Employee Stock Purchase Plans and the Calculation of Basic and Diluted Earnings per Share

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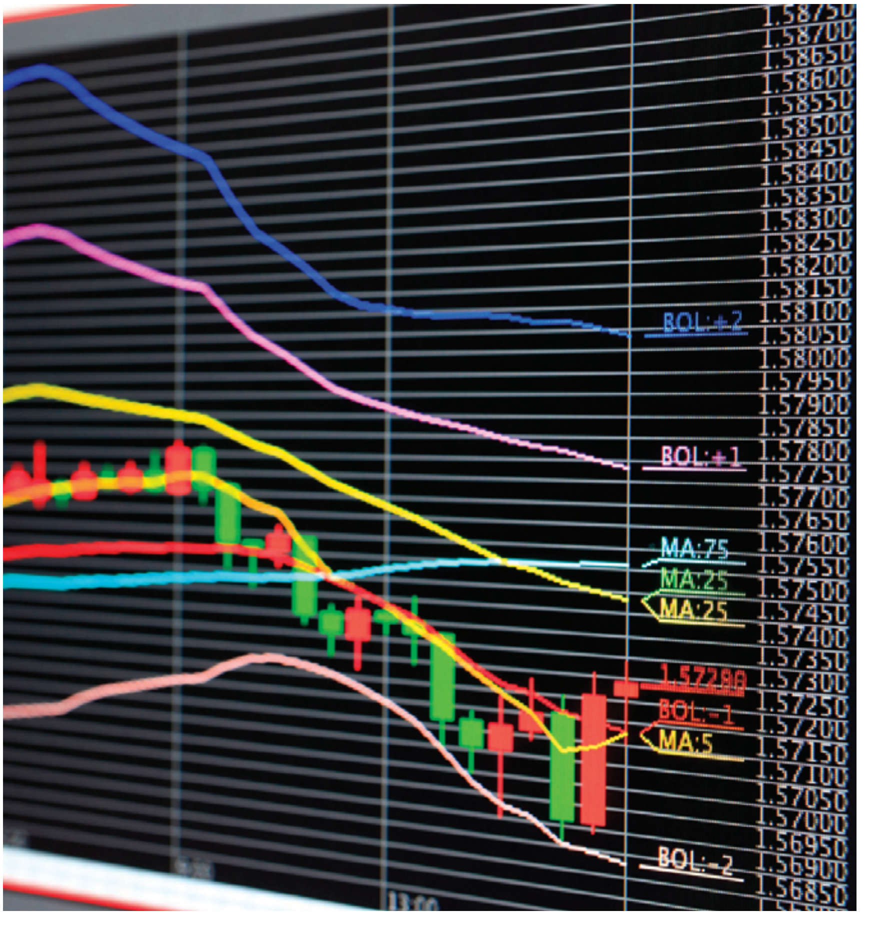

Earnings per share (EPS) is the most common and complex performance measurement that a publicly held company presents in its quarterly and annual reports (Josef Rashty and John O'Shaughnessy, "Restricted Stock Units and the Calculation of Basic and Diluted Earnings per Share," *The CPA Journal*, June 2011, pp. 40–45). Guidance for calculating and reporting EPS can be found in two parts of the Accounting Standards Codification (ASC): Topic 260, "Earnings per Share," which provides for the calculation and presentation of the basic and diluted EPS, and Topic 718, "Compensation—Stock Compensation," which provides for certain unique characteristics of stock compensation that impact the EPS calculation.

ASC 260 defines EPS as the amount of income attributable to each share of common stock. Basic EPS is calculated by dividing net income by the weighted average of the number of common stock shares outstanding during the period, whereas diluted EPS includes all dilutive potential common shares that are outstanding during the period. Generally, unvested equity awards that companies have granted to their employees are not included in the calculation of basic EPS, even though such contingent awards are legally considered outstanding. These awards are usually included in calculation of diluted EPS, however.

ASC 718 impacts both the EPS numerator (net income) and the denominator (the average number of shares outstanding). Stock compensation not only reduces the net income and income tax expense, but also impacts the amount of proceeds in the treasury stock method (TSM) calculation that determines the average number of shares outstanding.

