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To: Director - FASB
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Enclosed find my paper, "Will the New FASB Expense Fix Employee Option Excesses?" recently published at www.beysterinstitute.org/onlinemag/jun04/commentary.htm. I find that your new expense would get the effect of vesting dangerously wrong, so much so that it might be accused of motivating even more executive option excesses. You should consider this paper to be a strong NO answer to your issue 3 on the validity of your measurement of fair value.

You have gotten the effect of vesting backwards. Short or no vesting can be manipulated to get a low expense, while full term vesting gets full fair value. This mistake derives from your paragraph B6 where you say "the estimated fair value of the equity instruments at grant date does not take into account the effect on fair value of vesting conditions and other restrictions prior to vesting." This may be right for the forfeiture aspect of vesting, but unvested also means liquidity restrictions allowing the holder no ability to lock in values from intermediate stock prices. Willing parties would not pay full fair value for illiquid, European options that could not be hedged. Such willing parties would demand a significant discount for the extreme illiquidity imposed by the restrictions on unvested employee options. Vested options, on the other hand, are like American options so that their fair value should be close to the fair value of liquid European options.

By excluding a discount for these liquidity restrictions during vesting, your logic derives the effect of vesting on fair value dangerously backwards. Executives with short vesting have been seen to be overly motivated for short term gains, so much that they have engaged in accounting chicanery even to the risk of bankruptcy. Long vesting instead motivates long term growth so desired by shareholders. A fair and proper employee option expense would find a lower expense for longer vesting options, thereby discouraging the danger of short vesting.

I would welcome the opportunity to defend these important ideas at one of your public forums.

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Will the New FASB Expense Fix Employee Option Excesses?
William H. Scott, Jr., SAIC, May 18, 2004

On March 31, 2004, the Financial Accounting Standards Board (FASB) issued an exposure draft (ref. 1) of a new accounting rule that would require companies to include in their income statements the estimated value of all stock options that they award to their executives and other employees. http://www.fasb.org/draft/ed_intropg_share-based_payment.shtml. Comments are due by June 30, 2004.

By requiring companies to reduce their reported net income when they award stock options, the proposed rule would certainly represent something of a disincentive for companies to issue options to employees. Despite this effect – or perhaps because of it – the proposed rule, according to most commentators, seems almost certain to become final and effective as scheduled at the start of next year.

While the FASB has maintained that it is promulgating the new rule solely because it is consistent with basic accounting principals (and, in their defense, they have been pushing for such a rule for over a decade (ref. 2)), many see the FASB's current effort as being, at least in part, a response to some dramatic business events that have occurred over the last three years.

In particular, in the aftermath of the technology bubble that burst in early 2000, a number of high-profile corporations collapsed into bankruptcy largely due to risky executive behavior involving aggressive or illegal accounting and employees willing to keep quiet about it. Enron, Global Crossing, WorldCom, Sunbeam, and Tyco are perhaps the worst examples. A common theme running through many of these companies was the award of huge option grants to top executives, who subsequently pumped the stock price with questionable accounting, exercised their options near the peak, and made fortunes by quickly selling their stock, sometimes while encouraging their employees to continue to hold their own company stock.

Those supporting the new FASB accounting rule assert that if companies must take an expense for employee options, they will be more likely to use them more carefully. It may, in fact, be the case that the ability to award stock options to employees without recognizing an associated expense has led companies to issue too many employee and executive options. And this may be exacerbating a climate in which firms are already excessively motivated to show short-term gains. Nobel Prize winner Joseph Stiglitz writes in his new book *The Roaring Nineties* (ref.3), that " . . . the bad accounting of stock options clearly made matters worse. And it contributed to the ethos of the nineties, one that inflated the bubble, making the crash all the worse."

Yet, other recent history reminds us to be careful about efforts to either deregulate or adopt new regulatory schemes. The savings and loan deregulation and the California electricity-trading plan are two examples of regulatory changes that seemed helpful and productive, and designed by competent experts, which rapidly turned into disasters. Both

were implemented with high hopes of competitive efficiency. Instead, the new regulations inadvertently gave advantages to those taking more speculative actions. This discouraged responsible behavior, and very soon the result was havoc. Another main point of Stiglitz's book (ref. 3) is that "bad accounting frameworks provide bad information and lead to bad economic decisions." For example, "The S&L debacle showed that when incentives go awry, as they do with bad accounting and poorly designed deregulation, dire consequences can follow." While Stiglitz suggests that the ability to issue options without expensing them was a significant cause of the bubble, he also warns that an improper framework for the expensing of options could be the next big mistake.

