

Employee Stock Options—

New Valuation Responsibilities and Planning Opportunities

by Michael Savage and Terry Adamson

On March 31, 2004, the Financial Accounting Standards Board (FASB) issued a highly anticipated exposure draft regarding the accounting for and the valuation of employee stock options (ESOs). After the commentary period and the issuance of a final document, expected during the third quarter of 2004, it will establish the single standard to achieve “fair value” accounting. The exposure draft has reemphasized the importance of determining the most accurate estimation of compensation expense and certainly will have wide-reaching implications on benefits and compensation design.

The new FASB valuation standard has created an opportunity to truly understand the cost of employee stock options to the company and related value to the employee. Only with that understanding can an organization determine the employee’s perceived value and be able to understand the drivers of productivity. Thus, an organization can design compensation programs that truly enhance and improve an organization’s operations and improve shareholder returns.

The change in accounting for ESOs provides companies an excellent opportunity to examine their equity incentive programs to determine if they have effectively linked the expense or cost of these programs to the company with the value perceived by the employees and their performance.

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tary period and the issuance of a final document, expected during the third quarter of 2004, it should end a long road to achieve “fair value” accounting. The exposure draft has reemphasized the importance of determining the most accurate estimation of compensation expense and certainly will have wide-reaching implications on compensation design.

BACKGROUND

In June 1993, FASB originally issued an exposure draft on accounting for stock-based compensation that would have replaced the intrinsic value accounting found in Accounting Principles Board Opinion 25 (APB 25). That exposure draft was extraordinarily controversial, and the debate on accounting for stock-based compensation unfortunately became so divisive that it threatened the FASB relationship with some of its constituents. In response, FASB chose a solution, Statement of Financial Accounting No. 123 (FAS 123), that required companies to only disclose, but not recognize the

fair value of employee stock-based compensation. Subsequently, only a handful of companies, such as Boeing and Level 3 Communications, chose the FASB preferred approach of recognizing the fair value of ESOs in their financial statements.

FASB continued to believe that financial statements would be more representationally faithful if the estimated fair value of ESOs were included. As a fallout of corporate accounting scandals of the early 2000s, a stronger public sentiment on the transparency of financial statements and the weight of industry notables like Warren Buffett behind it, Coca-Cola, General Electric and others very publicly announced their intention to voluntarily adopt fair value accounting. Additionally, desired convergence with the International Accounting Standards Board (IASB) further fueled the desire to revisit their firm belief in fair value accounting. To date, approximately over 500 companies have chosen to voluntarily adopt the provisions of FAS 123.

FAIR VALUE ACCOUNTING FOR ESOs

Under the *fair value-based method*, compensation cost is measured at the grant date based on the fair value of the award as opposed to the *intrinsic value-based method*, which only measures the excess of the market price over the exercise price. Generally, stock options are granted at the money and therefore have no intrinsic value at the grant date.

Alternatively, the *fair value-based method* requires a company to determine the fair value based on a generally accepted option-pricing model, historically either the Black-Scholes model or a binomial model. For example, 497 companies in the S&P 500 applied the Black-Scholes model in 2002 (only AIG, Washington Mutual and Boeing used binomial models). One of the criticisms of the Black-Scholes model for ESO valuation is that it was designed for short-term market-traded options. It was not designed to value ESOs with unique characteristics such as nontransferability, restrictions during the vesting period, early exercise patterns or their long-term nature. Most experts believe that the Black-Scholes model overstates compensation expense by between 10% and 50%. But since the majority of companies did not recognize the fair value, companies ignored the overstatement.

The Black-Scholes model functions very well for marketplace traders who are operating on a short time horizon; however, it is crude for valuation experts looking for the most accurate representation of compensation costs. FASB has now given further guidance on the determination of *fair value* as “observable market prices of identical or similar equity or liability instruments in active markets are the best evidence of fair value and, if available, are to be used as the basis for the measurement of equity and liability instruments awarded as part of share-based payment arrangements with employees.”