No specific guidance exists regarding the impact of employee stock purchase plans (ESPP) on the calculation of diluted EPS, and there is diversity in actual practice. Some companies have allocated the number of ESPP shares ratably over the purchase period in order to provide for the dilutive effect of ESPP shares, while others have treated this calculation in a fashion similar to other forms of equity awards. Although ESPP awards are a form of incentive stock option (ISO), they possess some unique characteristics that impact the calculation of diluted EPS.

ASC 718 treats ESPP awards as ISOs because these awards, like options, are granted at the beginning of the period at a defined price and their vesting is subject to continuation of service. This article has followed the conceptual framework of ASC 718 for stock options to define the diluting impact of ESPPs.

Some software programs used for the calculation of stock-based compensation and EPS do not have the special features needed to accommodate the specific requirements of ESPP calculation. Companies must ensure that these programs are designed and implemented in such a way that they can provide for the impact of ESPPs on the number of shares outstanding, particularly if the dilutive effect is material or is expected to become material in certain periods. The following discussion provides a framework to help CPAs incorporate some of the best practices for accounting for the dilutive effect of ESPPs.

How ESPPs Work

ESPPs are designed to promote employee stock ownership by providing employees with a convenient means (usually through a payroll deduction) to acquire a company's shares. An ESPP is a contractual promise that permits an employee to acquire an employer's stock on a future date under the terms and conditions established on the grant date. An ESPP also allows employees to set aside a certain percentage of their compensation over an offering period (usually one year or less) in order to purchase their company's stock. An employer then uses the withheld amounts to acquire the company's stock from the market at a discounted rate at the end of the offering period and delivers the stock to employees.

The discount is typically applied to the lesser of the beginning or ending of the offering period stock price. Companies usually allow enrolled employees to withdraw their contributed funds prior to the end of the offering period for various reasons, including possible termination or emergency. Some companies even allow employees to reduce their contribution percentage during the offering period.

ESPP Compensation Expense

At the beginning of the ESPP offering period, management must estimate the number of shares of stock that employees will eventually purchase under an ESPP program. This estimate is based on the employees' withholding elections, status changes, and the existing stock price. Companies usually use the Black-Scholes-Merton valuation model to calculate the compensation cost for ESPP at the beginning of the period.

Companies amortize the estimated compensation expense ratably over the offering period. They also perform a cumulative one-time adjustment for compensation cost based on the actual number of shares granted at the end of the offering period. An interim-period adjustment is not very common, unless there is a substantial change in the operation and structure of the company—for example, if a company has gone through a major restructuring, mass layoff, and closure of certain facilities.

ESPP Tax Considerations

ESPPs, like ISOs, are awards that meet specific IRS requirements for classification as statutory stock options. There is no tax due to employees at the time they are granted. When the employer transfers the shares to employees at the end of the offering period, the employee is taxed on the spread (i.e., the difference between the purchase price and fair value of the stock). Therefore, from a tax accounting perspective, ESPPs are considered permanent differences, and no deferred tax assets (DTA) are recorded when they are expensed.

If an employee completes a qualifying disposition—whereby the employee sells the stock at least two years after the grant date and one year after the date of exercise or purchase (the statutory holding period)—the employee will recognize capital gains instead of ordinary income on the sale of the stock. If, on the other hand, the employee sells the stock before the statutory holding period ends, the sale will be a disqualifying disposition, and the employee will recognize ordinary income, which is taxed at a higher rate.

If the employer has granted statutory stock options (e.g., ISOs or ESPPs), it will receive a tax deduction only upon a disqualifying disposition. If there is a disqualifying disposition, the employer will be entitled to a tax deduction if 1) the employee recognizes ordinary income at the time of sale and 2) the employer reports the income. An employer must be able to satisfy the requirements of Internal Revenue Code (IRC) section 6041 by providing the employee with a Form W-2 or Form W-2(c)—whichever is appropriate—and then filing the form with the IRS by the date that the employer files the tax return, claiming the deduction related to the disqualifying disposition.

