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Accounting Standards for Employee Stock Option Disclosure

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Abstract

The paper examines the implications of recent changes to accounting standards for employee stock based compensation with contingent features. The Dec. 2005 implementation of FAS 123R by the Financial Accounting Standards Board requires the fair value of such expenses to be recorded in net income. The change is now impacting the reported financial statements of firms that have been substantial users of employee stock options. This provides an opportunity to directly assess the actual impact of FAS 123R on such firms. Arguments for and against mandatory expensing are reviewed and an assessment of the contrasting positions provided. Significant limitations of current reporting requirements for executive stock options are identified.

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Accounting Standards for Employee Stock Option Disclosure

“You issue stock options to reduce compensation expense and therefore increase your profitability.”

Jeffrey Skilling (former CEO of Enron Co.)

I. Introduction

By requiring the fair value of employee stock option grants (*ESOs*) to be expensed in the income statement, the December 2004 implementation of revised Financial Accounting Standard 123 (FAS 123R) has significantly changed the accounting for stock based compensation with contingent features.¹ While regulators have been content to give the new standards time to work, still unresolved issues surrounding *ESO* accounting have continued to fuel an ongoing, sometimes acrimonious, debate over the method of expensing *ESOs* required by FAS 123R, e.g., Bulow and Shoven (2005), Ratliff (2005), Hagopian (2006). Two general types of criticism are raised.² Because FAS 123 and 123R aim to establish “a fair value based method of accounting for stock based compensation plans” (FASB 1995, p.6), considerable academic attention has been given to difficulties and possible solutions to determining the fair value of various stock option features that could be used, e.g., Hull and White (2004), Johnson and Tian (2000). A more difficult criticism to deal with than the problem of accurately valuing an *ESO* identifies the conceptual accounting issues surrounding the “recognition principle” underpinning FAS 123R (e.g., FASB 1995, §45-48, FASB 2004, §5-6; Hagopian 2006). This paper examines the basis of the recognition principle and assesses whether the accounting concepts underlying FAS 123R ensure the accuracy of accounting information being provided for users of financial statements seeking to assess the impact of *ESO* plans on key measures of firm performance such as EBITDA and net income.

II. Current Disclosure Requirements

Casual inspection of the rationales given for implementing FAS 123R reveals that the accounting debacles at large publicly traded entities such as Enron and Worldcom generated profound concerns about accounting practices for these entities, including the inadequacy of disclosure for stock based compensation, e.g., FASB (2004, §B2-B11). Though *ESO* accounting was not a major factor in the more high profile accounting debacles, *ESO* accounting was significant in a range of technology companies that were central fixtures in the NASDAQ-5000 technology stock bubble that collapsed in the first half of 2000. The desire by regulators and the US Congress to have a thorough reform of accounting practices resulted in the stock based compensation standard of FAS 123 being bundled with a number of other accounting practices that were deemed to be undesirable and required appropriate remedies. Included in the suspect accounting practices were a range of issues captured by the Sarbanes-Oxley Act (July 30, 2002; Public Law 107-204) such as the adequacy of internal and external auditing procedures. Regulatory authority for changes to accounting for stock based compensation was left to the SEC and, by implication, the FASB. The changes incorporated in FAS 123R were not taken in isolation. In particular, a directive from the SEC to the FASB to bring about convergence of US GAAP with International Financial Reporting Standards (IFRS), e.g., FASB (2002a), significantly impacted the revision process.

While FASB may desire to make decisions on important accounting issues, such as mandatory expensing of *ESOs*, that are unaffected by interference from the SEC, the Congress and other interests, the far-reaching implications of such changes in FASB standards do not permit such an outcome. Though FASB is an ‘independent’ body established to “improve standards of financial accounting and reporting”, there are binding constraints on the independence of FASB. The authority

of FASB to set accounting standards stems from two sources: the SEC (Financial Reporting Release No. 1, Section 101) and the American Institute of Certified Public Accountants (Rule 203, Rules of Professional Conduct). Of these two sources, it is the SEC that has the statutory authority to establish financial accounting and reporting standards for publicly held companies. As FASB recognizes, SEC policy has been “to rely on the private sector for this function to the extent that the private sector demonstrates ability to fulfill the responsibility in the public interest”. The implementation of FAS 123R for purposes of satisfying SEC filing requirements is detailed in Staff Accounting Bulletin 107 (SAB 107) issued in March 2005 (SEC 2005a). In effect, by mandating *ESO* expensing in SAB 107, the SEC has incorporated *ESO* disclosure issues of FAS 123R into SEC filing requirements.³