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Since those “identical or similar equity or liability instruments” are generally unavailable, the exposure draft states that a valuation model that is more fully able to capture and better reflect the unique characteristics of an ESO is preferable and should be used *if it is practicable to do so*.

Further, it states that “a lattice model can be designed to incorporate certain characteristics of employee share options and similar instruments; it can accommodate changes in dividends and volatility over the option’s contractual term, estimates of expected option exercise patterns during the option’s contractual term, and blackout periods. A lattice model, therefore, is more fully able to capture and better reflects the characteristics of a particular employee share option or similar instrument in the estimate of fair value.”

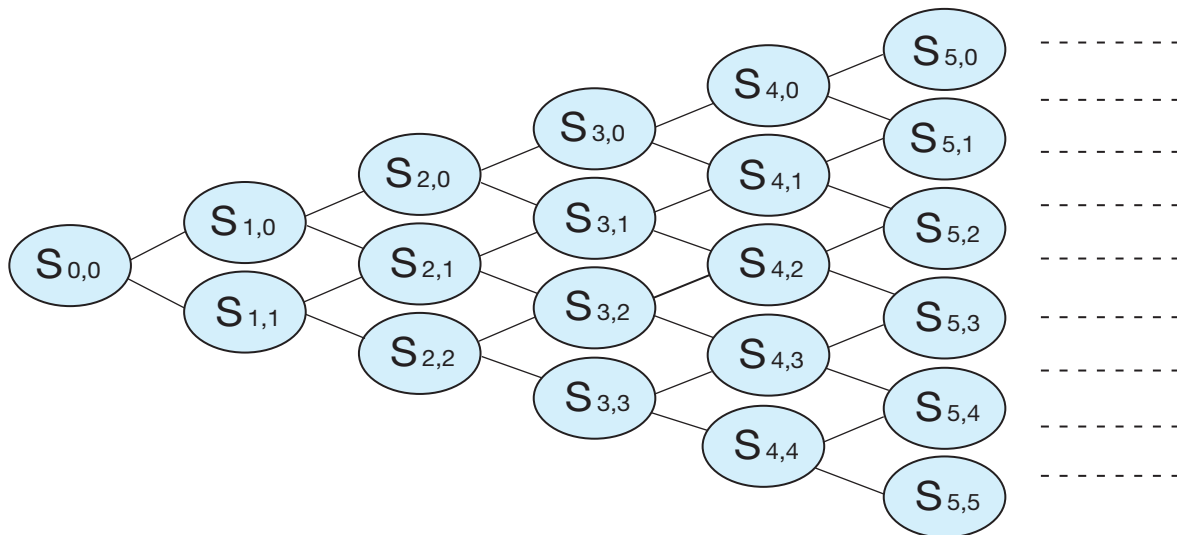
Therefore, since it is generally practicable to do so, it can be expected that most to all organizations will be shifting their employee stock option valuation

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FIGURE 1



practices from the Black-Scholes model to a lattice-based approach.

In this context, a lattice model is based on a risk-neutral valuation within a contingent claims framework. It will produce an estimated fair value based on the assumed prices of a financial instrument over successive short periods of time. In each short period, the model assumes that at least two price movements are possible (see Figure 1).

This diagram is representative of a binomial model with five measurement periods. During each measurement period, only two events may occur; the stock price can go up or it can go down, analogous to a flip of a coin.

Similar to sophisticated actuarial valuations for pension and health liabilities under FAS 87 and FAS 106, FASB has advocated for organizations to use lattice-based models that may include more assumptions about the exercise behaviors of its employees.

We realize that exercise behaviors are a function of countless variables; however, some of the most important variables may be the following:

- The stock price relative to the strike price (the multiple)
- The time after vesting
- The time to expiration
- The risk tolerance of the option holder
- Wealth diversification of the option holder
- Continued employment of the option holder
- Scheduled exercise patterns for executives.

