CHAPTER 17: EARNINGS PER SHARE

EPS: ASPE vs. IFRS

EPS is the acronym for Earnings per Share. EPS represents the portion of a company's current profit that can be allocated to each outstanding share of common stock. Earnings per share serves as an indicator of a company's profitability. ASPE does not require EPS amounts or disclosures to be presented on the financial statements. Application of IFRS, on the other hand, requires both of them to be presented on the financial statements. [See: IAS 33 ("Earnings per Share").]

Simple vs. Complex Capital Structures

The focus of the chapter is on analyzing EPS in relation to 2 types of companies: (1) Companies based on a *simple capital structure*; (2) Companies based on a *complex capital structure*. The textbook describes the difference between these two types of companies in this way: "When a corporation's capital structure consists only of common shares and preferred shares and/or debt without conversion rights, the company is said to have a simple capital structure. In contrast, a company is said to have a complex capital structure if the structure includes securities that could have a dilutive or negative effect (that is, a lowering effect) on earnings per common share" (p. 1070). Refer to Illustration 17-5 – which summarizes different types of securities that can dilute Basic EPS. These securities include convertible preferred shares, convertible debt, options/warrants, and so on. The corporation's number of outstanding common shares increases when these securities are converted into common shares. Often conversion sees a company's EPS decrease for the reason that its earnings are divided by a greater number of outstanding common shares.

One note here: The proceeding analysis pertains to companies that are IFRS-compliant.

Basic EPS

As noted, companies based on a simple capital structure are required to disclose Basic EPS on their financial statements. This formula is used to calculate Basic EPS:

$$\text{Basic EPS} = \frac{\text{Income Available to Common Shareholders}}{\text{Weighted Average \# Shares Outstanding*}} = \frac{\text{Net Income - Dividends}}{\text{WACS}}$$

* Abbreviated as WACS.

Income Available to Common/Ordinary Shareholders

Income available to common/ordinary shareholders is the difference between a company's net income and any amounts set aside to cover its obligations related to other instruments, notably its obligation to pay dividends to preferred shareholders. If a company's capital structure comprises cumulative preferred shares, then it is necessary to deduct one year's worth of dividends distributable to cumulative preferred shareholders irrespective of whether or not the company actually pays a dividend to cumulative preferred shareholders. On the other hand, dividends related to non-cumulative preferred shareholders are only deducted from net income when the board of directors declares and disburses a dividend to noncumulative preferred shareholders.

Weighted Average Common/Ordinary Shares Outstanding (WACS)

WACS represents a company's weighted average number of shares outstanding in a specific year. The easiest way to calculate a company's WACS is to construct a table like the one used in this simple illustration:

Company X has 10,000 common shares outstanding on January 1. Company X decides to repurchase 2,000 of its common shares on April 1 for the reason that its shares are undervalued and Company X fears it might become the target of a hostile takeover. But then market demand increases for Company X's shares over the ensuing months. Given this context, Company X elects to issue 4,000 common shares on August 1 along with an additional 1,500 common shares on October 1. Company X's WACS is derived from these data like this:

Dates Outstanding	Number of Shares	Fraction of Year	Weighted Shares
January 1 – March 31	10,000	3/12	2,500
April 1 – July 31	10,000 - 2,000 = 8,000	4/12	2,667
August 1 – September 31	8,000 + 4,000 = 12,000	2/12	2,000
October 1 – December 31	12,000 + 1,500 = 13,500	3/12	3,375
WACS			**10,542**

The above illustration shows how to calculate a company's WACS. It also demonstrates how *share issuances* and *repurchases* impact a company's WACS. Also significant for the purpose of calculating a company's WACS are these equity transactions: *stock dividends, stock splits, and reverse stock splits.* "When stock dividends or stock splits (including reverse stock splits) occur, calculation of WACS requires a restatement of the shares outstanding before the (date of the) stock dividend or split...If a stock dividend or stock split occurs after the end of the year, but before the financial statements are issued, the WACS for the year (…) must be restated" (p. 1074). In the event that *mandatorily convertible instruments* are not included as a component of a company's common share equity, then the denominator used in the EPS formula must be adjusted in a reflection of the assumption that the conversion has already taken place. One final point: *Contingently issuable shares* factor into the calculation of Basic EPS when specified conditions are satisfied, like when a corporation attains certain, specific profit thresholds.

Basic EPS Presentation

Basic EPS figures, where applicable, are disclosed for (1) Earnings from continuing operations; and (2) Earnings from discontinued operations. The same denominator (i.e., WACS) is used to compute both EPS figures. Bearing this in mind, Basic EPS figures are presented like this on the financial statements:

Basic earnings per share:	
Income before discontinued operations	xxx
Discontinued operations	(xxx)
Net income	xxx

Diluted EPS

Companies based on a complex capital structure are required to disclose Basic EPS and Diluted EPS on their financial statements. These data enable users to evaluate how conversion of potential common shares (i.e., convertible securities) would bear on the company's Basic EPS. Recall: "…a company is said to have a complex capital structure if the structure includes securities that could have a dilutive or negative effect (that is, a lowering effect) on earnings per common share" (p. 1070). To sum up, convertible securities are potential common shares; these potential shares may be dilutive; Diluted EPS shows users how conversion of these securities would reduce the company's Basic EPS.