Given that publicly traded entities are now reporting under FAS 123R, the tone and presentation of the accounts of companies significantly affected by the accounting changes reveals that there is still a deep-seeded resentment of ‘mandatory expensing’ by a large group of companies (see section IV for further discussion). Many in this group were members of the now inactive International Employee Stock Option Coalition (IESOC).⁴ During the period leading up to the release of FRS 123R, resistance to mandatory expensing led by IESOC members resulted in legislation being proposed in the US Congress aimed at preventing mandatory expensing of *ESOs* while requiring expensing for *ExSOs*.. Though the Stock Option Accounting Reform Act, (HR 3574 in the House and S 1890 in the Senate, 108th Congress) was not successful in being passed, the 2004 hearings on the bills provided a public platform for opponents and proponents of option expensing, including the 1997 Nobel laureate Robert C. Merton (Merton 2004).⁵ According to the sponsors, the bill aimed to address “concerns raised by corporate scandals at Enron and WorldCom and the role of enormous executive stock-option packages in attempts to fraudulently inflate earnings and corporate stock

performance, while also taking into consideration the positive benefits of stock options for start-up companies and their employees.”

As discussed in Poitras (2004), a key insight of HR 3574 and S 1890 is the observation is that there are two distinct elements in the option expensing debate. One element relates to corporate governance and impacts on disclosing the fair value of executive stock options (*ExSOs*). The other element relates to the economic role of *ESOs* and the disincentives that expensing would impose on firms that use this form of compensation for lower ranking employees. A key failing of FAS 123R is the approach, continued from FAS 123, where no substantive distinction is made between disclosure requirements for *ExSOs* and *ESOs*. Under mandatory expensing of FAS 123R, *ESO* disclosure is tied to the income statement and the 10-K filing. Detailed reporting of the *ExSO* component is not required. In practice, more detailed information about *ExSOs* is to be found in the proxy statement. Though both current SEC filing requirements (17 CFR Parts 228, 229, 240 and 249) and FAS 123 indirectly suggest that the financial statements and the 10-K are an appropriate source to examine for *ExSO* disclosure, the mass of detail that has to be included in the 10-K argues against a detailed discussion of *ExSO* plans in that document. Rather, attention focuses on determining a fair value for all *ESOs* and providing aggregate information about all plans. Being already concerned with detailed discussion of corporate governance issues, including executive compensation, the proxy statement is a more appropriate vehicle to use for *ExSO* disclosure. Yet the generally vague reporting that appears in the proxy statement does not even require a fair value estimate of the option grant, let alone providing a more detailed breakdown of, say, actual versus expected compensation. A double standard is in evidence.

II. Recent History of Accounting Standards for *ESOs*

To the uninitiated, the current state of accounting rules for equity-based compensation must be quite confusing. In the absence of mandatory expensing, the accounting standard employed by many firms was Accounting Principles Board Opinion 25 (APB 25). This standard was implemented in 1972, one year prior to the appearance of both the Financial Accounting Standards Board (FASB) and the Black-Scholes formula for valuing exchange traded options (APB 1972; Black and Scholes 1973). The APB 25 standard permitted companies to account for *ESOs* using ‘intrinsic value’: the difference between the stock price and the option exercise price. The general practice of making option grants at-the-money produces an intrinsic value of zero, on the grant date, for accounting purposes. On the surface, this practice appears misguided. *ESOs* have value, otherwise firms would not be awarding these options, e.g., Bodie et al. (2003). However, prior to the development of option pricing techniques, there were substantive difficulties in determining a “fair value” for the contingent compensation, providing practical support for the use of APB 25. Following the release of two FASB Interpretations (FASB 1978; FASB 1984), the FASB set about developing an accounting standard for stock-based compensation that would recognize the fair-value of such grants. After a decade of attempting to formulate a generally acceptable method of expensing stock options at “fair value”, the FASB introduced FAS 123 in 1995. It is this standard that became the subject of scrutiny in the US Congress and was revised in FAS 123R (FASB 2004).

