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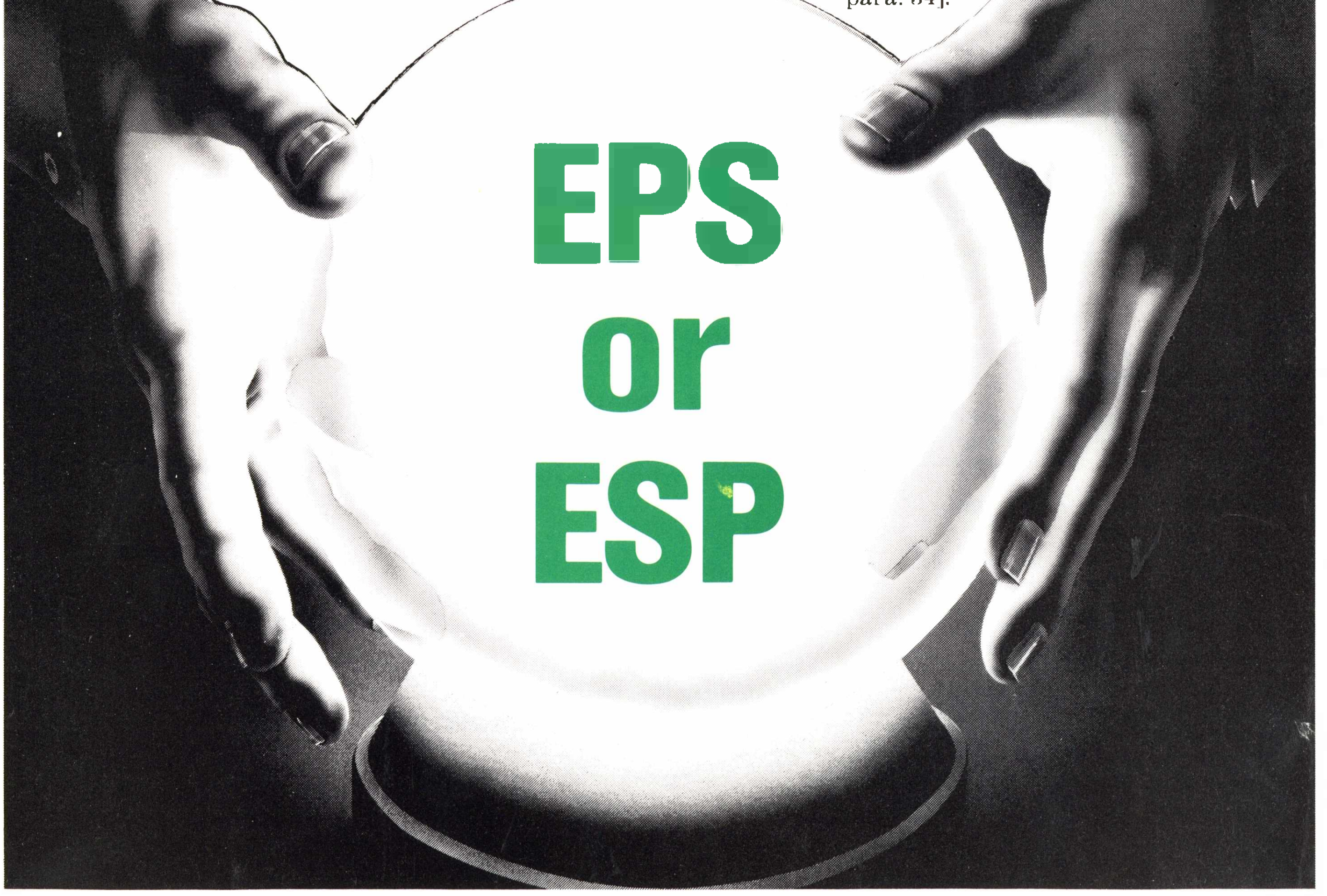
Earnings per share (EPS) is a logical extension of financial reporting. In general, per share analysis is merely a procedure employed in relating an aggregate total to an individual share of common stock. The per share idea is readily adaptable to an existing frame of reference since investors buy and sell, are billed, and pay in terms of price per share. Stock market prices and transactions are reported by dealers and by financial media in per share terms. Investors may assess their positions in terms of actual or potential changes in the market. on a per share basis.

