



June 3, 2004

Financial Accounting Standards Board
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Dear Members of the Board:

This comment letter represents Avail Consulting, LLC's ("Avail") request to participate in the Financial Accounting Standards Board's Equity-Based Compensation Roundtable meeting regarding the March 31, 2004 Exposure Draft of a proposed *Share Based Payment amendment to Statements No. 123 and 95*. We would like to participate in the Norwalk, Connecticut meeting on June 29, 2004.

Avail is a premier national valuation and consulting firm with significant experience in valuing employee stock options ("ESO") for both public and private companies in various industries. We would like to be represented by Warren K. White, Avail's Senior Managing Director and Chairman of the Board. With more than 18 years of experience in the financial appraisal and valuation field, he served as the U.S. Leader of the Tax and Business Advisory, Valuation Group at Arthur Andersen and as the leader of the firm-wide Financial Sub-Team for two years. He was a strategic participant in the Arthur Andersen Firm-wide Task Force on Business Combinations (FASB 141) and Goodwill Impairment (FASB 142) which not only set policies and procedures for the firm, but also worked with the other national accounting firms and the SEC regarding key new issues surrounding this topic.

This letter outlines Avail's concerns that the following points are important and should be addressed in the Exposure Draft:

1. The difficulty with and necessity of Option valuation.
2. Whether to use the Black-Scholes-Merton ("Black-Scholes") or a lattice model.
3. Assumptions that need to be considered when valuing an option.

1. The difficulty with and necessity of Option valuation.

Avail specifically intends to address issues 4 and 5 relating to Fair Value Measurement. We agree with the assertion of the proposed statement that observable market prices of identical or similar equity or liability instruments in active markets generally provide the best indication of fair value. However, due to the lack of trade activity in the market for options as well as the discrepancy between the term to expiration for publicly traded options and employee options, we believe that this is not a viable method.

When using the market price of options that are traded to determine an estimate of the fair value of an ESO, the market must be active and the term to expiration for the securities must be similar or equal. While a market does exist for options, the volume is too low to consider the market price of an option a good and reasonable indication of fair value. In addition, the term to



expiration from the grant date of a normal option is generally no more than 9 months which is significantly shorter than most stock options issued by employers for compensation. Although a market does exist for Long Term Equity Anticipation Securities ("LEAPS") which have expiration dates up to three years away, the term is still shorter than most employee-granted stock options and the volume of trades is still extremely low with wide "bid/ask" spreads. Thus, it is our opinion that an acceptable valuation model such as Black-Scholes or lattice model should be used to estimate the fair value of ESO's.

We are aware of concerns about the consistency and comparability of fair value conclusions using such models; however, the difficulty in placing a precise value on an ESO does not justify giving it a value of \$0. The intrinsic value method of accounting for share-based payments tends to result in a value of \$0 where the strike price on the grant date is equal to the underlying market price – the option has time value but no intrinsic value when granted – but the option is clearly worth more than nothing. It is our opinion that the use of the fair-value-based method using an option-pricing model is the best and most reliable method of determining the fair value of an ESO.

2. Whether to use the Black-Scholes-Merton ("Black-Scholes") or a lattice model.

As there is significant debate over whether to use a closed-form model such as Black-Scholes or a lattice model, the Statement should comment on the advantages and disadvantages of both.

The Black-Scholes-Merton Model

Derived in 1973, the Black-Scholes Options Pricing Model ("BSOPM") is currently the most recognized and widely used theoretical model for the valuation of options. Fischer Black and Myron Scholes hypothesized that it was possible to establish a riskless portfolio consisting of a long position in the shares of a given stock, and a short position in a call option on the stock. If the option is correctly priced, any movements in the price of the stock would be offset by opposing movements in the option value, so that the investor would be perfectly hedged and the investment yields a risk-free rate of return. Therefore, the BSOPM prices options by requiring that neither position produce an excess profit. As such, the model calculates the value of the option as that which equates the value of the two positions at any one time. The BSOPM makes several assumptions such as the full tradability of the option and constant volatility throughout the option's life. If the assumptions input into the model are correct, the model becomes a mathematical proof-point and its output must also be correct. However, all of these assumptions are probably incorrect and may contribute to the possible inaccuracy of its output. These potentially incorrect assumptions are:

- 1.) The risk-free rate remains static over time,
- 2.) Returns are normally distributed,
- 3.) The exercise price is known and constant,
- 4.) Security trading is continuous,
- 5.) Investors can borrow and lend at the same risk-free rate of interest, and
- 6.) There are no transaction costs or taxes.

In addition, Black-Scholes technically assumes European-style options which can only be exercised at the end of the term, while employee stock options are American-style and can be exercised before the end of the term, and often are. It is important to note that it would be irrational behavior on the option holder's part to exercise the options before expiration since the option holder has a risk-free loan from the company. When performing a valuation analysis, rational behavior must be assumed.



To gain more insight into the reliability of Black-Scholes, Avail performed a study comparing prices of LEAPS and the output of the Black-Scholes model for a company's stock using the same or a very similar term to expiration. Results of this study showed that for LEAPS, where the term to expiration was approximately 1.5 years, the market price was very similar if not equal to the value determined by Black-Scholes. As the term to expiration was extended to 2.5 years, the two benchmarks diverged with almost every case resulting in a Black-Scholes value higher than the market price of the LEAPS. For the longer term options, the difference in the two prices ranged from 0 percent to approximately 240 percent. It seems reasonable to conclude that the Black-Scholes model tends to overvalue options as the term to expiration of those options increases. The results of this study however must be considered with the fact that the market for LEAPS is notably inactive which indicates that the market price of a LEAPS is not always representative of fair value.

