares on January 4, 2001 for \$76 per share. The following market data are available on the Ewing shares while held by Miller as a trading security:

| Date | Market Price |
|--------------------|-----------------|
| September 30, 2000 | \$ 77 per share |
| December 31, 2000 | \$ 75 per share |
| January 4, 2001 | \$ 76 per share |

Instructions

Prepare the journal entries for Miller Co. for the following dates:

- July 7, 2000—Investment in Ewing shares.
- September 30, 2000—Miller prepares financial statements.
- December 31, 2000—Miller prepares financial statements.
- January 4, 2001—Miller sells the Ewing shares in the open market (no other trading securities are held by Miller).

P26-2 (Derivative Financial Instrument) Refer to the facts in P26-1 and assume that instead of making a direct investment in Ewing stock, Miller Co. purchased a call option on Ewing common shares on July 7, 2000, for \$240. The call option is for 200 shares (notional value) and the option price is \$70. The option expires on January 31, 2001. The following data are available with respect to the call option:

| Date | Market Price of Ewing Shares | Time Value of Call Option |
|--------------------|------------------------------|---------------------------|
| September 30, 2000 | \$ 77 per share | \$ 180 |
| December 31, 2000 | \$ 75 per share | 65 |
| January 4, 2001 | \$ 76 per share | 30 |

Instructions

Prepare the journal entries for Miller Co. for the following dates:

- (a) July 7, 2000—Investment in call option on Ewing shares.
- (b) September 30, 2000—Miller prepares financial statements.
- (c) December 31, 2000—Miller prepares financial statements.
- (d) January 4, 2001—Miller settles the call option on the Ewing shares.

P26-3 (Derivative Financial Instrument) Johnstone Co. purchased a put option on Ewing common shares on July 7, 2000, for \$240. The put option is for 200 shares (notional value) and the option price is \$70. The option expires on January 31, 2001. The following data are available with respect to the put option:

| <u>Date</u> | <u>Market Price of Ewing Shares</u> | <u>Time Value of Put Option</u> |
|--------------------|-------------------------------------|---------------------------------|
| September 30, 2000 | \$ 77 per share | \$ 125 |
| December 31, 2000 | \$ 75 per share | 50 |
| January 31, 2001 | \$ 78 per share | 0 |

Instructions

Prepare the journal entries for Johnstone Co. for the following dates:

- (a) July 7, 2000—Investment in put option on Ewing shares.
- (b) September 30, 2000—Johnstone prepares financial statements.
- (c) December 31, 2000—Johnstone prepares financial statements.
- (d) January 31, 2001—Put option expires.

P26-4 (Traditional Financial Instrument) On January 11, 2001, AKW Co. invested idle cash by purchasing 400 shares of Echo Inc. common stock at a cost of \$85 per share. AKW sold the Echo shares on July 6, 2001, for \$77 per share. The following market data are available on the Echo shares while held by AKW as a trading security:

| <u>Date</u> | <u>Market Price of Echo Shares</u> |
|----------------|------------------------------------|
| March 31, 2001 | \$ 80 per share |
| June 30, 2001 | \$ 82 per share |
| July 6, 2001 | \$ 77 per share |

Instructions

Prepare the journal entries for Miller Co. for the following dates:

- (a) January 11, 2001—Investment in Echo Inc. shares.
- (b) March 31, 2001—AKW prepares financial statements.
- (c) June 30, 2001—AKW prepares financial statements.
- (d) July 6, 2001—AKW sells the Echo shares in the open market (no other trading securities are held by AKW).

P26-5 (Free-standing Derivative) Warren Co. purchased a put option on Echo common shares on January 7, 2001, for \$360. The notional value of the put option is 400 shares and the option price is \$85. The option expires on July 31, 2001. The following data are available with respect to the put option:

| <u>Date</u> | <u>Market Price of Echo Shares</u> | <u>Time Value of Put Option</u> |
|----------------|------------------------------------|---------------------------------|
| March 31, 2001 | \$ 80 per share | \$ 200 |
| June 30, 2001 | \$ 82 per share | 90 |
| July 6, 2001 | \$ 77 per share | 25 |

Instructions

Prepare the journal entries for Warren Co. for the following dates:

- (a) January 7, 2001—Investment in put option on Echo shares.
- (b) March 31, 2001—Warren prepares financial statements.
- (c) June 30, 2001—Warren prepares financial statements.
- (d) July 6, 2001—Warren settles the call option on the Echo shares.