The failings of FAS 123 are well documented. The most apparent deficiency appears in §5 of the Statement:

Because of the perceived deficiencies in Opinion 25, early in the 1980's the AICPA ..., the staff of the Securities and Exchange Commission, most of the larger accounting firms, industry representatives, and others asked the Board to reconsider the accounting specified

in Opinion 25. This Statement, which is the result of that reconsideration, establishes an accounting method based on the fair value of equity instruments awarded to employees as compensation that mitigates many of the deficiencies in Opinion 25. The Board encourages entities to adopt the new method. However, ***this Statement permits an entity in determining the net income to continue to apply the accounting provisions of Opinion 25.*** [emphasis added]

While reluctantly adhering to the disclosure of a pro forma ‘fair value’ estimate of equity-based compensation in the notes to the financial statements, most firms with significant levels of employee stock option compensation elected to continue using APB 25 and not to this compensation in the financial statements. Various studies have documented the dramatic increase in stock option grants to employees that took place during the 1990's. For example, Hall and Murphy (2003) find the average outstanding amount of *ESOs* for an average S&P 500 firm increased over tenfold from \$22 million in 1992 to \$238 million per company in 2000.⁶ Over 90% of *ESOs* were given to employees other than the top five executives, with the share of stock options granted to the CEO falling from over 7% to under 5%.⁷ At the same time, the average real pay of CEO's for S&P 500 companies increased from \$3.5 million to \$14.7 million, driven largely by increases in compensation paid through executive stock options.

Into this already complicated situation, two administrative events were added. The first event was a directive from the SEC to the FASB to bring about convergence of US GAAP with International Financial Reporting Standards (IFRS), e.g., FASB (2002a). Consistent with this objective, in October 2002 the FASB and the IASB announced the “Norwalk Agreement” – a memorandum of understanding that takes a number of steps towards such a convergence.⁸ The other significant administrative event was the issuance in Feb. 2004 of IFRS 2 (Equity Based Compensation) by the International Accounting Standards Board (IASB). This standard “require[s] an entity to reflect in

its profit or loss and financial position the effects of share based transactions, including expenses associated with transactions in which share options are granted to employees”. The IASB plan required firms filing subject to IASB standards to start mandatory expensing of *ESOs* by Jan. 1, 2005. Hence, the mandatory expensing of *ESOs* in FAS 123R brings US standards in line with recent changes in IASB standards. These two events gave considerable leverage to those within FASB, the accounting profession and the financial services industry seeking to fast track mandatory *ESO* expensing. As evidenced by the activities of the IESOC, these efforts met fierce resistance.

The resistance to mandatory expensing is long standing and did not originate with FAS 123R. The following quote from the FASB announcing FAS 123 in 1995 is revealing:

The debate on accounting for stock-based compensation unfortunately became so divisive that it threatened the Board's future working relationship with some of its constituents. Eventually, the nature of the debate threatened the future of accounting standards setting in the private sector ... the Board decided that the extent of improvement in financial reporting that was envisioned when this project was added to its technical agenda and when the Exposure Draft was issued was not attainable because the deliberate, logical consideration of issues that usually leads to improvement in financial reporting was no longer present.

The implication of this statement is that opponents to expensing options are ‘illogical’ and unwilling to engage in ‘deliberate consideration’ of the issue. Yet, as evidenced in the material and statements of those in the anti-expensing group, there was a desire to engage in reasoned debate and a logical counter-position to FAS 123R requirements was being presented. While publicly traded firms opposed to mandatory expensing are now having to deal with the accounting implications of FAS 123R, as illustrated by Hagopian (2006, p.146) substantial resistance still continues within the academic realm: “Mandating the expensing of employee stock options is one of the most radical changes in accounting rules in history. It should not have been done without absolute certainty that it would improve the usefulness of financial statements.”

III. The FAS 123R Recognition Principle

Judging from Hagopian (2006), the battleground over mandatory expensing is shifting locations. Prior to FAS 123R, opponents placed considerable emphasis on the difficulties of determining the ‘fair value’ of option grants. For example, FAS 123 states in §19: “The fair value of a stock option ... granted by a **public entity** shall be estimated using an option-pricing model (for example, the Black-Scholes or a binomial model)”; similarly, in §21: “It should be possible to reasonably estimate the fair value of most stock options and other equity instruments at the date they are granted.” The gist of the anti-expensing position was summarized by SEC Commissioner Paul Atkins: “putting a fair value on something as complicated as long term stock options is almost an impossible task ... FASB is basically getting into an area that’s more of a political issue than a technical or accounting issue.”⁹ This position is now viewed as ‘dead-letter’ by the FASB and SEC. For example, the Office of Economic Analysis at the SEC (SEC 2005b) maintains:

Valuation methods permitted under FASB Statement 123 (revised 2004) *Share-Based Payment* ... are conventional and well-known. The issues that practitioners will likely face in estimating option values under FAS 123(R) are not unusual and indeed arise in other areas of accounting and finance. In those other areas, practitioners have identified suitable methods for estimating future outcomes and obtaining reliable value estimates in compliance with US GAAP. Financial economists have developed methods for valuing employee stock options that are reliable and appropriate for use by companies complying with FAS 123(R).

