UPDATE SUPPLEMENT—1996

to accompany and be integrated with

EIGHTH EDITION

INTERMEDIATE ACCOUNTING

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John Wiley & Sons, Inc.
New York / Chichester / Brisbane / Toronto / Singapore
A transfer of financial assets (or all or a portion of a financial asset) in which the transferor surrenders control over those financial assets shall be accounted for as a sale to the extent that consideration other than beneficial interests in the transferred assets is received in exchange. The transferor has surrendered control over transferred assets if and only if all of the following conditions are met:

a. The transferred assets have been isolated from the transferor—put presumptively beyond the reach of the transferor and its creditors, even in bankruptcy or other receivership.

b. Either (1) each transferee obtains the right—free of conditions that constrain it from taking advantage of that right—to pledge or exchange the transferred assets or (2) the transferee is a qualifying special-purpose entity (paragraph 26) and the holders of beneficial interests in that entity have the right—free of conditions that constrain them from taking advantage of that right (paragraph 25)—to pledge or exchange those interests.

c. The transferor does not maintain effective control over the transferred assets through (1) an agreement that both entitles and obligates the transferor to repurchase or redeem them before their maturity or (2) an agreement that entitles the transferor to repurchase or redeem transferred assets that are not readily obtainable.

Note:

This Statement provides accounting and reporting standards for transfers and servicing of financial assets and extinguishments of liabilities. Those standards are based on consistent application of a financial-components approach that focuses on control. Under that approach, after a transfer of financial assets, an entity recognizes the financial and servicing assets it controls and the liabilities it has incurred, derecognizes financial assets when control has been surrendered, and derecognizes liabilities when extinguished. This Statement provides consistent standards for distinguishing transfers of financial assets that are sales from transfers that are secured borrowings.

For a transfer of receivables with recourse therefore, the transferor (assuming the conditions of sale are met) treats the transaction as a sale. However, the proceeds of sale are reduced by the fair value of the recourse obligation. Otherwise a transfer of receivables with recourse should be accounted for as a secured borrowing.
FAS 125 requires that a liability be extinguished (derecognized) if and only if either (a) the debtor pays the creditor and is relieved of its obligation for the liability or (b) the debtor is legally released from being the primary obligor under the liability either judicially or by the creditor. Therefore, a liability is not considered extinguished by an in-substance defeasance.
CHAPTER 17

DILUTIVE SECURITIES AND EARNINGS PER SHARE CALCULATIONS

LEARNING OBJECTIVES

After studying this chapter, you should be able to:

1. Describe the accounting for the issuance, conversion, and retirement of convertible securities.
2. Explain the accounting for convertible preferred stock.
3. Contrast the accounting for stock warrants and stock warrants issued with other securities.
4. Describe the accounting for stock compensation plans under generally accepted accounting principles.
5. Explain the controversy involving stock compensation plans.
6. Compute earnings per share in a simple capital structure.
7. Compute earnings per share in a complex capital structure.

The “urge to merge” that predominated on the business scene in the 1960s developed into merger mania in the 1980s.\(^1\) One consequence of heavy merger activity is an increase in the use of securities such as convertible bonds, convertible preferred stocks, stock warrants, and contingent shares to structure these deals. Although not common stock in form, these securities enable their holders to obtain common stock upon exercise or conversion. They are called dilutive securities because a reduction—dilution—in earnings per share often results when these securities become common stock.

During the 1960s, corporate officers recognized that the issuance of dilutive securities in a merger did not have the same immediate adverse effect on earnings per share as the issuance of common stock. In addition, many companies found that issuance of convertible securities did not seem to upset common stockholders, even though the common stockholders’ interests were substantially diluted when these securities were later converted or exercised.

\(^1\)The 1990s have seen fewer mergers than the 1980s, except among information and entertainment-type companies. Cable, movie, telephone, television, and computer companies are all talking merger, to create some large multi-media companies. For example, Time acquired Warner Communications for $10.1 billion, and Matsushita Electric Industries acquired MCA for $7.41 billion. QVC, CBS, Viacom, Blockbuster Entertainment, Tele-Communications, and Liberty Media all have been involved in serious merger discussions. The mergers are generally huge. To appreciate the significance of “just” a billion-dollar merger, consider this fact: If a company started in the year A.D. 1 with $1 billion in capital, it could have lost $1,000 a day and still be in business today. In fact, the company would not go broke for another 750 years.
As a consequence of the step-up in merger activity in the 1980s, the presence of dilutive securities on corporate balance sheets is now very prevalent. Also increasing is the usage of stock option plans, which are dilutive in nature. These option plans are used mainly to attract and retain executive talent and to provide tax relief for executives in high tax brackets.

The widespread use of dilutive securities has led the accounting profession to examine the area closely. Specifically, the profession has directed its attention to accounting for these securities at date of issuance and to the presentation of earnings per share figures that recognize their effect. The following section discusses convertible securities, warrants, stock options, and contingent shares. The second section of the chapter indicates how these securities are used in earnings per share computations.

**Section 1 / Dilutive Securities and Compensation Plans**

**ACCOUNTING FOR CONVERTIBLE DEBT**

If bonds can be converted into other corporate securities during some specified period of time after issuance, they are called **convertible bonds**. A convertible bond combines the benefits of a bond with the privilege of exchanging it for stock at the holder’s option. It is purchased by investors who desire the security of a bond holding—guaranteed interest—plus the added option of conversion if the value of the stock appreciates significantly.

Corporations issue convertibles for two main reasons. One is the desire to raise equity capital without giving up more ownership control than necessary. To illustrate, assume that a company wants to raise $1,000,000 at a time when its common stock is selling at $45 per share. Such an issue would require sale of 22,222 shares (ignoring issue costs). By selling 1,000 bonds at $1,000 par, each convertible into 20 shares of common stock, the enterprise may raise $1,000,000 by committing only 20,000 shares of its common stock.

A second reason why companies issue convertible securities is to obtain common stock financing at cheaper rates. Many enterprises could issue debt only at high interest rates unless a convertible covenant were attached. The conversion privilege entices the investor to accept a lower interest rate than would normally be the case on a straight debt issue. A company might have to pay 12% for a straight debt obligation, but it can issue a convertible at 9%. For this lower interest rate, the investor receives the right to buy the company’s common stock at a fixed price until maturity, which is often 10 years.

Accounting for convertible debt involves reporting issues at the time of (1) issuance, (2) conversion, and (3) retirement.

**AT TIME OF ISSUANCE**

The method for recording convertible bonds at the date of issue follows the method used to record straight debt issues. Any discount or premium that results from the issuance of convertible bonds is amortized to its maturity date because it is difficult to predict when, if at all, conversion will occur. However, the accounting for convertible debt as a straight debt issue is controversial; we discuss it more fully later in this chapter.

**AT TIME OF CONVERSION**

If bonds are converted into other securities, the principal accounting problem is to determine the amount at which to record the securities exchanged for the bond. Assume Hilton, Inc. issued at a premium of $60 a $1,000 bond convertible into 10 shares of...
common stock (par value $10). At the time of conversion the unamortized premium is $50, the market value of the bond is $1,200, and the stock is quoted on the market at $120. Two possible methods of determining the issue price of the stock could be used:

1. The **market price** of the stocks or bonds ($1,200).
2. The **book value** of the bonds ($1,050).

**Market Value Approach**

Recording the stock using its **market price at the issue date** is a theoretically sound method. If 10 shares of $10 par value common stock could be sold for $1,200, paid-in capital in excess of par of $1,100 ($1,200 – $100) should be recorded. Since bonds having a book value of $1,050 are converted, a $150 ($1,200 – $1,050) loss on the bond conversion occurs.\(^2\) The entry would be:

\[
\begin{align*}
\text{Bonds Payable} & \quad 1,000 \\
\text{Premium on Bonds Payable} & \quad 50 \\
\text{Loss on Redemption of Bonds Payable} & \quad 150 \\
\text{Common Stock} & \quad 100 \\
\text{Paid-in Capital in Excess of Par} & \quad 1,100
\end{align*}
\]

Using the bonds’ market price can be supported on similar grounds. If the market price of the stock is not determinable, but the bonds can be purchased at $1,200, a good argument can be made that the stock has an issue price of $1,200.

**Book Value Approach**

From a practical point of view, if the market price of the stock or bonds is not determinable, then the **book value of the bonds** offers the best available measurement of the issue price. Indeed, many accountants contend that even if market quotations are available, they should not be used. The common stock is merely substituted for the bonds and should be recorded at the carrying amount of the converted bonds.

Supporters of this view argue that an agreement was established at the date of issuance to pay either a stated amount of cash at maturity or to issue a stated number of shares of equity securities. Therefore, when the debt is converted to equity in accordance with preexisting contract terms, no gain or loss should be recognized upon conversion.

To illustrate the specifics of this approach, the entry for the foregoing transaction of Hilton, Inc. would be:

\[
\begin{align*}
\text{Bonds Payable} & \quad 1,000 \\
\text{Premium on Bonds Payable} & \quad 50 \\
\text{Common Stock} & \quad 100 \\
\text{Paid-in Capital in Excess of Par} & \quad 950
\end{align*}
\]

The book value method of recording convertible bonds is the method most commonly used in practice\(^3\) and should be used on homework unless the problem specifies otherwise.

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\(^2\)Because the conversion described above is initiated by the holder of the debt instrument (rather than the issuer), it is not an “early extinguishment of debt.” As a result, the gain or loss would not be classified as an extraordinary item.

\(^3\)As with any investment, a buyer has to be careful. For example, Wherehouse Entertainment Inc., which had 6¼% convertibles outstanding, was taken private in a leveraged buyout. As a result, the convertible was suddenly as risky as a junk bond of a highly leveraged company with a coupon of only 6¼%. As one holder of the convertibles noted, “What’s even worse is that the company will be so loaded down with debt that it probably won’t have enough cash flow to make its interest payments. And the convertible debt we hold is subordinated to the rest of Wherehouse’s debt.” These types of situations have made convertibles less attractive and has led to the introduction of takeover protection covenants in some convertible bond offerings. Or, sometimes convertibles are permitted to be called at par and therefore the conversion premium may be lost.
INDUCED CONversions

Sometimes the issuer wishes to induce prompt conversion of its convertible debt to equity securities in order to reduce interest costs or to improve its debt to equity ratio. As a result, the issuer may offer some form of additional consideration (such as cash or common stock), called a “sweetener,” to induce conversion. The sweetener should be reported as an expense of the current period at an amount equal to the fair value of the additional securities or other consideration given.

Assume that Helloid, Inc. has outstanding $1,000,000 par value convertible debentures convertible into 100,000 shares of $1 par value common stock. Helloid wishes to reduce its annual interest cost. To do so, Helloid agrees to pay the holders of its convertible debentures an additional $80,000 if they will convert. Assuming conversion occurs, the following entry is made:

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Debt Conversion Expense</td>
<td>80,000</td>
</tr>
<tr>
<td>Bonds Payable</td>
<td>1,000,000</td>
</tr>
<tr>
<td>Common Stock</td>
<td>100,000</td>
</tr>
<tr>
<td>Additional Paid-in Capital</td>
<td>900,000</td>
</tr>
<tr>
<td>Cash</td>
<td>80,000</td>
</tr>
</tbody>
</table>

The additional $80,000 is recorded as an expense of the current period and not as a reduction of equity. Some argue that the cost of a conversion inducement is a cost of obtaining equity capital. As a result, they contend, it should be recognized as a cost of—a reduction of—the equity capital acquired and not as an expense. However, the FASB indicated that when an additional payment is needed to make bondholders convert, the payment is for a service (bondholders converting at a given time) and should be reported as an expense. This expense is not reported as an extraordinary item.4

RETIREMENT OF CONVERTIBLE DEBT

Should the retirement of convertible debt be considered a debt transaction or an equity transaction? In theory, it could be either. If it is treated as a debt transaction, the difference between the carrying amount of the retired convertible debt and the cash paid should result in a charge or credit to income. If it is an equity transaction, the difference should go to additional paid-in capital.

To answer the question, we need to remember that the method for recording the issuance of convertible bonds follows that used in recording straight debt issues. Specifically this means that no portion of the proceeds should be attributable to the conversion feature and credited to Additional Paid-in Capital. Although theoretical objections to this approach can be raised, to be consistent, a gain or loss on retiring convertible debt needs to be recognized in the same way as a gain or loss on retiring debt that is not convertible. For this reason, differences between the cash acquisition price of debt and its carrying amount should be reported currently in income as a gain or loss.5 As indicated in Chapter 14, material gains or losses on extinguishment of debt are considered extraordinary items.

Nevertheless, failure to recognize the equity feature of convertible debt when issued creates problems upon early extinguishment. Assume that URL issues convertible debt at a time when the investment community attaches value to the conversion feature. Subsequently the price of URL stock decreases so sharply that the conversion feature has little or no value. If URL extinguishes its convertible debt early, a large gain develops because the book value of the debt will exceed the retirement price. Many accountants consider this treatment incorrect, because the reduction in value of the

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4“Induced Conversions of Convertible Debt,” Statement of Financial Accounting Standards No. 84 (Stamford, Conn.: FASB, 1985).

Convertible debt relates to its equity features, not its debt features. Therefore, they argue, an adjustment to Additional Paid-in Capital should be made. However, present practice requires that an extraordinary gain or loss be recognized at the time of early extinguishment.

**CONVERTIBLE PREFERRED STOCK**

The major difference in accounting for a convertible bond and a convertible preferred stock at the date of issue is that convertible bonds are considered liabilities, whereas convertible preferreds (unless mandatory redemption exists) are considered a part of stockholders’ equity.

In addition, when convertible preferred stocks are exercised, there is no theoretical justification for recognition of a gain or loss. No gain or loss is recognized when the entity deals with stockholders in their capacity as business owners. The book value method is employed: Preferred Stock, along with any related Additional Paid-in Capital, is debited; Common Stock and Additional Paid-in Capital (if an excess exists) are credited.

A different treatment develops when the par value of the common stock issued exceeds the book value of the preferred stock. In that case, Retained Earnings is usually debited for the difference.

Assume Host Enterprises issued 1,000 shares of common stock (par value $2) upon conversion of 1,000 shares of preferred stock (par value $1) that was originally issued for a $200 premium. The entry would be:

```
Convertible Preferred Stock 1,000
Paid-in Capital in Excess of Par (Premium on Preferred Stock) 200
Retained Earnings 800
Common Stock 2,000
```

The rationale for the debit to Retained Earnings is that the preferred stockholders are offered an additional return to facilitate their conversion to common stock. In this example, the additional return is charged to retained earnings. Many states, however, require that this charge simply reduce additional paid-in capital from other sources.

**STOCK WARRANTS**

Warrants are certificates entitling the holder to acquire shares of stock at a certain price within a stated period. This option is similar to the conversion privilege because warrants, if exercised, become common stock and usually have a dilutive effect (reduce earnings per share) similar to that of the conversion of convertible securities. However, a substantial difference between convertible securities and stock warrants is that upon exercise of the warrants, the holder has to pay a certain amount of money to obtain the shares.

The issuance of warrants or options to buy additional shares normally arises under three situations:

1. When issuing different types of securities, such as bonds or preferred stock, warrants are often included to make the security more attractive—to provide an “equity kicker.”
2. Upon the issuance of additional common stock, existing stockholders have a preemptive right to purchase common stock first. Warrants may be issued to evidence that right.
3. Warrants, often referred to as stock options, are given as compensation to executives and employees.

The problems in accounting for stock warrants are complex and present many difficulties—some of which remain unresolved.
STOCK WARRANTS ISSUED WITH OTHER SECURITIES

Warrants issued with other securities are basically long-term options to buy common stock at a fixed price. Although some perpetual warrants are traded, generally their life is 5 years, occasionally 10.

A warrant works like this: Tenneco, Inc. offered a unit comprising one share of stock and one detachable warrant exercisable at $24.25 per share and good for 5 years. The unit sold for 223/4 ($22.75) and, since the price of the common the day before the sale was 193/4 ($19.88), it suggests a price of 2% ($2.87) for the warrants.

In this situation, the warrants had an apparent value of 2% ($2.87), even though it would not be profitable at present for the purchaser to exercise the warrant and buy the stock, because the price of the stock is much below the exercise price of $24.25. The investor pays for the warrant to receive a possible future call on the stock at a fixed price when the price has risen significantly. For example, if the price of the stock rises to $30, the investor has gained $2.88 ($30 minus $24.25 minus $2.87) on an investment of $2.87, a 100% increase! But, if the price never rises, the investor loses the full $2.87.

The proceeds from the sale of debt with detachable stock warrants should be allocated between the two securities. The profession takes the position that two separable instruments are involved, that is, (1) a bond and (2) a warrant giving the holder the right to purchase common stock at a certain price. Warrants that are detachable can be traded separately from the debt and, therefore, a market value can be determined. The two methods of allocation available are:

1. The proportional method.
2. The incremental method.

Proportional Method

AT&T’s offering of detachable 5-year warrants to buy one share of common stock (par value $5) at $25 (at a time when a share was selling for approximately $50) enabled it to price its offering of bonds at par with a moderate 8% yield. To place a value on the two securities one would determine (1) the value of the bonds without the warrants and (2) the value of the warrants. For example, assume that AT&T’s bonds (par $1,000) sold for 99 without the warrants soon after they were issued. The market value of the warrants at that time was $30. Prior to sale the warrants will not have a market value. The allocation is based on an estimate of market value, generally as established by an investment banker, or on the relative market value of the bonds and the warrants soon after they are issued and traded. The price paid for 10,000, $1,000 bonds with the warrants attached was par, or $10,000,000. The allocation between the bonds and warrants would be made in this manner:

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Fair market value of bonds (without warrants)</strong> ($10,000,000 × .99)</td>
<td>$ 9,900,000</td>
</tr>
<tr>
<td><strong>Fair market value of warrants (10,000 × $30)</strong></td>
<td>300,000</td>
</tr>
<tr>
<td><strong>Aggregate fair market value</strong></td>
<td>$10,200,000</td>
</tr>
<tr>
<td><strong>Allocated to bonds:</strong></td>
<td></td>
</tr>
<tr>
<td>$9,900,000 × $10,000,000</td>
<td>$ 9,705,882</td>
</tr>
<tr>
<td><strong>Allocated to warrants:</strong></td>
<td></td>
</tr>
<tr>
<td>$300,000 × $10,000,000</td>
<td>294,118</td>
</tr>
<tr>
<td><strong>Total allocation</strong></td>
<td>$10,000,000</td>
</tr>
</tbody>
</table>

Later in this discussion it will be shown that the value of the warrant is normally determined on the basis of a relative market value approach because of the difficulty of imputing a warrant value in any other manner.

Trading in warrants is often referred to as licensed gambling. From the illustration, it is apparent that buying warrants can be an “all or nothing” proposition.

A detachable warrant means that the warrant can sell separately from the bond. APB Opinion No. 14 makes a distinction between detachable and nondetachable warrants because nondetachable warrants must be sold with the security as a complete package; thus, no allocation is permitted.
In this situation the bonds sell at a discount and are recorded as follows:

- **Cash**: 9,705,882
- **Discount on Bonds Payable**: 294,118
- **Bonds Payable**: 10,000,000

In addition, the company sells warrants that are credited to paid-in capital. The entry is as follows:

- **Cash**: 294,118
- **Paid-in Capital—Stock Warrants**: 294,118

The entries may be combined if desired; they are shown separately here to indicate that the purchaser of the bond is buying not only a bond, but also a possible future claim on common stock.

Assuming that all 10,000 warrants are exercised (one warrant per one share of stock), the following entry would be made:

- **Cash** (10,000 × $25): 250,000
- **Paid-in Capital—Stock Warrants**: 294,118
- **Common Stock** (10,000 × $5): 50,000
- **Paid-in Capital in Excess of Par**: 494,118

What if the warrants are not exercised? In that case, **Paid-in Capital—Stock Warrants** is debited for $294,118 and **Paid-in Capital from Expired Warrants** is credited for a like amount. The additional paid-in capital reverts to the former stockholders.

**Incremental Method**

In instances where the fair value of either the warrants or the bonds is not determinable, the incremental method used in lump sum security purchases (explained in Chapter 15, page 745) may be used. That is, the security for which the market value is determinable is used and the remainder of the purchase price is allocated to the security for which the market value is not known. Assume that the market price of the AT&T warrants was known to be $300,000, but the market price of the bonds without the warrants could not be determined. In this case, the amount allocated to the warrants and the bonds would be as follows:

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lump sum receipt</td>
<td>$10,000,000</td>
</tr>
<tr>
<td>Allocated to the warrants</td>
<td>300,000</td>
</tr>
<tr>
<td>Balance allocated to bonds</td>
<td>$ 9,700,000</td>
</tr>
</tbody>
</table>

**CONCEPTUAL QUESTIONS**

The question arises whether the allocation of value to the warrants is consistent with the handling accorded convertible debt, in which no value is allocated to the conversion privilege. The Board stated that the features of a convertible security are **inseparable** in the sense that choices are mutually exclusive: the holder either converts or redeems the bonds for cash, but cannot do both. No basis, therefore, exists for recognizing the conversion value in the accounts. The Board, however, indicated that the issuance of bonds with **detachable warrants** involves two securities, one a debt security, which will remain outstanding until maturity, and the other a warrant to purchase common stock. At the time of issuance, separable instruments exist, and therefore separate treatment is justified. **Nondetachable warrants**, however, do not require an allocation of the proceeds between the bonds and the warrants. The entire proceeds are recorded as debt.

Many argue that the conversion feature is not significantly different in nature from the call represented by a warrant. The question is whether, although the legal forms are different, sufficient similarities of substance exist to support the same accounting treatment. Some contend that inseparability per se is not a sufficient basis for restricting allocation between identifiable components of a transaction. Examples of allocation...
between assets of value in a single transaction are not uncommon. Such transactions as allocation of values in basket purchases, and separation of principal and interest in capitalizing long-term leases, indicate that the accountant has attempted to allocate values in a single transaction. Critics of the current accounting for convertibles say that to deny recognition of value to the conversion feature merely looks to the form of the instrument and does not deal with the substance of the transaction.