P26-6 (Fair Value Hedge Interest Rate Swap) On December 31, 2000, Mercantile Corp. had a \$10,000,000 8% fixed rate note outstanding, payable in 2 years. It decides to enter into a two-year swap with Chicago First Bank to convert the fixed rate debt to variable rate debt. The terms of the swap indicate that Mercantile will receive interest at a fixed rate of 8.0% and will pay a variable rate equal to the six month LIBOR rate, based on the \$10,000,000 amount. The LIBOR rate on December 31, 2000, is 7%. The LIBOR rate will be reset every six months and will be used to determine the variable rate to be paid for the following six month period.

Mercantile Corp. designates the swap as a fair value hedge. Assume that the hedging relationship meets all the conditions necessary for hedge accounting. The six-month LIBOR rate and the swap and debt fair values are as follows:

| Date | Six Month LIBOR Rate | Swap Fair Value | Debt fair Value |
|-------------------|----------------------|-----------------|-----------------|
| December 31, 2000 | 7.0% | — | \$10,000,000 |
| June 30, 2001 | 7.5% | (200,000) | 9,800,000 |
| December 31 2001 | 6.0% | 60,000 | 10,060,000 |

Instructions

- (a) Present the journal entries to record the following transactions:
 - (1) The entry, if any, to record the swap on December 31, 2000.
 - (2) The entry to record the semiannual debt interest payment on June 30, 2001.
 - (3) The entry to record the settlement of the semiannual swap amount receivables at 8%, less amount payable at LIBOR, 7%.
 - (4) The entry to record the change in the fair value of the debt on June 30, 2001.
 - (5) The entry to record the change in the fair value of the swap at June 30, 2001.
- (b) Indicate the amount(s) reported on the balance sheet and income statement related to the debt and swap on December 31, 2000.
- (c) Indicate the amount(s) reported on the balance sheet and income statement related to the debt and swap on June 30, 2001.
- (d) Indicate the amount(s) reported on the balance sheet and income statement related to the debt and swap on December 31, 2001.

P26-7 (Cash Flow Hedge) LEW Jewelry Co. uses gold in the manufacture of its products. LEW anticipates that it will need to purchase 500 ounces of gold in October of 2000, for jewelry that will be shipped for the holiday shopping season. However, if the price of gold increases, this will increase LEW's cost to produce its jewelry and could reduce its profit margins.

To hedge the risk of increased gold prices, on April 1, 2000, LEW enters into a gold futures contract and designates this futures contract as a cash flow hedge of the anticipated gold purchase. The notional amount of the contract is 500 ounces and the terms of the contract give LEW the option to purchase gold at a price of \$300 per ounce. The price will be good until the contract expires on October 31, 2000.

Assume the following data with respect to the price of the call options and the gold inventory purchase:

| Date | Spot Price for October Delivery |
|--------------------|---------------------------------|
| April 1, 2000 | \$300 per ounce |
| June 30, 2000 | \$310 per ounce |
| September 30, 2000 | \$315 per ounce |

Instructions

Prepare the journal entries for the following transactions:

- (a) April 1, 2000—Inception of futures contract, no premium paid.
- (b) June 30, 2000—LEW Co. prepares financial statements.
- (c) September 30, 2000—LEW Co. prepares financial statements.
- (d) October 10, 2000—LEW Co. purchases 500 ounces of gold at \$315 per ounce and settles the futures contract.
- (e) December 20, 2000—LEW sells jewelry containing gold purchased in October, 2000, for \$350,000. The cost of the finished goods inventory is \$200,000.
- (f) Indicate the amount(s) reported on the balance sheet and income statement related to the futures contract on June 30, 2000.

- (g) Indicate the amount(s) reported in the income statement related to the futures contract and the inventory transactions on December 31, 2000.

***P26-8 (Fair Value Hedge)** On November 3, 2001, Sprinkle Co. invested \$200,000 in 4,000 shares of the common stock of Johnstone Co. Sprinkle classified this investment as available-for-sale. Sprinkle Co. is considering making a more significant investment in Johnstone Co. at some point in the future but has decided to see how the stock does over the next several quarters.