The Financial Accounting Standards Board has stated:

> Financial reporting should provide information that is useful to present and potential investors and creditors and other users in making rational investment, credit, and similar decisions. The information should be comprehensible to those who have a reasonable understanding of business and economic activities and are willing to study the information with reasonable diligence [FASB, 1978, para. 34].



In discussing qualitative characteristics, the Board said: "The benefits of information may be increased by making it more understandable and, hence, useful to a wider circle of users" [FASB, 1980, para. 40].

Notwithstanding the above statements by the Board, the procedures presently required in making earnings per share calculations may lead to misunderstandings and erroneous interpretations. Three areas have been largely responsible for the confusion, misunderstanding, and misinterpretation surrounding earnings per share computations. The areas are: (1) using a weighted average to determine the number of shares of stock outstanding, (2) determining common stock equivalents for convertible securities as well as for warrants and options, and (3) employing the treasury stock method for assumed conversion of options and warrants.

This article presents a method of computing earnings per share that is simpler to understand than the one currently in use. In addition, the suggested method is more directly related to a firm's present income position and the near-term potential for changes in the number of shares of common stock outstanding.

Weighted Average

Although earnings accumulate over a period of time, the sum total of the earnings at the end of a period relates to the number of shares outstanding at the **end** of that period. If the purpose of the earnings per share calculation is to provide users of financial statements with useful information about immediate past earnings per share, the use of a weighted average fails to meet this goal. Commenting on studies concerning the use of past earnings to predict future earnings, Kam states that

> . . . the earnings series, through time, can be described as a process affected by some probability law such that the best estimate of future income is the preceeding one [Kam, 1986, p. 351].

Two solutions to the problem caused by use of a weighted average are evident. One solution would be to present earnings per share for partial periods that reflect the results at various times when differing numbers of shares were outstanding. The obvious drawback to this solution is the number of earnings per share items that would be presented for one year and the resulting confusion this would engender. The second and preferable solution would be to base the computation on the number of shares outstanding at the end of the period. This procedure would recognize that the information is based on past activity and that the amount shown is, indeed, the stockholders' per share interest in those earnings at that period end. The proposed change is more compatible with the general sense and understanding of the term "earnings per share."

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The use of the number of shares outstanding at the end of the period would provide the basis for computing what will be called in this article **basic** earnings per share. The computation for basic earnings per share is quite simple and straightforward: net income before extraordinary items divided by the number of shares of common stock **actually** outstanding at the end of the reporting period.

Common Stock Equivalents

Many of the comments in the literature have been directed toward the determination of common stock equivalents, focusing upon the test employed for classification as common stock equivalents and the one-time determination of the classification. The intent of the standard-setters — to show the possible effects that other securities in the financial structure could have on primary earnings per share — is a worthwhile one. However, the rules for determining common stock equivalency are questionable.

Convertible Securities

In APB No. 9, the Accounting Principles Board recognized that certain securities derive a major portion of their value from their conversion rights or their common stock characteristics and stated that "such securities should be considered 'residual securities' for the purpose of computing earnings per share" [APB, 1966, para. 33]. Subsequently, APB No. 15 resulted in some convertible securities being included in the determination of primary earnings per share and in fully diluted earnings per share while others are included only in fully diluted earnings per share [APB, 1969, para. 31-44]. Convertible securities are included in primary earnings per share and in fully diluted earnings per share if they pass the common stock equivalency test; failing that test, they are included only in fully diluted earnings per share. Once that determination is made, it is not changed.

In APB No. 15, the common stock equivalency test was based on a cash yield of less than two-thirds of the prime rate [APB, 1969, para. 33]. The first change in the test occurred in FASB No. 55 when the prime rate was changed to the corporate Aa rate [FASB, 1982, para. 7]. Just three years later, FASB No. 85 changed the test for convertible bonds from the cash-yield basis to an effective yield of less than two-thirds of the corporate Aa bond rate, but it left the two-thirds cash-yield test for the convertible preferred stock [FASB, 1985, para. 3]. Changes to these kinds of bases were made because the cash yield and the corporate bond rate are easy to determine, objective, and verifiable. However, in a recent study of 115 convertible securities (82 bonds and 33 preferred stocks), Dudley concluded that neither test has predictive value and both

> . . . have great potential to mislead financial statement users. In terms of actual conversion by the fourth year, both tests misclassify securities over half the time, with overstatements of PEPS (primary earnings per share) predominating [1986, p. 12].