Additionally, the exposure draft states that assumptions may need to be categorized by the type of employee, or by demographics. For example, plans with option holders who are aged 65 or greater would most likely see greater probabilities of early exercise than op-

tion holders who are aged 45, since employees who are 45 years old may have a longer expectation of continued employment (see Figure 2 and Figure 3). Similarly, broad-based plans that are offered to all employees would most likely see greater probabilities of early exercise than plans granted simply to executives, since lower paid employees generally have a greater immediate need for cash.

As intuition would expect, the above chart illustrates significantly greater probabilities of exercise for employees less than age 40 and employees greater than age 60 for one Aon client.

Company A (black) is in the health care industry, Company B (gray) is in the computer service industry and Company C (blue) is in the chemical manufacturing industry. Similarly as in Figure 2, you can see that the youngest employees and the oldest employees tend to exercise the earliest. The “frown” curvatures of the trend lines illustrate the differences in real economic value between different age categories and the need to distinguish these categories in valuation. Further, since each organization is in vastly different industries, it is implicit that similar exercise behavior exists in all industries. It will be important to note how the different categories of individuals perceive the value of their employee stock options, thus helping an organization design incentive programs effectively matching the compensatory demands of their employees. For example, if an organization has an average employee age over 60 or under 30, that organization may be better in modifying its equity offerings to reflect the value employees place on it.

Through study of these exercise patterns, different probabilities of exercise can be applied during each