Given that valuation is not seen by regulators to be a deterrent to implementing FAS 123R, the other arguments against option expensing revolve around whether options are a legitimate expense for accounting purposes and, if so, what the appropriate expense to record in a particular accounting period is.

Despite various claims from regulators that methods for determining a fair value for *ESO* expense are available and reliable, there is considerable skepticism that option pricing methods are not sufficiently precise to warrant mandatory inclusion of *ESO* expenses in the financial statements. For example, Malkiel and Baumol (2002) claim:

Because employee stock options have durations of five to 10 years, are complicated by not vesting immediately, are contingent on continued employment and subject to various restrictions, it is virtually impossible to put a precise estimate on the option's value. Moreover, employee options cannot be sold, violating one of the key Black-Scholes assumptions.

This position is neither new or novel. Rubinstein (1995), for example, illustrates substantial variations in Black-Scholes estimates of *ESO* values from relatively small variations in required parameter inputs. Though there is some evidence that the Black-Scholes methodology provides accurate on-average estimates of the *ex post* cost of *ESOs*, e.g., Marquardt (2002), this does not imply that fair value estimates will be correct for specific *ExSO* plans that have may have decidedly more complex features than conventional *ESO* plans.

Like exchange traded stock options, *ESOs* are contracts that grant the holders the right to buy a given amount of common stock for a pre-specified term at a pre-specified exercise price. Murphy (1999, p.17), analyzing the option-grant practices of 1,000 large companies in 1992, finds that “the exercise price equals the grant-date fair market value in 95% of the regular option grants” and that “about 83% of the grants had ten year terms”. While there are general similarities with exchange traded options, *ESOs* have additional features that are not present with exchange traded options. Vesting is a key feature of *ESOs* that differs from exchange traded options. In order to be exercisable, an option must be vested. *ESOs* typically become vested at a constant rate over time, for example 20% of the granted options will vest in each of the five years following the grant date. *ESOs* are

European prior to vesting and have some form of American feature between vesting date and expiry. Such options belong to a class of options referred to as Bermuda options. There will be a significant difference in the value of Bermuda options depending on whether the exercise can take place at any time between vesting and expiration (pure Bermuda option) or whether exercise can take place only on specific dates (tandem option). The method used to determine the stock price on the exercise date will also affect the value, e.g., the stock price can be set by using the average price over the month prior to exercise or by using the price on the exercise date.

Another feature of *ESOs* that is not present on exchange traded options is the employment status of the option holder. Employment termination almost always triggers the forfeiture of unvested *ESOs* and reduces the remaining life of unexercised vested *ESOs*. Forfeiture is a key element because *ESOs* are specifically prohibited from being transferred or sold by holders, except in special cases where the firm is unwinding an in-place *ESO* program, as was recently done by Microsoft. In turn, lack of transferability is another feature of *ESOs* that differs from exchange traded options. If an option is not transferable, this brings into question the validity of using option pricing models, such as Black-Scholes, to determine the fair value of the option expense. If the option cannot be sold, then the value in the option can only be obtained through exercise. If exercise is done prior to the expiration date, then the time value remaining in the option is foregone. FAS 123 specifically requires the *ESO* to be valued on the grant date and, except in special conditions, this value is not to be adjusted for future changes, e.g., §19. In effect, the loss of time value due to early exercise would not be reflected in the financial statements resulting in an overstatement of the fair value *ESO* grant date compensation cost.

