

Financial Accounting Valuation Insights

OVERVIEW AND CONSIDERATIONS OF STATEMENT OF FINANCIAL ACCOUNTING STANDARDS No. 123 (REVISED)

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Recently, the Financial Accounting Standards Board revised SFAS No. 123, Share Based Payment. The revision changes rules regarding the valuation and expensing of stock options. SFAS No. 123R creates several potential issues for those private companies with employee stock option plans that prepare their financial statements in accordance with U.S. GAAP.

OVERVIEW OF SFAS No. 123 (REVISED) SHARE-BASED PAYMENT

On December 16, 2004, the Financial Accounting Standards Board (FASB) published the revised Statement No. 123 (SFAS No. 123R). The most notable change in the revision is that the fair value method of share-based compensation expensing is required. Previously, the intrinsic value method described in APB Opinion 25, *Accounting for Stock Issued to Employees* ("APB No. 25") was required.

The intrinsic value method for stock option expense is simply the greater of (1) the difference of the asset price less the strike price and (2) zero. For example, in the case where a company's stock price is \$15 and the exercise price of an option is \$5, the intrinsic value of the option is \$10. If the stock price of the company drops to \$4.50, then the intrinsic value of the same option is zero. Most, if not all, employee stock option grants are intrinsically equal to zero. This is because the asset prices less the strike prices are equal to or less than zero. Therefore, there are typically no stock option expenses in financial statements issued under the intrinsic method.

The fair value method is best described as (1) the intrinsic value plus (2) the value of the option related to the ability of the holder to participate in the upside potential of the stock (with no down-side risk until expiration). Thus, the fair value method assigns value to options that are intrinsically worth zero. This is because the fair value method takes into account the potential for future stock price appreciation.

For example, let's consider a call option on High Flying Company issued to Mr. Great Employee. The option has an exercise price of \$5.00 per share, but the stock of High Flying Company is trading at \$4.00 a share. Because the option is "out of the money," the intrinsic value of Mr.

Great Employee's stock option is zero. However, since (1) the option expires in 10 years and (2) the volatility of the stock of High Flying Company is relatively high, the fair value of Mr. Great Employee's option is worth \$1.

Under SFAS No. 123, High Flying Company would not record an expense related to Mr. Great Employee's option. However, under SFAS No. 123R, High Flying Company would recognize a compensation expense.

BRIEF HISTORY OF THE RECENT STOCK OPTION TREATMENT

In 1995, FASB issued SFAS No. 123. At that time, the SFAS No. 123 exposure draft required fair value expensing of stock options on the income statement. This accounting created tremendous resistance from the executive management of public companies. This was particularly the case with regard to companies in high-tech industries that regularly issued share-based compensation. The principal concern was that the expensing of stock options in companies with generous option plans would result in lower net income. This lower net income would be due to the higher compensation expense. In fact, in the case of high-tech companies with low or no positive earnings, option expensing may have led to reported losses.

Due to the political dialogue that ensued, the FASB issued a significantly less stringent version of SFAS No. 123. This version of SFAS No. 123 was modified to only encourage—rather than require—fair value expensing. SFAS No. 123 only requires the pro forma disclosure of the fair value of employee stock options in the notes to financial statements.

In response to requests by the SEC, institutional investors, and other users of financial statements, the

FASB is revising SFAS No. 123. The FASB states that the major reasons for the revision are:

1. to address concerns that using the APB No. 25 intrinsic value method results in financial statements that do not faithfully represent the economic transactions affecting the issuer, namely, the receipt and consumption of employee services in exchange for equity instruments;
2. to simplify U.S. GAAP;
3. to encourage more comparability of financial statements; and
4. to further the convergence of U.S. GAAP with international accounting standards.

In response to the proposed revisions, resistance to the standard has surfaced once more. For instance, in response to the proposed standard, Representative Richard H. Baker of the House of Representatives, has introduced the Stock Option Accounting Reform Act (“the Act”). The Act states the expensing of options only applies to the CEO and the next four most highly paid executive officers.

Additionally, the Act (1) delays stock option expensing for small companies and (2) requires the Department of Commerce and Labor Department to complete economic impact studies of the expensing of options, among other provisions. The House of Representatives passed the Act. The Act has been waiting for approval in the Senate Committee on Banking, Housing, and Urban Affairs since September of 2004.