The authors disagree with the FASB as well. In both situations (convertible debt and debt issued with warrants), the investor has made a payment to the firm for an equity feature, that is, the right to acquire an equity instrument in the future. The only real distinction between them is that the additional payment made when the equity instrument is formally acquired takes different forms. The warrant holder pays additional cash to the issuing firm; the convertible debt holder pays for stock by forgoing the receipt of interest from conversion date until maturity date and by forgoing the receipt of the maturity value itself. Thus, it is argued that the difference is one of method or form of payment only, rather than one of substance. Until the profession officially reverses its stand in regard to accounting for convertible debt, however, only bonds issued with detachable stock warrants will result in accounting recognition of the equity feature.9

RIGHTS TO SUBSCRIBE TO ADDITIONAL SHARES

If the directors of a corporation decide to issue new shares of stock, the old stockholders generally have the right (preemptive privilege) to purchase newly issued shares in proportion to their holdings. The privilege, referred to as a stock right, saves existing stockholders from suffering a dilution of voting rights without their consent, and it may allow them to purchase stock somewhat below its market value. The warrants issued in these situations are of short duration, unlike the warrants issued with other securities.

The certificate representing the stock right states the number of shares the holder of the right may purchase, as well as the price at which the new shares may be purchased. Each share owned ordinarily gives the owner one stock right. The price is normally less than the current market value of such shares, which gives the rights a value in themselves. From the time they are issued until they expire, they may be purchased and sold like any other security.

No entry is required when rights are issued to existing stockholders. Only a memorandum entry is needed to indicate the number of rights issued to existing stockholders and to insure that the company has additional unissued stock registered for issuance in case the rights are exercised. No formal entry is made at this time because no stock has been issued and no cash has been received.

If the rights are exercised, usually a cash payment of some type is involved. If the cash received is equal to the par value, an entry crediting Common Stock at par value is made. If it is in excess of par value, a credit to Paid-in Capital in Excess of Par develops; if it is less than par value, a charge to Paid-in Capital is appropriate.

STOCK COMPENSATION PLANS

Another form of warrant arises in stock compensation plans used to pay and motivate employees. This warrant is a stock option, which gives selected employees the option to purchase common stock at a given price over an extended period of time.

Stock options are very popular because they meet the objectives of an effective compensation program, which are to: (1) motivate employees to high levels of performance,

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9The FASB issued a discussion memorandum that considered (among other issues) how to account for convertible securities and other financial instruments that have both debt and equity characteristics. “Distinguishing between Liability and Equity Instruments and Accounting for Instruments with Characteristics of Both,” FASB Discussion Memorandum (Norwalk, Conn.: FASB, 1990).
help retain executives and allow for recruitment of new talent, (3) base compensation on employee and company performance, (4) maximize the employee’s after-tax benefit and minimize the employee’s after-tax cost, and (5) use performance criteria over which the employee has control. Although straight cash compensation plans (salary and, perhaps, bonus) are an important part of any compensation program, they are oriented to the short run. Many companies recognize that a more long-run compensation plan is often needed in addition to a cash component.

Long-term compensation plans develop in the executives a strong loyalty toward the company by giving them “a piece of the action”—that is, an equity interest based on changes in long-term measures such as increases in earnings per share, revenues, stock price, or market share. These plans, generally referred to as stock option plans, come in many different forms. Essentially, they provide the executive with the opportunity to receive stock or cash in the future if the performance of the company (however measured) is satisfactory.

Stock options are the fastest-growing segment of executive pay. Executives want stock option contracts because options can make them instant millionaires if the company is successful. For example, the average large-company CEO earned approximately $3.2 million, with stock options comprising the major share of their compensation. The top ten success stories from the largest 200 companies for a recent year are shown in Illustration 17-3. Notice that eight of the ten earn more in long-term incentives and stock grants than in salary and bonus.

### Illustration 17-3

<table>
<thead>
<tr>
<th>Pay Rank</th>
<th>CEO/Company</th>
<th>Salary</th>
<th>Bonus</th>
<th>Other</th>
<th>Value of Long-Term Incentives and Stock Grants</th>
<th>Total</th>
<th>Company-Stock Owned Value in Millions</th>
<th>As a Multiple of Salary</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>SANFORD I. WEILL Travelers Inc.</td>
<td>$1,019</td>
<td>$3,030</td>
<td>$245</td>
<td>$41,367</td>
<td>$45,660</td>
<td>$174.6</td>
<td>171.3</td>
</tr>
<tr>
<td>2</td>
<td>GEORGE M.C. FISHER Eastman Kodak</td>
<td>331</td>
<td>154</td>
<td>5,000</td>
<td>19,908</td>
<td>25,392</td>
<td>7.2</td>
<td>21.7</td>
</tr>
<tr>
<td>3</td>
<td>GERALD M. LEVIN Time Warner</td>
<td>1,050</td>
<td>4,000</td>
<td>244</td>
<td>15,870</td>
<td>21,164</td>
<td>102.2</td>
<td>97.3</td>
</tr>
<tr>
<td>4</td>
<td>JAMES R. MELLOR General Dynamics</td>
<td>670</td>
<td>1,350</td>
<td>12,879</td>
<td>5,380</td>
<td>20,279</td>
<td>52.1</td>
<td>77.7</td>
</tr>
<tr>
<td>5</td>
<td>JAMES E. CAYNE Bear Stearns</td>
<td>200</td>
<td>8,137</td>
<td>0</td>
<td>7,578</td>
<td>15,915</td>
<td>76.8</td>
<td>384.1</td>
</tr>
<tr>
<td>6</td>
<td>LOUIS V. GERSTNER International Business Machines</td>
<td>1,500</td>
<td>1,125</td>
<td>5,085</td>
<td>7,542</td>
<td>15,252</td>
<td>8.8</td>
<td>5.9</td>
</tr>
<tr>
<td>7</td>
<td>JOHN S. REED Citicorp</td>
<td>1,150</td>
<td>3,000</td>
<td>69</td>
<td>8,906</td>
<td>13,125</td>
<td>40.3</td>
<td>35.0</td>
</tr>
<tr>
<td>8</td>
<td>REUBEN MARK Colgate-Palmolive</td>
<td>901</td>
<td>1,264</td>
<td>94</td>
<td>10,658</td>
<td>12,916</td>
<td>115.1</td>
<td>127.7</td>
</tr>
<tr>
<td>9</td>
<td>HARVEY GOLUB American Express</td>
<td>777</td>
<td>1,850</td>
<td>335</td>
<td>8,878</td>
<td>11,840</td>
<td>19.5</td>
<td>25.1</td>
</tr>
<tr>
<td>10</td>
<td>ALSTON D. CORRELL Georgia-Pacific</td>
<td>817</td>
<td>550</td>
<td>667</td>
<td>9,625</td>
<td>11,659</td>
<td>5.4</td>
<td>6.6</td>
</tr>
</tbody>
</table>

### THE MAJOR ACCOUNTING ISSUE

To illustrate the most contentious accounting issue related to stock option plans, suppose that you are an employee for Hurdle Inc. and you are granted options to purchase 10,000 shares of the firm’s common stock as part of your compensation. The date you receive the options is referred to as the grant date. The options are good for 10 years; the market price and the exercise price for the stock are both $20 at the grant date. What is the value of the compensation you just received?

Some believe you have not received anything; that is, the difference between the market price and the exercise price is zero and therefore no compensation results. Others argue these options have value: if the stock price goes above $20 any time over the next 10 years and you exercise these options, substantial compensation results. For example, if at the end of the fourth year, the market price of the stock is $30 and you exercise your options, you will have earned $100,000 [$10,000 options \( \times (\$30 - \$20) \)], ignoring income taxes.

How should the granting of these options be reported by Hurdle Inc.? In the past, GAAP required that compensation cost be measured by the excess of the market price of the stock over its exercise price at the grant date. This approach is referred to as the intrinsic value method because the computation is not dependent on external circum-
stances: it is the difference between the market price of the stock and the exercise price of the options at the grant date. Hurdle would therefore not recognize any compensation expense related to your options because at the grant date the market price and exercise price were the same.

Recently, the FASB issued *Statement of Financial Accounting Standards No. 123 “Accounting for Stock-Based Compensation”* which encourages but does not require recognition of compensation cost for the fair value of stock-based compensation paid to employees for their services.\(^{10}\) The FASB position is that the accounting for the cost of employee services should be based on the value of compensation paid, which is presumed to be a measure of the value of the services received. Accordingly, the compensation cost arising from employee stock options should be measured based on the fair value of the stock options granted.\(^{11}\) To determine this value, acceptable option pricing models are used to value options at the date of grant. This approach is referred to as the fair value method because the option value is estimated based on the many factors which reflect its underlying value.\(^{12}\)

The FASB met considerable resistance when it proposed requiring the fair value method for recognizing the costs of stock options in the financial statements. As a result, under the new standard, a company can choose to use either the intrinsic value method or fair value method when accounting for compensation cost on the income statement. However, if a company uses the intrinsic value method to recognize compensation costs for employee stock options, it must provide expanded disclosures in the notes on these costs. Specifically, companies that choose the intrinsic value method are required to disclose in a note to the financial statements pro forma net income and earnings per share (if presented by the company), as if it had used the fair value method. The following sections discuss the accounting for stock options under both the intrinsic and fair value methods as well as the political debate surrounding stock compensation accounting.

**ACCOUNTING FOR STOCK COMPENSATION**

As indicated above, a company is given a choice in the recognition method to stock compensation; however, the FASB encourages adoption of the fair value method. Our discussion in this section illustrates both methods. Stock option plans involve two main accounting issues:

1. How should compensation expense be determined?
2. Over what periods should compensation expense be allocated?

**Determining Expense**

Using the fair value method, total compensation expense is computed based on the fair value of the options expected to vest\(^{13}\) on the date the options are granted to the employee(s), (i.e., the *grant date*) Fair value for public companies is to be estimated using an option pricing model, with some adjustments for the unique factors of employee stock options No adjustments are made after the grant date, in response to subsequent changes in the stock price—either up or down. Nonpublic companies are permitted to use a “minimum value” method to estimate the value of the options.\(^{14}\)

---


\(^{11}\)Stock options issued to non-employees in exchange for other goods or services must be recognized according to the fair value method in *FAS 123*.

\(^{12}\)These factors include the volatility of the underlying stock, the expected life of the options, the risk free rate during the option life, and expected dividends during the option life.

\(^{13}\)To earn the rights to an employee’s award becomes vested at the date that the employee’s right to receive or retain shares of stock or cash under the award is no longer contingent on remaining in the service of the employer.

\(^{14}\)The minimum value method does not consider the volatility of the stock price when estimating option value. Nonpublic companies frequently do not have data with which to estimate this element of option value.
Under the intrinsic value method (APB Opinion No. 25), total compensation cost is computed as the excess of the market price of the stock over the option price on the date when both the number of shares to which employees are entitled and the option or purchase price for those shares are known (the measurement date). For many plans, this measurement date is the grant date. However, the measurement date may be later for plans with variable terms (either number of shares and/or option price are not known) that depend on events after the date of grant. For such variable plans, compensation expense may have to be estimated on the basis of assumptions as to the final number of shares and the option price (usually at the exercise date).

Allocating Compensation Expense

In general, under both the fair and intrinsic value methods, compensation expense is recognized in the periods in which the employee performs the service— the service period. Unless otherwise specified, the service period is the vesting period—the time between the grant date and the vesting date. Thus, total compensation cost is determined at the grant date and allocated to the periods benefited by the employees’ services.

Illustration

To illustrate the accounting for a stock option plan, assume that on November 1, 1997, the stockholders of Chen Company approve a plan that grants the company’s five executives options to purchase 2,000 shares each of the company’s $1 par value common stock. The options are granted on January 1, 1998, and may be exercised at any time within the next ten years. The option price per share is $60, and the market price of the stock at the date of grant is $70 per share. Using the intrinsic value method, the total compensation expense is computed below.

\[
\begin{align*}
\text{Market value of 10,000 shares at date of grant ($70 per share)} & = 700,000 \\
\text{Option price of 10,000 shares at date of grant ($60 per share)} & = 600,000 \\
\text{Total compensation expense (intrinsic value)} & = 100,000
\end{align*}
\]

Using the fair value method, total compensation expense is computed by applying an acceptable fair value option pricing model (such as the Black-Scholes option pricing model). To keep this illustration simple, we will assume that the fair value option pricing model determines total compensation expense to be $220,000.

Basic Entries

The value of the options under either method must be recognized as an expense in the periods in which the employee performs services. In the case of Chen Company, assume that the documents associated with issuance of the options indicate that the expected period of benefit is 2 years, starting with the grant date. The journal entries to record the transactions related to this option contract using both the intrinsic value and fair value method are as follows:

<table>
<thead>
<tr>
<th>Intrinsic Value</th>
<th>Fair Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>At date of grant (January 1, 1998):</strong></td>
<td><strong>At date of grant (January 1, 1998):</strong></td>
</tr>
<tr>
<td>No entry</td>
<td>No entry</td>
</tr>
<tr>
<td><strong>To record compensation expense for 1998 (December 31, 1998):</strong></td>
<td><strong>To record compensation expense for 1998 (December 31, 1998):</strong></td>
</tr>
<tr>
<td>Compensation Expense 50,000</td>
<td>Compensation Expense 110,000</td>
</tr>
<tr>
<td>Paid-in Capital—Stock Options 50,000</td>
<td>Paid-in Capital—Stock Options 110,000</td>
</tr>
<tr>
<td>($100,000 ÷ 2)</td>
<td>($220,000 ÷ 2)</td>
</tr>
<tr>
<td><strong>To record compensation expense for 1999 (December 31, 1999):</strong></td>
<td><strong>To record compensation expense for 1999 (December 31, 1999):</strong></td>
</tr>
<tr>
<td>Compensation Expense 50,000</td>
<td>Compensation Expense 110,000</td>
</tr>
<tr>
<td>Paid-in Capital—Stock Options 50,000</td>
<td>Paid-in Capital—Stock Options 110,000</td>
</tr>
</tbody>
</table>
Under both methods, compensation expense is allocated evenly over the 2-year service period. The only difference between the two methods is the amount of compensation recognized.

**Exercise**

If 20% or 2,000 of the 10,000 options were exercised on June 1, 2001 (3 years and 5 months after date of grant), the following journal entry would be recorded using the intrinsic value method.

<table>
<thead>
<tr>
<th>Date</th>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>June 1, 2001</td>
<td>Cash (2,000 $60)</td>
<td>120,000</td>
</tr>
<tr>
<td></td>
<td>Paid-in Capital-Stock Options (20% $100,000)</td>
<td>20,000</td>
</tr>
<tr>
<td></td>
<td>Common Stock (2,000 $1.00)</td>
<td>2,000</td>
</tr>
<tr>
<td></td>
<td>Paid-in Capital in Excess of Par</td>
<td>138,000</td>
</tr>
</tbody>
</table>

Using the fair value approach, the entry would be:

<table>
<thead>
<tr>
<th>Date</th>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>June 1, 2001</td>
<td>Cash (2,000 $60)</td>
<td>120,000</td>
</tr>
<tr>
<td></td>
<td>Paid-in Capital-Stock Options (20% 220,000)</td>
<td>44,000</td>
</tr>
<tr>
<td></td>
<td>Common Stock (2,000 $1.00)</td>
<td>2,000</td>
</tr>
<tr>
<td></td>
<td>Paid-in Capital in Excess of Par</td>
<td>162,000</td>
</tr>
</tbody>
</table>

**Expiration**

If the remaining stock options are not exercised before their expiration date, the balance in the Paid-in Capital—Stock Options account should be transferred to a more properly titled paid-in capital account, such as Paid-in Capital from Expired Stock Options. The entry to record this transaction at the date of expiration would be as follows:

<table>
<thead>
<tr>
<th>Date</th>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>January 1, 2007 (Expiration date)</td>
<td>Paid-in Capital—Stock Options 80,000</td>
<td>80,000</td>
</tr>
<tr>
<td></td>
<td>Paid-in Capital from Expired Stock Options (80% 100,000)</td>
<td>80,000</td>
</tr>
<tr>
<td></td>
<td>Paid-in Capital—Stock Options 176,000</td>
<td>176,000</td>
</tr>
<tr>
<td></td>
<td>Paid-in Capital from Expired Stock Options (80% 220,000)</td>
<td>176,000</td>
</tr>
</tbody>
</table>

**Adjustment**

The fact that a stock option is not exercised does not nullify the propriety of recording the costs of services received from executives and attributable to the stock option plan. Under GAAP, compensation expense is, therefore, not adjusted upon expiration of the options. However, if a stock option is forfeited because an employee fails to satisfy a service requirement (e.g., leaves employment), the estimate of compensation expense recorded in the current period should be adjusted (as a change in estimate). This change in estimate would be recorded by debiting Paid-in Capital—Stock Options and crediting Compensation Expense, thereby decreasing compensation expense in the period of forfeiture.

**TYPES OF PLANS**

Many different types of plans are used to compensate key executives. In all these plans the amount of the reward depends upon future events. Consequently, continued employment is a necessary element in almost all types of plans. The popularity of a given plan usually depends on prospects in the stock market and tax considerations. For example, if it appears that appreciation will occur in a company’s stock, a plan that offers the option to purchase stock is attractive to an executive. Conversely, if it appears that price appreciation is unlikely, then compensation might be tied to some performance measure such as an increase in book value or earnings per share.
Three common compensation plans that illustrate different objectives are:

1. Stock option plans (incentive or nonqualified).
2. Stock appreciation rights plans.
3. Performance-type plans.

Most plans follow the general guidelines for reporting established in the previous sections. A more detailed discussion of these plans is presented in Appendix 17-A.

NONCOMPENSATORY PLANS

In some companies, stock purchase plans permit all employees to purchase stock at a discounted price for a short period of time. These plans are usually classified as noncompensatory. Noncompensatory means that the primary purpose of the plan is not to compensate the employees but, rather, to enable the employer to secure equity capital or to induce widespread ownership of an enterprise’s common stock among employees. Thus, compensation expense is not reported for these plans. Noncompensatory plans have three characteristics:

1. Substantially all full-time employees may participate on an equitable basis.
2. The discount from market price is small; that is, it does exceed the greater of a per share discount reasonably offered to stockholders or the per share amount of costs avoided by not having to raise cash in a public offering.
3. The plan offers no substantive option feature.

For example, Masthead Company had a stock purchase plan under which employees who meet minimal employment qualifications are entitled to purchase Masthead stock at a 5% reduction from market price for a short period of time. The reduction from market price is not considered compensatory because the per share amount of the costs avoided by not having to raise the cash in a public offering are equal to 5%. Plans that do not possess all of the above mentioned three characteristics are classified as compensatory.

DISCLOSURES OF COMPENSATION PLANS

To comply with the new standard, companies offering stock-based compensation plans must determine the fair value of the options using the methodology required by FAS 123. Companies must then decide whether to adopt the new accounting guidelines and recognize expense in the income statement, or follow the old standard and disclose in the notes the pro forma impact on net income and earnings per share (if presented), as if the fair value had been used. Regardless of whether the intrinsic value or fair value method is used, full disclosure should be made about the status of these plans at the end of the periods presented, including the number of shares under option, options exercised and forfeited, the weighted average option prices for these categories, the weighted average fair value of options granted during the year, and the average remaining contractual life of the options outstanding. In addition to information about the status of the stock option plan, companies must also disclose the method and significant assumptions used to estimate the fair values of the stock options.

Illustration 17-4 provides an example for option plans, assuming the fair value method is used in the financial statements.

If APB Opinion No. 25 is used in the financial statements companies must still disclose the pro-forma net income and pro-forma earnings per share (if presented), as if the fair value method had been used to account for the stock-based compensation cost. Illustration 17-5 illustrates this disclosure.

15These data should be reported separately for each different type of plan offered to employees.
16Since companies do not have to comply with the provisions of SFAS No. 123 until 1996 fiscal years, this example is taken from the standard (Para. 362).
Chapter 17 / Dilutive Securities and Earnings Per Share Calculations

ILLUSTRATION 17-5
Disclosure of Pro-forma Effect of Stock Option Plan

At December 31, 2006, the Company has a stock-based compensation plan, which is described below. The Company applies APB Opinion 25 and related Interpretations in accounting for its plan. No compensation cost has been recognized for its fixed stock option plan. Had compensation cost for the Company’s stock-based compensation plan been determined based on the fair value at the grant date for awards under those plans consistent with the method of FASB Statement 123, the Company’s net income and earnings per share would have been reduced to the pro forma amounts indicated below:

<table>
<thead>
<tr>
<th></th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net income</td>
<td>As reported</td>
<td>$347,790</td>
<td>$407,300</td>
</tr>
<tr>
<td></td>
<td>Pro forma</td>
<td>$336,828</td>
<td>$394,553</td>
</tr>
<tr>
<td>Earnings per share</td>
<td>As reported</td>
<td>$1.97</td>
<td>$2.29</td>
</tr>
<tr>
<td></td>
<td>Pro forma</td>
<td>$1.91</td>
<td>$2.22</td>
</tr>
<tr>
<td>Diluted earnings per share</td>
<td>As reported</td>
<td>$1.49</td>
<td>$1.73</td>
</tr>
<tr>
<td></td>
<td>Pro forma</td>
<td>$1.44</td>
<td>$1.68</td>
</tr>
</tbody>
</table>
Debate over Stock Option Accounting

As illustrated earlier, GAAP for stock compensation allows companies a choice between measurement methods for the expense related to employee stock options. In general, use of the fair value approach results in greater compensation costs relative to the intrinsic value model reflected in APB Opinion No. 25. Estimates of the effects of the new standard on earnings per share for selected companies are shown in Illustration 17-6. These estimates indicate that some companies might have substantial compensation costs, not previously recognized, if they adopt the fair value approach reflected in FAS No. 123.