The method of exercise is yet another feature that differentiates *ESOs*. Presumably, an *ESO* is similar to a warrant: when an *ESO* is exercised the company will issue a new share in exchange for

a cash payment of the exercise price. However, most companies use “cashless exercise programs” which involve no cash payment by the employee (Hall and Murphy 2003, p.50). Rather, the intrinsic value is paid in cash to the employee, with no change in outstanding stock, or the intrinsic value is paid in stock, which results in a smaller number of shares issued than would be the case if the exercise price was paid in full. Further, some *ESO* plans do not issue new shares but, instead, purchase the stock in the open market which involves no issuing of new shares. Given the lack of agreement over the appropriate procedure to use in adjusting option pricing models for the dilution associated with warrants, e.g., Poitras (2002), the appropriate pricing procedure to use for determining the fair value of a given *ESO* with a particular method of exercise, e.g., cashless exercise paid in stock, is difficult to determine. The upshot of all these differences is that the problem of determining a fair value for an *ESO* plan is imprecise, at best, and may, in certain cases, be intractable such as where complex features of some *ExSOs* are brought into consideration.¹⁰

The potential complexities of *ESO* and *ExSO* plans and the associated imprecision in fair value estimates are not seen by the accounting regulators as a deterrent to obtaining estimates of the accounting expense. There are a range of other accounting variables that also involve imprecise estimates, e.g., depreciation and inventory value. The onus is on users of financial statements to make appropriate adjustments to specific numbers in reported financial statements to obtain measures that more accurately capture the specifics of the situation of interest. For example, real estate investment trusts have developed a ‘funds from operations’ measure of firm income that requires adjustment to net income to account for the biases that depreciation and sales of investment properties numbers introduce into net income.¹¹ Faced with this position, critics of FAS 123R have shifted emphasis to more conceptual questions about the accounting method used to calculate the option expense in a

given year, e.g., Kaplan and Palepu (2002), Bodie et al. (2003), Hancock et al. (2005), Bulow and Shoven (2005), Hagopian (2006). Many critics of FAS 123R focus on the capital account implications of *ESOs*, arguing that FAS 123R does not capture the associated dilution implications of what are, in effect, warrants issued to employees.

For example, Hancock et al. (2005, p.95) argues that FAS 123R provides inadequate treatment of the capital account implications of *ESOs*:

Paying employees with options has the same economic impact on the firm as paying the employees with cash and then selling options to those employees; the subsequent exercise or sale of the options is not an income statement item but a capital account transaction. From this comparable-expense case, it is correct reporting to both expense the value of the options and subsequently record dilution from the options in the capital account. Doing both is not “double expensing” of labor costs, as some have claimed.

This is a decidedly more persuasive type of criticism of FAS 123R than those focusing on the failure of option valuation techniques to provide an accurate estimate of the expense. Being a ***non-cash expense*** involving a contingency, it is not possible to identify the ‘correct’ valuation methodology for *ESOs*. With appropriate adjustments, available option valuation methods are sufficient for the purpose of obtaining a reasonable, if not precisely accurate, estimate of the value of an *ESO*. However, questions still remain about when this expense will be recognized, e.g., Bulow and Shoven (2005), and accurate treatment of the capital account implications, e.g., Bodie et al. (2003), Hancock et al. (2005). Some even go so far as to question whether *ESOs* meet the accounting definition of an expense, e.g., Hagopian (2006), and claim that accounting accuracy requires *ESOs* to be handled solely as a capital account transaction and reflected in associated dilution adjustments. Given the substance of these arguments, it seems that the FAS 123R will not be the final word on accounting theory for *ESOs*.

IV. *ESO* Disclosure in Practice

Despite the considerable discontent among a significant number of the companies opposed to mandatory expensing, the implementation of FAS 123R has now produced the requisite changes in the SEC filings. It is now possible to observe the reactions of companies to the new standards. Led by Microsoft, some companies that were significant users of *ESOs* moved to other forms of stock-based compensation, such as stock awards that depend on future targets being achieved. The Microsoft 2003 proxy statement details the rationales for the “shared performance stock award” (SPSA) that replaced options in the Microsoft stock-based compensation plans:

In July 2003, the Company announced changes in its equity compensation program. Effective September 2003, the Company began granting stock awards instead of stock options to employees. A stock award, or restricted stock unit award, is a grant that vests over time. As the stock award vests employees receive Microsoft common shares that they own outright. In the light of the changed economic environment, and in keeping with Microsoft’s progressive compensation philosophy, we believe *stock awards are a better way to provide significant equity compensation to employees that is less subject to market volatility.* (emphasis added)

Being dependent on stock award amounts that are yet to be determined, stock award plans such as Microsoft’s SPSA cannot be valued using available contingency valuation techniques, either lattice methods or Black-Scholes. This permits a different accounting treatment to be used for the stock-based compensation expense, e.g., Poitras (2004).