FIGURE 2

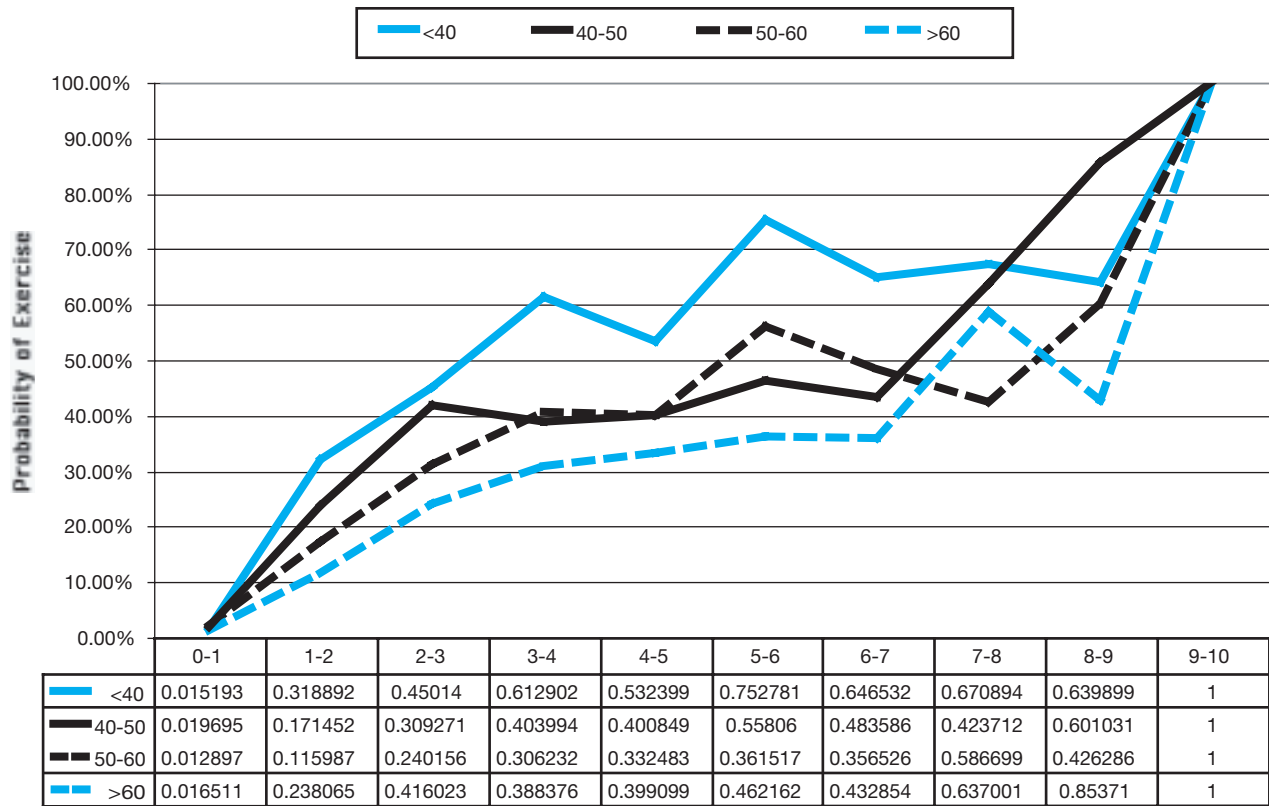
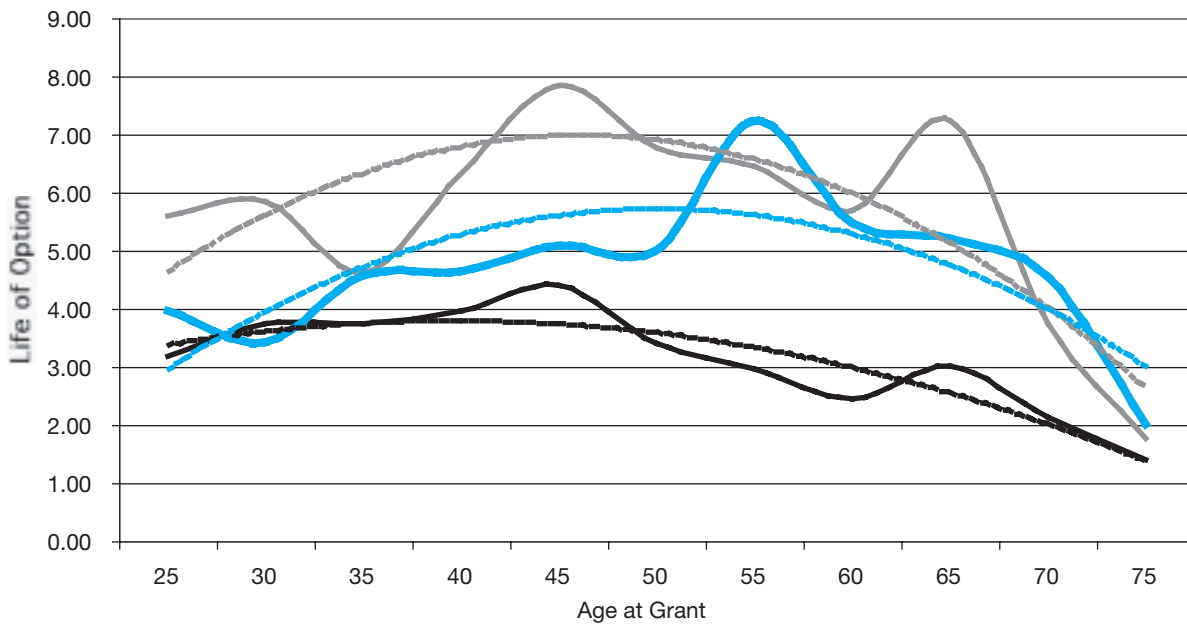


FIGURE 3



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measurement period of a lattice-based or binomial model. Aon has developed an actuarially based binomial model for which to apply these probabilities and generally has seen valuations decrease by approximately 10%. For an organization like Merrill Lynch, which disclosed over \$800 million in compensation expense in 2002, a 10% reduction would yield approximately \$80 million.

The exposure draft states that it will allow room for improvements in financial theory and allow for organizations to use alternative models, based on the facts and circumstances of the options involved. In fact, organizations can continue to use the Black-Scholes model, despite its shortcomings, if an organization does not have the data or the resources to use a more accurate valuation.