<table>
<thead>
<tr>
<th>Company</th>
<th>1992 EPS</th>
<th>% Decline</th>
<th>Company</th>
<th>1992 EPS</th>
<th>% Decline</th>
</tr>
</thead>
<tbody>
<tr>
<td>Allied Signal</td>
<td>$3.91</td>
<td>– 6.3%</td>
<td>McDonald’s</td>
<td>$2.60</td>
<td>– 5.4%</td>
</tr>
<tr>
<td>Alcoa</td>
<td>0.89</td>
<td>– 10.0</td>
<td>Merck</td>
<td>3.12</td>
<td>– 1.6</td>
</tr>
<tr>
<td>American Express</td>
<td>0.83</td>
<td>– 7.0</td>
<td>Microsoft</td>
<td>2.41</td>
<td>– 18.9</td>
</tr>
<tr>
<td>Amgen</td>
<td>2.42</td>
<td>– 8.7</td>
<td>Minn. Min. &amp; Mfg.</td>
<td>5.65</td>
<td>– 2.0</td>
</tr>
<tr>
<td>AT&amp;T</td>
<td>2.86</td>
<td>– 0.9</td>
<td>Morgan, J.P.</td>
<td>6.93</td>
<td>– 3.2</td>
</tr>
<tr>
<td>Boeing</td>
<td>4.57</td>
<td>– 2.5</td>
<td>Novell</td>
<td>0.81</td>
<td>– 15.0</td>
</tr>
<tr>
<td>Chevron</td>
<td>6.32</td>
<td>– 0.4</td>
<td>Paramount Commun.</td>
<td>2.27</td>
<td>– 6.9</td>
</tr>
<tr>
<td>Coca-Cola</td>
<td>1.73</td>
<td>– 1.7</td>
<td>Philip Morris</td>
<td>5.45</td>
<td>– 1.4</td>
</tr>
<tr>
<td>Disney</td>
<td>2.55</td>
<td>– 4.7</td>
<td>Pogo Producing</td>
<td>0.66</td>
<td>– 3.3</td>
</tr>
<tr>
<td>DuPont</td>
<td>1.82</td>
<td>– 0.9</td>
<td>Procter &amp; Gamble</td>
<td>3.22</td>
<td>– 2.2</td>
</tr>
</tbody>
</table>


It is an understatement to say that corporate America was unhappy with requiring more compensation expense for these plans. Many small high-technology companies were particularly vocal in their opposition, arguing that only through offering stock options can they attract top professional management. They contend that if they are forced to recognize large amounts of compensation expense under these plans, they will be at a competitive disadvantage with larger companies that can withstand higher compensation charges. As one high-tech executive stated: “If your goal is to attack fat-cat executive compensation in multi-billion dollar firms, then please do so! But not at the expense of the people who are ‘running lean and mean,’ trying to build businesses and creating jobs in the process.”

A LOOK AT THE DEBATE

A chronology of events related to this standard demonstrates the difficulty in standard-setting when various stakeholders believe they are adversely affected.

1. In 1984 the FASB embarked on a major project to determine if compensation should be reported for stock options. The business community objected to this project, noting that the present accounting was appropriate. In other words, “if it ain’t broke, don’t fix it.” Many alleged that the reason for the business community’s objection was the fear that additional compensation cost would have to be reported. The FASB eventually put the project on hold until it completed a study on more fundamental questions related to debt and equity.

2. Option plans continued to proliferate. Sizable grants were given to executives; in some cases, the company did not report compensation expense for these awards. In addition, the relationship between the level of pay and the performance of the company, in some cases, was not well correlated. The SEC received criticism from legislators and the press about the lack of disclosure and reporting on these options. The SEC prodded the FASB to move more quickly on their project on stock option accounting.

ILLUSTRATION 17-6
FASB Standard’s Effect on EPS for Selected Companies

OBJECTIVE 5
Explain the controversy involving stock compensation plans.

UNDERLYING CONCEPT
The stock option controversy involves economic consequences issues. The FASB believes the neutrality concept should be followed; others disagree, noting that factors other than accounting theory should be considered.

17 These estimates are based on the provisions in the exposure draft which would have required the fair value approach for all stock compensation plans.
3. In January 1992 Senator Carl Levin (Michigan) introduced a bill in Congress that would mandate more disclosure on stock options. It also would require the SEC to issue regulations requiring publicly traded companies to recognize an expense based on the fair value of options granted to employees. Senator Levin stated that the FASB had indicated that the rules related to stock options were broken and needed to be fixed. He agreed to delay action on the bill, provided the FASB fix the stock option problem.

4. In late 1992 the SEC issued new disclosure guidelines on executive compensation. The disclosure included four charts spelling out compensation for a company’s five highest-paid executives. The disclosures were favorably accepted, although limited in scope.

5. In June 1993 the FASB issued an exposure draft on stock options. The recommendations were that the value of stock options issued to employees is compensation which should be recognized in the financial statements. Nonrecognition of these costs results in financial statements that are neither credible nor representationally faithful. The draft recommended that sophisticated option pricing models be used to estimate the value of stock options. In addition, disclosures related to these plans would be enhanced.

6. The exposure draft met a blizzard of opposition from the business community. Some argued stock option plans were not compensation expense; some contended that it was impossible to develop appropriate option pricing models; others said that these standards would be disastrous to American business. The economic consequences argument was used extensively. In mid-1993 Congresswoman Anna Eshoo (California) submitted a congressional resolution calling for the FASB not to change its current accounting rules. Eshoo stated that the FASB proposal “poses a threat to economic recovery and entrepreneurship in the United States. . . . (it) hurts low- and mid-level employees and stunts the growth of new-growth sectors, such as high technology which relies heavily on entrepreneurship.”

7. On June 30, 1993, the Equity Expansion Act of 1993 was introduced by Senator Joseph Lieberman (Connecticut). The bill mandates that the SEC require that no compensation expense be reported on the income statement for stock option plans. To make the bill appeal to various constituencies, it would exclude 50% of the tax on any gain if the employees held their stock for two years after exercise. In addition, the bill requires that 50% of the stock in the new plan would be awarded to 80% of the workplace designated as “not highly compensated.” It therefore took the “fat cats” label off the legislation and made it more saleable. In other words, if Senator Levin could put a bill together that forces the FASB to do something (and thereby set a precedent for interfering in the operations of the Board), then some other bill could tell the FASB not to do the same thing.

8. During the latter part of 1993, the FASB looked for political support but found few supporters. The SEC commissioners all expressed reservations about the FASB’s proposed ruling. However, the chief accountant of the SEC spoke in opposition to much of the lobbying effort directed against the FASB.

9. In early 1994 a group of senators wrote to the SEC. They expressed concern “that the credibility of the financial reporting process may be harmed significantly if Congress, in order to further economic or political goals, either discourages the FASB from revising what the FASB believes to be a deficient standard or overrules the FASB by writing an accounting standard directly into the Federal securities laws.”

10. In mid 1994 the FASB agreed to delay, by one year, the exposure draft requirement that companies disclose additional information related to stock options. In addition, it appears that compensation expense will be reported at lower amounts on the income statement than originally recommended. An alternative scenario is that the Board will not be able to require any charge for many option contracts.
In late 1994, in response to opposition to the recognition provisions of the exposure draft, the FASB decided to encourage, rather than require, recognition of compensation cost based on the fair value method and require expanded disclosures. The FASB adopted the disclosure approach because they were concerned that the “divisiveness of the debate” could threaten the future of accounting standard-setting in the private sector. The final standard was issued in October, 1995.

The stock option saga is a classic example of the difficulty the FASB faces in issuing an accounting standard. Many powerful interests have aligned against the Board; even some who initially appeared to support the Board’s actions later reversed themselves. The whole incident is troubling because the debate for the most part has not been about the proper accounting but more about the economic consequences of the standards. If we continue to write standards so that some social, economic, or public policy goal is achieved, it will not be too long before financial reporting will lose its credibility.

**SECTION 2 / COMPUTING EARNINGS PER SHARE**

Earnings per share data are frequently reported in the financial press and are widely used by stockholders and potential investors in evaluating the profitability of a company. Earnings per share indicates the income earned by each share of common stock. Thus, earnings per share is reported only for common stock. For example, if Oscar Co. has net income of $300,000 and a weighted average of 100,000 shares of common stock outstanding for the year, earnings per share is $3 ($300,000 ÷ 100,000).

Because of the importance of earnings per share information, most companies are required to report this information on the face of the income statement. The exception is nonpublic companies; because of cost-benefit considerations they do not have to report this information. Generally, earnings per share information is reported below net income in the income statement. For Oscar Co. the presentation would be as follows:

<table>
<thead>
<tr>
<th>Net income</th>
<th>$300,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Earnings per share</td>
<td>$3.00</td>
</tr>
</tbody>
</table>

When the income statement contains intermediate components of income, earnings per share should be disclosed for each component. The following is representative:

<table>
<thead>
<tr>
<th>Earnings per share:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Income from continuing operations</td>
</tr>
<tr>
<td>Loss from discontinued operations, net of tax</td>
</tr>
<tr>
<td>Income before extraordinary item and cumulative effect of change in accounting principle</td>
</tr>
<tr>
<td>Extraordinary gain, net of tax</td>
</tr>
<tr>
<td>Cumulative effect of change in accounting principle, net of tax</td>
</tr>
<tr>
<td>Net income</td>
</tr>
</tbody>
</table>

**INTERNATIONAL INSIGHT**

In many nations (e.g., Switzerland, Sweden, Spain, and Mexico) there is no requirement to disclose earnings per share.

**ILLUSTRATION 17-7**

Income Statement Presentation of EPS

**ILLUSTRATION 17-8**

Income Statement Presentation of EPS Components

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19/A nonpublic enterprise is an enterprise other than (1) whose debt or equity securities are traded in a public market on a foreign or domestic stock exchange or in the over-the-counter market (including securities quoted locally or regionally) or (2) that is required to file financial statements with the SEC. An enterprise is no longer considered a nonpublic enterprise when its financial statements are issued in preparation for the sale of any class of securities in a public market.
These disclosures enable the user of the financial statements to recognize the effects of income from continuing operations on EPS, as distinguished from income or loss from irregular items.\(^{20}\)

### EARNINGS PER SHARE—SIMPLE CAPITAL STRUCTURE

A corporation's capital structure is simple if it consists only of common stock or includes no potentially dilutive convertible securities, options, warrants, or other rights that upon conversion or exercise could in the aggregate dilute earnings per common share. (A capital structure is complex if it includes securities that could have a dilutive effect on earnings per common share.) The computation of earnings per share for a simple capital structure involves two items (other than net income)—preferred stock dividends and weighted average number of shares outstanding.

### PREFERRED STOCK DIVIDENDS

As indicated earlier, earnings per share relates to earnings per common share. When a company has both common and preferred stock outstanding, the current year preferred stock dividend is subtracted from net income to arrive at income available to common stockholders. The formula for computing earnings per share is then as follows:

\[
\text{Earnings Per Share} = \frac{\text{Net Income} - \text{Preferred Dividends}}{\text{Weighted Average Number of Shares Outstanding}}
\]

In reporting earnings per share information, dividends on preferred stock should be subtracted from each of the intermediate components of income (income from continuing operations and income before extraordinary items) and finally from net income to arrive at income available to common stockholders. If dividends on preferred stock are declared and a net loss occurs, the preferred dividend is added to the loss for purposes of computing the loss per share. If the preferred stock is cumulative and the dividend is not declared in the current year, an amount equal to the dividend that should have been declared for the current year only should be subtracted from net income or added to the net loss. Dividends in arrears for previous years should have been included in the previous years’ computations.

### WEIGHTED AVERAGE NUMBER OF SHARES OUTSTANDING

In all computations of earnings per share, the weighted average number of shares outstanding during the period constitutes the basis for the per share amounts reported. Shares issued or purchased during the period affect the amount outstanding and must be weighted by the fraction of the period they are outstanding. The rationale for this approach is to find the equivalent number of whole shares outstanding for the year. To illustrate, assume that Stallone Inc. has the following changes in its common stock shares outstanding for the period.

<table>
<thead>
<tr>
<th>Date</th>
<th>Share Changes</th>
<th>Shares Outstanding</th>
</tr>
</thead>
<tbody>
<tr>
<td>January 1</td>
<td>Beginning balance</td>
<td>90,000</td>
</tr>
<tr>
<td>April 1</td>
<td>Issued 30,000 shares for cash</td>
<td>120,000</td>
</tr>
<tr>
<td>July 1</td>
<td>Purchased 39,000 shares</td>
<td>39,000</td>
</tr>
<tr>
<td>November 1</td>
<td>Issued 60,000 shares for cash</td>
<td>60,000</td>
</tr>
<tr>
<td>December 31</td>
<td>Ending balance</td>
<td>141,000</td>
</tr>
</tbody>
</table>

\(^{20}\)Per share amounts for discontinued operations, an extraordinary item, or the cumulative effect of an accounting change in a period should be presented either on the face of the income statement or in the notes to the financial statements.
To compute the weighted average number of shares outstanding, the following computation is made.

<table>
<thead>
<tr>
<th>Dates</th>
<th>(A) Shares Outstanding</th>
<th>(B) Fraction of Year</th>
<th>(C) Weighted Shares</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jan. 1—Apr. 1</td>
<td>90,000</td>
<td>3/12</td>
<td>22,500</td>
</tr>
<tr>
<td>Apr. 1—July 1</td>
<td>120,000</td>
<td>3/12</td>
<td>30,000</td>
</tr>
<tr>
<td>July 1—Nov. 1</td>
<td>81,000</td>
<td>4/12</td>
<td>27,000</td>
</tr>
<tr>
<td>Nov. 1—Dec. 31</td>
<td>141,000</td>
<td>2/12</td>
<td>23,500</td>
</tr>
<tr>
<td>Weighted average number of shares outstanding</td>
<td>103,000</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

As illustrated, 90,000 shares were outstanding for 3 months, which translates to 22,500 whole shares for the entire year. Because additional shares were issued on April 1, the shares outstanding change and these shares must be weighted for the time outstanding. When 39,000 shares were purchased on July 1, the shares outstanding were reduced and again a new computation must be made to determine the proper weighted shares outstanding.

**Stock Dividends and Stock Splits**

When stock dividends or stock splits occur, computation of the weighted average number of shares requires restatement of the shares outstanding before the stock dividend or split. For example, assume that a corporation had 100,000 shares outstanding on January 1 and issued a 25% stock dividend on June 30. For purposes of computing a weighted average for the current year, the additional 25,000 shares outstanding as a result of the stock dividend are assumed to have been outstanding since the beginning of the year. Thus the weighted average for the year would be 125,000 shares.

The issuance of a stock dividend or stock split is restated, but the issuance or repurchase of stock for cash is not. Why? The reason is that stock splits and stock dividends do not increase or decrease the net assets of the enterprise; only additional shares of stock are issued and, therefore, the weighted average shares must be restated. Conversely, the issuance or purchase of stock for cash changes the amount of net assets. As a result, the company either earns more or less in the future as a result of this change in net assets. Stated another way, a stock dividend or split does not change the shareholders' total investment—it only increases (unless it is a reverse stock split) the number of common shares representing this investment.

To illustrate how a stock dividend affects the computation of the weighted average number of shares outstanding, assume that Rambo Company has the following changes in its common stock shares during the year.

<table>
<thead>
<tr>
<th>Date</th>
<th>Share Changes</th>
<th>Shares Outstanding</th>
</tr>
</thead>
<tbody>
<tr>
<td>January 1</td>
<td>Beginning balance</td>
<td>100,000</td>
</tr>
<tr>
<td>March 1</td>
<td>Issued 20,000 shares for cash</td>
<td>120,000</td>
</tr>
<tr>
<td>June 1</td>
<td>60,000 additional shares</td>
<td>180,000</td>
</tr>
<tr>
<td></td>
<td>(50% stock dividend)</td>
<td></td>
</tr>
<tr>
<td>November 1</td>
<td>Issued 30,000 shares for cash</td>
<td>210,000</td>
</tr>
<tr>
<td>December 31</td>
<td>Ending balance</td>
<td></td>
</tr>
</tbody>
</table>

The computation of the weighted average number of shares outstanding would be as follows:
Chapter 17 / Dilutive Securities and Earnings Per Share Calculations

### Illustration 17-12

**Weighted Average Number of Shares Outstanding—Stock Issue and Stock Dividend**

<table>
<thead>
<tr>
<th>Dates</th>
<th>Outstanding Shares (A)</th>
<th>Outstanding (B)</th>
<th>Restatement (C)</th>
<th>Fraction of Year (D)</th>
<th>Weighted Shares (A x B x C)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jan. 1—Mar. 1</td>
<td>100,000</td>
<td>1.50</td>
<td>2/12</td>
<td>25,000</td>
<td></td>
</tr>
<tr>
<td>Mar. 1—June 1</td>
<td>120,000</td>
<td>1.50</td>
<td>3/12</td>
<td>45,000</td>
<td></td>
</tr>
<tr>
<td>June 1—Nov. 1</td>
<td>180,000</td>
<td>1.50</td>
<td>5/12</td>
<td>75,000</td>
<td></td>
</tr>
<tr>
<td>Nov. 1—Dec. 31</td>
<td>210,000</td>
<td>1.50</td>
<td>2/12</td>
<td>35,000</td>
<td></td>
</tr>
</tbody>
</table>

**Weighted average number of shares outstanding**

180,000

The shares outstanding prior to the stock dividend must be restated. The shares outstanding from January 1 to June 1 are adjusted for the stock dividend, so that these shares are stated on the same basis as shares issued subsequent to the stock dividend. Shares issued after the stock dividend do not have to be restated because they are on the new basis. The stock dividend simply restates existing shares. The same type of treatment occurs for a stock split.

If a stock dividend or stock split occurs after the end of the year, but before the financial statements are issued, the weighted average number of shares outstanding for the year (and any other years presented in comparative form) must be restated. For example, assume that Hendricks Company computes its weighted average number of shares to be 100,000 for the year ended December 31, 1995. On January 15, 1996, before the financial statements are issued, the company splits its stock 3 for 1. In this case, the weighted average number of shares used in computing earnings per share for 1995 would be 300,000 shares. If earnings per share information for 1994 is provided as comparative information, it also must be adjusted for the stock split.

### Comprehensive Illustration

Sylvester Corporation has income before extraordinary item of $580,000 and an extraordinary gain, net of tax of $240,000. In addition, it has declared preferred dividends of $1 per share on 100,000 shares of preferred stock outstanding. Sylvester Corporation also has the following changes in its common stock shares outstanding during 1995:

**Illustration 17-13**

**Shares Outstanding, Ending Balance—Sylvester Corp.**

<table>
<thead>
<tr>
<th>Dates</th>
<th>Share Changes</th>
<th>Shares Outstanding</th>
</tr>
</thead>
<tbody>
<tr>
<td>January 1</td>
<td>Beginning balance</td>
<td>180,000</td>
</tr>
<tr>
<td>May 1</td>
<td>Purchased 30,000 treasury shares</td>
<td>30,000</td>
</tr>
<tr>
<td></td>
<td></td>
<td>150,000</td>
</tr>
<tr>
<td>July 1</td>
<td>300,000 additional shares (3 for 1 stock split)</td>
<td>300,000</td>
</tr>
<tr>
<td></td>
<td></td>
<td>450,000</td>
</tr>
<tr>
<td>December 31</td>
<td>Issued 50,000 shares for cash</td>
<td>50,000</td>
</tr>
<tr>
<td>December 31</td>
<td>Ending balance</td>
<td>500,000</td>
</tr>
</tbody>
</table>

To compute the earnings per share information, the weighted average number of shares outstanding is determined as follows:

**Illustration 17-14**

**Weighted Average Number of Shares Outstanding**

<table>
<thead>
<tr>
<th>Dates</th>
<th>Outstanding Shares (A)</th>
<th>Outstanding (B)</th>
<th>Restatement (C)</th>
<th>Fraction of Year (D)</th>
<th>Weighted Shares (A x B x C)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jan. 1—May 31</td>
<td>180,000</td>
<td>3</td>
<td>4/12</td>
<td>180,000</td>
<td></td>
</tr>
<tr>
<td>May 1—Dec. 31</td>
<td>150,000</td>
<td>3</td>
<td>8/12</td>
<td>300,000</td>
<td></td>
</tr>
</tbody>
</table>

**Weighted average number of shares outstanding**

480,000

In computing the weighted average number of shares, the shares sold on December 31, 1995, are ignored because they have not been outstanding during the year. The
weighted average number of shares is then divided into income before extraordinary item and net income to determine earnings per share. Sylvester Corporation’s preferred dividends of $100,000 are subtracted from income before extraordinary item ($580,000) to arrive at income before extraordinary item available to common stockholders of $480,000 ($580,000 – $100,000). Deducting the preferred dividends from the income before extraordinary item has the effect of also reducing net income without affecting the amount of the extraordinary item. The final amount is referred to as income available to common stockholders.

Disclosure of the per share amount for the extraordinary item (net of tax) must be reported either on the face of the income statement or in the notes to the financial statements. Income and per share information reported on the face of the income statement would be as follows:

| Income before extraordinary item available to common stockholders | $480,000* | 480,000 | $1.00 |
| Extraordinary gain (net of tax) | 240,000 | 480,000 | .50 |
| Income available to common stockholders | $720,000 | 480,000 | $1.50 |

*A$580,000 – $100,000

EARNINGS PER SHARE—COMPLEX CAPITAL STRUCTURE

One problem with a simple EPS computation is that it fails to recognize the potentially dilutive impact on outstanding stock when a corporation has dilutive securities in its capital structure. Dilutive securities present a serious problem because conversion or exercise often has an adverse effect on earnings per share. This adverse effect can be significant and, more important, unexpected unless financial statements call attention to the potential dilutive effect in some manner. Because of the increasing use of dilutive securities in the 1960s, the profession could no longer ignore the significance of these securities. APB Opinion No. 15 was therefore issued, which developed the concept of a complex capital structure. A complex capital structure exists when a corporation has convertible securities, options, warrants, or other rights that upon conversion or exercise could in the aggregate dilute earnings per share. Roughly one-third of all public companies have these types of securities outstanding.