Lattice Model (Binomial Model)

The Black-Scholes model is a closed-form model, which means it solves for an option's price from an equation. In contrast, a binomial model is an open-form or lattice model that creates a tree of possible future stock price movements and thus induces the option's price. An advantage of the binomial model is that it can value an American-style option which is the style of most employee share options. It can be constructed with almost unlimited flexibility. Many unique characteristics of a particular company's options can be considered using this model, which can not be accounted for using Black-Scholes.

Because of this fact, more assumptions have to be made with the lattice model rather than Black-Scholes. Lattice modeling allows more room for subjectivity and inconsistencies between different companies based on who is making the assumptions and on what grounds. It may be difficult and/or unrealistic for some companies to make such assumptions on any kind of valid basis and thus the conclusion of value could be unreasonable.

Furthermore, the use of a binomial model leaves more room for significant discretion of inputs by executives which could cause a wide disparity of valuation conclusions. Executives could take advantage of the model's flexibility to underestimate compensation costs and in turn overstate their earnings. Small changes in assumptions can produce significantly different estimates of option value which could create some concern for those looking at the practice of expensing options to more accurately state a company's financial results. At a bare minimum, extensive disclosure would be required of the company so that investors could replicate their process and validate their conclusions.

One alternative to mitigating the risk of companies inappropriately misapplying their specific facts to the model's sensitive assumptions and reporting unreasonable values of ESOs, is for the FASB to prescribe a single method of estimating expected volatility and other standard assumptions. However, the result of this type of analysis, where there is no flexibility in the determination of assumptions and inputs, would not produce an output representative of fair value. (This is a *Catch 22*, for sure.)

This output would be better described as a "standardized measure" of the expense related to a company's employee share options. The FASB must determine their ultimate objective. The value CAN be reasonably estimated. However, the application of the specific facts of each company will always vary. If consistent application and consistent assumptions are applied across all companies, comparability may be increased, at the expense of accurately measuring the true value of the ESO. This is the FASB's dilemma.



3. Assumptions that need to be considered when valuing an option.

Whether a closed-form model such as Black-Scholes or a lattice model is used, careful consideration must be taken to determine each input in order to conclude the most accurate fair value of an equity share option awarded to employees. Following are the basic assumptions that should be made to estimate the value of an option using either valuation model and various sources that should be researched for each input:

- **Underlying price** – This should be the current price (on the grant date) of the underlying share.
- **Exercise price** – This is usually equal to the underlying price when using a closed-form model and determining the value of the option on the grant date.
- **Risk-free interest rate** – The risk-free interest rate should have a remaining term equal to the expected term of the option being valued. It is our opinion that the zero-coupon U.S. Government bonds or U.S. Treasury strips should be used to determine this input as they are considered the safest securities available to a U.S. investor.
- **Expected term of the option** – This assumption should be carefully estimated taking into consideration the company's options holders expected exercise and post-vesting termination behavior when available. Additional factors to be considered in determining a reasonable estimate of the expected term include the probability of employee turnover among the options holders and the average amount of time that employees of the company typically hold their options before exercising. Although historically it has been accepted valuation practice to use the term to expiration of the option as the expected term input in the valuation model, Avail believes that it may be more accurate to consider a probability analysis to estimate the expected term such as the Weibull distribution, Iowa curves, etc.
- **Expected volatility of the price of the underlying share** – Estimating expected volatility of the underlying share is equally challenging. Typically, companies have used historical stock price volatility for the term to expiration to estimate the expected volatility used in the valuation model. Significant research and due diligence needs to be done to make an educated estimation of expected volatility. Factors that should be considered include the volatility of the stock prices of similar companies, analyst expectations, market expectations and historical volatility adjusted for factors such as a company disposing or implementing new lines of business with significantly higher or lower volatility than the other lines of business in the company. For private companies or companies whose stock has only recently become publicly traded, these factors can all still be considered with the exception of the historical volatility of the company itself. Companies must use good judgment in the estimation of expected volatility considering multiple factors that we believe should be recommended in the FASB statement.
- **Expected dividends on the underlying share** – The company should consider its historical pattern of increases in dividends to estimate expected dividend yield or amount. A company should be able to examine its policy on dividends to make a logical estimate of the expected dividends that would reflect the amount at which the option would be exchanged. Expected dividends should also be estimated using analysts estimates and other publicly available information.

In conclusion, we support the use of either BSOPM or the lattice model as acceptable methods for valuing employee stock options given the lack of an active market or exchange for trading employee share options. Very careful consideration and scrutiny must be put into each model



assumption to determine a reasonable conclusion of the fair value for these securities; thus, too much flexibility can lead to reporting irregularities. Using the right assumptions, makes it possible to give a reasonable representation of the fair values of a registrant's options and certainly provides a better indication of employee costs than using the alternative of zero value.

The Avail team understands the importance of clearly valuing the various assets of a company, and the need for standards in accounting and assets reporting, including equity-based compensation. I am confident that my participation, representing Avail's collective expertise in valuation, would add significant depth to the Financial Accounting Standards Board's Equity-Based Compensation Roundtable on June 29.

Regards,

Warren K. White

Chairman of the Board
Senior Managing Director
Avail Consulting, LLC.