Before we rush to adopt another new proposal that is billed as a boon for better business practices – before we simply assume that a new requirement to expense stock options will encourage more responsible option usage – it would be wise to look carefully at the new rules to see if there is any way they could actually encourage even more risky option usage. Unfortunately, my conclusion is that the new FASB rules will encourage firms to issue options with shorter vesting – or none at all – which would enable even more short-term, risky executive behavior.

The Theory of Compensatory Stock Options

The advertised benefits of employee options are that employees and executives are aligned to build the long-term growth and performance desired by shareholders. Rather than working to increase salaries, bonuses and other employment costs, employees with options are motivated to build corporate value and increase the share price, thereby increasing their own long term capital gains.

The lesson from Enron, however, may be that when executives have too many vested or short-vesting options, there can be motivation to promote artificial, short-term stock price spikes. On the other hand, when the options have long vesting, the motivation would likewise be long term (at least until vesting nears), building gains that match the vesting, which really are only possible with honest growth. The lesson we should have learned from Enron is that too many short-vesting options encourage executive excesses at great cost to shareholders, even risking bankruptcy for bondholders.

Common sense tells us that employees would prefer shorter vesting options rather than longer vesting, and shareholders would prefer longer vesting to shorter vesting. Short vesting gives employees the opportunity to exercise early and sell the stock if ever it seems like the stock price may be likely to drop. Yet the employee can choose to retain their option to full term if the price always seems secure. Shorter vesting gives employees an early exit if things start to go badly. Yet, shareholders and bondholders certainly don't want to motivate executives to pursue short-term, risky gains. If they thought short vesting would motivate more risk, they would prefer long vesting.

Option Value and Vesting

The current FASB proposal allows accountants to estimate when employees are likely to exercise their options, and insert that estimated life as the full option term in an option pricing formula. The fair value price for a short-term option is much less than for a long-term option. This becomes an obvious loophole in the FASB expense that can be exploited to give an accounting advantage to firms that adopt shorter vesting.

So how is it that FASB thinks there should be a lower expense for shorter vesting? The option pricing models required by FASB are called fair value measurements in that the theory was derived for the liquidity and hedging of open markets. The first such model was the Nobel winning Black Scholes formula (ref. 4). It was derived from hedging theory but later was shown to apply widely for diversified shareholders with a method called risk neutral pricing (ref. 5).

I'm often asked when is the best time for employees to exercise their options. This can be a difficult tax consideration. However, the simple answer is to exercise your options when the stock price is at a peak and will start going down. In fact, it is best to exercise the option and sell the stock immediately. Instead, efficient market theory assumes that any current share price represents the best current measure of fair value, and the best estimate for future prices is a further upward drift. Thus, these fair-value option-pricing models find that employee early exercise is sub optimal, a mistake actually. From this, FASB concludes that expected early exercise should be expensed as a lower cost to shareholders. However, empirical studies show that employees are much smarter than this. In fact, they are quite good at exercising options and selling the stock to profit from intermediate peaks in the share price (ref. 6).

Since employees can neither sell nor hedge their options, it is well known that they will value their options less than fair value theory, and much less if vesting is long. Nobel Prize winner Robert Merton calls this a deadwood cost (ref. 7) in that the value to employee is so much less than the cost to diversified investors. After all, employees often have too much of their lives, including career, retirement, and stock tied to the performance of their firm. Accepting options as a bonus adds even more to this risk. Instead, FASB has designed the option expense to be the higher cost as perceived by diversified shareholders (ref. 1), rather than the lower value as perceived by employees. This theory further finds that fair value is always less when employees exercise early.

FAS 123 (ref.2) also recommended the binomial model, and the new exposure draft further recommends a lattice model. I see both the binomial and lattice models as different numerical techniques to calculate the same fair value as Black Scholes. Their advantage is that they allow more realistic assumptions about employee early exercise behavior and changes to volatility or interest rates, yet they will always find a lower cost when employees can exercise early.