The "If-Converted Method" is used to calculate Diluted EPS, whereby the following steps are taken:

1. Calculate Basic EPS as described above.
2. Identify all of the corporation's convertible securities (i.e., potential common shares). Assume all convertible securities are converted on the 1st day of the period or the date, whereby the securities are issued. (Use the date that falls later in the period).
3. Calculate each convertible security's incremental EPS by applying this formula:

$$\text{Incremental EPS} = \frac{\text{Change in Income Numerator}}{\text{Incremental Change in WACS}}$$

Two important points warrant emphasis here: (1) There are different types of convertible securities. Table 1 lists a number of different types of convertible securities; it also provides details on how to apply the above formula to determine each particular convertible security's Incremental EPS; (2) Convertible securities often carry multiple conversion rates. Always apply the highest conversion rate for the purposes of determining a specific security's incremental impact on WACS (i.e., incremental change in WACS).

Table 1: Convertible Securities and Incremental EPS

Convertible Debt (e.g., convertible debentures, convertible bonds):

$$\text{Incremental EPS} = \frac{\text{Net-of-tax Interest Savings (Income Numerator)}}{\text{WACS (only for debt conversion) (Equity Denominator)*}}$$

*WACS is adjusted for the portion of the year the convertible securities are outstanding.

Convertible Equity (e.g., convertible preferred share):

$$\text{Incremental EPS} = \frac{\text{Dividend Savings (Income Numerator)*}}{\text{WACS (only for equity conversion) (Equity Denominator)**}}$$

*Dividends are always assumed to be after-tax-amounts.
**WACS is adjusted for the portion of the year, wherein the convertible securities are outstanding.

Written Call Options: Apply the Treasure Method. [1]

This treasury method is based on these assumptions/steps:

- Written call options are assumed to be exercised on the 1st day of the period or on their date of issuance (whichever date falls later in the period). However it is assumed written call options are only exercised if they are "in the money" (i.e., strike price < average market price). (If they are "not in the money", then, they do not bear on Diluted EPS.)
- The corporation collects proceeds from the holders when they exercise the call options, and the corporation issues the requisite number of common shares to the holders. Then the corporation uses these proceeds to repurchase – at the shares' average market price – as many of the newly issued common shares as possible from the holders. The corporation is unable to repurchase all of the common shares since the corporation collects less money from the holders than the average value of the common shares (i.e., strike price < average market price).
- The call option's Incremental EPS is always zero; when the holders exercise the call options, the resulting transaction has no impact on the income numerator but it increases the equity denominator. (Zero divided by any number yields zero.) The corporation's WACS changes though. WACS is only adjusted for the portion of the year, whereby the written call options are "in the money."

Purchased Options: Always irrelevant for the purposes of calculating diluted EPS.

Prepare a schedule (like the one depicted in Table 2) to calculate each convertible security's incremental EPS. Follow this process: First determine whether a particular convertible security is dilutive. (Apply the techniques outlined in Table 1.) Any convertible security with an Incremental EPS that is less than Basic EPS is *dilutive. Dilutive securities often bear on Diluted EPS*. Any convertible security with an Incremental EPS that is greater than Basic EPS is *anti-dilutive. Anti-dilutive securities do not bear on Diluted EPS*. Finally rank the convertible securities in terms of their respective incremental EPS, whereby convertible securities with a relatively lower Incremental EPS are ranked higher than convertible securities with a relatively *higher* Incremental EPS.

Table 2: Analyzing and Ranking Convertible Securities

Security	Income Effect (1)	Share Effect (2)	Incremental EPS	Dilutive (Y/N)	Rank
Convertible A	Potential net-of-tax interest savings, dividend savings, etc.	Incremental increase in WACS.	= 1/2	Y	#1
Convertible B	Potential net-of-tax interest savings, dividend savings, etc.	Incremental increase in WACS.	= 1/2	Y	#2
Convertible C	Potential net-of-tax interest savings, dividend savings, etc.	Incremental increase in WACS.	= 1/2	Y	#3

[1] You are also responsible for knowing how to apply the Reverse Treasury Method to determine the Incremental EPS of written put options. Consult page 1081 of the text for further details.

4. Calculate Diluted EPS by preparing a schedule like the one depicted in Table 3. Be careful: A dilutive security does not always bear on Diluted EPS. A case in point: All three securities depicted in Table 2 (i.e., "Convertible A", "Convertible B", "Convertible C") are dilutive (i.e., incremental EPS < Basic EPS). But Table 3 shows that "Convertible C" does not factor into the corporation's Diluted EPS for the reason that Convertible C actually increases EPS from $3.14 to $3.15 (see Table 3). To sum up: *Only adjust Basic EPS by considering the convertible securities that bring EPS to its lowest point. All other dilutive securities do not bear on Diluted EPS.*

Table 3: Diluted EPS

	Income	**Shares**	**EPS**
Net Income	xxx		
Less: dividends for cumulative P/S	(xxx)		
Income available for C/S	xxx		
Basic EPS		xxx	**$3.21**
	xxx	xxx	
Diluted EPS: Convertible A	xxx		$3.16
	xxx	xxx	
Diluted EPS: Convertible B	xxx	xxx	$3.14
	xxx	xxx	
Diluted EPS: Convertible C	xxx	xxx	$3.15
Diluted EPS			**$3.14**

Basic and Diluted EPS Presentation

Basic and Diluted EPS figures (where applicable) are disclosed for (1) Earnings from continuing operations; and (2) Earnings from discontinued operations:

Basic earnings per share:	
Income before discontinued operations	xxx
Discontinued operations	(xxx)
Net income	xxx
Diluted earnings per share:	
Income before discontinued operations	xxx
Discontinued operations	(xxx)
Net income	xxx