2. Earnings per Share, Price Earnings Ratios, Book Value per Share, and Dividend Rates

How is one to meaningfully compare the net income of a large corporation that has tens of millions of shares outstanding to smaller companies that may have less than even one million shares out? The larger company is probably expected to produce a greater amount of income. But, the smaller company might be doing better per unit of ownership. To adjust for differences in size, public companies must supplement their income reports with a number that represents earnings on a per share basis. Earnings per share, or EPS, is easily the most widely followed and best understood performance measure in corporate reporting. It represents the amount of net income for each share of common stock. Corporate communications and news stories will typically focus on the EPS results, but care should be taken in drawing any definitive conclusions based on a single calculated value. Remember, lots of nonrecurring transactions and events can positively or negatively impact income and EPS; always look beyond the headlines.

2.1 Basic EPS

Having now been introduced to EPS concepts, it is time to focus on the accounting calculation of this important number. Basic EPS may be thought of as a simple fraction with income in the numerator and the number of common shares in the denominator, as follows:

Income/Number of Common Shares Outstanding

Expanding this thought, consider that income is for a period of time (e.g., a quarter or year), and during that period of time, the number of shares might have increased or decreased because of share issuances and treasury stock transactions. Therefore, a more correct characterization of the Basic EPS calculation is:

Income/Weighted-Average Number of Common Shares Outstanding

Further, one must consider that some companies have both common and preferred shares. Remember that dividends on common and preferred stock are not expenses and do not reduce income. However, the preferred stock dividends do lay claim to some of the corporate income stream that would otherwise benefit common shares. Therefore, one more modification is needed to correctly portray the Basic EPS fraction:

Basic EPS
=
Income Available to Common/
Weighted-Average Number of Common Shares Outstanding

This last modification to the Basic EPS calculation entails a reduction of income by the amount of preferred dividends for the period.

An illustration may help to clarify the calculation of Basic EPS. Assume that Kooyul Corporation began 20X4 with 1,000,000 shares of common stock outstanding. On April 1, 20X4, Kooyul issued 200,000 additional shares of common stock, and 120,000 shares of common stock were reacquired on November 1. Kooyul reported net income of $2,760,000 for the year ending December 31, 20X4. Kooyul also had 50,000 shares of preferred stock on which $500,000 in dividends were rightfully declared and paid during 20X4. Kooyul paid $270,000 in dividends to common shareholders. How much is Kooyul's EPS?

Income available to Kooyul's common shareholders is $2,260,000. This amount is calculated as the net income ($2,760,000) minus the preferred dividends ($500,000). Dividends on common stock do not impact the EPS calculation.

Weighted-average common shares outstanding during 20X4 are 1,130,000. The following table illustrates how this is calculated:

Time Interval	Portion of Year	Shares Outstanding During Time Interval	Calculation	Weighted-Average Impact
Jan. 1 through March 31	3 months	1,000,000	3/12 X 1,000,000 =	250,000
April 1 through Oct. 31	7 months	1,200,000 (1,000,000 + 200,000)	7/12 X 1,200,000 =	700,000
Nov. 1 through Dec. 31	2 months	1,080,000 (1,200,000 - 120,000)	2/12 X 1,080,000 =	180,000
	12 months			1,130,000

Therefore, Kooyul's Basic EPS is $2 per share ($2,260,000/1,130,000).

2.2 Diluted EPS

For many companies, the Basic EPS is all that is required to be presented. But, other companies must report an additional Diluted EPS number. The Diluted EPS is applicable to companies that have more complex capital structures. Examples include companies that have issued stock options and warrants that entitle their holders to buy additional shares of common stock from the company, and convertible bonds and preferred stocks that are potentially to be exchanged for common shares. These financial instruments represent the possibility that more shares of common stock will be issued and are said to be potentially "dilutive" to the existing common shareholders.

Accounting rules dictate that companies with dilutive securities take the potential effect of dilution into consideration in calculating the auxiliary Diluted EPS number. When you see a company that discloses Diluted EPS, it means they have done a series of (rather complex) calculations based on assumptions that dilutive securities are converted into common stock. The hypothetical calculations are quite imaginative; even going so far as to provide guidelines about how money generated from assumed exercises of options and warrants is assumed to be "reinvested" by the company. There is plenty of room to quibble over the merits of the assumptions, but the key point is that Diluted EPS provides existing shareholders a measure of how the company's income is potentially to be shared with other interests. Dilutive effects should never be ignored in investment decision-making!