Neither qualified nor disqualified dispositions of ESPPs impact the calculation of diluted EPS. Because no DTAs are recorded at the time of commitment for the purchase of shares, there is no tax consideration in the calculation of diluted EPS for ESPPs.

EPS Calculation

Because there is no specific guidance regarding the impact of ESPP on the calculation of diluted EPS, the general guidance for inclusion of options in the calculation of diluted EPS prevails. According to ASC 260-45-28A:

> Awards of share options and nonvested shares (as defined in Topic 718) to be issued to an employee under a share-based compensation arrangement are considered options for purposes of computing diluted EPS. Such share-based awards shall be considered to be outstanding as of the grant date for purposes of computing diluted EPS even though their exercise may be contingent upon vesting.

As previously mentioned, ESPPs are treated as ISOs under ASC 718 because they are granted at the beginning of the period at a defined price and their vesting is subject to continuation of service. Therefore, all ESPP contributions prior to vesting are subject to a diluted EPS calculation, but they will not be included in a basic EPS calculation until the company delivers the shares to employees participating in the ESPP program upon vesting.

Since ESPPs are service-based awards, they should be considered for diluted EPS calculation purposes from the start date of the offering period (i.e., the service inception date). Payroll withholding for ESPPs is simply a funding mechanism for the ultimate payment of the exercise price and is not a factor in the calculation of diluted EPS.

Under ASC 718, companies are required to develop an assumption regarding the prevesting forfeiture rate, which will affect the amount of compensation costs recognized during the requisite period. The prevesting forfeiture reserve does not, however, impact the calculation of the assumed proceeds under the treasury stock method but only impacts the stock compensation expense. This author believes that this concept of forfeiture rate is not applicable to ESPPs because, unlike stock options and other equity awards, the ESPP shares are not actually granted at the beginning of the offering period but are only committed for the end-of-period release; as such, they are not subject to forfeiture. The estimated number of ESPP shares has a provision for possible cancellation during the offering period.

Basic EPS Calculation

According to ASC 260-10-45:

Shares issuable for little or no cash consideration upon the satisfaction of certain conditions (contingently issuable shares) shall be considered outstanding common shares and included in the computation of basic EPS as of the date that all necessary conditions have been satisfied (in essence, when issuance of the shares is no longer contingent). Outstanding common shares that are contingently returnable (that is, subject to recall) shall be treated in the same manner as contingently issuable shares.

Because employees in an ESPP program

EXHIBIT 1
Information Used in the Calculation of EPS

	First Quarter	Second Quarter	Third Quarter	Fourth Quarter	Total
Expected total proceeds from ESPP [1]	$ 85,000	$ 85,000	$85,000	$85,000	$85,000
Compensation costs [2]	$ 5,000	$ 5,000	$ 5,000	$ 5,000	$20,000
Unrecognized compensation at the beginning of quarter [3]	$ 20,000	$ 15,000	$10,000	$ 5,000	
Average unrecognized compensation quarter-to-date [4]	$ 17,500	$ 12,500	$ 7,500	$ 2,500	
Average unrecognized compensation year-to-date [5]	$ 17,500	$ 15,000	$12,500	$10,000	
Total assumed proceeds quarter-to-date [6]	$102,500	$ 97,500	$92,500	$87,500	
Total assumed proceeds year-to-date [7]	$102,500	$100,000	$97,500	$95,000	
Average stock price quarterly	$ 110	$ 95	$ 110	$ 90	
Average stock price annually	$ 110	$ 105	$ 110	$ 105	
Estimated shares to be issued under ESPP	1,000	1,000	1,000	1,000	1,000
Incremental ESPP shares for diluted EPS quarterly [8]	68	(26)	159	28	
Incremental ESPP shares for diluted EPS annually [9]	68	48	114	95	
Income (loss) quarter-to-date	$ 10,000	$ 12,000	($ 500)	$ 5,000	$26,500
Income year-to-date	$ 10,000	$ 22,000	$21,500	$26,500	$26,500
Average number of common shares outstanding	100,000	100,000	100,000	100,000	100,000