On September 14, 2004, lobbyists for Cisco, Genentech, and Qualcomm unveiled an alternative method for valuing options in an attempt to either alter or slow the issuance of the standard. In October 2004, the FASB rejected this alternative method as a method of expensing stock-based compensation.

OVERVIEW OF THE REVISION

As detailed by the FASB, the following are the major changes to SFAS No. 123.

1. Public entities are required to expense the employee stock based compensation over the period in which the employee is required to provide services (usually the vesting period); the expense is based on the current fair value of the instruments at the time of issuance.
2. Entities are required to estimate the number of instruments for which the requisite service is expected to be rendered (i.e., companies are expected to estimate

employee forfeitures). Previously, entities could account for forfeitures as they occurred.

3. Modifications to the terms or conditions of a share-based award are measured by comparing (1) the fair value of the modified award to (2) the fair value of the award immediately before modification.

SEC REACTION TO SFAS No. 123R: STAFF ACCOUNTING BULLETIN No. 107

The SEC published Staff Accounting Bulletin No.107 (SAB No. 107) on March 29, 2005. SAB No. 107 seeks to clarify SFAS No. 123R by providing additional guidance regarding the statement. SAB No. 107 provides interpretive guidance on the following issues:

1. transactions with nonemployees,
2. the transition from nonpublic to public entity status, and
3. valuation methods.

While a complete summary of SAB No. 107 is beyond the scope of this article, the SEC position of valuation methods is worth noting. On page 14 of SAB No. 107, the SEC states:

The staff understands that a company may consider multiple techniques or models that meet the fair value measurement objective before making its selection as to the appropriate technique or model. The staff would not object to a company's choice of a technique or model as long as the technique or model meets the fair value measurement objective. For example, a company is not required to use a lattice model simply because that model was the most complex of the models the company considered.

When the FASB initially issued the exposure draft of SFAS No. 123R, it had stated its preference for companies that use the lattice model to value employee stock options. But, given the above statement, it would appear that the FASB and the SEC are willing to accept a company's continued use of simpler closed-form models to value options. This is true as long as the closed-form model appropriately captures the features of the option when determining its fair value.

For example, let's assume a share option in which the exerciseability of the option is conditional on a specified increase in the value of the underlying shares. In that case, a closed-form model would not be an appropriate valuation model. This is because it probably has not been designed to take into account that type of market condi-

tion. However, in this example, a lattice model may more appropriately model and capture the option's value.

Additionally, the SEC issued a press release on April 15, 2005. The press release announced that companies would be required to adopt SFAS No. 123R by the next fiscal year after June 15, 2005. In effect, this delayed implementation of the standard by six months. Small business issuers are allowed to implement SFAS No. 123R by the next fiscal year after December 15, 2005.

CONSIDERATIONS OF SFAS No. 123R IN THE VALUATION OF EMPLOYEE OPTION COMPENSATION OF CLOSELY HELD ENTERPRISES

In light of SFAS No. 123R requiring the expensing of stock options, there are some valuation aspects that should be addressed in the valuation of privately held company employee options.

VALUATION METHOD

In SFAS No. 123R, paragraph A8, the FASB states:

The fair value of equity and liability instruments awarded to employees shall be estimated by using a valuation technique that (a) is applied in a manner consistent with the fair value measurement objective and the other requirements of this statement, (b) is based on established principals of financial economic theory and generally applied in that field, and (c) reflects all substantive characteristics of the instrument (except for those explicitly excluded by this statement, such as vesting conditions and reload features).

The two primary types of models used in the valuation of options and derivatives are known as (1) lattice models and (2) closed-form models. The best known version of the lattice model is the binomial model. This binomial model is characterized by successive assumed changes in the fair value of the underlying asset over successive time periods using a probability tree. The best known version of the closed-form model is the Black-Scholes-Merton formula. In this model, some initial assumptions are used to determine the value of the option.