2.3 Subdividing APS Amounts

You now know that public companies are required to report EPS information, and you earlier learned that companies must present a fully developed income statement that segregates income from continuing operations from other components of income (e.g., discontinued operations, etc.). Putting these two facts together, you might assume that EPS information should parallel the detailed information shown on the income statement. And, that assumption is correct. Earnings per share information must be subdivided to reveal per share data about income from continuing operations, discontinued operations, extraordinary items, and net income.

2.4 Price Earnings Ratio

Financial analysts often incorporate reported EPS information into the calculation of a popular ratio -- the price/earnings ratio (P/E). This is simply the stock price per share divided by the EPS:

Price Earnings Ratio = Market Price Per Share/Earnings Per Share

For example, a stock selling at $15 per share with $1 of EPS would have a P/E of 15. Other companies may have a P/E of 5 or 25. Why would different companies have different P/E ratios? Wouldn't investors always be drawn to companies that have the lowest ratios since they may represent the best earnings generation per dollar of required investment? The answers to these questions are complex. Remember that the "E" in P/E is past earnings and does not reflect the future. New companies may have a bright future, even if current earnings are not great; investors are sometimes willing to pay a premium. Other companies may have great current earnings, but no room to grow; investors will not pay as much for these. And, don't forget that some companies hold valuable non-income producing assets; investors sometimes pay for such embedded values even if they are not presently generating an income stream. Suffice it to say, there are many reasons that P/E ratios differ among companies.

A related ratio that is gaining popularity is the “PEG” ratio. This is the P/E ratio divided by the company’s “growth” rate. For example, a company with a P/E of 20 that is experiencing average annual increases in income of 20% would have a PEG of 1. If the same company instead had annual earnings increases of 10%, then the PEG would be 2. As a rule of thumb, the lower the PEG number, the more attractive the investment appears. Use this ratio with extreme care as growth rates are very susceptible to sudden changes; high growth rates are hard to sustain and many a high flying company has seen a sudden change in their fortune.

2.5 Book Value per Share

Another per share amount that analysts frequently calculate from accounting information is the book value per share. The term “book value” is synonymous with the amount at which an item is reported on the balance sheet. For example, in the context of property, plant, and equipment, recall that it means the reported amount for a particular asset. However, in the context of the analysts’ “book value per share” number, it refers to the amount of reported stockholders’ equity for each share of common stock.

Importantly, book value is not the same thing as market value or fair value (but, analysts sometimes compare market price to book value); book value is based on reported amounts within the balance sheet. Many items included in the balance sheet are based on historical costs which can be well below fair value. On the other hand, do not automatically conclude that a company is worth more than its book value, as some balance sheets include significant intangibles that cannot be easily converted to cash if liquidation becomes necessary. Like EPS, P/E, EBIT, and so forth, be careful about evaluating a company based solely on a single calculated value. These values are but single yarns of information, and it takes more than just a few yarns to make a complete tapestry.

2.6 Calculating Book Value per Share

For a corporation with only common stock, book value per share is easy to calculate: total stockholders’ equity divided by common shares outstanding at the end of the accounting period. To illustrate, assume that Fuller Corporation has the following stockholders’ equity, which results in a $24 book value per share ($12,000,000/500,000 shares):

Stockholders’ Equity	
Common stock, $1 par value, 2,000,000 shares authorized, 500,000 shares issued and outstanding	$ 500,000
Paid-in capital in excess of par -- common stock	10,000,000
Retained earnings	1,500,000
Total stockholders’ equity	$12,000,000

The above is simple. However, a company with preferred stock must allocate total equity between the common and preferred shares. The amount of equity attributable to preferred shares is generally considered to be the call price (i.e., redemption or liquidation price) plus any dividends that are due. The remaining amount of “common” equity (total equity minus equity attributable to preferred stock) is divided by the number of common shares to calculate book value per common share:

Book Value Per Share = “Common” Equity/Common Shares Outstanding

Assume that Muller Corporation has the following stockholders’ equity:

Stockholders’ Equity			
Capital stock:			
Preferred stock, $100 par value, callable at 110, 6%, cumulative, 300,000 shares authorized, 100,000 shares issued and outstanding	$10,000,000		
Common stock, $1 par value, 1,000,000 shares authorized, 600,000 shares issued and outstanding	600,000	$10,600,000	
Additional paid-in capital			
Paid-in capital in excess of par -- preferred stock	$ 700,000		
Paid-in capital in excess of par -- common stock	20,000,000	20,700,000	
Total paid-in capital			$31,300,000
Retained earnings			4,900,000
Total stockholders’ equity			$36,200,000

Mike Kreinhop is a financial analyst for an investment fund, and is evaluating the merits of Muller Corporation. Pursuant to this task, he has diligently combed through the notes to the financial statements and found that the preferred dividends were not paid in the current or prior year. He notes that the annual dividend is $600,000 (6% X $10,000,000) and the preferred stock is cumulative in nature. Although Muller has sufficient retained earnings to support a dividend, it is presently cash constrained due to reinvestment of all free cash flow in a new building and expansion of inventory. Kreinhop correctly prepared the following book value per share calculation:

Total Equity		
Less: Amount of equity attributable to perferred		*$36,200,000*
Call price ($10,000,000 X 110%)	*$11,000,000*	
Dividends claim (2 years @ $600,000 per year)	*1,200,000*	*(12,200,000)*
Residual equity for common shares		*$24,000,000*
Number of common shares		*600,000*
Book value per common share ($24,000,000/600,000)		*$40 per share*

2.7 Dividend Rates and Payout Ratios

Many companies do not pay dividends. Perhaps you own stock in such a company. One explanation is that the company is not making any money. Hopefully, the better explanation is that the company needs the cash it is generating from operations to reinvest in expanding a successful concept. Many successful companies and stockholders prefer this course of action, anticipating that they will realize better after-tax increases in wealth as a result (remember from the prior chapter the problem of double-taxation of dividends). On the other hand, some profitable and mature businesses can easily manage their growth and still have plenty of cash left to pay a reasonable dividend to shareholders. Many investors seek out dividend paying stocks. After all, who doesn’t like to get an occasional check in the mail, even if it is taxable?

In evaluating the dividends of a company, analysts calculate the dividend rate (also known as yield). This number is the annual dividend divided by the stock price:

Dividend Rate = Annual Cash Dividend/Market Price Per Share

Simply, if Pustejovsky Company pays dividends of $1 per share each year, and its stock is selling at $20 per share, it is yielding 5% ($1/$20).

Analysts may be interested in evaluating whether a company is capable of sustaining its dividends and will compare the dividends to the earnings:

Dividend Payout Ratio = Annual Cash Dividend/Earnings Per Share

If Pustejovsky earned $3 per share, its payout ratio is .333 ($1/$3), and this is seemingly in line. On the other hand, if the earnings were only $0.50, giving rise to a dividend payout ratio of 2 ($1/$0.50), one would begin to question the "safety" of the dividend.

2.8 Return on Equity

Earnings per share and book value per share calculations zeroed in on the interest of the common shareholder. Analysts do the same thing in considering the return on equity ratio:

Return on Equity Ratio
=
(Net Income - Preferred Dividends)/Average Common Equity

The “ROE” evaluates income for the common shareholder in relation to the amount of invested common shareholder equity. This number enables comparison of the effectiveness of capital utilization by different firms. What it does not do is evaluate risk. Sometimes, firms with the best ROE also took the greatest gambles. For example, a high ROE firm may rely heavily on debt to finance the business (instead of equity), thereby exposing the business to greater risk of failure when things don’t work out.

Analysts sometimes compare return on assets (ROA) to Return on Equity (ROE). They may also compare ROE to the rate of interest on borrowed funds. This can help them in assessing how effective the firm is in utilizing borrowed funds (“leverage”). Obviously, undertaking debt involves risk. The only reason to do so is based on the belief that the utilization of borrowed funds will produce positive net returns that more than offset the underlying cost of the debt.