A complex capital structure requires a dual presentation of earnings per share, each with equal prominence on the face of the income statement. According to APB Opinion No. 15, these two presentations are referred to as “primary earnings per share” and “fully diluted earnings per share.” Primary earnings per share is based on the number of common shares outstanding plus the shares referred to as common stock equivalents—securities that are in substance equivalent to common shares. Fully diluted earnings per share indicates the dilution of earnings per share that would have occurred if all contingent issuances of common stock that would have reduced earnings per share had taken place.
EPS reporting under APB Opinion No. 15 has been criticized for being too complex based on a number of arbitrary assumptions, particularly with respect to determination of common stock equivalency. Furthermore, presenting earnings per share adjusted for dilutive securities obscures the real fact available—earnings per outstanding shares. For example, according to APB Opinion No. 15, companies with complex capital structures generally do not report the simple EPS calculation.

In response to criticisms of EPS reporting under APB Opinion No. 15, the Board has recently issued a proposed new EPS standard that simplifies present computations. The proposed standard calls for computation of basic EPS and diluted EPS (analogous to fully diluted EPS); the primary EPS computation would be eliminated. These changes relate solely to the denominator in the calculation of EPS. In addition, increased disclosures of dilutive securities is required to allow statement readers to better evaluate the impact of dilutive securities. The formula in Illustration 17-17 shows the relationship between basic EPS and diluted EPS.

ILLUSTRATION 17-17
Relation Between Basic and Diluted EPS

Note that companies with complex capital structures will not report diluted EPS if the securities in their capital structure are antidilutive. Antidilutive securities are securities which upon conversion or exercise increase earnings per share (or reduce the loss per share). The purpose of the dual presentation is to inform financial statements users of situations that will likely occur and to provide “worst case” dilutive situations. If the securities are antidilutive, the likelihood of conversion or exercise is considered remote. Thus, companies that have only antidilutive securities are not permitted to increase earnings per share and are required to report only the basic EPS number.

21In addition, many small companies complain that they are overburdened with the required information because it is often costly to prepare and precludes providing other, more useful information. In response to some of the small firm concerns, the FASB issued a standard, which suspends the reporting requirements related to earnings per share of nonpublic companies (“Suspension of the Reporting of Earnings per Share and Segment information by Nonpublic Enterprises,” Statement of Financial Accounting Standards No. 21. Stamford, Conn.: FASB, 1978).

22See an article by R. David Mautz, Jr. and Thomas Jeffrey Hogan, “Earnings per Share Reporting: Time for an Overhaul?” Accounting Horizons (September, 1989), pp. 21-27 which recommends an expanded disclosure format but elimination of many of the computational procedures used in determining earnings per share.

23Proposed Statement of Financial Standards, “Earnings per Share and Disclosure of Information about Capital Structure,” FASB (January 19, 1996). The guidelines for determining earnings per share are taken from the proposed standard because APB Opinion No. 15 will be rescinded soon. The exposure draft’s recommendations are noncontroversial and will be adopted in 1997 and therefore we believe students should learn the new approach.

24The proposed standard eliminates the 3% materiality test for determining whether to report the dual presentation for complex capital structures.
The computation of basic EPS was illustrated in the prior section. The discussion in the following sections addresses the effects of convertible and other dilutive securities on EPS calculations.

**DILUTED EPS—CONVERTIBLE SECURITIES**

At conversion, convertible securities are exchanged for common stock. The method used to measure the dilutive effects of potential conversion on EPS is called the if-converted method. The if-converted method for a convertible bond assumes (1) the conversion of the convertible securities at the beginning of the period (or at the time of issuance of the security, if issued during the period), and (2) the elimination of related interest, net of tax. Thus the denominator—the weighted average number of shares outstanding—is increased by the additional shares assumed converted and the numerator—net income—is increased by the amount of interest expense, net of tax associated with those potential common shares.

**Comprehensive Illustration—If-Converted Method**

As an example, Marshy Field Corporation has net income for the year of $210,000 and a weighted average number of common shares outstanding during the period of 100,000 shares. The basic earnings per share is, therefore, $2.10 ($210,000 ÷ 100,000). The company has two convertible debenture bond issues outstanding. One is a 6% issue sold at 100 (total $1,000,000) in a prior year and convertible into 20,000 common shares. The other is a 10% issue sold at 100 (total $1,000,000) on April 1 of the current year and convertible into 32,000 common shares. The tax rate is 40%.

As shown in Illustration 17-18, to determine the numerator, we add back the interest on the if-converted securities less the related tax effect. Because the if-converted method assumes conversion as of the beginning of the year, no interest on the convertibles is assumed to be paid during the year. The interest on the 6% convertibles is $60,000 for the year ($1,000,000 × 6%). The increased tax expense is $24,000 ($60,000 × .40), and the interest added back net of taxes is $36,000 [$60,000 − $24,000 or simply $60,000 × (1 − .4)].

Because 10% convertibles are issued subsequent to the beginning of the year, the shares assumed to have been issued on that date, April 1, are weighted as outstanding from April 1 to the end of the year. In addition, the interest adjustment to the numerator for these bonds would only reflect the interest for nine months. Thus the interest added back on the 10% convertible would be $45,000 [$1,000,000 × 10% × 9/12 year × (1 − .4)]. The computation of earnings (the numerator) for diluted earnings per share is shown in Illustration 17-18.

| Net income for the year               | $210,000 |
| Add: Adjustment for interest (net of tax) |          |
| 6% debentures: ($60,000 × [1 − .40])  | 36,000   |
| 10% debentures ($100,000 × 9/12 × [1 − .40]) | 45,000   |
| Adjusted net income                  | $291,000 |

The computation for shares adjusted for dilutive securities (the denominator) for diluted earnings per share is shown in Illustration 17-19:

| Weighted average number of shares outstanding | 100,000 |
| Add: Shares assumed to be issued:              |        |
| 6% Debentures (as of beginning of year)         | 20,000  |
| 10% Debentures (as of date of issue, April 1; 9/12 × 32,000) | 24,000  |
| Weighted average number of shares adjusted for dilutive securities | 144,000 |
Marshy Field would then report earnings per share based on a dual presentation on the face of the income statement; basic and diluted earnings per share are reported. The presentation is shown in Illustration 17-20.

<table>
<thead>
<tr>
<th>(Bottom of Income Statement)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Earnings per Share (Note X)</td>
<td></td>
</tr>
<tr>
<td>Basic EPS ($210,000 ÷ 100,000)</td>
<td>$2.10</td>
</tr>
<tr>
<td>Diluted EPS ($291,000 ÷ 144,000)</td>
<td>$2.02</td>
</tr>
</tbody>
</table>

**Other Factors**

The example above assumed that Marshy Field’s bonds were sold at face amount. If the bonds are sold at a premium or discount, interest expense must be adjusted each period to account for this occurrence. Therefore, the amount of interest expense added back, net of tax, to net income is the interest expense reported on the income statement, not the interest paid in cash during the period.

In addition, the conversion rate on a dilutive security may change over the period the dilutive security is outstanding. In this situation, for the diluted EPS computation, the most advantageous conversion rate available to the holder is used. For example, assume that a convertible bond was issued January 1, 1994, with a conversion rate of 10 common shares for each bond starting January 1, 1996; beginning January 1, 1999, the conversion rate is 12 common shares for each bond, and beginning January 1, 2003, it is 15 common shares for each bond. In computing diluted EPS in 1994, the conversion rate of 15 shares to one bond is used.

Finally, if the 6% convertible debentures were instead 6% convertible preferred stock, the convertible preferred would be considered potential common shares and included in shares outstanding in diluted EPS calculations. Preferred dividends are not subtracted from net income in computing the numerator because it is assumed that the convertible preferreds are converted and are outstanding as common stock for purposes of computing EPS. Net income is used as the numerator—no tax effect is computed because preferred dividends are not deductible for tax purposes.

**DILUTED EPS—OPTIONS AND WARRANTS**

Stock options and warrants outstanding (whether or not presently exercisable) are included in diluted earnings per share unless they are antidilutive. Options and warrants and their equivalents are included in earnings per share computations through the treasury stock method.

The treasury stock method assumes that the options or warrants are exercised at the beginning of the year (or date of issue if later) and the proceeds from the exercise of options and warrants are used to purchase common stock for the treasury. If the exercise price is lower than the market price of the stock, then the proceeds from exercise are not sufficient to buy back all the shares. The incremental shares remaining are added to the weighted average number of shares outstanding for purposes of computing diluted earnings per share.

For example, if the exercise price of a warrant is $5 and the fair market value of the stock is $15, the treasury stock method would increase the shares outstanding. Exercise of the warrant would result in one additional share outstanding, but the $5 received for the one share issued is not sufficient to purchase one share in the market at $15. Three warrants would have to be exercised (and three additional shares issued) to produce enough money ($15) to acquire one share in the market. Thus, a net increase of two shares outstanding would result.

In terms of larger numbers, assume 1,500 options outstanding at an exercise price of $30 for a common share and a common stock market price per share of $50. Through

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25We assume conversion of bonds is dilutive because EPS with conversion ($2.02) is less than basic EPS ($2.10).
application of the treasury stock method there would be 600 **incremental shares** outstanding, computed as follows:\(^{26}\)

| Proceeds from exercise of 1,500 options (1,500 × $30) | $45,000 |
| Shares issued upon exercise of options | 1,500 |
| Treasury shares purchasable with proceeds ($45,000 ÷ $50) | 900 |
| Incremental shares outstanding (potential common shares) | 600 |

Thus, if the exercise price of the option or warrant is **lower** than the market price of the stock, dilution occurs. If the exercise price of the option or warrant is **higher** than the market price of the stock, common shares are reduced. In this case, the options or warrants are **antidilutive** because their assumed exercise leads to an increase in earnings per share.

For both options and warrants, exercise is not assumed unless the average market price of the stock is above the exercise price during the period being reported.\(^{27}\) As a practical matter, a simple average of the weekly or monthly prices is adequate, so long as the prices do not fluctuate significantly.

### Comprehensive Illustration—Treasury Stock Method

To illustrate application of the treasury stock method, assume that Kubitz Industries, Inc. has net income for the period of $220,000. The average number of shares outstanding for the period was 100,000 shares. Hence, basic EPS—ignoring all dilutive securities—is $2.20. The average number of shares under outstanding options (although not exercisable at this time), at an option price of $20 per share, is 5,000 shares. The average market price of the common stock during the year was $28. The computation is shown below.

<table>
<thead>
<tr>
<th>Kubitz Industries, Inc.</th>
<th>Basic Earnings Per Share</th>
<th>Diluted Earnings Per Share</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average number of shares under option outstanding:</td>
<td></td>
<td>5000</td>
</tr>
<tr>
<td>Option price per share</td>
<td>$20</td>
<td></td>
</tr>
<tr>
<td>Proceeds upon exercise of options</td>
<td>$100,000</td>
<td></td>
</tr>
<tr>
<td>Average market price of common stock</td>
<td>$28</td>
<td></td>
</tr>
<tr>
<td>Treasury shares that could be repurchased with proceeds ($100,000 ÷ $28)</td>
<td>3,571</td>
<td></td>
</tr>
<tr>
<td>Excess of shares under option over the treasury shares that could be repurchased (5,000 × 3,571)—Potential common incremental shares</td>
<td>1,429</td>
<td></td>
</tr>
<tr>
<td>Average number of common shares outstanding</td>
<td>100,000 (A)</td>
<td>100,000 (C)</td>
</tr>
<tr>
<td>Total average number of common shares outstanding and potential common shares</td>
<td>100,000 (A)</td>
<td>101,429 (C)</td>
</tr>
<tr>
<td>Net income for the year</td>
<td>$220,000 (B)</td>
<td>$220,000 (D)</td>
</tr>
<tr>
<td>Earnings per share</td>
<td>$2.20 (B ÷ A)</td>
<td>$2.17 (D ÷ C)</td>
</tr>
</tbody>
</table>

\(^{26}\)The incremental number of shares may be more simply computed:

\[
\text{Number of Shares} = \left( \frac{\text{Market Price} - \text{Option Price}}{\text{Market Price}} \right) \times \text{Number of Options}
\]

\[
\frac{50 - 30}{50} \times 1,500 \text{ Options} = 600 \text{ Shares}
\]

\(^{27}\)It might be noted that options and warrants have essentially the same assumptions and computational problems, although the warrants may allow or require the tendering of some other security such as debt in lieu of cash upon exercise. In such situations, the accounting becomes quite complex, and the reader should refer to the proposed standard for its proper disposition.
CONTINGENT ISSUE AGREEMENT

In business combinations, the acquirer may promise to issue additional shares—referred to as contingent shares—if certain conditions are met. If these shares are issuable upon the mere passage of time or upon the attainments of a certain earnings or market price level, and this level is met at the end of the year, they should be considered as outstanding for the computation of diluted earnings per share.  

For example, assume that Walz Corporation purchased Cardella Company and agreed to give the stockholders of Cardella Company 20,000 additional shares in 1998 if Cardella’s net income in 1997 is $90,000; in 1996 Cardella Company’s net income is $100,000. Because the 1997 stipulated earnings of $90,000 are already being attained, diluted earnings per share of Walz for 1996 would include the 20,000 contingent shares in the shares outstanding computation.

ANTIDILUTION REVISITED

In computing diluted EPS, the aggregate of all dilutive securities must be considered. But first we must determine which potentially dilutive securities are in fact individually dilutive and which are antidilutive. Any security that is antidilutive should be excluded and cannot be used to offset dilutive securities.

Recall that antidilutive securities are securities whose inclusion in earnings per share computations would increase earnings per share (or reduce net loss per share).Convertible debt is antidilutive if the addition to income of the interest (net of tax) causes a greater percentage increase in income (numerator) than conversion of the bonds causes a percentage increase in common and potentially dilutive shares (denominator). In other words, convertible debt is antidilutive if conversion of the security causes common stock earnings to increase by a greater amount per additional common share than earnings per share was before the conversion.

To illustrate, assume that Kohl Corporation has a 6%, $1,000,000 debt issue that is convertible into 10,000 common shares. Net income for the year is $210,000, the weighted average number of common shares outstanding is 100,000 shares, and the tax rate is 40%. In this case assumed conversion of the debt into common stock at the beginning of the year requires the following adjustments of net income and the weighted average number of shares outstanding:

<table>
<thead>
<tr>
<th>Net income for the year</th>
<th>$210,000</th>
<th>Average number of shares outstanding</th>
<th>100,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Add: Adjustment for interest (net of tax) on 6% debentures</td>
<td>$60,000 \times (1 - .40)</td>
<td>36,000</td>
<td>Average number of common and potential common shares</td>
</tr>
<tr>
<td>Adjusted net income</td>
<td>$246,000</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Basic EPS = $210,000 \div 100,000 = $2.10
Diluted EPS = $246,000 \div 110,000 = $2.24 = \text{Antidilutive}.

As a short cut, the convertible debt also can be identified as antidilutive by comparing the EPS resulting from conversion, $3.60 ($36,000 additional earnings \div 10,000 additional shares), with EPS before inclusion of the convertible debt, $2.10.

With options or warrants, whenever the exercise price is higher than the market price, the security is antidilutive. \text{Antidilutive securities should be ignored in all calculations and should not be considered in computing diluted earnings per share.}

This approach is reasonable because the profession’s intent was to inform the investor

28In addition to contingent issuances of stock, other types of situations that might lead to dilution are the issuance of participating securities and two-class common shares. The reporting of these types of securities in EPS computation is beyond the scope of this textbook.
of the **possible dilution** that might occur in reported earnings per share and not to be concerned with securities that, if converted or exercised, would result in an increase in earnings per share. Appendix 17-B to this chapter provides an extended example of how antidilution is considered in a complex situation with multiple securities.

### EARNINGS PER SHARE PRESENTATIONS AND DISCLOSURES

If a corporation’s capital structure is complex, the earnings per share presentation would be as follows:

<table>
<thead>
<tr>
<th>Earnings per common share</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic Earnings Per Share</td>
<td>$3.30</td>
<td></td>
</tr>
<tr>
<td>Diluted Earnings Per Share</td>
<td>$2.70</td>
<td></td>
</tr>
</tbody>
</table>

When the earnings of a period include irregular items, per share amounts (where applicable) should be shown for income from continuing operations, income before extraordinary items, income before accounting change, and net income. Companies that report a discontinued operation, an extraordinary item, or the cumulative effect of an accounting change should present per share amounts for those line items either on the face of the income statement or in the notes to the financial statements. A presentation reporting extraordinary items only is presented below.

<table>
<thead>
<tr>
<th>Basic earnings per common</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Income before extraordinary item</td>
<td>$3.80</td>
<td></td>
</tr>
<tr>
<td>Extraordinary item</td>
<td>.80</td>
<td></td>
</tr>
<tr>
<td>Net income</td>
<td>$3.00</td>
<td></td>
</tr>
<tr>
<td>Diluted earnings per share</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Income before extraordinary item</td>
<td>$3.35</td>
<td></td>
</tr>
<tr>
<td>Extraordinary item</td>
<td>.65</td>
<td></td>
</tr>
<tr>
<td>Net income</td>
<td>$2.70</td>
<td></td>
</tr>
</tbody>
</table>

Earnings per share amounts must be shown for all periods presented and all prior period earnings per share amounts presented should be restated for stock dividends and stock splits. If diluted EPS data are reported for at least one period, it should be reported for all periods presented, even if it is the same as basic EPS. When results of operations of a prior period have been restated as a result of a prior period adjustment, the earnings per share data shown for the prior periods should also be restated. The effect of the restatement should be disclosed in the year of the restatement.

Complex capital structures and dual presentation of earnings require the following additional disclosures in note form:

1. Description of pertinent rights and privileges of the various securities outstanding.
2. A reconciliation of the numerators and denominators of the basic and diluted per share computations, including individual income and share amount effects of all securities that affect EPS.
3. The effect given preferred dividends in determining income available to common stockholders in computing basic EPS.
4. Securities that could potentially dilute basic EPS in the future that were not included in the computation because they would be antidilutive.
5. Effect of conversions subsequent to year end, but before statements have been issued.
Illustration 17-26 presents the reconciliation and the related disclosure that is needed to meet disclosure requirements of the proposed standard.

### ILLUSTRATION 17-26
Reconciliation for Basic and Diluted EPS

<table>
<thead>
<tr>
<th>Income before extraordinary item and accounting</th>
<th>Shares</th>
<th>Per-Share Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Income before extraordinary item and accounting change</td>
<td>$7,500,000</td>
<td></td>
</tr>
<tr>
<td>Less: Preferred stock dividends</td>
<td>(45,000)</td>
<td></td>
</tr>
</tbody>
</table>

**Basic EPS**

- Income available to common stockholders: 7,455,000
- Warrants: 30,768
- Convertible preferred stock: 45,000
- 4% convertible bonds (net of tax): 60,000

**Diluted EPS**

- Income available to common stockholders + assumed conversions: 7,560,000
- Stock options to purchase 1,000,000 shares of common stock at $85 per share were outstanding during the second half of 2001 but were not included in the computation of diluted EPS because the options’ exercise price was greater than the average market price of the common shares. The options were still outstanding at the end of year 2001 and expire on June 30, 2011.29

**For the Year Ended 2001**

<table>
<thead>
<tr>
<th>Income</th>
<th>Shares</th>
<th>Per-Share</th>
</tr>
</thead>
<tbody>
<tr>
<td>Numerator</td>
<td>Denominator</td>
<td>Amount</td>
</tr>
<tr>
<td>$7,500,000</td>
<td>3,991,666</td>
<td>$1.87</td>
</tr>
<tr>
<td>30,768</td>
<td>308,333</td>
<td></td>
</tr>
<tr>
<td>45,000</td>
<td>50,000</td>
<td></td>
</tr>
</tbody>
</table>

**SUMMARY**

As you can see, computation of earnings per share is a complex issue. It is a controversial area because many securities, although technically not common stock, have many of its basic characteristics. Some companies have issued these types of securities rather than common stock in order to avoid an adverse effect on earnings per share.

Illustration 17-27 displays graphically the elementary points of calculating earnings per share in a simple capital structure.

### ILLUSTRATION 17-27
Calculating EPS, Simple Capital Structure

**Simple Capital Structure**

(Single Presentation of EPS)

1. **Compute Income Applicable to Common Stock**
   (Net Income minus Preferred Dividends)

2. **Compute Weighted Average Number of Common Shares Outstanding**

3. **EPS** = \[
\frac{\text{Income Applicable to Common Stock}}{\text{Weighted Average Number of Common Shares}}
\]

Illustration 17-28 shows the calculation of earnings per share for a complex capital structure.

---

29This example is based on an illustration in the proposed standard. Note that Statement No. 123 has specific disclosure requirements as well regarding stock option plans and earnings per share disclosures.
1. **Describe the accounting for the issuance, conversion, and retirement of convertible securities.** The method for recording convertible bonds at the date of issuance follows that used to record straight debt issues. Any discount or premium that results from the issuance of convertible bonds is amortized assuming the bonds will be held to maturity. If bonds are converted into other securities, the principal accounting problem is to determine the amount at which to record the securities exchanged for the bond. Two possible methods of determining the issue price of the stock could be used: (1) the market value approach or (2) book value approach. The book value of the bonds is the method used in practice. Under GAAP, the retirement of convertible debt, is considered a debt retirement, and the difference between the carrying amount of the retired convertible debt and the cash paid should result in a charge or credit to income.

2. **Explain the accounting for convertible preferred stock.** When convertible preferred stock is converted, the book value method is employed; Preferred Stock, along with any related Additional Paid-in Capital, is debited, and Common Stock and Additional Paid-in Capital (if an excess exists) are credited.