Fair value pricing theory makes no assumptions that employee behavior might change and thereby change corporate performance. It may be that options motivate employees to

grow the company much more than the dilution caused by the options. This would make the options more valuable for employees, and less costly to shareholders. Or it may be that short vesting options motivate executives to too much risky behavior. This would make the options much more costly to shareholders. Such feedback on behavior is not a part of fair value option pricing theory. Thus, the theory illogically finds a lower cost to shareholders when employees are expected to exercise early. Furthermore, FASB's purpose is to require the proper expense rather than to tailor an expense to encourage proper behavior. Historical usage and common sense find that early exercise represents more cost to shareholders. Yet FASB will hold to fair value theory, finding a lower expense whenever early exercise is expected. This is a flaw in the new option expense that could as damaging to entrepreneurship as the savings and loan deregulation or the California electricity-trading plan were to their industries. No one should expect that the adoption of this new, flawed accounting standard would lead to an improvement in the responsible use of employee options.

Many successful companies have found that proper option usage does align employees to long-term gains. The mathematics of the call option payout assures that the option dilution is always much less than the share price growth. In good times, options transfer a modest fraction of the new value to employees; in bad times, options expire causing no harm to shareholders. Because of this win-win nature (ref. 8), many companies will continue their employee option usage, despite the FASB expense. Yet, there will be temptation to shorten vesting. After all, employees would perceive a more favorable bonus, and shareholders and executives will be pleased by the lower accounting expense.

There are two fundamental limits to the value of an employee option. Fair market value is the option value under the perfect conditions of liquidity and diversification. Since the employees and large shareholders are far from such ideal conditions, fair market value really indicates an upper limit to employee option value. The lowest value is the cost of an interest free loan needed to pay the exercise price. This is as if the company lent you money to buy the stock, and on the exercise date, you paid back the loan with no interest and took ownership of the stock. This cost of an interest free loan is called the minimum value of an option. Minimum value is also the cost of a forward contract, where the holder is required to pay the exercise price and take ownership, regardless of the stock price.

The mathematics of option pricing is quite complex, fully deserving of its Nobel Prize. Yet mathematics can only be applied to precise ideas about the measure of value. In fact, there are many different ways of thinking about the expense of employee options. These different ideas would derive very different option expenses, some of which would correctly find lower expenses for long vesting options. Table 1 is my attempt to lay out a progression of such ideas, leading to concepts beyond the idea of fair value that in fact would exhibit the proper behavior with early exercise.

Nine different ways of thinking about the expense of employee options are presented. Some concur that FASB's fair value is about right. Bondholders, however, might find that zero would be about right. Several find great hazard when executives can exercise

early. The idea of an option on another company's stock is quite funny, especially since its expense should be fair value. Look through the table to see the different perspectives, and then compare to the effect that early exercise by overly risky executives could cause.

FASB is setting the employee option expense as the fair value to diversified investors. Unfortunately, this gets the effect of vesting and early exercise on employees, executives and large shareholders very wrong, even backwards and dangerous. The fair value to the diversified investors actual ignores what we know to be the advantages of employee options, namely their motivation of employees and their alignment with large shareholders. It is rather funny that fair value to diversified shareholders turns out to be the same expense as an option on another company's stock. Diversified investors certainly do care about a firm's accounting, but they aren't really the party that drives the bargain. In fact, the theory of Modigliani and Miller would say that such diversified investors would be neutral to whether employee bonuses were paid in cash, stock, or with fair-value priced options. Instead, it is the concentrated investors and the employees who have the most to gain or lose from the option agreement. FASB has the sense that a fair value accounting treatment will also encourage proper behavior. However, when such a fair value theory is not based on the costs and values seen by the key participants, it is possible that pathologies such as the backwards treatment of vesting can be very wrong.

There are several ways of thinking about employee option expense that will get the behavior with vesting and early exercise right. The table shows that the value to employees, the cost to concentrated shareholders, and the idea of excluding capital gains from proper accounting all get a similar expense. They all find that the expense of long vesting employee options should approach the minimum value, while the value of short vesting options should approach fair value. Honestly, no one has a provable or even calibrated empirical theory for the costs to large, concentrated shareholders or the value to illiquid, unvested employees. I've simply assumed that cost of the shortest vesting must limit to the highest liquid option value, namely fair value, and that the value of the most illiquid and unvested options must limit to the lowest rational value, minimum value.