ACTUARIAL FORMULA

For any measurement period at time i , with j periods of downward movements prior, it is easy to calculate the value of an ESO using a contingent claims framework. Based upon the present value of future cash flows, where $p(i, j)$ represents the probability of an option being held until time i ; $q(i, j)$ represents the probability of exercise at that measurement period; $IV(i, j)$ represents the intrinsic value at that measurement period (the potential cash flow); and v^i represents the discount to present value.

$$\sum_{i=0}^n \sum_{j=0}^i p(i, j) \times q(i, j) \times IV(i, j) \times v^i$$

The probability $p(i, j)$ of an option being held or survival to time (i, j) can include actuarial principles such as mortality or termination.

The new FASB valuation standard has created an opportunity to truly value and understand the truer, more “accurate cost” of employee stock options to the company, and the related value to the employee. Only with that understanding can an organization determine the employee’s perceived value and be able to understand the drivers of productivity. Thus, an organization can design compensation programs that truly enhance and improve an organization’s operations and improve shareholder returns.

EFFECT ON INCENTIVE COMPENSATION DESIGN

The rising value of the equity markets of the 1990s helped fuel the widespread use of employee stock options. These plans were seen as a way to align employees with investors, provide true incentive compensation with no up-front expense recognition and help provide cash to growing companies through the market sales of ESOs. However, while the rising stock market values created great wealth opportunities for ESO exercises, it sometimes masked poor or mediocre employee performance. Similarly in the 2000s, as the stock market saw several consecutive years of steep declines, many employees were not rewarded by their option programs despite significant performances. These two outcomes left many companies revisiting their long-term incentive programs: “How can my company motivate managers if those managers are already millionaires?” and “How can I motivate managers if their stock options are worthless?” With the new fair value accounting standard, these perversities have consequentially moved many companies in favor of alternative incentive programs. Some companies are now hesitant to issue ESOs because they are creating an expense charge while not certain the employee stock option will generate a reward for the holder.

A tremendous amount of media exposure was focused on Microsoft’s decision to replace its ESO programs in favor of restricted stock programs. Some media and business commentators viewed this move by Microsoft as the beginning of the end for the use of ESOs. The opinion was that if a company like Microsoft, which symbolized the use of options with managers, was discontinuing the use of ESOs and FASB was now mandating the expensing of options, even if they never were exercised, then options were no longer the right vehicle to use in long-term equity programs.

We feel this conclusion is ill placed and that ESOs have an excellent continued future and an important role as a long-term equity vehicle that links managers and shareholders in increasing the value of the enterprise.

As with Microsoft, the business strategies of a company help drive what compensation vehicles are appropriate and Microsoft’s decision may not be appropriate for another organization. Restricted stock that vests

contingent only on meeting a service requirement rewards attendance rather than performance (often called lay-low or pay for pulse) and does little to drive managers to increase the value of the enterprise. Restricted stock may still not provide the leverage or upside opportunities that many organizations look for. Stock options continue to be the best approach for offering employees high-reward opportunities.

The new exposure draft provides the opportunity for continued use of ESOs as a key vehicle in motivating managers and linking the cost of options directly with the value created.

Using Optionee Exercise Patterns

As shown earlier in Figure 3, the option exercise experience of key groups can assist in designing option plans that better match employee behavior. For example, Figure 2 shows that most employees exercised soon after vesting; therefore, the company should consider shortening the term of the option since the additional life (years past vesting) creates incremental expense. While a ten-year option term rewards option holders for the long term, if actual practice shows that the majority exercise differently, then a shorter option term should be considered.

Exercise patterns also indicate that option holders act differently based on their ages. Companies should look at their demographics and structure the designs keeping in mind the exercise patterns for key groups. For example, if most of the option holders are in their late 50s, equity plan designs should recognize that these individuals may have very different motivations than those option holders who are only in their midcareer.

Using Performance Conditions

The new exposure draft also provides the opportunity to structure ESO programs that have performance conditions that can be used to reward performance, but also allow the opportunity to reverse the option expense if performance is not achieved.