3. **Contrast the accounting for stock warrants and stock warrants issued with other securities.** 

   **Stock rights:** No entry is required when rights are issued to existing stockholders. Only a memorandum entry is needed to indicate the

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**KEY TERMS**

- antidilutive securities, 22
- complex capital structure, 21
- convertible bonds, 2
- convertible preferred stock, 5
- detachable stock warrants, 6
- dilutive securities, 1
- earnings per share, 17
- diluted earnings per share, 22
- grant date, 9
- if-converted method, 23
- income available to common stockholders, 18
- induced conversion, 4
- measurement date, 11
- noncompensatory plans, 13
number of rights issued to existing stockholders and to ensure that the company has additional unissued stock registered for issuance in case the rights are exercised. **Stock warrants:** The proceeds from the sale of debt with detachable stock warrants should be allocated between the two securities. Warrants that are detachable can be traded separately from the debt, and therefore, a market value can be determined. The two methods of allocation available are the proportional method and the incremental method. Nondetachable warrants do not require an allocation of the proceeds between the bonds and the warrants. The entire proceeds are recorded as debt.

4. **Describe the accounting for stock compensation plans under GAAP.** Companies are given a choice in the recognition approach to stock compensation; however, the FASB encourages adoption of the fair value method. Using the fair value approach, total compensation expense is computed based on the fair value of the options that are expected to vest on the grant date. Under the intrinsic value approach, total compensation cost is computed as the excess of the market price of the stock over the option price on the date when both the number of shares to which employees are entitled and the option or purchase price for those shares are known. Under both the fair and intrinsic value methods, compensation expense is recognized in the periods in which the employee performs the services.

5. **Explain the controversy involving stock compensation plans.** When first proposed, there was considerable opposition to the recognition provisions contained in the fair value approach, because that approach could result in substantial compensation expense that was not previously recognized. Corporate America, particularly the small, high technology sector, was quite vocal in its opposition to the proposed standard. They believed that they would be placed at a competitive disadvantage with larger companies that can withstand higher compensation charges. In response to this opposition, which was based primarily on economic consequences arguments, the FASB decided to encourage, rather than require, recognition of compensation cost based on the fair value method and require expanded disclosures.

6. **Compute earnings per share in a simple capital structure.** When a company has both common and preferred stock outstanding, the current year preferred stock dividend is subtracted from net income to arrive at income available to common stockholders. The formula for computing earnings per share is net income less preferred stock dividends divided by the weighted average of shares outstanding.

7. **Compute earnings per share in a complex capital structure.** A complex capital structure requires a dual presentation of earnings per share, each with equal prominence on the face of the income statement. These two presentations are referred to as basic earnings per share and diluted earnings per share. Basic earnings per share is based on the number of weighted average common shares outstanding (i.e., equivalent to EPS for a simple capital structure). Diluted earnings per share indicates the dilution of earnings per share that would have occurred if all potential issuances of common stock that would have reduced earnings per share had taken place.
Before 1995, accounting for stock options was governed by the provisions in APB Opinion No. 25. This appendix discusses the provisions of APB Opinion No. 25 because many companies will choose not to adopt SFAS No. 123. In addition, an expanded discussion of the types of plans used to compensate key executives is provided.

DETERMINING COMPENSATION EXPENSE

Under APB Opinion No. 25, total compensation expense is computed as the excess of the market price of the stock over the option price on the measurement date.¹ The measurement date is the first date on which are known both (1) the number of shares that an individual employee is entitled to receive and (2) the option or purchase price. The measurement date for many plans is the date an option is granted to an employee (i.e., the grant date). The measurement date may be later than the grant date in plans with variable terms (either number of shares or option price or both not known) that depend on events after date of grant. Usually the measurement date for plans with variable terms is the date of exercise.

If the number of shares or the option price, or both, are unknown, compensation expense may have to be estimated on the basis of assumptions as to what will be the final number of shares and the option price.

Three common plans that illustrate different accounting issues are:

1. Stock option plans (incentive or nonqualified).
2. Stock appreciation rights plans.
3. Performance-type plans.

We’ll look at the accounting for each type of plan.

STOCK OPTION PLANS

A stock option plan can be either an incentive stock option plan or a nonqualified (or nonstatutory) stock option plan. The distinction between an incentive and a nonqualified stock option plan is based on the IRS Code and relates to the tax treatment afforded the plan.

From the perspective of the executive, the incentive stock option provides a greater tax advantage. In these plans, an executive pays no tax on the difference between the market price of the stock and the option price when the stock is purchased. Subsequently, when the shares are sold, the executive pays tax on that difference at either capital gains rates (25%) or ordinary income tax rates (usually higher than 28%), depending upon the executive’s holding period. Conversely, an executive who receives a nonqualified stock option must pay taxes, at ordinary income tax rates, on the difference between the market price of the stock and the option price at the time the stock is purchased. Thus, under an incentive stock option, the payment of the tax is deferred and may be less.

From the perspective of the company, the nonqualified option plan provides greater tax advantages. No tax deduction is received in an incentive stock option plan, whereas in a nonqualified stock option plan the company receives a tax deduction equal to the difference between the market price and option price at the date the employee purchases the stock. To illustrate, assume that Hubbard, Inc. grants options to purchase 10,000 shares at an option price of $10 when the current market price of the stock is $10; the shares are purchased at a time when the market price is $20; and the executive sells the shares one year later at $20. A comparison of the effect of both plans on the executive and on the company is shown in Illustration 17A-1.

<table>
<thead>
<tr>
<th>Effect on Executive:</th>
<th>Incentive Stock Option</th>
<th>Nonqualified Stock Option</th>
</tr>
</thead>
<tbody>
<tr>
<td>(assuming 36% tax bracket)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Profit on exercise [10,000 \times ($20 - $10)]</td>
<td>$100,000</td>
<td>$100,000</td>
</tr>
<tr>
<td>Tax on exercise ($100,000 \times 36%)</td>
<td>$0</td>
<td>$36,000</td>
</tr>
<tr>
<td>Tax on sale ($100,000 \times 36%)</td>
<td>$36,000</td>
<td>$0</td>
</tr>
<tr>
<td>After tax benefit</td>
<td>$64,000</td>
<td>$64,000</td>
</tr>
</tbody>
</table>

| Effect on Company:                        |                        |                           |
| (assuming 34% corporate rate)            | Zero tax deduction     | $100,000 tax deduction    |
| resulting in no tax benefit.             |                        | resulting in a $34,000 tax benefit. |

In effect, the executive in Hubbard, Inc’s, case would incur a $64,000 benefit under the incentive stock option plan and a $64,000 benefit under the nonqualified stock option plan. The tax is also deferred until the stock is sold under the incentive stock option plan. The company receives no benefit from an incentive stock option but a $100,000 tax deduction (which becomes a $34,000 tax benefit) for the nonqualified stock option.

**Incentive Stock Option Plans**

Why would companies want to issue incentive stock options? The major reason is to attract high-quality personnel, and many companies believe that incentive stock options are a greater attraction than nonqualified plans. Incentive stock options are particularly helpful to smaller higher-technology enterprises that have little cash and perhaps so little taxable income that the tax deduction is not important. Granting such options helps them attract and retain key personnel for whom they must compete against larger, established companies.

In an incentive stock option plan the tax laws require that the market price of the stock and the option price at the date of grant be equal. The tax laws do not require this equality in nonqualified plans. No compensation expense is, therefore, recorded for an incentive stock option because no excess of market price over the option price exists at the date of grant (the measurement date in this case).

**Nonqualified Stock Option Plans**

Nonqualified stock option plans usually involve compensation expense because the market price exceeds the option price at the date of grant (the measurement date). Total compensation cost is measured by this difference and then allocated to the periods benefited. The option price is set by the terms of the grant and generally remains the same throughout the option period. The market price of the shares under option, however, may vary materially in the extended period during which the option is outstanding.

\footnote{For an ISO, the executive has an alternative minimum tax (AMT) preference upon exercise, which may lead to tax payments under AMT rules. The illustration also assumes that the executive receiving an ISO receives favorable capital gains treatment.}
The options in the Chen Company illustration on pages 11–12 were nonqualified stock options. Recall that under the fair value approach (SFAS No. 123), the total compensation expense is measured at the grant date based on the fair value of the options that are expected to vest. Under the intrinsic value approach, compensation expense is recorded for the excess of the market price over the exercise price at the grant date.

STOCK APPRECIATION RIGHTS

One of the main advantages of a nonqualified stock option plan is that an executive may acquire shares of stock having a market price substantially above the option price. A major disadvantage is that an executive must pay income tax on the difference between the market price of the stock and the option price at the date of exercise. This can be a big financial hardship for an executive who wishes to keep the stock (rather than sell it immediately) because he or she would have to pay not only income tax but the option price as well. Note that for incentive stock options, much the same problem exists; that is, the executive may have to borrow to finance the exercise price, which leads to related interest costs.

One solution to this problem was the creation of stock appreciation rights (SARs). In this type of plan, the executive is given the right to receive share appreciation, which is defined as the excess of the market price of the stock at the date of exercise over a pre-established price. This share appreciation may be paid in cash, shares, or a combination of both. The major advantage of SARs is that the executive often does not have to make a cash outlay at the date of exercise, but receives a payment for the share appreciation. Unlike shares acquired under a stock option plan, the shares that constitute the basis for computing the appreciation in a SARs plan are not issued. The executive is awarded only cash or stock having a market value equivalent to the appreciation.

As indicated earlier, the usual date for measuring compensation related to stock compensation plans is the date of grant. However, with SARs, the final amount of cash or shares (or a combination of the two) to be distributed is not known until the date of exercise—the measurement date. Therefore total compensation cannot be measured until this date.

How then should compensation expense be recorded during the interim periods from the date of grant to the date of exercise? Such a determination is not easy because it is impossible to know what total compensation cost will be until the date of exercise, and the service period will probably not coincide with the exercise date. The best estimate of total compensation cost for the plan at any interim period is the difference between the current market price of the stock and the option price multiplied by the number of stock appreciation rights outstanding. This total estimated compensation cost is then allocated over the service period, to record an expense (or a decrease in expense if market price falls) in each period. At the end of each interim period, total compensation expense reported to date should equal the percentage of the total service period that has elapsed multiplied by the estimated compensation cost.

For example, if at an interim period the service period is 40% complete and total estimated compensation is $100,000, then cumulative compensation expense reported to date should equal $40,000 ($100,000 × .40). As another illustration, in the first year of a 4-year plan, the company charges one-fourth of the appreciation to date. In the second year, it charges off two-fourths or 50% of the appreciation to date less the amount already recognized in the first year. In the third year, it charges off three-fourths of the appreciation to date less the amount recognized previously, and in the fourth year it charges off the remaining compensation expense. We will refer to this method as the percentage approach for allocating compensation expense.

---

3 “Accounting for Stock Appreciation Rights and Other Variable Stock Option or Award Plans,” FASB Interpretation No. 28 (Stamford, Conn.: FASB, 1978), par. 2.
A special problem arises when the exercise date is later than the service period. In the previous example, if the SARs were not exercised at the end of 4 years it would be necessary to account for the difference in the market price and the option price in the fifth year. In this case, compensation expense is adjusted whenever a change in the market price of the stock occurs in subsequent reporting periods until the rights expire or are exercised, whichever comes first.

Increases or decreases in the market value of those shares between the date of grant and the exercise date, therefore, result in a change in the measure of compensation. Some periods will have credits to compensation expense if the quoted market price of the stock falls from one period to the next; the credit to compensation expense, however, cannot exceed previously recognized compensation expense. In other words, cumulative compensation expense cannot be negative.

To illustrate, assume that American Hotels, Inc. establishes a SARs program on January 1, 1995, which entitles executives to receive cash at the date of exercise (anytime in the next 5 years) for the difference between the market price of the stock and the preestablished price of $10 on 10,000 SARs; the market price of the stock on December 31, 1995, is $13, and the service period runs for 2 years (1995–1996). Illustration 17-8 indicates the amount of compensation expense to be recorded each period, assuming that the executives hold the SARs for 3 years, at which time the rights are exercised.

In 1995 American Hotels would record compensation expense of $15,000 because 50% of the $30,000 total of compensation cost estimated at December 31, 1995, is allocable to 1995.

In 1996 the market price increased to $17 per share; therefore, the additional compensation expense of $55,000 ($70,000 minus $15,000) was recorded. The SARs were held through 1997, during which time the stock decreased to $15. The decrease is recognized by recording a $20,000 credit to compensation expense and a debit to Liability Under Stock Appreciation Plan. Note that after the service period ends, since the rights are still outstanding, the rights are adjusted to market at December 31, 1997. Any such credit to compensation expense cannot exceed previous charges to expense attributable to that plan.

As the compensation expense is recorded each period, the corresponding credit should be to a liability account if the stock appreciation is to be paid in cash. If stock is to be issued, then a more appropriate credit would be to Paid-in Capital. The entry to record compensation expense in the first year, assuming that the SARs ultimately will be paid in cash, is as follows:

<table>
<thead>
<tr>
<th>Compensation Expense</th>
<th>15,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Liability Under Stock Appreciation Plan</td>
<td>15,000</td>
</tr>
</tbody>
</table>

The liability account would be credited again in 1996 for $55,000 and debited for $20,000 in 1997 when the negative compensation expense is recorded. The entry to
record the negative compensation expense is as follows:

| Liability Under Stock Appreciation Plan | 20,000 |
| Compensation Expense                  | 20,000 |

At December 31, 1997 the executives receive $50,000; the entry removing the liability is as follows:

| Liability Under Stock Appreciation Plan | 50,000 |
| Cash                                   | 50,000 |

Because compensation expense is measured by the difference between market prices of the stock from period to period, multiplied by the number of SARs, compensation expense can increase or decrease substantially from one period to the next.

For this reason, companies with substantial stock appreciation rights plans may choose to use SFAS No. 123 guidelines because the total compensation expense is determined at the date of grant. Subsequent changes in market price are therefore ignored; total compensation expense may be lower under SFAS No. 123.

SARs are often issued in combination with compensatory stock options (referred to as tandem or combination plans) and the executive must then select which of the two sets of terms to exercise, thereby canceling the other. The existence of alternative plans running concurrently poses additional problems from an accounting standpoint because the accountant must determine, on the basis of the facts available each period, which of the two plans has the higher probability of exercise and then account for this plan and ignore the other.

PERFORMANCE-TYPE PLANS

Many executives have become disenchanted with stock compensation plans whose ultimate payment depends on an increase in the market price of the common stock. They do not like having their compensation and judgment of performance at the mercy of the stock market’s erratic behavior. As a result, there has been a substantial increase in the use of plans whereby executives receive common stock (or cash) if specified performance criteria are attained during the performance period (generally 3 to 5 years). Most of the 200 largest companies now have some type of plan that does not rely on stock price appreciation.

The performance criteria employed usually are increases in return on assets or equity, growth in sales, growth in earnings per share (EPS), or a combination of these factors. A good illustration of this type of plan is that of Atlantic Richfield, which at one time offered performance units valued in excess of $700,000 to the chairman of the board. These performance units are payable in 5 years, contingent upon the company’s meeting certain levels of return on stockholders’ equity and cash dividends.

As another example, Honeywell uses growth in EPS as its performance criterion. When certain levels of EPS are achieved, executives receive shares of stock. If the company achieves an average annual EPS growth of 13%, the executive will earn 100% of the shares. The maximum allowable is 130%, which would require a 17% growth rate; below 9% the executives receive nothing.

A performance-type plan’s measurement date is the date of exercise because the number of shares that will be issued or cash that will be paid out when performance is achieved are not known at the date of grant. The compensation cost is allocated to the periods involved in the same manner as with stock appreciation rights; that is, the percentage approach is used.

Tandem or combination awards are popular with these plans. The executive has the choice of selecting between a performance or stock option award. Companies such as Bristol-Myers, General Electric, Sperry, and Xerox have adopted plans of this nature. In these cases the executive has the best of both worlds: if either the stock price increases or the performance goal is achieved, the executive gains. Sometimes, the executive receives both types of plans, so that the monies received from the performance plan can finance the exercise price on the stock option plan.
SUMMARY

A summary of these compensation plans and their major characteristics is provided in Illustration 17A-3.

<table>
<thead>
<tr>
<th>Type of Plan</th>
<th>Measurement Date</th>
<th>Measurement of Compensation</th>
<th>Allocation Period</th>
<th>Allocation Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Incentive stock option</td>
<td>Grant</td>
<td>Market price less exercise price</td>
<td>N/A (no compensation expense)</td>
<td>N/A (no compensation expense) Straight-line</td>
</tr>
<tr>
<td>APB Opinion No. 25</td>
<td>Grant</td>
<td>Option pricing model</td>
<td>Service</td>
<td></td>
</tr>
<tr>
<td>SFAS No. 123</td>
<td>Grant</td>
<td>Option pricing model</td>
<td>Service</td>
<td></td>
</tr>
<tr>
<td>Nonqualified stock option</td>
<td>Grant</td>
<td>Market price less exercise price</td>
<td>Service</td>
<td>Straight-line</td>
</tr>
<tr>
<td>APB Opinion No. 25</td>
<td>Grant</td>
<td>Option pricing model</td>
<td>Service</td>
<td>Straight-line</td>
</tr>
<tr>
<td>SFAS No. 123</td>
<td>Grant</td>
<td>Option pricing model</td>
<td>Service</td>
<td>Straight-line</td>
</tr>
<tr>
<td>Stock appreciation rights</td>
<td>Exercise</td>
<td>Market price less exercise price</td>
<td>Service</td>
<td>Percentage approach for service period, then mark to market Straight-line</td>
</tr>
<tr>
<td>APB Opinion No. 25</td>
<td>Grant</td>
<td>Option pricing model</td>
<td>Service</td>
<td></td>
</tr>
<tr>
<td>SFAS No. 123</td>
<td>Grant</td>
<td>Option pricing model</td>
<td>Service</td>
<td></td>
</tr>
<tr>
<td>Performance-type plan</td>
<td>Exercise</td>
<td>Market value of shares issued</td>
<td>Service</td>
<td>Percentage approach for service period, then mark to market</td>
</tr>
<tr>
<td>APB Opinion No. 25</td>
<td>Exercise</td>
<td>Market value of shares issued</td>
<td>Service</td>
<td></td>
</tr>
<tr>
<td>SFAS No. 123</td>
<td>Exercise</td>
<td>Market value of shares issued</td>
<td>Service</td>
<td></td>
</tr>
</tbody>
</table>

© SUMMARY OF LEARNING OBJECTIVE FOR APP. 17-A

8. Describe the accounting for various stock compensation plans under APB Opinion No. 25. (1) Incentive stock option plans: The market price and exercise price on the grant date must be equal. Because there is no compensation expense, there is no allocation problem. (2) Nonqualified stock option plans: Compensation is the difference between the market price and exercise price on the grant date. Compensation expense is allocated by the straight-line method during the service period. (3) Stock appreciation rights: The compensation is measured by the difference between market price and exercise price on the exercise date. The compensation expense is allocated by the percentage approach over the service period, then marked to market. (4) Performance-type plan: Compensation is measured by the market value of shares issued on the exercise date. Compensation expense is allocated by the percentage approach over the service period, then marked to market. See also Illustration 17A-3.
The purpose of this appendix is to illustrate the method of computing dilution when many securities are involved using the exposure draft on earnings per share. The following section of the balance sheet of Webster Corporation is presented for analysis; assumptions related to the capital structure follow:

### Webster Corporation

#### SELECTED BALANCE SHEET INFORMATION

At December 31, 1995

<table>
<thead>
<tr>
<th>Long-term debt:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Notes payable, 14%</td>
<td>$1,000,000</td>
</tr>
<tr>
<td>8% convertible bonds payable</td>
<td>2,500,000</td>
</tr>
<tr>
<td>10% convertible bonds payable</td>
<td>2,500,000</td>
</tr>
<tr>
<td><strong>Total long-term debt</strong></td>
<td><strong>$6,000,000</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Stockholders’ equity:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>10% cumulative, convertible preferred stock, par value $100; 100,000 shares authorized, 25,000 shares issued and outstanding</td>
<td>$2,500,000</td>
</tr>
<tr>
<td>Common stock, par value $1, 5,000,000 shares authorized, 500,000 shares issued and outstanding</td>
<td>500,000</td>
</tr>
<tr>
<td>Additional paid-in capital</td>
<td>2,000,000</td>
</tr>
<tr>
<td>Retained earnings</td>
<td>9,000,000</td>
</tr>
<tr>
<td><strong>Total stockholders’ equity</strong></td>
<td><strong>$14,000,000</strong></td>
</tr>
</tbody>
</table>

#### Notes and Assumptions

December 31, 1995

1. Options were granted in July, 1993 to purchase 50,000 shares of common stock at $20 per share. The average market price of Webster’s common stock during 1995 was $30 per share. No options were exercised during 1995.
2. Both the 8% and 10% convertible bonds were issued in 1994 at face value. Each convertible bond is convertible into 40 shares of common stock (each bond has a face value of $1,000).
3. The 10% cumulative, convertible preferred stock was issued at the beginning of 1995 at par. Each share of preferred is convertible into four shares of common stock.
4. The average income tax rate is 40%.
5. The 500,000 shares of common stock were outstanding during the entire year.
6. Preferred dividends were not declared in 1995.
7. Net income was $1,750,000 in 1995.
8. No bonds or preferred stock were converted during 1995.

The computation of basic earnings per share for 1995 starts with the amount based upon the weighted average of common shares outstanding. See Illustration 17B-2.

<table>
<thead>
<tr>
<th>Net income</th>
<th>$1,750,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less: 10% cumulative, convertible preferred stock dividend requirements</td>
<td>250,000</td>
</tr>
<tr>
<td>Income applicable to common stockholders</td>
<td>$1,500,000</td>
</tr>
<tr>
<td>Weighted average number of common shares outstanding</td>
<td>500,000</td>
</tr>
<tr>
<td>Earnings per common share</td>
<td>$3.00</td>
</tr>
</tbody>
</table>
Note the following points concerning the calculation above.

1. When preferred stock is cumulative, the preferred dividend is subtracted to arrive at income applicable to common stock whether the dividend is declared or not.

2. The earnings per share of $3 must be computed as a starting point, because it is the per share amount that is subject to reduction due to the existence of convertible securities and options.

**DILUTED EARNINGS PER SHARE**

The steps for computing diluted earnings per share are:

1. Determine, for each dilutive security, the per share effect assuming exercise/conversion.

2. Rank the results from step 1 from smallest to largest earnings effect per share; that is, rank the results from most dilutive to least dilutive.