While some companies that opposed mandatory expensing gave up the use of *ESOs* and *ExSOs*, other companies, such as Cisco, retained *ESO* plans relatively intact and made other types of adjustments. The FAS 123 fair value reporting revealed the importance of the *ESO* program to Cisco.

Prior to 2006, Cisco used the intrinsic value method of APB 25, with FAS 123 requirements being satisfied in the 10-K, notes to the financial statements. The importance of *ESO* compensation to Cisco is apparent with 1.3 billion options outstanding against 7 billion shares issued as of July 2003 and 1.446 billion options against 6.059 billion shares in July 2006. The number of shares associated with granted and assumed *ESOs* was 195, 244 and 230 million shares in each of 2003-2005. Cisco reported substantial pro forma adjustments to net income for 2001-2003 reporting under FAS 123 (in millions \$):

	<u>2001</u>	<u>2002</u>	<u>2003</u>
Net Income (Loss) As Reported under FAS 123	(1,014)	1,893	3,578
<u>Option Compensation Expense (net of tax)</u>	<u>(1,691)</u>	<u>(1,520)</u>	<u>(1,259)</u>
Net Income (loss) – pro forma (FAS 123R)	(2,705)	373	2,319

Reporting under FAS 123 in 2004 and 2005 and then switching to FAS 123R in 2006, the Cisco accounts stated (in millions \$):

	<u>2004</u>	<u>2005</u>	<u>2006**</u>
Net Income (Loss) As Reported	4,401	5,741	5,580
Option Compensation Expense	(2,025)	(1,628)	1,137
<u>Tax Benefits of stock option plans</u>	<u>810</u>	<u>594</u>	<u>(432)</u>
Net Income (loss) – pro forma	3,186	4,707	6,336

** For this column, reported Net Income includes net option expense and pro forma Net Income is the amount reported if FAS 123 was in effect

Inspection of these numbers reveals that, despite retaining the *ESO* program relatively intact, under mandatory expensing of FAS 123R the reported net compensation expense was relatively smaller than in years impacted only by FAS 123.

The sizable adjustment in the Cisco option compensation expense can be attributed to the positive learning that FAS 123R fostered in companies previously opposed to mandatory expensing. Consider

the 2003 Cisco annual report (p.17-8) where the following statement about the imprecise estimates obtained from option pricing models can be found:

The Black-Scholes option pricing model was developed for use in estimating the value of traded options that have no vesting restrictions and are fully transferable. In addition, option-pricing models require the input of highly subjective assumptions, including the expected stock price volatility and expected life. ... Because the Company's employee stock options have characteristics significantly different from those of traded options, and because changes in the subjective input assumptions can materially affect the estimate, in management's opinion, the existing valuation models do not provide a reliable measure of the fair value of the Company's employee stock options.

In effect, Cisco is arguing that mandating the expensing of all *ESOs* requires fair value estimates to be reported when no method of precisely determining such an estimate is available. On the contrary, Cisco claimed mandatory expensing could possibly impair the financial statements, working against the stated objectives of FASB. The reply provided by regulators was that available option pricing methodologies were sufficient to determine a fair value estimate. Cisco's response was a reconsideration of the valuation methodology.

Confronted with having to implement FAS 123R, in 2006 Cisco changed the *ESO* valuation methodology employed to determine the *ESO* expense. The 2006 Cisco annual report (p.70-2) contains the following description of the estimation procedure now used for *ESOs*:

The Company's employee stock options have various restrictions including vesting provisions and restrictions on transfer and hedging, among others, and are often exercised prior to their contractual maturity. Lattice-binomial models are more capable of incorporating features of the Company's employee stock options than closed-form models such as the Black-Scholes model. The use of a lattice-binomial model requires extensive actual employee exercise behavior data and a number of complex assumptions including expected volatility, risk-free interest rate, expected dividends, skewness and kurtosis.

The discussion in the annual report continues to recognize the distinction between the use of implied volatility and historical volatility as an estimate of expected volatility. The use of skewness and

kurtosis indicates the use of sophisticated restrictions on the lattice paths. Reference is made to “calibration of the Company’s model” using the “history of exercises and cancellations on all past option grants made to the Company”. Finally, the tone of management’s position on the accuracy of option price modeling is softened:

Because the Company’s employee stock options have certain characteristics that are significantly different from traded options, and because changes in the subjective assumptions can materially affect the estimated value, in management’s opinion, the existing valuation models may not provide an accurate measure of the fair value of the Company’s employee stock options.