The new exposure draft distinguishes between service conditions, performance conditions and market conditions. These conditions determine whether the fair value of the award is an equity or a liability and whether the possibility exists that the expense charge related to granting the option can be reversed if the conditions are not met. The conditions are defined as follows:

Service Condition: A condition affecting the vesting (or exercisability), exercise price, used in determining the fair value of an award that depends solely on an employee's rendering service to the employer for the requisite service period.

Performance Condition: A condition affecting the vesting (exercisability), exercise price, or other pertinent factors used in determining the fair value of an award that relates to both (a) an employee's

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rendering service for a specified period of time and (b) achieving a specified performance target that is defined solely by reference to the issuer's own operations. Attaining a specified growth rate in return on assets; obtaining regulatory approval to market a specified product; and a change in control are examples of performance conditions for purposes of FAS 123. For example, attaining a growth rate in earnings per share that exceeds the average growth rate in earnings per share of other entities in the same industry is a performance condition for purposes of this statement.

Market Condition: A condition affecting the exercise price, exercisability or other pertinent factors used in determining the fair value of an award under a share-based-payment arrangement that relates to the achievement of (a) a specified price of the issuer's shares or a specified amount of intrinsic value indexed solely to the issuer's shares or (b) a specified price of the issuer's shares in terms of a similar (or index of similar) equity security (securities).

If a condition meets any of the above criteria, then the instrument is labeled an equity rather than a liability. An instrument that is labeled a liability would cause the instrument to be remeasured or “marked-to-market” at each reporting period, and therefore causing open-ended risk to the company. Currently, the vast majority of stock option plans are only tied to future service, and therefore would be classified as equity.

The existence of a market condition requires recognition of compensation cost, even if the market condition is *never* satisfied. Therefore, the use of a market condition can considerably distort the alignment between compensatory value and accounting charges—To the extent that an option with a market condition expires unexercised, the employee receives no compensatory value, and the company is required to recognize a cost on its income statement.

TABLE I

The options have graded vesting such that 33% vest on the grant-date anniversaries between 2004 and 2006. As an additional measure, each year would be subject to the performance measures based upon the business goals and situations of the company and its peers. For example, Company A has chosen to use earnings per shares (EPS) growth as a vesting measure. Company A has identified the following ten peer companies who have the following EPS growth.

Peer Companies	EPS Growth
Peer 1	1.21%
Peer 2	5.77
Peer 3	9.55
Peer 4	11.30
Peer 5	7.80
Peer 6	4.33
Peer 7	6.05
Peer 8	14.52
Peer 9	3.46
Peer 10	2.99
25th Percentile	3.68
50th Percentile	5.91
62nd Percentile	7.07
75th Percentile	9.11

Company A has elected that the performance criteria will be dependent on the performance of its peers and their percentile ranks as follows:

Annual EPS Growth	Vesting
<3.68%	0%
3.68%-5.91%	66
5.91%-7.07%	75
>7.07%	100

Using Performance Measures to Align Compensatory Value and Accounting Costs

As mentioned earlier, a problem with fair value accounting for ESOs is that if options expire unexercised, the compensation cost is not reversed. Therefore, the company recognizes an expense for the options, but the grantees realize no compensatory income from the options.

Performance conditions can help achieve the goal of aligning these costs. Options that are forfeited because

they don't meet performance criteria receive a credit for any accruals of compensation cost that have already been recognized. Therefore, using performance criteria that are most likely aligned with stock price appreciation (i.e., if the organization meets these performance criteria, the organization's stock price will increase over the exercise price) can help in minimizing accounting expense and ensuring that any ESO expense recognized will provide the grantees with compensatory value.

A performance condition can be in the form of many different scenarios. It is important that any performance condition be attainable, realistic, and motivate the option holder to outperform. However, the definition of *outperformance* can sometimes be subjectively determined and hard to individually measure. One objective approach to defining *outperformance* is through head-to-head competition using a comparative measurement against specific peers. Of course, it is extremely important in any peer group selection to appropriately choose organizations that have challenges that mirror your own organization.