3. Beginning with the earnings per share based upon the weighted average of common shares outstanding ($3), recalculate earnings per share by adding the smallest per share effects from step 2. If the results from this recalculation are less than $3, proceed to the next smallest per share effect and recalculate earnings per share. This process is continued so long as each recalculated earnings per share is smaller than the previous amount. The process will end either because there are no more securities to test or a particular security maintains or increases earnings per share (is antidilutive).

The 3 steps are now applied to the Webster Corporation. (Note that net income and income available to common stockholders are not the same if preferred dividends are declared or in arrears.) The Webster Corporation has four securities (options, 8% and 10% convertible bonds, and the convertible preferred stock) that could reduce EPS.

The first step in the computation of diluted earnings per share is to determine a per share effect for each potentially dilutive security. Illustrations 17B-3 through 17B-6 illustrate these computations.

### ILLUSTRATION 17B-3
Per Share Effect of Options (Treasury Stock Method), Diluted Earnings Per Share

<table>
<thead>
<tr>
<th>Description</th>
<th>Calculation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of shares under option</td>
<td>50,000</td>
</tr>
<tr>
<td>Option price per share</td>
<td>× $20</td>
</tr>
<tr>
<td>Proceeds upon assumed exercise of options</td>
<td>$1,000,000</td>
</tr>
<tr>
<td>Average 1995 market price of common</td>
<td>$30</td>
</tr>
<tr>
<td>Treasury shares that could be acquired with proceeds ($1,000,000 ÷ $30)</td>
<td>33,333</td>
</tr>
<tr>
<td>Excess of shares under option over treasury shares that could be repurchased (50,000 ÷ 33,333)</td>
<td>16,667</td>
</tr>
<tr>
<td>Per share effect:</td>
<td></td>
</tr>
<tr>
<td>Incremental Numerator Effect: None</td>
<td>$0</td>
</tr>
<tr>
<td>Incremental Denominator Effect: 16,667 shares</td>
<td></td>
</tr>
</tbody>
</table>

### ILLUSTRATION 17B-4
Per Share Effect of 8% Bonds (If-Converted Method), Diluted Earnings Per Share

<table>
<thead>
<tr>
<th>Description</th>
<th>Calculation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interest expense for year .08($2,500,000)</td>
<td>$200,000</td>
</tr>
<tr>
<td>Income tax reduction due to interest (40% × $200,000)</td>
<td>$80,000</td>
</tr>
<tr>
<td>Interest expense avoided (net of tax)</td>
<td>$120,000</td>
</tr>
<tr>
<td>Number of common shares issued assuming conversion of bonds (2,500 bonds × 40 shares)</td>
<td>100,000</td>
</tr>
<tr>
<td>Per share effect:</td>
<td></td>
</tr>
<tr>
<td>Incremental Numerator Effect: $120,000</td>
<td></td>
</tr>
<tr>
<td>Incremental Denominator Effect: 100,000 shares</td>
<td>$1.20</td>
</tr>
</tbody>
</table>
Interest expense for year (10% × $2,500,000) $250,000
Income tax reduction due to interest (40% × $250,000) 100,000
Interest expense avoided (net of tax) $150,000
Number of common shares issued assuming conversion of bonds (2,500 bonds × 40 shares) 100,000
Per share effect:
Incremental Numerator Effect: $150,000
Incremental Denominator Effect: 100,000 shares

Dividend requirement on cumulative preferred (25,000 shares × $10) $250,000
Income tax effect (dividends not a tax deduction) none
Dividend requirement avoided $250,000
Number of common shares issued assuming conversion of preferred (4 × 25,000 shares) 100,000
Per share effect:
Incremental Numerator Effect: $250,000
Incremental Denominator Effect: 100,000 shares

Illustration 17B-7 shows the ranking of all four potentially dilutive securities.

The next step is to determine earnings per share giving effect to the ranking in Illustration 17B-7. Starting with the earnings per share of $3 computed previously, add the incremental effects of the options to the original calculation, as follows:

**Options**

<table>
<thead>
<tr>
<th>Effect</th>
<th>Per Share</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Options</td>
<td>$0</td>
</tr>
<tr>
<td>2. 8% convertible bonds</td>
<td>1.20</td>
</tr>
<tr>
<td>3. 10% convertible bonds</td>
<td>1.50</td>
</tr>
<tr>
<td>4. 10% convertible preferred</td>
<td>2.50</td>
</tr>
</tbody>
</table>

Since the recomputed earnings per share is reduced (from $3 to $2.90), the effect of the options is dilutive. Again, this effect could have been anticipated because the average market price exceeded the option price ($20).

Recomputed earnings per share, assuming the 8% bonds are converted, is as follows:

**8% Convertible Bonds**

<table>
<thead>
<tr>
<th>Effect</th>
<th>Per Share</th>
</tr>
</thead>
<tbody>
<tr>
<td>Numerator from previous calculation</td>
<td>$1,500,000</td>
</tr>
<tr>
<td>Add: Interest expense avoided (net of tax)</td>
<td>120,000</td>
</tr>
<tr>
<td>Total</td>
<td>$1,620,000</td>
</tr>
<tr>
<td>Denominator from previous calculation (shares)</td>
<td>516,667</td>
</tr>
<tr>
<td>Add: Number of common shares assumed issued upon conversion of bonds</td>
<td>100,000</td>
</tr>
<tr>
<td>Total</td>
<td>616,667</td>
</tr>
<tr>
<td>Recomputed earnings per share ($1,620,000 ÷ 616,667 shares)</td>
<td>$2.63</td>
</tr>
</tbody>
</table>
Since the recomputed earnings per share is reduced (from $2.90 to $2.63), the effect of the 8% bonds is dilutive.

Next, earnings per share is recomputed assuming the conversion of the 10% bonds. This is shown below:

### ILLUSTRATION 17B-10
Recomputation of EPS
Using Incremental Effect of 10% Convertible Bonds

<table>
<thead>
<tr>
<th>10% Convertible Bonds</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Numerator from previous computation</td>
<td>$1,620,000</td>
</tr>
<tr>
<td>Add: Interest expense avoided (net of tax)</td>
<td>150,000</td>
</tr>
<tr>
<td>Total</td>
<td>$1,770,000</td>
</tr>
<tr>
<td>Denominator from previous calculation (shares)</td>
<td>616,667</td>
</tr>
<tr>
<td>Add: Number of common shares assumed issued upon conversion of bonds</td>
<td>100,000</td>
</tr>
<tr>
<td>Total</td>
<td>716,667</td>
</tr>
<tr>
<td>Recomputed earnings per share ($1,770,000 ÷ 716,667 shares)</td>
<td>$2.47</td>
</tr>
</tbody>
</table>

Since the recomputed earnings per share is reduced (from $2.63 to $2.47), the effect of the 10% convertible bonds is dilutive.

The final step is the recomputation that includes the 10% preferred stock. This is shown below.

### ILLUSTRATION 17B-11
Recomputation of EPS
Using Incremental Effect of 10% Convertible Preferred

<table>
<thead>
<tr>
<th>10% Convertible Preferred</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Numerator from previous calculation</td>
<td>$1,770,000</td>
</tr>
<tr>
<td>Add: Dividend requirement avoided</td>
<td>250,000</td>
</tr>
<tr>
<td>Total</td>
<td>$2,020,000</td>
</tr>
<tr>
<td>Denominator from previous calculation (shares)</td>
<td>716,667</td>
</tr>
<tr>
<td>Add: Number of common shares assumed issued upon conversion of preferred</td>
<td>100,000</td>
</tr>
<tr>
<td>Total</td>
<td>816,667</td>
</tr>
<tr>
<td>Recomputed earnings per share ($2,020,000 ÷ 816,667 shares)</td>
<td>$2.47</td>
</tr>
</tbody>
</table>

Since the recomputed earnings per share is not reduced, the effect of the 10% convertible preferred is not dilutive. Diluted earnings per share is $2.47, and the per share effects of the preferred are not used in the computation.

Finally, the disclosure of earnings per share on the income statement for Webster Corporation is shown below.

### ILLUSTRATION 17B-12
Income Statement Presentation, EPS

| Net income | $1,750,000 |
| Basic earnings per common share (Note X) | $3.00 |
| Diluted earnings per common share | $2.47 |

Companies that report a discontinued operation, an extraordinary item, or the cumulative effect of an accounting change in a period should use income from continuing operations as the "control number" in determining whether those potential common shares are dilutive or antidilutive. That is, income from continuing operations (or a similar line item above net income if it appears on the income statement) should be used in computing diluted EPS, even if the other per share amounts are antidilutive. As a result, diluted EPS is the same as basic EPS if there is a loss from continuing operations, even if a company had net income after adjusting for a discontinued operation, an extraordinary item, or the cumulative effect of an accounting change.

► SUMMARY OF LEARNING OBJECTIVE FOR APP. 17-B ◄

9. **Compute earnings per share in a complex situation.** For diluted EPS, (1) determine, for each potentially dilutive security, the per share effect assuming exercise/conversion; (2) rank from most dilutive to least dilutive; (3) recalculate EPS starting with the most dilutive, and continue adding securities until EPS increases (is antidilutive).
Note: All asterisked Questions, Exercises, Problems, and Cases relate to material contained in the appendix to each chapter.

**QUESTIONS**

1. What are some of the major reasons for increased merger activity in the 1980s? Why might this increased activity lead to the issuance of dilutive securities?

2. Discuss the similarities and the differences between convertible debt and debt issued with stock purchase warrants.

3. What accounting treatment is required for convertible debt? What accounting treatment is required for debt issued with stock purchase warrants?

4. Plantagenet Corp. offered holders of its 1,000 convertible bonds a premium of $150 per bond to induce conversion into shares of its common stock. Upon conversion of all the bonds, Plantagenet Corp. recorded the $150,000 premium as a reduction of paid-in capital. Comment on Plantagenet’s treatment of the $150,000 “sweetener.”

5. Explain how the conversion feature of convertible debt has a value (a) to the issuer and (b) to the purchaser.

6. What are the arguments for giving separate accounting recognition to the conversion feature of debentures?

7. Assume that no value is assigned to the conversion feature upon issue of the debentures. Assume further that 4 years after issue, debentures with a face value of $1,000,000 and book value of $960,000 are tendered for conversion into 80,000 shares of common stock immediately after an interest payment date when the market price of the debentures is 104 and the common stock is selling at $14 per share (par value $10). The company records the conversion as follows:

   \[
   \begin{align*}
   \text{Bonds Payable} & \quad 1,000,000 \\
   \text{Discount on Bonds Payable} & \quad 40,000 \\
   \text{Common Stock} & \quad 800,000 \\
   \text{Paid-in Capital in Excess of Par} & \quad 160,000
   \end{align*}
   \]

   Discuss the propriety of this accounting treatment.

8. On July 1, 1994, Beaufort Corporation issued $3,000,000 of 9% bonds payable in 20 years. The bonds include detachable warrants giving the bondholder the right to purchase for $30 one share of $1 par value common stock at any time during the next 10 years. The bonds were sold for $3,000,000. The value of the warrants at the time of issuance was $200,000. Prepare the journal entry to record this transaction.

9. What are stock rights? How does the issuing company account for them?


11. Warwick Corporation has an employee stock purchase plan which permits all full-time employees to purchase 10 shares of common stock on the third anniversary of their employment and an additional 15 shares on each subsequent anniversary date. The purchase price is set at the market price on the date purchased and no commission is charged. Discuss whether this plan would be considered compensatory.

12. What date or event does the profession believe should be used in determining the value of a stock option? What arguments support this position?

13. Over what period of time should compensation cost be allocated?

14. How is compensation expense computed using the fair value approach?

15. At December 31, 1995, the Mortimer Company had 600,000 shares of common stock issued and outstanding, 400,000 of which had been issued and outstanding throughout the year, and 200,000 of which were issued on October 1, 1995. Net income for 1995 was $3,000,000 and dividends declared on preferred stock were $400,000. Compute Mortimer’s earnings per common share (round to the nearest penny).

16. Define the following terms.
   (a) Basic earnings per share.
   (b) Potentially dilutive security.
   (c) Diluted earnings per share.
   (d) Complex capital structure.
   (e) Primary earnings per share.
Chapter 17 / Dilutive Securities and Earnings Per Share Calculations

17. What are the computational guidelines for determining whether a convertible security is to be reported as part of diluted earnings per share?

18. Discuss why options and warrants may be considered potentially dilutive common shares for the computation of diluted earnings per share.

19. Explain how convertible securities are determined to be potentially dilutive common shares and how those convertible senior securities that are not considered to be potentially dilutive common shares enter into the determination of earnings per share data.

20. Explain the treasury stock method as it applies to options and warrants in computing dilutive earnings per share data.

21. Earnings per share can affect market prices of common stock. Can market prices affect earnings per share? Explain.

22. What is meant by the term antidilution? Give an example.

23. How is antidilution determined when multiple securities are involved?

EXERCISES

E17-1 (Conversion of Bonds) Proteus Inc. issued $4,000,000 of 10%, 10-year convertible bonds on June 1, 1995, at 98 plus accrued interest. The bonds were dated April 1, 1995, with interest payable April 1 and October 1. Bond discount is amortized semiannually on a straight-line basis.

On April 1, 1996, $1,500,000 of these bonds were converted into 30,000 shares of $20 par value common stock. Accrued interest was paid in cash at the time of conversion.

Instructions
(a) Prepare the entry to record the interest expense at October 1, 1995. Assume that accrued interest payable was credited when the bonds were issued. (Round to nearest dollar.)
(b) Prepare the entry(ies) to record the conversion on April 1, 1996. (Book value method is used.) Assume that the entry to record amortization of the bond discount and interest payment has been made.

E17-2 (Issuance and Conversion of Bonds) For each of the unrelated transactions described below, present the entry(ies) required to record each transaction.

1. Thurio Corp. issued $20,000,000 par value 10% convertible bonds at 99. If the bonds had not been convertible, the company’s investment banker estimates they would have been sold at 95. Expenses of issuing the bonds were $70,000.

2. Valentine Company issued $20,000,000 par value 10% bonds at 98. One detachable stock purchase warrant was issued with each $100 par value bond. At the time of issuance, the warrants were selling for $4.

3. On July 1, 1995, Silvia Company called its 11% convertible debentures for conversion. The $10,000,000 par value bonds were converted into 1,000,000 shares of $1 par value common stock. On July 1, there was $150,000 of unamortized discount applicable to the bonds, and the company paid an additional $75,000 to the bondholders to induce conversion of all the bonds. The company records the conversion using the book value method.

E17-3 (Conversion of Bonds) Lysander Company has bonds payable outstanding in the amount of $500,000 and the Premium on Bonds Payable account has a balance of $7,500. Each $1,000 bond is convertible into 20 shares of preferred stock of par value of $50 per share.

Instructions
(a) Assuming that the bonds are quoted on the market at 102 and that the preferred stock may be sold on the market at $50, make the entry to record the conversion of the bonds to preferred stock. (Use the market value approach.)
(b) Assuming that the book value method was used, what entry would be made?

E17-4 (Conversion of Bonds) On January 1, 1994, when its $30 par value common stock was selling for $80 per share, Demetrius Corp. issued $10,000,000 of 8% convertible debentures due in 20 years. The conversion option allowed the holder of each $1,000 bond to convert the bond into five shares of the corporation’s common stock. The debentures were issued for $10,800,000. The present value of the bond payments at the time of issuance was $8,500,000 and the corporation believes the difference between the present value and the amount paid is attributable to the conversion feature. On January 1, 1995, the corporation’s $30 par value common stock was split 2 for 1, and the conversion rate for the bonds was adjusted accordingly. On January 1, 1996, when the corporation’s $15 par value common stock was selling for $135 per share, holders of 30% of the convertible debentures exercised their conversion options. The corporation uses the straight-line method for amortizing any bond discounts or premiums.
Instructions
(a) Prepare in general journal form the entry to record the original issuance of the convertible debentures.
(b) Prepare in general journal form the entry to record the exercise of the conversion option, using the book value method. Show supporting computations in good form.

E17-5 (Conversion of Bonds) The December 31, 1995 balance sheet of Hermia Corp. is as follows:

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>10% Callable, Convertible Bonds Payable (semiannual interest dates April 30 and October 31; convertible into 6 shares of $25 par value common stock per $1,000 of bond principal; maturity date April 30, 2001)</td>
<td>$500,000</td>
</tr>
<tr>
<td>Discount on Bonds Payable</td>
<td>10,240</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$489,760</strong></td>
</tr>
</tbody>
</table>

On March 5, 1996, Hermia Corp. called all of the bonds as of April 30 for the principal plus interest through April 30. By April 30 all bondholders had exercised their conversion to common stock as of the interest payment date. Consequently, on April 30, Hermia Corp. paid the semiannual interest and issued shares of common stock for the bonds. The discount is amortized on a straight-line basis. Hermia uses the book value method.

Instructions
Prepare the entry(ies) to record the interest expense and conversion on April 30, 1996. Reversing entries were made on January 1, 1996. (Round to the nearest dollar.)

E17-6 (Conversion of Bonds) On January 1, 1995, Helena Corporation issued $4,000,000 of 10-year, 8% convertible debentures at 102. Interest is to be paid semiannually on June 30 and December 31. Each $1,000 debenture can be converted into eight shares of Helena Corporation $100 par value common stock after December 31, 1996.

On January 1, 1997, $400,000 of debentures are converted into common stock, which is then selling at $110. An additional $400,000 of debentures are converted on March 31, 1997. The market price of the common stock is then $115. Accrued interest at March 31 will be paid on the next interest date.
Bond premium is amortized on a straight-line basis.

Instructions
Make the necessary journal entries for:

Record the conversions under both the fair market value method and the book value method.

E17-7 (Issuance of Bonds with Warrants) Theseus Inc. has decided to raise additional capital by issuing $170,000 face value of bonds with a coupon rate of 10%. In discussions with their investment bankers, it was determined that to help the sale of the bonds, detachable stock warrants should be issued at the rate of one warrant for each $100 bond sold. The value of the bonds without the warrants is considered to be $136,000, and the value of the warrants in the market is $24,000. The bonds sold in the market at issuance for $152,000.

Instructions
(a) What entry should be made at the time of the issuance of the bonds and warrants?
(b) If the warrants were nondetachable, would the entries be different? Discuss.

E17-8 (Issuance of Bonds with Detachable Warrants) On September 1, 1995, Quince Company sold at 104 (plus accrued interest) 4,000 of its 9%, 10-year, $1,000 face value, nonconvertible bonds with detachable stock warrants. Each bond carried two detachable warrants; each warrant was for one share of common stock at a specified option price of $15 per share. Shortly after issuance, the warrants were quoted on the market for $3 each. No market value can be determined for the bonds above. Interest is payable on December 1 and June 1. Bond issue costs of $30,000 were incurred.

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

(AICPA adapted)

E17-9 (Use of Proportional and Incremental Method) Presented below are two independent situations:

1. On March 15, 1996, Flute Corporation issued $3,000,000 of 11% nonconvertible bonds at 105; the bonds are due on March 15, 2011. Each $1,000 bond was issued with 50 detachable stock warrants, each of which entitled the bondholder to purchase, for $48, one share of Flute’s common stock, $25 par. On March 15, 1996, the market value of Flute’s common stock was $41 per share and the market value of each warrant was $5. Prepare the journal entry to record this transaction.

2. On February 1, 1996, Snug Inc. issued $4,000,000, 10-year, 12% bonds for $4,080,000. Each $1,000 bond had a detachable warrant for the purchase of one share of Snug’s $40 common stock for $62. Immediately after the bonds were issued, Snug’s securities had the following market values:
Chapter 17 / Dilutive Securities and Earnings Per Share Calculations

Instructions
Prepare the journal entry to record this transaction. (Round all computations to nearest dollar.)

E17-10 (Issuance and Exercise of Stock Options) On November 1, 1995, Oberon Company adopted a stock option plan that granted options to key executives to purchase 30,000 shares of the company’s $10 par value common stock. The options were granted on January 2, 1996, and were exercisable 2 years after the date of grant if the grantee was still an employee of the company; the options expired 6 years from date of grant. The option price was set at $40 and the fair value option pricing model determines the total compensation expense to be $450,000.

All of the options were exercised during the year 1998; 20,000 on January 3 when the market price was $67, and 10,000 on May 1 when the market price was $77 a share.

Instructions

E17-11 (Issuance, Exercise, and Termination of Stock Options) On January 1, 1996, Titania Inc. granted stock options to officers and key employees for the purchase of 20,000 shares of the company’s $10 par common stock at $25 per share. The options were exercisable within a 5-year period beginning January 1, 1998, by grantees still in the employ of the company, and expiring December 31, 2002. The service period for this award is 2 years. Assume that the fair value option pricing model determines total compensation expense to be $350,000.

On April 1, 1997, 2,000 option shares were terminated when the employees resigned from the company. The market value of the common stock was $35 per share on this date.

On March 31, 1998, 12,000 option shares were exercised when the market value of the common stock was $40 per share.

Instructions
Prepare journal entries using the fair value method to record issuance of the stock options, termination of the stock options, exercise of the stock options, and charges to compensation expense, for the years ended December 31, 1996, 1997, and 1998.

(AICPA adapted)

E17-12 (Issuance, Exercise, and Termination of Stock Options) On November 2, 1996, the stockholders of Cobweb Company voted to adopt a stock option plan for Cobweb’s key officers. According to terms of the option agreement, the officers of the company can purchase 40,000 shares of common stock during 1999 and 60,000 shares during 2000. The shares that are purchasable during 1999 represent executive compensation for 1997 and 1998, and those purchasable during 2000 represent such compensation for 1997, 1998, and 1999. If options for shares are not exercised during either year, they lapse as of the end of that year.