If the classification test results in classifying a security as a common stock equivalent and that security is not converted, then primary earnings per share are understated. The reverse is also true; if the test fails to classify a security as a common stock equivalent and the security is converted, then primary earnings per share is overstated. The study covered a four-year period for conversion, which seems sufficiently long for most security-holders' planning horizons. Other earlier studies on the original prime rate test found that common stock equivalents were no more likely to be converted than were those stocks that were not common stock equivalents [Frank and Weygandt, 1971, p. 110, and Hofstedt and West, 1971, p. 332].

Instead of using a one-time classification rule, the common stock equivalency should be evaluated as of the date of the financial statements.

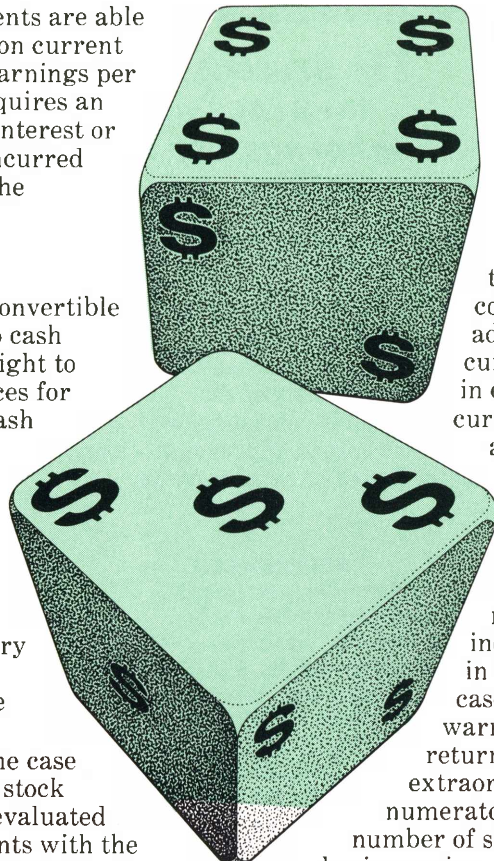
Regardless of management's intentions or the relationship of the effective yield to the corporate Aa bond rate at the time of issue, the benchmarks against which common stock equivalency are measured are actually driven by economic forces in the marketplace. Because of this, the desirability of conversion changes from time to time. Given these circumstances and the fact that studies show that the present common stock equivalency tests lack predictive value, it appears that the one-time classification rule should be abandoned.

Instead of using a one-time classification rule, the common stock equivalency should be evaluated as of the date of the financial statements. Since the intent is to determine equivalency in the short term, any security that is not convertible within the next fiscal year should not be evaluated. Market prices at the date of the financial statements should be used for the evaluation. If, at the date of the financial statements, the market price of the security is such that its effective yield is equal to or very near the average yield for securities of the same quality classification (e.g., Aa or Ba), then it may be presumed that the market forces are evaluating the overall security. In other words, it is the totality of the security, not just its convertibility, that makes the yield very near the average for securities in its quality classification. The market for such a security does not envision a reason for the yield to be substantially higher or lower than the average. If, however, the market price of a convertible security is such that its effective yield is very much below the average yield for the same quality classificaiton, it is because the price of that security has been driven up by the underlying common stock price. In the latter case, those convertible securities should be used in determining what may be called an **adjusted** earnings per share because the potential for conversion in the near-term exists.

How much below the average the yield must be before it is presumed that the market price of the security is reflecting its convertibility is open to debate. A certain amount of compromise or arbitrariness is usual in this situation. The FASB used two-thirds in its test; any level sufficient to establish the market's evaluation of that security as a common stock equivalent (say, for example, three-fourths) would be appropriate.

To show the effects that conversion would have on basic earnings per share, the conversion should be assumed to have taken place at the beginning of the year.