To hedge against potential declines in the value of Johnstone stock during this period, Sprinkle also purchased a put option on Johnstone stock. Sprinkle paid an option premium of \$600 for the put option, which gives Sprinkle the option to sell 4,000 Johnstone shares at a strike price of \$50 per share; the option expires on July 31, 2002. The following data are available with respect to the values of the Johnstone stock and the put option:

| Date | Market Price of Johnstone Shares | Time Value of Put Option |
|-------------------|----------------------------------|--------------------------|
| December 31, 2001 | \$ 50 per share | \$ 375 |
| March 31, 2002 | \$ 45 per share | 175 |
| June 30, 2002 | \$ 43 per share | 40 |

Instructions

- (a) Prepare the journal entries for Sprinkle Co. for the following dates:
 - (1) November 3, 2001—Investment in Johnstone stock and the put option on Johnstone shares.
 - (2) December 31, 2001—Sprinkle Co. prepares financial statements.
 - (3) March 31, 2002—Sprinkle prepares financial statements.
 - (4) June 30, 2002—Sprinkle prepares financial statements.
 - (5) July 1, 2002—Sprinkle settles the put option and sells the Johnstone shares for \$43 per share.
- (b) Indicate the amount(s) reported on the balance sheet and income statement related to the Johnstone investment and the put option on December 31, 2001.
- (c) Indicate the amount(s) reported on the balance sheet and income statement related to the Johnstone investment and the put option on June 30, 2002.

❖ ADDITIONAL UPDATE TOPICS TO TEXT

P29, new footnote to the last sentence of discussion on International Accounting Standards.

The International Standards Committee (IASC) has issued a discussion paper, *Shaping IASC for the Future*, requesting comments on its recommendations for changes to the IASC's standard-setting structure and process. As a result, the FASB has issued a paper entitled, *International Accounting Standard Setting: A Vision for the Future* which indicates what the Board believes should be done to ensure high-quality international accounting standards. At the present time, the FASB notes that it is impossible to determine whether a high-quality standard setting body will emerge from a reorganization of the IASC or from another body.

Footnote 2, page 279

From this project a Concepts Statement on present value will be issued. The proposed Concepts Statement provides a framework for using cash flows as the basis for an accounting measurement. It identifies general principles governing the use of present value, especially when the amount of future cash flows, their timing, or both are uncertain. It also provides a common understanding of the objective of present value in accounting measurements.

Footnote 22, page 605 (Goodwill Amortization)

Recently, the FASB stated that it favored a maximum period of 20 years to amortize goodwill. The Board's position is that the 40-year period used in current practice is too long and cannot be supported on a theoretical or technical basis. Now that the Board has indicated a preference, this subject will be extensively debated in the next few years.

Footnote 3, page 875 (Stock Options)

In 1999, the Board made minor technical adjustments to *SFAS 123*. One key provision of this new interpretation is that once an option is repriced, it must be accounted for as a variable plan from the time it is repriced to the time it is exercised. Consequently, expense would be recognized to the extent that the stock price exceeds the new exercise price.

After the first paragraph on page 920, add the following paragraph:

Recently, the FASB has proposed to clarify the definition of control in its exposure draft entitled, "Consolidated Financial Statements: Purpose and Policy." Control of an entity is defined as the ability to direct the ongoing policies and management that guide the activities of another entity so as to ensure the benefits and limit the losses from directing those activities. If this new criteria is eventually adopted, it changes the rules of when to consolidate.

❖ UPDATE TO CHAPTER 21—DISCLOSURES ABOUT PENSIONS AND OTHER POSTRETIREMENT BENEFIT PLANS

Introduction

The Financial Accounting Standards Board (FASB) recently issued *Statement of Financial Accounting Standards No. 132*, "Employers' Disclosure about Pensions and other Postretirement Benefits" (*SFAS No. 132*).³³ While this statement does not

³³"Employers' Disclosure about Pensions and other Postretirement Benefits," *Statement of Financial Accounting Standards No. 132* (Stamford, Conn.: FASB, 1998).

change the measurement or recognition criteria related to these plans, it does modify and eliminate some of the disclosure requirements for benefit plans. The purpose of this update is to explain and illustrate the basic change in disclosure that is now mandated by this statement.

Rationale for Change

In 1994, a blue-ribbon committee on financial reporting recommended that “standard setters should search for and eliminate less relevant disclosures.” The report noted that users of the financial statements “would be willing to give up less important disclosures to make room for more important information.” Subsequently, the Board asked financial statement users to consider possible changes to disclosure requirements consistent with the following two objectives: (1) reduce the cost of preparing and disseminating disclosures while providing users with information they need and (2) eliminate disclosures that are not useful for decision making.