Options were granted to the officers of Cobweb on January 1, 1997, and at that time the option price was set for all shares at $30. Assume that the fair value option pricing model determines total compensation expense to be $1,300,000. During 1999, all options were exercised. During 2000, however, options for only 30,000 shares were exercised. The remaining options lapsed because the executives decided not to exercise. Par value of the stock is $10. The market prices of Cobweb common at various dates follow:

<table>
<thead>
<tr>
<th>Dates</th>
<th>Market Price of Cobweb’s Common</th>
</tr>
</thead>
<tbody>
<tr>
<td>Option agreement accepted by stockholders</td>
<td>$33</td>
</tr>
<tr>
<td>Options granted</td>
<td>36</td>
</tr>
<tr>
<td>Options exercised in 1999</td>
<td>38</td>
</tr>
<tr>
<td>Options exercised in 2000</td>
<td>34</td>
</tr>
</tbody>
</table>

Instructions
Make any necessary journal entries using the fair value method related to this stock option for the years 1996 through 2000 (Cobweb closes its books on December 31).

*E17-13 (Stock Appreciation Rights) On December 31, 1994, Paris Company issues 150,000 stock appreciation rights to its officers entitling them to receive cash for the difference between the market price of its stock and a preestablished price of $10. The market price fluctuates as follows: 12/31/95—$14; 12/31/96—$8; 12/31/97—$20; 12/31/98—$19. The service period is 4 years and the exercise period is 7 years. The company elects to use APB Opinion No. 25 accounting for this transaction.

Instructions
(a) Prepare a schedule that shows the amount of compensation expense allocable to each year affected by the stock appreciation rights plan.
Prepare the entry at 12/31/98 to record compensation expense, if any, in 1998.

Prepare the entry on 12/31/98 assuming that all 150,000 SARs are exercised.

Capulet Company establishes a stock appreciation rights program that entitles its new president Ben Tybalt to receive cash for the difference between the market price of the stock and a preestablished price of $30 (also market price) on December 31, 1995 on 30,000 SARs. The date of grant is December 31, 1995 and the required employment (service) period is 4 years. President Tybalt exercises all of the SARs in 2001. The market value of the stock fluctuates as follows: 12/31/96—$36; 12/31/97—$39; 12/31/98—$45; 12/31/99—$36; 12/31/00—$48. The company elects to use APB Opinion No. 25 accounting for this transaction.

Instructions

(a) Prepare a 5-year (1996–2000) schedule of compensation expense pertaining to the 30,000 SARs granted President Tybalt.

(b) Prepare the journal entry for compensation expense in 1996, 1999, and 2000 relative to the 30,000 SARs.

Montague Inc. uses a calendar year for financial reporting. The company is authorized to issue 9,000,000 shares of $10 par common stock. At no time has Montague issued any potentially dilutive securities. Listed below is a summary of Montague’s common stock activities.

Instructions

(a) Compute the weighted average number of common shares used in computing earnings per common share for 1994 on the 1995 comparative income statement.

(b) Compute the weighted average number of common shares used in computing earnings per common share for 1995 on the 1995 comparative income statement.

(c) Compute the weighted average number of common shares to be used in computing earnings per common share for 1995 on the 1996 comparative income statement.

(d) Compute the weighted average number of common shares to be used in computing earnings per common share for 1996 on the 1996 comparative income statement.

On January 1, 1996, the Romeo Corp. had 480,000 shares of common stock outstanding. During 1996, it had the following transactions that affected the common stock account.

Instructions

(a) Determine the weighted average number of shares outstanding as of December 31, 1996.

(b) Assume that Romeo Corp. earned net income of $3,456,000 during 1996. In addition, it had 100,000 of shares of 9%, $100 par nonconvertible, noncumulative preferred stock outstanding for the entire year. Because of liquidity considerations, however, the company did not declare and pay a preferred dividend in 1996. Compute earnings per share for 1996, using the weighted average number of shares determined in part (a).

(c) Assume the same facts as in part (b), except that the preferred stock was cumulative. Compute earnings per share for 1996.

(d) Assume the same facts as in part (b), except that net income included an extraordinary gain of $864,000 and a loss from discontinued operations of $432,000. Both items are net of applicable income taxes. Compute earnings per share for 1996.

Juliet Company had 200,000 shares of common stock outstanding on December 31, 1996. During the year 1997 the company issued 8,000 shares on May 1 and retired 14,000 shares on October 31. For the year 1997 Juliet Company reported net income of $249,690 after a casualty loss of $40,600 (net of tax).

Instructions

What earnings per share data should be reported at the bottom of its income statement, assuming that the casualty loss is extraordinary?
E17-18 (EPS: Simple Capital Structure)  F. Laurence Inc. presented the following data:

Net income $2,500,000
Preferred stock: 50,000 shares outstanding,
  $100 par, 8% cumulative, not convertible 5,000,000
Common stock: Shares outstanding 1/1 750,000
Issued for cash, 5/1 300,000
Acquired treasury stock for cash, 8/1 150,000
2-for-1 stock split, 10/1

Instructions
Compute earnings per share.

E17-19 (EPS: Simple Capital Structure)  A portion of the combined statement of income and retained earnings of Mercutio Inc. for the current year follows:

Income before extraordinary item $15,000,000
Extraordinary loss, net of applicable income tax (Note 1) 1,340,000
Net income 13,660,000
Retained earnings at the beginning of the year 83,250,000

Dividends declared:
  On preferred stock—$6.00 per share $ 300,000
  On common stock—$1.75 per share 14,875,000
Retained earnings at the end of the year $81,735,000

Note 1. During the year, Mercutio Inc. suffered a major casualty loss of $1,340,000 after applicable income tax reduction of $1,200,000.

At the end of the current year, Mercutio Inc. has outstanding 8,500,000 shares of $10 par common stock and 50,000 shares of 6% preferred.
On April 1 of the current year, Mercutio Inc. issued 1,000,000 shares of common stock for $32 per share to help finance the casualty.

Instructions
Compute the earnings per share on common stock for the current year as it should be reported to stockholders.

E17-20 (EPS: Simple Capital Structure)  On January 1, 1996, John Gaunt Industries had stock outstanding as follows:

6% Cumulative preferred stock, $100 par value, issued and outstanding 10,000 shares $1,000,000
Common stock, $10 par value, issued and outstanding 200,000 shares 2,000,000

To acquire the net assets of three smaller companies, Gaunt authorized the issuance of an additional 160,000 common shares. The acquisitions took place as follows:

<table>
<thead>
<tr>
<th>Date of Acquisition</th>
<th>Shares Issued</th>
</tr>
</thead>
<tbody>
<tr>
<td>Company A April 1, 1996</td>
<td>50,000</td>
</tr>
<tr>
<td>Company B July 1, 1996</td>
<td>80,000</td>
</tr>
<tr>
<td>Company C October 1, 1996</td>
<td>30,000</td>
</tr>
</tbody>
</table>

On May 14, 1996, Gaunt realized a $90,000 (before taxes) insurance gain on the expropriation of investments originally purchased in 1985.
On December 31, 1996, Gaunt recorded net income of $300,000 before tax and exclusive of the gain.

Instructions
Assuming a 50% tax rate, compute the earnings per share data that should appear on the financial statements of John Gaunt Industries as of December 31, 1996. Assume that the expropriation is extraordinary.

E17-21 (EPS: Simple Capital Structure)  At January 1, 1996 Langley Company’s outstanding shares included:

280,000 shares of $50 par value, 7% cumulative preferred stock
900,000 shares of $1 par value common stock

Net income for 1996 was $2,530,000. No cash dividends were declared or paid during 1996. On February 15, 1997, however, all preferred dividends in arrears were paid, together with a 5% stock dividend on common shares. There were no dividends in arrears prior to 1996.
On April 1, 1996, 450,000 shares of common stock were sold for $10 per share and on October 1, 1996, 110,000 shares of common stock were purchased for $20 per share and held as treasury stock.

Instructions
Compute earnings per share for 1996. Assume that financial statements for 1996 were issued in March 1997.

E17-22 (EPS with Convertible Bonds, Various Situations) In 1997 Bolingbroke Enterprises issued, at par, 60, $1,000, 8% bonds, each convertible into 100 shares of common stock. Bolingbroke had revenues of $17,500 and expenses other than interest and taxes of $8,400 for 1998 (assume that the tax rate is 40%). Throughout 1998, 2,000 shares of common stock were outstanding; none of the bonds was converted or redeemed.

Instructions
(a) Compute diluted earnings per share for 1998.
(b) Assume the same facts as those assumed for Part (a), except that the 60 bonds were issued on September 1, 1998 (rather than in 1997), and none have been converted or redeemed.
(c) Assume the same facts as assumed for Part (a), except that 20 of the 60 bonds were actually converted on July 1, 1998.

E17-23 (EPS with Convertible Bonds) On June 1, 1996, Mowbray Company and Surrey Company merged to form Lancaster Inc. A total of 800,000 shares were issued to complete the merger. The new corporation reports on a calendar-year basis.

On April 1, 1998, the company issued an additional 400,000 shares of stock for cash. All 1,200,000 shares were outstanding on December 31, 1998.

Lancaster Inc. also issued $600,000 of 20-year, 8% convertible bonds at par on July 1, 1998. Each $1,000 bond converts to 40 shares of common at any interest date. None of the bonds have been converted to date.

Lancaster Inc. is preparing its annual report for the fiscal year ending December 31, 1998. The annual report will show earnings per share figures based upon a reported after-tax net income of $1,540,000 (the tax rate is 40%).

Instructions
(a) The number of shares to be used for calculating:
   (i) Basic earnings per share.
   (ii) Diluted earnings per share.
(b) The earnings figures to be used for calculating:
   (i) Basic earnings per share.
   (ii) Diluted earnings per share.

E17-24 (Determine Common Stock Equivalency for Bond and Preferred Stock) The Scroop Corporation issued 10-year, $5,000,000 par, 7% callable convertible subordinated debentures on January 2, 1998. The bonds have a par value of $1,000, with interest payable annually. The current conversion ratio is 14:1, and in 2 years it will increase to 18:1. At the date of issue, the bonds were sold at 98. Bond discount is amortized on a straight-line basis. Scroop’s effective tax was 35%. Net income in 1998 was $9,500,000, and the company had 2,000,000 shares outstanding during the entire year.

Instructions
(a) Prepare a schedule to compute both basic and diluted earnings per share.
(b) Discuss how the schedule would differ if the security was convertible preferred stock.

E17-25 (EPS with Options, Various Situations) Portia Company’s net income for 1998 is $50,000. The only potentially dilutive securities outstanding were 1,000 options issued during 1997, each exercisable for one share at $6. None has been exercised, and 10,000 shares of common were outstanding during 1998. The average market price of Portia’s stock during 1998 was $20.

Instructions
(a) Compute diluted earnings per share (round to nearest cent).
(b) Assume the same facts as those assumed for Part (a), except that the 1,000 options were issued on October 1, 1998 (rather than in 1997). The average market price during the last three months of 1998 was $20.

E17-26 (EPS with Contingent Issuance Agreement) Petuchio Inc. recently purchased Verona Corp., a large midwestern home painting corporation. One of the terms of the merger was that if Verona’s income for 1998 was $110,000 or more, 10,000 additional shares would be paid to Verona’s stockholders in 1999. Verona’s income for 1998 was $120,000.

Instructions
(a) Would the contingent shares have to be considered in Petuchio’s 1997 earnings per share computations?
(b) Assume the same facts, except that the 10,000 shares are contingent on Verona’s achieving a net income of $130,000 in 1998. Would the contingent shares have to be considered in Petruchio’s earnings per share computations for 1997?

E17-27 (EPS with Warrants) Baptista Corporation earned $360,000 during a period when it had an average of 100,000 shares of common stock outstanding. The common stock sold at an average market price of $15 per share during the period. Also outstanding were 15,000 warrants that could be exercised to purchase one share of common stock for $10 for each warrant exercised.

Instructions
(a) Are the warrants dilutive?
(b) Compute basic earnings per share.
(c) Compute diluted earnings per share.

PROBLEMS

P17-1 (Entries for Various Dilutive Securities) The stockholders’ equity section of Falstaff Inc. at the beginning of the current year appears below:

| Common stock, $10 par value, authorized 1,000,000 shares, 300,000 shares issued and outstanding | $3,000,000 |
| Paid-in capital in excess of par | 600,000 |
| Retained earnings | 570,000 |

During the current year the following transactions occurred:

1. The company issued to the stockholders 100,000 rights. Ten rights are needed to buy one share of stock at $32. The rights were void after 30 days. The market price of the stock at this time was $34 per share.
2. The company sold to the public a $200,000, 10% bond issue at par. The company also issued with each $100 bond one detachable stock purchase warrant, which provided for the purchase of common stock at $30 per share. Shortly after issuance, similar bonds without warrants were selling at 96 and the warrants at 8.
3. All but 10,000 of the rights issued in (1) were exercised in 30 days.
4. At the end of the year, 80% of the warrants in (2) had been exercised, and the remaining were outstanding and in good standing.
5. During the current year, the company granted stock options for 5,000 shares of common stock to company executives. The company using a fair value option pricing model determines that each option is worth $10. The option price is $30. The options were to expire at year-end and were considered compensation for the current year.
6. All but 1,000 shares related to the stock option plan were exercised by year-end. The expiration resulted because one of the executives failed to fulfill an obligation related to the employment contract.

Instructions
(a) Prepare general journal entries for the current year to record the transactions listed above.
(b) Prepare the stockholders’ equity section of the balance sheet at the end of the current year. Assume that retained earnings at the end of the current year is $750,000.

P17-2 (Entries for Conversion, Amortization, and Interest of Bonds) Windsor Inc. issued $1,500,000 of convertible 10-year bonds on July 1, 1995. The bonds provide for 12% interest payable semiannually on January 1 and July 1. Expense and discount in connection with the issue was $34,000, which is being amortized monthly on a straight-line basis.

The bonds are convertible after one year into 8 shares of Windsor Inc.’s $100 par value common stock for each $1,000 of bonds.

On August 1, 1996, $150,000 of bonds were turned in for conversion into common. Interest has been accrued monthly and paid as due. At the time of conversion any accrued interest on bonds being converted is paid in cash.

Instructions (Round to nearest dollar)
Prepare the journal entries to record the conversion, amortization, and interest in connection with the bonds as of:
(a) August 1, 1996 (assume the book value method is used).
(b) August 31, 1996.
(c) December 31, 1996, including closing entries for end-of-year.

(AICPA adapted)
Problems

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P17-3 (Stock Option Plan) MAAN Company adopted a stock option plan on November 30, 1996, that provided that 70,000 shares of $5 par value stock be designated as available for the granting of options to officers of the corporation at a price of $8 a share. The market value was $12 a share on November 30, 1996.

On January 2, 1997, options to purchase 28,000 shares were granted to President Don Pedro—15,000 for services to be rendered in 1997 and 13,000 for services to be rendered in 1998. Also on that date, options to purchase 14,000 shares were granted to Vice-President Beatrice Leonato—7,000 for services to be rendered in 1997 and 7,000 for services to be rendered in 1998. The market value of the stock was $14 a share on January 2, 1997. The options were exercisable for a period of one year following the year in which the services were rendered.

In 1998 neither the president nor the vice-president exercised their options because the market price of the stock was below the exercise price. The market value of the stock was $7 a share on December 31, 1998, when the options for 1997 services lapsed.

On December 31, 1999, both President Pedro and Vice-President Leonato exercised their options for 13,000 and 7,000 shares, respectively, when the market price was $16 a share.

Instructions
Prepare the necessary journal entries in 1996 when the stock option plan was adopted, in 1997 when options were granted, in 1998 when options lapsed and in 1999 when options were exercised. The company elects to use the intrinsic value method following APB Opinion No. 25.

P17-4 (EPS with Complex Capital Structure) Marion Tess, controller, at Norris Pharmaceutical Industries, a public company, is currently preparing the calculation for basic and diluted earnings per share and the related disclosure for Norris’ external financial statements. Below is selected financial information for the fiscal year ended June 30, 1997.

Norris Pharmaceutical Industries
Selected Statement of
Financial Position Information
June 30, 1997

<table>
<thead>
<tr>
<th>Long-term debt</th>
<th>$12,000,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Notes payable, 10%</td>
<td>$1,000,000</td>
</tr>
<tr>
<td>7% convertible bonds payable</td>
<td>5,000,000</td>
</tr>
<tr>
<td>10% bonds payable</td>
<td>6,000,000</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Shareholders’ equity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preferred stock, 8.5% cumulative, $50 par value, 100,000 shares authorized, 25,000 shares issued and outstanding</td>
</tr>
<tr>
<td>Common stock, $1 par, 10,000,000 shares authorized, 1,000,000 shares issued and outstanding</td>
</tr>
<tr>
<td>Additional paid-in capital</td>
</tr>
<tr>
<td>Retained earnings</td>
</tr>
<tr>
<td>Total shareholders’ equity</td>
</tr>
</tbody>
</table>

The following transactions have also occurred at Norris.

1. Options were granted in 1995 to purchase 100,000 shares at $15 per share. Although no options were exercised during 1997, the average price per common share during fiscal year 1997 was $20 per share.
2. Each bond was issued at face value. The 7% convertible debenture will convert into common stock at 50 shares per $1,000 bond. It is exercisable after 5 years and was issued in 1996.
3. The 8.5% preferred stock was issued in 1995.
4. There are no preferred dividends in arrears; however, preferred dividends were not declared in fiscal year 1997.
5. The 1,000,000 shares of common stock were outstanding for the entire 1997 fiscal year.
6. Net income for fiscal year 1997 was $1,500,000, and the average income tax rate is 40%.

Instructions
For the fiscal year ended June 30, 1997, calculate Norris Pharmaceutical Industries’:

1. Basic earnings per share.
2. Diluted earnings per share.

P17-5 (Simple EPS and EPS with Stock Options) As auditor for Banquo & Associates, you have been assigned to check Duncan Corporation’s computation of earnings per share for the current year. The con-
Chapter 17 / Dilutive Securities and Earnings Per Share Calculations

Edmund Gloucester of the controller’s office of Lear Corporation was given the assignment of determining the basic and diluted earnings per share values for the year ending December 31, 1998. Gloucester has compiled the information listed below.

You have developed the following additional information:

1. There are no other equity securities in addition to the common shares.
2. There are no options or warrants outstanding to purchase common shares.
3. There are no convertible debt securities.
4. Activity in common shares during the year was as follows:

   | Outstanding, Jan. 1 | 1,285,000 |
   | Treasury shares acquired, Oct. 1 | (250,000) |
   | Shares reissued, Dec. 1 | 165,000 |
   | Outstanding, Dec. 31 | 1,200,000 |

Instructions

(a) On the basis of the information above, do you agree with the controller’s computation of earnings per share for the year? If you disagree, prepare a revised computation of earnings per share.

(b) Assume the same facts as those in (a), except that options had been issued to purchase 140,000 shares of common stock at $10 per share. These options were outstanding at the beginning of the year and none had been exercised or canceled during the year. The average market price of the common shares during the year was $25 and the ending market price was $35. Prepare a computation of earnings per share.

P17-6 (Basic EPS: Two-Year Presentation) Hecate Corporation is preparing the comparative financial statements for the annual report to its shareholders for fiscal years ended May 31, 1994, and May 31, 1995. The income from operations for each year was $1,800,000 and $2,500,000, respectively. In both years, the company incurred a 10% interest expense on $2,400,000 of debt, an obligation that requires interest-only payments for 5 years. The company experienced a loss of $500,000 from a fire in its Scotsland facility in February 1995, which was determined to be an extraordinary loss. The company uses a 40% effective tax rate for income taxes.

The capital structure of Hecate Corporation on June 1, 1993, consisted of 2 million shares of common stock outstanding and 20,000 shares of $50 par value, 8%, cumulative preferred stock. There were no preferred dividends in arrears, and the company had not issued any convertible securities, options, or warrants.

On October 1, 1993, Hecate sold an additional 500,000 shares of the common stock at $20 per share. Hecate distributed a 20% stock dividend on the common shares outstanding on January 1, 1994. On December 1, 1994, Hecate was able to sell an additional 800,000 shares of the common stock at $22 per share. These were the only common stock transactions that occurred during the two fiscal years.

Instructions

(a) Identify whether the capital structure at Hecate Corporation is a simple or complex capital structure, and explain why.

(b) Determine the weighted average number of shares that Hecate Corporation would use in calculating earnings per share for the fiscal year ended


(c) Prepare, in good form, a Comparative Income Statement, beginning with income from operations, for Hecate Corporation for the fiscal years ended May 31, 1994, and May 31, 1995. This statement will be included in Hecate’s annual report and should display the appropriate earnings per share presentations.

(CMA adapted)

P17-7 (EPS Computation of Basic and Diluted EPS) Edmund Gloucester of the controller’s office of Lear Corporation was given the assignment of determining the basic and diluted earnings per share values for the year ending December 31, 1998. Gloucester has compiled the information listed below.

1. The company is authorized to issue 8,000,000 shares of $10 par value common stock. As of December 31, 1997, 3,000,000 shares had been issued and were outstanding.
2. The per share market price of the common stock on selected dates were as follows:

<table>
<thead>
<tr>
<th>Date</th>
<th>Price per Share</th>
</tr>
</thead>
<tbody>
<tr>
<td>July 1, 1997</td>
<td>$20.00</td>
</tr>
<tr>
<td>January 1, 1998</td>
<td>21.00</td>
</tr>
<tr>
<td>April 1, 1998</td>
<td>25.00</td>
</tr>
<tr>
<td>July 1, 1998</td>
<td>11.00</td>
</tr>
<tr>
<td>August 1, 1998</td>
<td>10.50</td>
</tr>
<tr>
<td>November 1, 1998</td>
<td>9.00</td>
</tr>
<tr>
<td>December 31, 1998</td>
<td>10.00</td>
</tr>
</tbody>
</table>

3. A total of 700,000 shares of an authorized 1,200,000 shares of convertible preferred stock had been issued on July 1, 1997. The stock was issued at its par value of $25, and it has a cumulative dividend of $3 per share. The stock is convertible into common stock at the rate of one share of convertible preferred for one share of common. The rate of conversion is to be automatically adjusted for stock splits and stock dividends. Dividends are paid quarterly on September 30, December 31, March 31, and June 30.