[1] 1,000 shares at $85 (85% of $100, the price at the beginning of the period).
[2] Black-Scholes-Merton valuation of $20 per share ($20,000 per year for 1,000 shares, or $5,000 quarterly).
[3] $20,000 total annual ESPP compensation, recognized $5,000 quarterly.
[4] The average unrecognized compensation at the beginning of two consecutive quarters. For example, the first quarter is the average of $20,000 (first quarter) and $15,000 (second quarter).
[5] The average unrecognized compensation at the beginning of the first quarter and the beginning of the following quarter. For example, the second quarter is the average of $20,000 (first quarter) and $10,000 (third quarter).
[6] Expected proceeds from ESPP plus average unrecognized compensation. First quarter is $85,000 plus $17,500, which equals $102,500.
[7] The same as above, except that year-to-date information is used.
[8] Total assumed proceeds quarterly, divided by average stock price quarter-to-date less estimated shares to be issued. First quarter is $102,500 divided by $110, which equals 932; 1,000 less 932 equals 68.
[9] The same as above, except that year-to-date information is used.
EPS=earnings per share; ESPP=employee stock purchase plan

must remain employed through the end of the offering period in order to purchase the ESPP shares, their continued participation in the plan is considered a contingency that can only be satisfied at the end of the period. Therefore, ESPP shares are reflected in the basic EPS calculation at the end of the offering period, when contingency is removed and the actual shares are transferred to employees.

The employee participation, according to ASC 260-10-45, would not be considered contingent if the employee's participation were irrevocable (even in the case of employment termination). In practice, however, it is uncommon for an ESPP to allow employees to continue participating in an ESPP plan subsequent to their termination.

Treasury Stock Method for Calculating EPS

The TSM assumes that a company uses the proceeds from the hypothetical exercise of the awards to repurchase common stock at the average market price during the period (Rashty and O'Shaughnessy 2011). Therefore, a higher amount of assumed proceeds (the numerator) and a lower average market price during the reporting period (the denominator) increases the number of shares that a company can repurchase. An increase in the number of shares that a company can hypothetically repurchase lowers the denominator and raises the diluted EPS.

The assumed proceeds under the TSM include the following:

- The purchase price of the award that the grantee pays in the future (usually, the exercise price of the stock options or ESPP shares)
- The average compensation costs for future services that have not been recognized
- Any windfall tax profits or shortfalls due to the exercise of awards (this would not be applicable to ESPPs).

A company should include the unvested ESPP committed contributions as contingently issuable shares, pursuant to ASC 260-10-45-17, when using the TSM for the calculation of diluted EPS. The assumed proceeds for ESPPs under the TSM consist of the purchase price of the ESPPs and the average unamortized compensation cost. No potential windfall tax profit or shortfall is applicable to ESPPs for the calculation of diluted EPS using the TSM.

According to ASC 260-10-45-23, the following assumptions apply under the TSM:

The determination of whether an award is dilutive must be made on a quarterly and yearly basis for each grant (not in the aggregate).

- The exercise of options and warrants and their conversion to common stock is assumed to occur as of the beginning of the period (or at the time of issuance, if later).
- The proceeds from the hypothetical exercises are used to purchase common stock at the average market price during the period (ASC 260-10-45-29 and 10-55-4 through 55-5).
- The incremental shares (the difference between the number of shares assumed issued and the number of shares assumed purchased) are included in the denominator of the diluted EPS computation. The incremental number of shares is always a positive number—that is, the exercise of the TSM cannot be antidilutive.

Diluted EPS Calculation

ESPP shares to be issued should be included in the computation of diluted EPS if the effect is dilutive (ASC 260-10-45-26). If the equity awards are outstanding for only part of a period, the shares issuable should be weighted to reflect the portion of the period during which the equity instruments were outstanding.

The determination of whether an award is dilutive must be made on a quarterly and yearly basis for each grant (not in the aggregate). In the case of ESPP grants, however, all of the shares in the program are either dilutive or antidilutive. The diluted EPS always results in an antidilutive per-share amount whenever an entity reports loss from continuing operations or a loss from continuing operations available to common stockholders (i.e., after any preferred dividend deductions; see ASC 260-10-45-19). Therefore, an entity that reports losses to its common stockholders does not report any diluted EPS for any equity awards, including ESPP shares.