After careful consideration, the Board decided to address the issue of pension and other postretirement benefit disclosures. They selected this standard for review because many users had indicated that additional information was needed in this area and that some disclosures were redundant. *SFAS No. 132* has two objectives: (1) to improve disclosures about pensions and other postretirement benefits and (2) to determine whether any of the approaches undertaken to improve those disclosures might apply to other accounting topics. It should be noted that this new standard is attempting to increase the effectiveness of disclosure, which can lead to expanded disclosure in certain circumstances. In our view, the new disclosure requirements are both easier to understand and more streamlined than the disclosure requirements mandated prior to *SFAS No. 132*.

Disclosures Related to Pensions³⁴

SFAS No. 132 supercedes the disclosure requirements in previous standards on pensions and other postretirement benefits. The significant changes related to the issuance of this new standard are as follows:

- ① A reconciliation showing how the projected benefit obligation and the fair value of the plan assets changed from the beginning to the end of the period is required.

Rationale:

The Board believes that explaining the changes in the projected benefit obligation and fair value of plan assets in the form of a reconciliation provides a more complete disclosure and makes the financial statements more understandable. Disclosing the projected benefit obligation, the fair value of the plan assets, and changes in them should help users understand the economics underlying the obligations and resources of these plans.

- ② The funded status of the plan (difference between the projected benefit obligation and fair value of the plan assets) and the amounts recognized and not recognized in the financial statements must be disclosed.

Rationale:

The disclosure requirements are the same as in *SFAS No. 87*, except that all of the components affecting the financial statements must be disclosed. In addition, the accumulated benefit obligation does not have to be reported if it is less

³⁴The main body of Chapter 21 only discusses pensions; therefore, we limit our discussion to pensions in this section. Later, we discuss the disclosure requirements related to other postretirement benefits. We should note that if a company has both pensions and other postretirement benefits, *SFAS No. 132* streamlines the disclosure requirements by reporting them in one footnote.

than the fair value of the plan assets. If the accumulated benefit obligation is greater than the fair value of the plan assets, it must be disclosed to inform readers how the minimum liability was computed. The vested benefit obligation no longer needs to be disclosed.

- ③ A disclosure of the rates used in measuring the benefit amounts (discount rate, expected return on plan assets, rate of compensation) should be disclosed.

Rationale:

Disclosure of these rates permits the reader to determine the reasonableness of the assumptions applied in measuring the pension liability and pension expense.

- ④ A schedule showing all the major components of pension expense should be reported.

Rationale:

Information provided about the components of pension expense is useful in forecasting a company's net income.

Example of Disclosure Requirements

The following example for Marcus Company indicates the disclosure necessary to report information on pensions for the year 2001.

| Note 6—Marcus Co. Amounts Related to Pension Plan | |
|---|-------------------|
| | For the year 2001 |
| Change in benefit obligation | |
| Benefit obligation at beginning of year | \$1,266,000 |
| Service cost | 76,000 |
| Interest cost | 120,000 |
| Amendments (Prior service cost) | 114,000 |
| Actuarial gain | (25,000) |
| Benefits paid | (125,000) |
| Benefits obligation at the end of year | 1,426,000 |
| Change in plan assets | |
| Fair value of plan assets at beginning of year | 1,068,000 |
| Actual return on plan assets | 29,000 |
| Contributions | 75,000 |
| Benefit paid | (125,000) |
| Fair value of plan assets at end of year | 1,047,000 |
| Funded status | (379,000) |
| Unrecognized net actuarial loss | 83,000 |
| Unrecognized prior service cost | 260,000 |
| Prepaid (accrued) benefit cost | <u>\$(36,000)</u> |
| | For the year 2001 |
| Weighted-average assumptions as of December 31 (%) | |
| Discount rate | 9.25 |
| Expected return on plan assets | 10.00 |
| Rate of compensation increase | 5.00 |
| | For the year 2001 |
| Components of net periodic pension expense | |
| Service cost | \$76,000 |
| Interest cost | 120,000 |
| Expected return on plan assets | (107,000) |
| Amortization of prior service cost | 20,000 |
| Recognized net loss | (8,000) |
| Net periodic pension expense | <u>\$101,000</u> |

Defined Contribution Plans

The new standard simplifies the disclosures related to defined contribution plans. A company should disclose the amount of pension expense recognized for defined contribution plans separately from the amount of expense recognized for defined benefit plans. The disclosure also should include a description of the nature and effect of any significant changes during the period affecting comparability, such as a change in the rate of employer contributions, a business combination, or a divestiture.