Due to the relative ease of executing the closed-form model in comparison to the lattice model, most public and private companies prefer to use the simpler closed-form model. Sometimes, however, the lattice models are used to capture events that are not already accounted for by the initial conditions used in the closed-form models. In

particular, by using the lattice model, a company may more precisely model employee option exercise behavior. On the other hand, when using a closed-form model, a company may account for employee exercise behavior by simply adjusting the expected term of the option. Some company management believe they need to build elaborate lattice models to value employee stock options. However, the SEC has recently expressed its continued willingness to accept closed-form models as a measure of fair value—in lieu of the more elaborate and expensive lattice models.

CONSIDERATION OF ASSUMPTIONS

All option pricing models are based on some assumptions of future events. According to SFAS No. 123R, the following items should be taken into account in the valuation of employee stock options:

1. the exercise price of the option,
2. the expected term of the option,
3. the current price of the underlying asset,
4. the expected volatility of the price of the underlying asset over the expected term of the option,
5. the expected dividends to be paid over the expected term, and
6. the risk-free interest rate for the expected term of the option.

Three of these components require further discussion as they pertain to the privately held company. Components that are of concern to the privately held company include: (1) the current price of the underlying asset, (2) the expected term of the option, and (3) the expected volatility. Privately held company management also needs to more seriously consider the effects of dilution than does public company management.

CURRENT PRICE OF THE UNDERLYING ASSET

To the extent that private companies do not generally have liquid internal markets for their common stock, the value of the underlying equity is of concern. The FASB has determined that the generally accepted approaches to valuing a company (market, income, and asset approaches) are acceptable in the estimation of the company value.

In valuing a going-concern entity, income and market approaches are often the most applicable approaches to determining the fair value of a company. In the case of the privately held company, valuation premiums and discounts (relating to ownership control and marketability) in

should be considered in estimating the per share value of the equity.

EXPECTED TERM OF THE OPTION

The expected term of the option affects the option's value in that the longer the term of the option, the higher the value. In the case of SFAS No. 123R, the expected term is determined based on both (1) the contractual terms of the security and (2) the expected behavior of the employees. This poses some issues for both privately and publicly held companies.

SFAS No. 123R requires estimation of the expected option term based on the contractual obligations of the option in conjunction with either (1) observation of the behavior of the employees (including post-employment situations) or (2) the reliance on data regarding the behavior of employees based on market information. This market information can be based (1) on academic findings or (2) the findings of other similar companies. In the use of the closed-form model, the estimate is a specific period of time.

Let's assume that Higher Tech Company uses a closed-form model to value its stock options to determine the share-based compensation expense. And, let's assume the company needs to determine the expected term. At Higher Tech Company, its options fully vest in four years and expire in ten years. However, the company assesses statistical evidence, including employee attrition rates and market studies. And, the company determines that the average employee holding period is actually six years.

Therefore, under SFAS No. 123R, the expected term of the Higher Tech Company employee stock options would be six years. This is true regardless of (1) the ten-year contractual term or (2) the four-year minimum created by the vesting schedule.

In the lattice model, by contrast, the expected term of the option is not an input to the valuation but a by-product of the valuation. This occurs because employee behaviors such as, "employees exercise their options at 100% appreciation over the strike price" are factored into the model—rather than into expected holding periods. In the case of the lattice model, to accurately estimate the value of the employee stock options, companies could factor in general rules to describe the behavior of employees. These general rules can be based on information obtained from studies, other companies, or company history.

Of additional concern to the quantification of the expected term are situations in which companies face unique circumstances. These circumstances include, for

example, management plans to implement an IPO during the contractual term of employee options. Such an IPO would necessarily shorten the expected term of the options.

EXPECTED VOLATILITY

All else equal, the higher the expected volatility on the grant date of the option, the higher the value of the option. The expected volatility of the underlying share price is a distinct issue for the privately held company. Public companies have little or no problem determining the volatility of their shares. The volatility is based on either (1) past share price movements or (2) the current pricing of similar equity options traded on the secondary market.

In the case of the privately held company, there is no historical record of price volatility. SFAS No. 123R suggests the use of the volatility of similar publicly traded guideline companies or industry sector index. The concerns in using this approach to determine privately traded company volatility are the differences between the subject company and the public companies. These differences are generally, but not always, related to size.

As an example, let's consider the volatility of software companies.