An Example of ESPP Calculation

Entity A offered an ESPP to its employees with a discount of 15%, applicable to the lower of the stock price at the beginning or the end of the offering period.

The stock price at the beginning of the period was $100, and the company estimated that it would deliver 1,000 shares to its employees at the end of the offering period. The offering period lasted for one year, and the stock closed at $105 at the end of the offering period.

Entity A settled 1,000 ESPP shares at the end of the offering period at $85 (i.e., at a 15% discount from $100). Because the stock price at the beginning of the offering period was lower than the closing price at the end of the offering period, the beginning price must be used.

Because the actual number of shares delivered at the end of the offering period was equal to the estimated number of shares, and the actual price was the discounted price at the beginning of the period, there was no cumulative one-time adjustment to true up the ESPP compensation expense. This may occur rarely in practice, however, and companies often have a one-time cumulative adjustment at the end of the ESPP period.

Exhibit 1 reflects the information used for the calculation of EPS, and *Exhibit 2* shows the actual calculation of basic and diluted EPS.

A Guiding Framework

EPS is the most common—yet also the most complex—performance measurement that a publicly held company presents in its quarterly and annual reports. Specific guidance does not exist regarding the impact of ESPPs on the calculation of diluted EPS, and there is diversity in practice among companies. ESPPs do possess some unique characteristics that impact the calculation of diluted EPS. Because there is no specific guidance regarding the impact of ESPP on the calculation of diluted EPS, the general guidance for inclusion of options in the calculation of diluted EPS prevails. The framework for calculating EPS provided in this article can be helpful to CPAs facing such a scenario. ❑

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EXHIBIT 2
Calculation of Basic and Diluted EPS

	First Quarter	Second Quarter	Third Quarter	Fourth Quarter
Basic EPS quarter-to-date [1]	$ 0.1000	$ 0.1200	($ 0.0050)	$ 0.0500 [3]
Basic EPS year-to-date [2]	$ 0.1000	$ 0.2200	$ 0.2150	$ 0.2650 [3]
Diluted Quarterly EPS				
Average basic shares outstanding	100,000	100,000	100,000	100,000 [3]
Other dilutive shares [4]	3,000	3,000	— [6]	3,000
ESPP dilutive shares	68	— [5]	— [6]	28 [3]
Quarter-to-date diluted shares	103,068	103,000	100,000	103,028
Quarter-to-date diluted EPS [7]	$ 0.0970	$ 0.1165	($ 0.0050)	$ 0.0485
Diluted Annual EPS				
Average basic shares outstanding	100,000	100,000	100,000	100,000 [3]
Other diluted shares	3,000	3,000	3,000	3,000
ESPP diluted shares	68	48	114	95 [3]
Year-to-date diluted shares	103,068	103,048	103,114	103,095
Year-to-date diluted EPS [8]	$ 0.0970	$ 0.2135	$ 0.2085	$ 0.2570

[1] Total quarterly net income divided by the number of common shares outstanding. For example, for the first quarter, the basic EPS is $0.1000, which is net income of $10,000 (first quarter) divided by the average number of common shares outstanding of 100,000.

[2] The same as above, except that year-to-date information has been used.

[3] Even though the ESPP shares are converted to basic common stock at the end of the period, the average number of shares of common stock outstanding remains at 100,000 during the fourth quarter and for the year.

[4] Other dilutive shares are other rewards not related to the ESPP program.

[5] The ESPP shares are antidilutive in this period.

[6] Because the company has posted a loss during the quarter, the other dilutive shares and ESPP shares have become antidilutive for quarter-to-date purposes.

[7] Quarterly net income divided by the number average quarter-to-date diluted shares outstanding. For example, for the first quarter, the diluted quarter-to-date EPS of $0.0970 is calculated by dividing $10,000 by 103,068.

[8] The same as above, except that year-to-date income has been used as the numerator and average year-to-date diluted shares outstanding have been used as the denominator.

EPS=earnings per share; ESPP=employee stock purchase plan foundation for accounting education FAE

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