Minimum Liability

A minimum liability must still be reported if the accumulated benefit obligation is greater than the fair value of the plan assets. As indicated earlier, the funded status of the plan should be reported and should be reconciled to the prepaid pension asset or accrued pension liability reported on the balance sheet. To illustrate, assume that Warren Company provided the following information related to its pension plan at the end of 2001.

| | |
|---|-------------|
| Projected benefit obligation | \$1,100,000 |
| Accumulated benefit obligation | 1,000,000 |
| Fair value of plan assets | 800,000 |
| Accrued pension liability (minimum liability) | 200,000 |
| Intangible asset | 15,000 |
| Unrecognized net loss | 25,000 |
| Unrecognized prior service cost | 90,000 |

In this case, the portion of the footnote related to the disclosure of the funded status of the plan, and the amounts recognized and not recognized in the financial statements would be as follows:

| | |
|--|--------------------|
| Funded status | \$(300,000) |
| Unrecognized net loss | 25,000 |
| Unrecognized prior service cost | 90,000 |
| Net amount recognized on the balance sheet | <u>\$(185,000)</u> |

Amounts recognized in the balance sheet consist of:

| | |
|--|--------------------|
| Accrued pension liability | \$(200,000) |
| Intangible asset | 15,000 |
| Net amount recognized on the balance sheet | <u>\$(185,000)</u> |

Concluding Remarks

Note that much of the disclosure requirements related to *SFAS No. 132* mirrors the information presented in the work sheets used in Chapter 21. That is, the work sheet indicates the components of pension expense, the amount of the projected benefit obligation, the fair value of the plan assets, and explains the changes in the last two items.

The Board did reduce disclosures in two areas:

- ① The Board eliminated the requirement to disclose general descriptive information about the company's benefit plans because users of the financial statements found this information to be of limited value
- ② The Board also eliminated the requirement to disclose: (a) the accumulated benefit obligation for plans, when the fair value of plan assets exceeds the accumulated benefit obligation and (b) the vested benefit obligation. These amounts are not used to forecast the pension obligation and therefore have limited relevance to financial

statement users. As indicated earlier, if the accumulated benefit obligation exceeds the fair value of the plan assets, it should be reported, as this information is used to determine the minimum liability.

Appendix 21A, Accounting for Postretirement Benefits

The reporting requirements for other postretirement benefits are essentially the same as for pensions. A major efficiency achieved by *SFAS No. 132* is that it standardizes the disclosure requirements for pensions and postretirement benefits and presents them in one footnote. In addition to the disclosure requirements related to pensions, the Board added only one new disclosure related to other postretirement benefits.³⁵

Under *SFAS No. 132*, the effect of both a percentage point increase or decrease in the assumed health care cost trend rate on the service and interest cost components of the other postretirement benefit expense as well as the effect on the accumulated postretirement benefit obligation must be disclosed. The Board concluded that reporting the effects of a 1% increase or decrease in the health care cost trend rate provides useful information to users of financial statements. By providing this sensitivity information, users can compare the information reported by different companies as well as the extent to which future changes in assumptions and actual experience affect the measurement of the pension liability or pension expense. Illustration 21A-9 presents Gillette's combined pension and postretirement benefit disclosure in accordance with *SFAS No. 132*.

ILLUSTRATION 21A-9

Gillette Company FAS
No. 132 Disclosure

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

PENSION PLANS AND OTHER RETIREE BENEFITS

The company has various retirement programs, including defined benefit, defined contribution and other plans, that cover most employees worldwide. In 1998, the Company began funding its pension plans in Germany by contributing \$252 million to a newly estab-

lished pension trust. Other retiree benefits are health care and life insurance benefits provided to eligible retired employees, principally in the United States. The components of benefit expense follow.