The largest of these companies exhibit lower volatility due to their relatively large capitalization and broad product lines. The smallest of these companies exhibits much greater volatility for the exact opposite reasons: they may be undercapitalized and have fewer product lines. In circumstances similar to the one just described, when determining volatility for a privately held company, it is important to understand what relation the privately held company has to the overall industry. This understanding is important to the accurate selection of companies that are truly representative of the subject company.

Another point in the consideration of guideline companies to determine volatility is the reliance on key customers for substantial portions of revenue. In the instance of the software industry, a privately held company could have one major contract with a publicly traded software company to provide software development services. Such key customer dependence effectively ties the volatility of the private company to its reliance on the one contract for its revenue.

On the one hand, the analyst may argue that the volatility of the smaller company should mirror the volatility of the public company. This is because the success of the smaller company is tied to the success of the larger company. However, on the other hand, the smaller

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company's reliance on one contract may indicate that its volatility should be significantly higher than its publicly traded patron.

Additional problems occur when determining volatility in industries where companies are privately held except for the largest, best capitalized companies. For instance, the construction industry is a highly fragmented industry. The industry is predominantly made up of private companies except for the largest commercial construction/engineering companies and the largest residential home builders. In instances such as this, quantitative and qualitative adjustments should be made to account for the privately held company's capitalization difference from the publicly traded companies.

EFFECTS OF DILUTION

When valuing stock options, private companies may also need to consider the effects of dilution. Employee options differ significantly from publicly traded options and derivatives. The exercise of employee options causes the issuance of new shares of the company. In contrast, publicly traded options are secondary market trades of the company shares.

With the increase in shares, depending on the conditions of the company, dilution may become an issue. Most publicly traded companies do not suffer from this problem. This is because the information regarding employee stock options is factored into the market pricing. And, in general, the options to be exercised account for a small portion of the outstanding shares.

On the other hand, in the case of a privately held company, dilution should be accounted for when valuing the underlying company stock. Owners of privately held shares of stock may not be able to sell their shares. As a result, recent transactions in the stock probably have not accounted for the dilutive effects of in-the-money employee options. And, in some instances, employee stock option issuances can represent a substantial portion of the fully diluted shares.

The following example is an extreme case, intended to illustrate dilutive effects of the employee stock options.

The Option-to-Buy Company (OTB) has 100 shares outstanding and 25 employee options with a strike price of \$10. In the course of the year, market conditions are favorable as are the OTB operating results. At the end of the year, the valuation analyst values the company and determines that the market value of the equity is \$1,500. The analyst prepares the final results of the analysis. The analyst takes into account the dilution that would be caused by option exercise in determining the current share prices with and without the exercise of options.

The OTB example is illustrated in Table 1.

Table 1
Option-To-Buy Company
Stock Option Valuation

Market value of equity	\$ 1,500
Number of shares outstanding	100
Number of options outstanding	25
Exercise price	\$ 10.00
Current price (no options)	\$ 15.00
Number of shares exercised	25
Cash proceeds from exercise	\$ 250
New market value of equity	\$ 1,750
New number of shares outstanding	125
New share price	\$ 14.00

In this example, the dilutive effect of the options is \$1 per share. If the option valuation analysis is performed using the Black-Scholes-Merton formula (or some other closed-form model), the analyst would make adjustments to reflect the dilutive effects of the stock options. Alternatively, the analyst would contractually specify that the strike price be determined based on the value per share on a fully diluted basis. In this case, the market value of the equity must reach \$1,875 for all of the outstanding options to be at-the-money.

SUMMARY AND CONCLUSION

For a variety of reasons, determination of stock-based compensation expense can be more difficult for privately held companies in light of SFAS No. 123R. First, the privately held company equity price or value needs to be estimated in order to value the options. In the consideration of a privately held company, the value of the equity is subject to concerns regarding ownership control and marketability.

Second, the expected term of the privately held company options should take into consideration foreseeable future events (such as an IPO or bankruptcy). Also, the expected term should rely on market data, academic studies, and/or company history.

Third, the expected stock price volatility requires consideration of (1) the company size and (2) the subject company relation to other companies in the industry.

Fourth, the dilutive effects of employee options should be considered in valuing the underlying company stock. For these reasons, a valuation analyst can assist with identifying and quantifying the myriad factors affecting a company's employee stock option expense.

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