Not surprisingly, the binomial-lattice models resulted in a reduced estimate (p.71) of the *ESO* expense compared to the Black-Scholes estimate.

The implementation of FAS 123R has required firms to acquire the ability to estimate *ESO* expenses. Yet, these methods are still not being applied in the proxy statement to estimate the fair value of executive compensation. The current state of *ExSO* disclosure can be illustrated by examining the reporting requirements of Cisco Systems. The *ExSO* information that is provided in the 2006 10-K is relatively sparse: the number of options granted to named executive officers in 2006 and 2005, both in absolute terms (3 million and 4 million), as a percentage of total grants in those years (2.3% and 2.2%) and as a cumulative percentage of total options outstanding (3.4% and 4.1%).¹² There is also a cursory table indicating that named executive officers exercised options for 7 million shares during fiscal year ending July 2006, with 39 million exercisable (vested) and 10 million unexercisable (non-vested) outstanding. In this table, there is also an item titled: “intrinsic value of unexercised in-the-money options at July 26, 2003” which has two elements: “exercisable” (\$52 million) and “unexercisable” \$8 million. Information about the *ESO* program is more detailed, e.g.,

the weighted average exercise price for options outstanding and exercisable on July 29, 2006 is provided.

The usefulness of FAS 123R information about the Cisco *ESO* program provided directly in the financial statements is apparent. The size of the adjustment to net income for years 2001-2005 is substantial and requires reporting. In contrast, though sizable to the individuals involved, the financial impact on net income of the *ExSO* component of the *ESO* program appears to be marginal.¹³ As such, it is appropriate that Cisco relegate precise details of the *ExSO* program to the proxy statement. Examination of the proxy statement reveals a wealth of information about overall executive compensation, in general, and *ExSO* grants in particular. The discussion of executive compensation commences with a statement of “Compensation Philosophy and Objectives” and proceeds to describe the components of executive compensation (base salary, variable incentive awards and long term equity-based incentive awards) and the process by which these components are determined. It is clearly stated that *ExSOs* at Cisco are granted under the same program as for *ESOs* which have relatively straightforward vesting, employment and exercise price conditions. Consistent with SEC rules governing the proxy statement, a number of tables are provided that establish: the amount of compensation paid under each component (salary, bonus, stock options, etc.) for the named executives; details of options granted in the fiscal year, with an estimate of potential realizable value under 5% and 10% stock price appreciation assumptions; and details of the aggregate option positions held by the named executives.

The SEC mandated procedure for reporting of *ExSO* information in the proxy statement reveals the confusion over accounting for the fair value of option grants. While FAS 123R requires fair value of *ESOs* to be estimated using Black-Scholes or an alternative option pricing methodology, *ExSO*

value estimates in the proxy statement use a different methodology. More precisely, a “potential realizable value at assumed annual rates of stock appreciation for the option term” is reported to measure the value of *ExSO* grants in the fiscal year. This involves taking the stock price on the grant date and using 5% and 10% annually compounded appreciation assumptions to calculate the stock price on the expiration date. An estimated value is then calculated by assuming all the options in the *ExSO* grant are exercised on that date. An alternative valuation method is used in calculating the value of the aggregate option position at fiscal year-end, i.e., intrinsic value is calculated using the stock price observed at fiscal year-end with the results being dis-aggregated into options that are vested and unvested on that date. The incongruence between the various valuation procedures begs a number of questions. For example, what is the rationale for not applying the same valuation methodology to aggregated positions that is used for annual grants? Similarly, why are volatility assumptions required under FAS 123 while arbitrary stock price appreciation assumptions used for annual grants?

VI. Summary

At least since Graham and Dodd (1934), security analysts have recognized the importance of assessing the impact of stock option based employee compensation in determining the value of corporate securities. To this end, the mandatory expensing of *ESOs* now required by FAS 123R results in a tax adjusted fair value estimate of such grants being directly recorded in the income statement. Though there are arguably more accurate ways of attributing the expense to a specific accounting period, for security analysis purposes mandatory expensing of *ESOs* is an incremental improvement over the pro forma disclosure permitted under FAS 123. Not only is the reported net income a more accurate estimate, easing the process of making valuation comparisons across firms,

the precise impact of *ESOs* on net income is now directly revealed in the cash flow statement. This is an definite improvement over having to tunnel through the notes to determine these values. In addition, companies that are significant users of *ESOs* now have to determine a fair value estimate for this expense. The process of determining this estimate requires firms to address and identify the actual value of this compensation to employees. Instead of asserting that fair value estimates cannot be produced, companies are now understanding the appropriate methods for accurately determining fair values.