In this way, users of financial statements are able to assess the effects of the conversion on current earnings. In computing an adjusted earnings per share, an assumed conversion also requires an adjustment to the numerator for the interest or dividends that would not have been incurred had the securities been converted at the beginning of the period.



Options and Warrants

Options and warrants differ from convertible securities in that they usually have no cash yield, derive their value from their right to obtain common stock at specified prices for a period of time, and may require a cash payment to acquire the additional commons shares. The Accounting Principles Board states these securities should be regarded as common stock equivalents at all times with the amount of dilution to be reflected in earnings per share by an application of the so-called "treasury stock" method [APB, 1969, para. 36].

Rights to purchase shares below the market price have the potential for changing earnings per share. As in the case of convertible securities, the common stock equivalency of such rights should be evaluated as of the date of the financial statements with the evaluation limited to those rights that may be exercised during the subsequent fiscal year. If, at the date of the financial statements, the sum of the market price of the stock purchase right plus the exercise purchase price is below the market price of the share itself, then the warrants or options should be regarded as common stock equivalents. In this case, the rights should be used in computing an adjusted earnings per share because there is the potential for changing the number of shares outstanding in the near future. On the other hand, if the market price of a share is less than the total cost of purchasing a share through the acquisition and exercise of a warrant or option, then the potential for change in shares outstanding does not exist because the shares may be obtained more cheaply in the market place.

To show the effect on current earnings per share, the additional shares should be presumed to have been issued at the beginning of the fiscal period. Since exercise of the warrants or options may result in payment to the firm for the newly issued shares, an adjustment to the numerator of the EPS fraction must be made. The adjustment to the numerator is discussed in the following section.

A Change from the Treasury Stock Method

At present, EPS calculations require the use of the treasury stock method to adjust for the presumed issue of additional common shares through stock options and warrants. The treasury stock method assumes the proceeds would be used to purchase treasury stock. This seems an unlikely course of action unless the firm needs additional treasury shares to fulfill the current commitments (such as incurred in employee stock option plans) or the current market price of the shares appears to be a good buy for future commitments. If the firm has a strong rate of return on assets and is experiencing favorable financial leverage (factors that are likely to exist if the warrant is to be exercised), rational economic behavior would indicate that the funds should be invested in the firm's operations. That being the case, the proceeds from the exercise of the warrants, adjusted by an after-tax rate of return on assets (based on net income before extraordinary items), should be added to the numerator. Depending on the interaction of the number of shares issued, the issue price, and the basic earnings per share, the adjustment may have the effect of increasing or decreasing the basic earnings per share.

Summary and Conclusion

The present distinction between primary earnings per share and fully diluted earnings per share should be eliminated in favor of a different presentation. A suggested two-way presentation is **basic** earnings per share and **adjusted** earnings per share. The basic earnings per share would be computed by dividing the net income before extraordinary items by the number of shares outstanding at the financial statement date. In this way, basic earnings per share would be based entirely on the number of shares outstanding at the balance sheet date.

Those securities whose market prices at the date of the financial statements are such as to indicate the potential for near-term conversion should be included in determining a second earnings pe share simply called adjusted earnings per share. Including securities with near-term conversion would require additions to both the numerator and demoninator used in basic earnings per share. These additions are shown below.

The numerator would be computed as follows:

Net income before extraordinary items (from the income statement)
- + After-tax interest costs on the bonds that have near-term conversion potential
- + Dividends required on the preferred shares that have near-term conversion potential
- + After-tax return on the proceeds from shares issued upon the exercise of warrants that have near-term conversion potential (rate of return to be based on net income before extraordinary items.)

The denominator would be computed as follows:

Number of shares actually outstanding at the end of the period
- + The number of shares presumed to be issued upon the conversion of securities deemed to have near-term conversion potential which may include both convertible securities and warrants.

Financial statement users would be better served by the suggested approach because they would be informed of their share of the immediate past profits and also be apprised of the potential for near-term change in their share of those earnings. The usefulness, simplicity, and increased understandability of the information is consistent with the FASB's current appraoch to clear, useful financial reporting. ■

The present distinction between primary earnings per share and fully diluted earnings per share should be eliminated in favor of a different presentation.

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