4. Lear Corporation is subject to a 40% income tax rate.

5. The after-tax net income for the year ended December 31, 1998 was $13,550,000.

The following specific activities took place during 1998.

1. January 1—A 5% common stock dividend was issued. The dividend had been declared on December 1, 1997, to all stockholders of record on December 29, 1997.
2. April 1—A total of 200,000 shares of the $3 convertible preferred stock was converted into common stock. The company issued new common stock and retired the preferred stock. This was the only conversion of the preferred stock during 1998.
3. July 1—A 2-for-1 split of the common stock became effective on this date. The Board of Directors had authorized the split on June 1.
4. August 1—A total of 300,000 shares of common stock were issued to acquire a factory building.
5. November 1—A total of 24,000 shares of common stock were purchased on the open market at $9 per share. These shares were to be held as treasury stock and were still in the treasury as of December 31, 1998.
6. Common stock cash dividends—Cash dividends to common stockholders were declared and paid as follows:
   April 15—$.30 per share
   October 15—$.20 per share
7. Preferred stock cash dividends—Cash dividends to preferred stockholders were declared and paid as scheduled.

Instructions

(a) Determine the number of shares used to compute basic earnings per share for the year ended December 31, 1998.
(b) Determine the number of shares used to compute basic earnings per share for the year ended December 31, 1998.
(c) Compute the adjusted net income to be used as the numerator in the basic earnings per share calculation for the year ended December 31, 1998.

P17-8 (EPS with Stock Dividend and Extraordinary Items) Cordelia Corporation is preparing the comparative financial statements to be included in the annual report to stockholders. Cordelia employs a fiscal year ending May 31.

Income from operations before income taxes for Cordelia was $1,400,000 and $660,000, respectively, for fiscal years ended May 31, 1996 and 1995. Cordelia experienced an extraordinary loss of $500,000 because of an earthquake on March 3, 1996. A 40% combined income tax rate pertains to any and all of Cordelia Corporation’s profits, gains, and losses.

Cordelia’s capital structure consists of preferred stock and common stock. The company has not issued any convertible securities or warrants and there are no outstanding stock options.

Cordelia issued 50,000 shares of $100 par value, 6% cumulative preferred stock in 1982. All of this stock is outstanding, and no preferred dividends are in arrears.

There were 1,500,000 shares of $1 par common stock outstanding on June 1, 1994. On September 1, 1994, Cordelia sold an additional 400,000 shares of the common stock at $17 per share. Cordelia distributed a 20% stock dividend on the common shares outstanding on December 1, 1995. These were the only common stock transactions during the past two fiscal years.

Instructions

(a) Determine the weighted average number of common shares that would be used in computing earnings per share on the current comparative income statement for:
   2. The year ended May 31, 1996.
(b) Starting with income from operations before income taxes, prepare a comparative income statement for the years ended May 31, 1996 and 1995. The statement will be part of Cordelia Corporation’s annual report to stockholders and should include appropriate earnings per share presentation.

(c) The capital structure of a corporation is the result of its past financing decisions. Furthermore, the earnings per share data presented on a corporation’s financial statements is dependent upon the capital structure.

1. Explain why Cordelia Corporation is considered to have a simple capital structure.
2. Describe how earnings per share data would be presented for a corporation that has a complex capital structure.

(CMA adapted)

P17-9 (Comprehensive EPS Calculation with Complicating Features) The controller of Polonius Corporation has requested assistance in determining income, basic earnings per share, and diluted earnings per share for presentation in the company’s income statement for the year ended September 30, 1997. As currently calculated, the company’s net income is $830,000 for fiscal year 1996–1997. The controller has indicated that the income figure might be adjusted for the following transactions that were recorded by charges or credits directly to retained earnings (the amounts are net of applicable income taxes):

1. The sum of $300,000, applicable to a breached 1993 contract, was received as a result of a lawsuit. Prior to the award, legal counsel was uncertain about the outcome of the suit.
2. A gain of $270,000 was realized from a condemnation sale (extraordinary).
3. A “gain” of $165,000 was realized on the sale of treasury stock.
4. A special inventory writeoff of $200,000 was made, of which $140,000 applied to goods manufactured prior to October 1, 1996.

Your working papers disclose the following opening balances and transactions in the company’s capital stock accounts during the year:

1. Common stock (at October 1, 1996, stated value $10, authorized 450,000 shares; effective December 1, 1996, stated value $5, authorized 900,000 shares):
   - Balance, October 1, 1996—issued and outstanding 100,000 shares
   - December 1, 1996—100,000 shares issued in a 2-for-1 stock split.
   - December 1, 1996—420,000 shares (stated value $5) issued at $39 per share.

2. Treasury stock—common:
   - March 1, 1997—purchased 60,000 shares at $37.25 per share.
   - April 1, 1997—sold 60,000 shares at $40 per share.

3. Stock purchase warrants, Series A (initially, each warrant was exchangeable with $60 for one common share; effective December 1, 1996, each warrant became exchangeable for two common shares at $30 per share):
   - October 1, 1996—40,000 warrants issued at $6 each.

4. Stock purchase warrants, Series B (each warrant is exchangeable with $45 for one common share):
   - April 1, 1997—30,000 warrants authorized and issued at $10 each.

5. First mortgage bonds, 9%, due 2009 (nonconvertible; priced to yield 8% when issued):
   - Balance, October 1, 1996—authorized, issued, and outstanding—the face value of $2,100,000.

6. Convertible debentures, 7%, due 2013 (initially, each $1,000 bond was convertible at any time until maturity into 12½ common shares; effective December 1, 1996, the conversion rate became 25 shares for each bond):
   - October 1, 1996—authorized and issued at their face value (no premium or discount) of $3,600,000.

The following table shows market prices for the company’s securities and the assumed average Aa corporate bond yield rate during 1996–1997:

<table>
<thead>
<tr>
<th></th>
<th>10/1/96</th>
<th>4/1/97</th>
<th>9/30/97</th>
<th>Average for Year Ended 9/30/97</th>
</tr>
</thead>
<tbody>
<tr>
<td>Common stock</td>
<td>66</td>
<td>40</td>
<td>36¼</td>
<td>37½%</td>
</tr>
<tr>
<td>First mortgage bonds</td>
<td>88½</td>
<td>87</td>
<td>86</td>
<td>87</td>
</tr>
<tr>
<td>Convertible debentures</td>
<td>100</td>
<td>120</td>
<td>119</td>
<td>115</td>
</tr>
<tr>
<td>Series A Warrants</td>
<td>6</td>
<td>22</td>
<td>19½</td>
<td>15</td>
</tr>
<tr>
<td>Series B Warrants</td>
<td>—</td>
<td>10</td>
<td>9</td>
<td>9½</td>
</tr>
<tr>
<td>Avg. Aa corp. bond yield</td>
<td>8%</td>
<td>7½%</td>
<td>7½%</td>
<td>7½%</td>
</tr>
</tbody>
</table>

*Adjusted for stock split.
Instructions

(a) Prepare a schedule computing net income as it should be presented in the company’s income statement for the year ended September 30, 1997.

(b) Assuming that net income after income taxes for the year was $1,125,000 and that there were no extraordinary items, prepare a schedule computing (1) the basic earnings per share and (2) the diluted earnings per share that should be presented in the company’s income statement for the year ended September 30, 1997. A supporting schedule computing the numbers of shares to be used in these computations should also be prepared. (Because of the relative stability of the market price for its common shares, the annual average market price may be used where appropriate in your calculations. Assume an income tax rate of 48%.)

P17-10 (Various Equity, Dividend, and EPS Calculations) On February 1, 1996, when your audit and report are nearly complete, Gertrude Queen, the president of Hamlet Corporation asks you to prepare statistical schedules of comparative financial data for the past five years for inclusion in the company’s annual report. Your working papers reveal the following information.

1. Income statements show net income amounts as follows:
   
<table>
<thead>
<tr>
<th>Year</th>
<th>Net Income</th>
</tr>
</thead>
<tbody>
<tr>
<td>1991</td>
<td>$40,000</td>
</tr>
<tr>
<td>1992</td>
<td>(39,000) (loss)</td>
</tr>
<tr>
<td>1993</td>
<td>49,000</td>
</tr>
<tr>
<td>1994</td>
<td>76,000</td>
</tr>
<tr>
<td>1995</td>
<td>100,000</td>
</tr>
</tbody>
</table>

2. On January 1, 1991, there were outstanding 2,000 shares of common stock, par value $100 and 1,000 shares of 6% cumulative preferred stock, par value $50.

3. A 6% dividend was paid in common stock to common stockholders on December 31, 1992. The fair market value of the stock was $145 per share at the time.

4. Nine hundred shares of common stock were issued on March 31, 1993, to purchase another company. (The transaction was accounted for as a purchase, not a pooling of interests: use weighted average approach for purchase of a business.)

5. A dividend of cumulative preferred stock was distributed to common stockholders on July 1, 1993. One share of preferred stock was distributed for every five shares of common stock held. The fair market value of the preferred stock was $57 per share before the distribution and $54 per share immediately after the distribution.

6. The common stock was split 2-for-1 on December 31, 1994, and again on December 31, 1995.

7. Cash dividends are paid on the preferred stock on June 30 and December 31. Preferred stock dividends were paid in each year except 1992; the 1992 and 1993 dividends were paid in 1993.

8. Cash dividends on common stock are paid on June 30 and December 31. Dividends paid per share of stock outstanding at the respective dates were:

<table>
<thead>
<tr>
<th>Year</th>
<th>June 30</th>
<th>Dec. 31</th>
</tr>
</thead>
<tbody>
<tr>
<td>1991</td>
<td>$.50</td>
<td>$.50</td>
</tr>
<tr>
<td>1992</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>1993</td>
<td>.50</td>
<td>.75</td>
</tr>
<tr>
<td>1994</td>
<td>1.00</td>
<td>.50a</td>
</tr>
<tr>
<td>1995</td>
<td>.75</td>
<td>.76b</td>
</tr>
</tbody>
</table>

   a After 2-for-1 split.
   b Before 2-for-1 split.

Instructions

(a) In connection with your preparation of the statistical schedule of comparative financial data for the past 5 years:

1. Prepare a schedule computing the number of shares of common stock and preferred stock outstanding as of the respective year-end dates.

2. Prepare a schedule computing the current equivalent number of shares of common stock outstanding as of the respective year-end dates. The current equivalent shares means the weighted-average number of shares outstanding in the respective prior periods after restatement for stock splits and stock dividends.

3. Compute the total cash dividends paid to holders of preferred stock and to holders of common stock for each of the 5 years.

(b) Prepare a 5-year summary of financial statistics to be included in the annual report. The summary should show by years “Net Income (or Loss),” “Earnings Per Share of Common Stock,” and “Cash Dividends Per Share of Common Stock.” The per share figures should be computed on the basis of current equivalent shares.

(AICPA adapted)
CASES

C17-1 (Warrants Issued with Bonds and Convertible Bonds) Incurring long-term debt with an arrangement whereby lenders receive an option to buy common stock during all or a portion of the time the debt is outstanding is a frequent corporate financing practice. In some situations the result is achieved through the issuance of convertible bonds; in others the debt instruments and the warrants to buy stock are separate.

Instructions

(a) 1. Describe the differences that exist in current accounting for original proceeds of the issuance of convertible bonds and of debt instruments with separate warrants to purchase common stock.

2. Discuss the underlying rationale for the differences described in (a)1 above.

3. Summarize the arguments that have been presented in favor of accounting for convertible bonds in the same manner as accounting for debt with separate warrants.

(b) At the start of the year Biron Company issued $18,000,000 of 12% notes along with warrants to buy 1,200,000 shares of its $10 par value common stock at $18 per share. The notes mature over the next 10 years starting one year from date of issuance with annual maturities of $1,800,000. At the time, Biron had 9,600,000 shares of common stock outstanding and the market price was $23 per share. The company received $20,040,000 for the notes and the warrants. For Biron Company, 12% was a relatively low borrowing rate. If offered alone, at this time, the notes would have been issued at a 22% discount. Prepare the journal entry (or entries) for the issuance of the notes and warrants for the cash consideration received.

(AICPA adapted)

C17-2 (Convertible Bonds) On February 1, 1992, Armado Company sold its 5-year, $1,000 par value, 8% bonds, which were convertible at the option of the investor into Armado Company common stock at a ratio of 10 shares of common stock for each bond. The convertible bonds were sold by Armado Company at a discount. Interest is payable annually each February 1. On February 1, 1995, Holofernes Company, an investor in the Armado Company convertible bonds, tendered 1,000 bonds for conversion into 10,000 shares of Armado Company common stock that had a market value of $120 per share at the date of the conversion.

Instructions

How should Armado Company account for the conversion of the convertible bonds into common stock under both the book value and market value methods? Discuss the rationale for each method.

(AICPA adapted)

C17-3 (Stock Warrants—Various Types) For various reasons a corporation may issue warrants to purchase shares of its common stock at specified prices that, depending on the circumstances, may be less than, equal to, or greater than the current market price. For example, warrants may be issued:

1. To existing stockholders on a pro rata basis.
2. To certain key employees under an incentive stock option plan.
3. To purchasers of the corporation’s bonds.

Instructions

For each of the three examples of how stock warrants are used:

(a) Explain why they are used.

(b) Discuss the significance of the price (or prices) at which the warrants are issued (or granted) in relation to (1) the current market price of the company’s stock, and (2) the length of time over which they can be exercised.

(c) Describe the information that should be disclosed in financial statements, or notes thereto, that are prepared when stock warrants are outstanding in the hands of the three groups listed above.

(AICPA adapted)

*C17-4 (Stock Options and Stock Appreciation Rights—Intrinsic Value Model) In 1993 Costard Co. adopted a plan to give additional incentive compensation to its dealers to sell its principal product, fire extinguishers. Under the plan Costard transferred 9,000 shares of its $1 par value stock to a trust with the provision that Costard would have to forfeit interest in the trust and no part of the trust fund could ever revert to Costard. Shares were to be distributed to dealers on the basis of their shares of fire extinguisher purchases from Costard (above certain minimum levels) over the 3-year period ending June 30, 1996.

In 1993 the stock was closely held. The book value of the stock was $7.90 per share as of June 30, 1993, and in 1993 additional shares were sold to existing stockholders for $8 per share. On the basis of this information, market value of the stock was determined to be $8 per share.

In 1993 when the shares were transferred to the trust, Costard charged prepaid expenses for $72,000 ($8 per share market value) and credited capital stock for $9,000 and additional paid-in capital for $63,000. The prepaid expense was charged to operations over a 3-year period ended June 30, 1996.
Costard sold a substantial number of shares of its stock to the public in 1995 at $60 per share. In July 1996 all shares of the stock in the trust were distributed to the dealers. The market value of the shares at date of distribution of the stock from the trust had risen to $110 per share. Costard obtained a tax deduction equal to that market value for the tax year ended June 30, 1997.

Instructions
(Note: Use APB Opinion No. 25 to solve this problem.)

(a) How much should be reported as selling expense in each of the years noted above assuming that the company uses the intrinsic value model?

(b) Costard is also considering other types of option plans. One such plan is a stock appreciation right (SAR) plan. What is a stock appreciation right plan? What is a potential disadvantage of a SAR plan from the viewpoint of the company?

C17-5 (Stock Compensation Plans) Presented below is an excerpt from a speech given by SEC Commissioner J. Carter Beese, Jr., in December 1993.

. . . I believe investors will be far better off if the value of stock options is reported in a footnote rather than on the face of the income statement. By allowing footnote disclosures, we will protect shareholders’ current and future investments by not raising the cost of capital for the innovative, growth companies that depend on stock options to attract and retain key employees. I’ve said it before and I’ll say it again: the stock option accounting debate essentially boils down to one thing—the cost of capital. And as long as we can adequately protect investors without raising the cost of capital to such a vital segment of our economy, why would we want to do it any other way?

The FASB has made the assertion that when it comes to public policy, they lack the competence to weigh various national goals. I also agree with the sentiment that, as a general matter, Congress should not be in the business of writing accounting standards.

But the SEC has the experience and the capability to determine exactly where to draw the regulatory lines to best serve investors and our capital markets. That is our mandate, and that is what we do, day in and day out.

But we may have to act sooner rather than later. As we speak, the FASB’s proposals are raising the cost of venture capital. That’s because venture capitalists are pricing deals based on their exit strategies, which usually include cashing out in public offerings. The FASB’s proposals, however, provide incentives for companies to stay private longer—they are able to use options more freely to attract and retain key employees, and they avoid the earnings hit that going public would entail. Even worse, as venture capital deals become profitable because of the FASB’s proposed actions, venture capitalists are starting to look overseas for alternative investment opportunities that lack the investment drag now associated with certain American ventures.

I acknowledge that the FASB deserves some degree of freedom to determine what they believe is the best accounting approach. At the same time, however, I cannot stand by idly for long and watch venture capital increase in price or even flee this country because of a myopic search for an accounting holy grain. At some point, I believe that the SEC must inject itself into this debate, and help the FASB determine what accounting approach is ultimately in the best interests of investors as a whole.

We owe it to shareholders, issuers and all market participants, and indeed our country, to make the best decision in accordance with the public good, not just technical accounting theory.

Instructions
(a) What are the major recommendations of the FASB’s new standard on “Accounting for Stock-Based Compensation Plans”?

(b) Write a response to Commissioner Beese, defending the use of the concept of neutrality in financial accounting and reporting.

C17-6 (EPS: Preferred Dividends, Options, and Convertible Debt) “Earnings per share” (EPS) is the most featured single financial statistic about modern corporations. Daily published quotations of stock prices have recently been expanded to include for many securities a “times earnings” figure that is based on EPS. Stock analysts often focus their discussions on the EPS of the corporations they study.

Instructions
(a) Explain how dividends or dividend requirements on any class of preferred stock that may be outstanding affect the computation of EPS.

(b) One of the technical procedures applicable in EPS computations is the “treasury stock method.” Briefly describe the circumstances under which it might be appropriate to apply the treasury stock method.

(c) Convertible debentures are considered potentially dilutive common shares. Explain how convertible debentures are handled for purposes of EPS computations.

(AICPA adapted)
Chapter 17 / Dilutive Securities and Earnings Per Share Calculations

C17-7 (EPS Concepts and Effect of Transactions on EPS) Dromio Corporation, a new audit client of yours, has not reported earnings per share data in its annual reports to stockholders in the past. The treasurer, Angelo Balthazar, requested that you furnish information about the reporting of earnings per share data in the current year’s annual report in accordance with generally accepted accounting principles.

Instructions
(a) Define the term “earnings per share” as it applies to a corporation with a capitalization structure composed of only one class of common stock and explain how earnings per share should be computed and how the information should be disclosed in the corporation’s financial statements.

(b) Discuss the treatment, if any, that should be given to each of the following items in computing earnings per share of common stock for financial statement reporting.
1. Outstanding preferred stock issued at a premium with a par value liquidation right.
2. The exercise at a price below market value but above book value of a common stock option issued during the current fiscal year to officers of the corporation.
3. The replacement of a machine immediately prior to the close of the current fiscal year at a cost 20% above the original cost of the replaced machine. The new machine will perform the same function as the old machine that was sold for its book value.
4. The declaration of current dividends on cumulative preferred stock.
5. The acquisition of some of the corporation’s outstanding common stock during the current fiscal year. The stock was classified as treasury stock.
6. A 2-for-1 stock split of common stock during the current fiscal year.
7. A provision created out of retained earnings for a contingent liability from a possible lawsuit.

USING YOUR JUDGMENT

FINANCIAL REPORTING PROBLEMS

Refer to the financial statements and other documents of Georgia-Pacific Corporation presented in Appendix 5-A and answer the following questions.

1. At December 31, 1993, Georgia-Pacific’s Employee Stock Purchase Plan had reserved for issue 1,154,000 shares of common stock. How many shares were issued to employees in 1993 as a result of this plan?
2. At December 31, 1990, Georgia-Pacific reserved 4 million shares of common stock for its Long-Term Incentive Plan. How does Georgia-Pacific account for the shares awarded? What was the amount of Incentive Plan compensation expense recognized for the years 1991, 1992, and 1993?
3. In addition to its Long-Term Incentive Plan, Georgia-Pacific has an Employee Stock Option Plan for certain officers and key employees. How does the corporation account for the stock options granted? What was the Option Plan compensation expense (income) for the years 1991, 1992, and 1993?
4. In computing its 1993 earnings per share, what kind of shares were excluded by Georgia-Pacific from the computation of weighted average number of common shares outstanding?

WRITING ASSIGNMENT

Matt Kacskos, a stockholder of Howat Corporation, has asked you, the firm’s accountant, to explain why his stock warrants were not included in diluted EPS. In order to explain this situation, you must briefly explain what dilutive securities are, why they are included in the EPS calculation, and why some securities are antidilutive and thus not included in this calculation.

Instructions
Write Mr. Kacskos a 1–1.5 page letter explaining why the warrants are not included in the calculation. Use the following data to help you explain:

Howat Corporation earned $228,000 during the period, when it had an average of 100,000 shares of common stock outstanding. The common stock sold at an average market price of $25 per share during the period. Also outstanding were 15,000 warrants that could be exercised to purchased one share of common stock for $30 each warrant.
The executive officers of Veryshrewd Corporation have a performance-based compensation plan. The performance criteria of this plan is linked to growth in earnings per share. When annual earnings per share growth is 12%, executives earn 100% of the shares; if growth is 16%, executives earn 125%. If earnings per share growth is lower than 8%, executives receive no additional compensation.

In 1995, Kate Padua, the controller of Veryshrewd, reviews year end estimates of bad debt expense and warranty expense. She calculates the EPS growth at 15%. Vince Lucentio, a member of the executive group, remarks over lunch that the estimate of bad debt expense might be decreased so that EPS growth will be 16.1%. Padua is not sure that she should do this because she believes that the current estimate of bad debts is sound. On the other hand, she recognizes that a great deal of subjectivity is involved in the computation.

**Instructions**

(a) What, if any, is the ethical dilemma for Padua?

(b) Should Padua’s knowledge of the compensation plan be a factor that influences her estimate?

(c) How would you respond to Lucentio’s request?