For example, Company A has granted 1,000 stock options to its executives on January 1, 2004.

The performance measures are intended to accomplish two objectives: (1) to further motivate employees and stimulate productivity and (2) to help optimize and minimize the accounting expense for the company if the performance is not achieved.

In the example in Table III, Company A was able to reverse accounting charges for 113 options that did not meet performance criteria, and therefore did not generate compensatory value for the option holders. This approach allows Company A to align its accounting charges to its profit-and-loss statements with their actual compensatory value, while also rewarding the executive for desired performance.

In the prior example, Company A has designed an option program that meets its objectives:

- Links compensation of options with competitive performance against peers and marketplace (i.e., only receive value if outperform against the competition)
- Aligns interests of option holders with interests of shareholders
- Continued receiving potential upside from stock option leverage
- Continued use of noncash compensation incentives
- Exercise proceeds to help fund the company
- Continue favorable ESO tax deductions.

We could expect that Company A might increase the number of options normally granted to executives to account for the performance conditional vesting, since under a traditional service-based vesting, the options will vest over the requisite time period regardless of performance. In this example, Company A expects performance that is above the median of its peers accordingly for that expectation.

TABLE II

If Company A has the following EPS growth rate, approximately 803 options would vest. Any compensation expense that has been accrued for the remaining 197 options would be reversed.

Company A	2004	2005	2006	Total
Options Vesting	333	333	334	1,000
EPS Growth	11.91%	4.80%	7.50%	8.07%
Performance Measure	100%	66%	75%	80%
Total Options Vesting	333	220	251	803

TABLE III

The table below illustrates the expense that Company A would recognize from 2004-2006 assuming that 113 options were forfeited in 2005, and 83 options were forfeited in 2006.

Company A	2004	2005	2006	Total
Scheduled Options Vesting	333	333	334	1,000
Fair Value per Option	\$8.50	\$9.50	\$10.50	
Total Expense	\$2,831	\$3,164	\$3,507	\$9,501
Expense Recognized				
—2004 Vesting Tranche	\$2,831	\$0	\$0	\$2,831
—2005 Vesting Tranche	\$1,582	\$1,582	\$0	\$3,164
—2006 Vesting Tranche	\$1,169	\$1,169	\$1,169	\$3,507
Actual Options Vesting	333	220	251	803
Reversals	N/A	0	(\$1,076)	(\$877)
Total Expense	\$5,581	\$2,751	\$93	\$7,549

This situation also causes the executive to meet shareholders' performance expectations over the short term in order to receive value. Traditional employee options have a ten-year term to exercise and can wait to realize appreciation well into the term of the option, beyond the time horizon expectations of the shareholders.

While this stock option design implication may not be appropriate for every company, it shows how ESOs can be granted as a performance incentive for executives and the value and expense of the awards can be aligned with the actual performance of the organization.

CONCLUSION

The current environment surrounding fair value accounting has frequently pushed noncash EPS considerations to the forefront in long-term incentive plan design. With that being said, it is important to remember that employee stock options, while creating dilution and conserving cash, should be a cornerstone of total compensa-

tion strategy. It is important to ensure that employees earn compensation only when corporate performance exceeds certain threshold levels of return, creating a true pay-for-performance system.

There are many considerations in connection with incentive awards, including tax, accounting, stock exchange shareholder approval rules, investor relations and corporate governance issues. It is critical that companies reexamine their stock plans to make sure they support the company's business and strategic objectives. The proposed FAS 123 exposure draft provides the opportunity to use data to support design changes that are consistent with employee behaviors and values. Additionally, the use of performance conditions in the design of ESO plans can further link performance with the value provided to the employee and the company. A comprehensive fair value analysis of the ESO expense and design considerations of the program may result in a higher bottom-line figure, a more confident shareholder and fewer companies abandoning ESOs for their employees. ◀