My conclusion is that FASB's proposed rule on employee option expense gets the effect of vesting dangerously wrong. Companies will be motivated to reduce their option expense by canceling vesting and expecting early exercise by employees. However, these short vesting terms will motivate further efforts for short-term stock price increases at the expense of long-term corporate performance. Accounting chicanery may increase, and the FASB-mandated expense may do more harm than good. Since fair value is based on diversified and liquid investors, the theory misses the tradeoffs between employee value and large shareholders costs. FASB will be making a proper employee option expense when it finds that long vesting options approach minimum value, and that short vesting options approach the fair value at full term. Then FASB will have a proper expense for employee options, and that proper expense will motivate prudent executive behavior as accounting theory would expect.

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Table 1. Thinking differently about the value, cost and expense of employee options

Different Approaches	Issue	Result	Effect of vesting, early exercise, and illiquidity
Black Scholes Hedger	Shorting some shares can be a perfect, risk-free hedge against a call option. This hedge must earn the risk-free rate.	Black Scholes obtains from the math. Merton and Scholes win the Nobel Prize	Illegal or unethical for officers or employees to short stock so the hedging logic does not apply to employees.
Diversified Investor	Holdings commensurate with Markowitz efficient portfolio and expectations give rise to risk-neutral pricing.	Risk neutral pricing of a call option is Black Scholes. Diversified investors see Black Scholes as the option cost when held to term.	Early exercise is a mistake that costs the company less. Fair value expense is lower with expected early exercise.
Binomial or lattice models	Fair value numerical methods recommended by FASB.	Similar to BS and risk neutral. Better assumptions of volatility and early exercise.	Same mistake in that short vesting and early exercise gives a lower expense.
Unscrupulous Executives	Get a big option award, pump the stock price with aggressive or fraudulent accounting, exercise the options early and sell stock.	Quickest way to corporate bankruptcy: Enron, WorldCom, Global Crossing, Sunbeam, and Tyco. The reason FASB is finally requiring option expensing.	Long vesting aligns executives to long-term growth. Short term or no vesting options that enables overly risky executive behavior.
Bond Holder	Employee options divide capital appreciation between shareholders and employees.	Bondholders don't own any claims to capital gains. Cost of options to bondholders can be nearly zero.	Bankruptcy risk can be a large cost if options motivate risky executive behavior.
Concentrated Shareholder	Risky portfolio recommends selling stock or shorting call options to hedge excess risk.	Paying bonuses with options rather than cash is the short option hedge desired by concentrated investors. Options are a less costly, win-win bonus, approaching minimum value.	Early exercise usually means employees see the price as too high. Can be a great risk to concentrated shareholders. Cost increases to full-term fair value.
Employees	Have too much of their career, retirement, and savings tied to company fortunes and stock. Options make this worse.	Employees clearly see option value as much less than Black Scholes. See options as a much riskier bonus than cash or stock – minimum value.	Short vesting allows early exercise and stock sale, which is a valuable exit from their risky position – full-term fair value.
Accounting for an option on another company's stock	Thanks for the option, boss, but in my case would you make it be on some other company's stock? Hedge the option, and the accounting is the same as the Black Scholes hedge.	Black Scholes and fair value is the accounting expense of a hedged option on another company's stock. An option on another company's stock is a joke, having none of the advantages of employee options.	Employees could hedge and obtain Black Scholes. Diversified investors may own both stocks and don't care which firm succeeds. Both would see fair value cost.
Option Expense should eliminate capital gains	Capital gains on a company's own stock are irrelevant to its accounting. An option is a risky equity that can transfer stock to employees, which will have had a capital gain. Transfer of stock is compensation; capital gains are not compensation.	Option exercise can be divided between the shares an employee got for free, the shares the employee bought with the exercise price, and the capital gains. The free shares times grant date share price should be the compensation expense of the option, just as a vesting stock bonus.	Expense expected free shares at grant date share price over the vesting period. Then true-up at exercise. Consistent with expensing of restricted stock bonus. High expense rate for short vesting, low expense rate for long vesting.