| (Millions of dollars) | Pension Benefits | | | Other Retiree Benefits | | |
|-------------------------------------|------------------|-------|-------|------------------------|------|------|
| | 1998 | 1997 | 1996 | 1998 | 1997 | 1996 |
| Components of net benefit expense | | | | | | |
| Service cost-benefits earned | \$ 67 | \$ 64 | \$ 61 | \$ 6 | \$ 5 | \$ 2 |
| Interest cost on benefit obligation | 123 | 115 | 109 | 17 | 17 | 19 |
| Estimated return on assets | (157) | (118) | (103) | (3) | (2) | (2) |
| Net amortization | 5 | 6 | 12 | (7) | (8) | (3) |
| | 38 | 67 | 79 | 13 | 12 | 16 |
| Defined contribution plans | 2 | 4 | 4 | — | — | — |
| Foreign plans not on SFAS 87 | 10 | 8 | 7 | — | — | — |
| Total benefit expense | \$ 50 | \$ 79 | \$ 90 | \$13 | \$12 | \$16 |

The funded status of the Company's principal defined benefit and other retiree benefit plans and the amounts recognized in the balance sheet at December 31 follow.

³⁵*SFAS No. 106* already requires certain disclosures related to the health care trend cost rate. That is, disclosure is required for the assumed health care cost trend rates(s) for the next year to measure the cost of benefits covered by the plan as well as a general description of the direction and change in the assumed trend rates. In addition, a description of the ultimate trend rates and when achievement of those rates is expected should be reported.

| (Millions of dollars) | Pension Benefits | | Other Retiree Benefits | |
|---|------------------|----------|------------------------|----------|
| | 1998 | 1997 | 1998 | 1997 |
| Change in benefit obligation: | | | | |
| Balance at beginning of year | \$1,790 | \$1,689 | \$ 248 | \$266 |
| Benefit payments | (105) | (83) | (14) | (13) |
| Service and interest costs | 190 | 179 | 23 | 22 |
| Amendments | 45 | 4 | 1 | 1 |
| Actuarial (gains) losses | 88 | 52 | (16) | (28) |
| Currency translation adjustment | 10 | (51) | (2) | — |
| Balance at end of year | 2,018 | 1,790 | 240 | 248 |
| Change in fair value of plan assets: | | | | |
| Balance at beginning of year | 1,540 | 1,278 | 33 | 24 |
| Actual return on plan assets | 203 | 272 | 6 | 6 |
| Employer contribution | 299 | 57 | (3) | 3 |
| Benefit payments | (86) | (69) | — | — |
| Currency translation adjustment | — | 2 | — | — |
| Balance at end of year | 1,956 | 1,540 | 36 | 33 |
| Plan assets less than benefit obligation | (62) | (250) | (204) | (215) |
| Unrecognized prior service cost and transition obligation | 53 | 36 | (1) | — |
| Unrecognized net loss (gain) | 54 | 17 | (100) | (87) |
| Minimum liability adjustment included in: | | | | |
| Intangible assets | (17) | (15) | — | — |
| Stockholders' equity | (47) | (20) | — | — |
| Net accrued benefit cost included in consolidated balance sheet | \$ (19) | \$ (232) | \$ (305) | \$ (302) |

The values at December 31 for pension plans with accumulated benefit obligations in excess of plan assets follow.

| (Millions of dollars) | 1998 | 1997 |
|--------------------------------|-------|-------|
| Projected benefit obligation | \$570 | \$506 |
| Accumulated benefit obligation | 506 | 429 |
| Fair value of plan assets | 304 | 30 |

The weighted average assumptions used in determining related obligations of pension benefit plans are shown below.

| (Percent) | 1998 | 1997 | 1996 |
|------------------------------------|------|------|------|
| Discount rate | 6.3 | 7.1 | 7.1 |
| Long-term rate of return on assets | 8.6 | 9.3 | 9.4 |
| Rate of compensation increase | 3.9 | 4.9 | 4.8 |

The weighted average assumptions used in determining related obligations of other retiree benefit plans are shown below.

| (Percent) | 1998 | 1997 | 1996 |
|------------------------------------|------|------|------|
| Discount rate | 6.5 | 7.0 | 7.0 |
| Long-term rate of return on assets | 9.0 | 9.0 | 9.0 |

The assumed health care cost trend rate for 1999 is 6.5%, decreasing to 4.5% by 2001. A one percent-age point increase in the trend rate would have increased the accumulated postretirement benefit obligation by 12%, and interest and service cost by 13%. A one percentage point decrease in the trend rate would have decreased the accumulated postretirement benefit obligation by 10%, and interest and service cost by 11%.

GENERAL COMMENT

The FASB has other projects under consideration at the present time. However, none of these projects are sufficiently far enough along to affect GAAP in the near-term future.