The primary criticism of current accounting standards made in this paper involves the failure to apply the valuation methodologies for *ESOs* to *ExSOs*. More precisely, while the debate over mandatory expensing of *ESOs* speaks to information that needs to be disclosed in the financial statements, information about the precise terms of *ExSOs* speaks more to issues of corporate governance. A well specified disclosure procedure is required to identify relevant features of *ExSO* schemes, especially those with complex designs. Given that the 10-K is the appropriate location for *ESO* information disclosure, the proxy statement is the appropriate location for *ExSO* disclosure. Traditionally, SEC rules have governed preparation of the proxy statement, if only due to the absence of financial statements in that filing. However, if *ESO* expensing is to be mandated under FASB rules, disclosure of precise details about the fair value of *ExSO* plans is also needed. Providing a directive to include specific financial information in the proxy statement is currently the responsibility of the SEC. To be consistent with the spirit of fair value accounting reflected in FAS 123R and SAB 107, adequate disclosure of *ExSO* information also requires a fair value estimate of the executive component of *ESOs* to be provided in the proxy statement, together with a precise description of the scheme being used and the assumptions used to arrive at the fair value estimate.

References

Accounting Principles Board (1972), “Opinion No. 25: Accounting for Stock Issued to Employees”, New York: American Institute of Certified Public Accountants.

Black, Fischer and Myron Scholes (1973), “The Pricing of Options and Corporate Liabilities”, Journal of Political Economy, 81: 637-654.

Bodie, Z., R. Kaplan and R. Merton (2003), “For the Last Time: Stock Options are an Expense”, Harvard Business Review (March): 63-71,

Bulow, J. and J. Shoven (2005), “Accounting for Stock Options”, Journal of Economic Perspectives 19:115-134.

Dyson, R. (2005), “Basic Principles in the New Accounting for Stock Options”, CPA Journal (September): 28-35.

Financial Accounting Standards Board (1978), “FASB Interpretation No. 28, an interpretation of APB Opinions No. 15 and 25: Accounting for Stock Appreciation Rights and Other Variable Stock Option or Award Plans”.

Financial Accounting Standards Board (1984), “FASB Interpretation No. 38, an interpretation of APB Opinion No. 25: Determining the Measurement Date for Stock Option, Purchase, and Award Plans Involving Junior Stock”.

Financial Accounting Standards Board (1995), “Statement of Financial Accounting Standards No. 123: Accounting for Stock-Based Compensation”.

Financial Accounting Standards Board (2004), “Statement of Financial Accounting Standard 123 (revised 2004), Share-Based Payment”, December 2004.

Graham, B. and D. Dodd (1934), Security Analysis, New York: McGraw-Hill.

Hagopian, K. (2006), “Expensing Employee Stock Options is Improper Accounting”, *California Management Review* 48: 136-56.

Hall, Brian J. and Kevin J. Murphy (2000), “Optimal Exercise Prices for Executive Stock Options”, American Economic Review 90: 209-214.

Hall, B. and K. Murphy (2003), “The Trouble with Stock Options”, Journal of Economic Perspectives 17: 49-70.

Hull, J. and A. White (2004), “How to Value Employee Stock Options”, Financial Analysts Journal (Jan./Feb.) 60: 114-9.

International Accounting Standards Board (2004), “International Financial Reporting Standard 2: Share Based Payment”, February 2004.

Johnson, Shane A. and Yisong S. Tian (2000), “The value and incentive effects of nontraditional executive stock option plans”, Journal of Accounting and Economics 57: 3-34.

Klassen, Kenneth J. (2002), “Options for compensation”, CA Magazine August: 41-44

Malkiel, B. and W. Baumol (2002), "Stock Options Keep the Economy Afloat," Wall Street Journal, April 4.

Marquardt, C. (2002), “The Cost of Employee Stock Option Grants: An Empirical Analysis”, Journal of Accounting Research 40: 1191-1217.

Merton, R.C. (2004), “Summary of the Oral Testimony of Robert C. Merton, HR 3574, Stock Option Accounting Reform Act”, March 3.

Murphy, Kevin J. (1999), “Executive Compensation”, in Orley Ashenfelter and David Card (eds.), Handbook of Labor Economics, Vol. 3, North Holland.

Poitras, G. (2005), Security Analysis and Investment Strategy, New York: Blackwell Publishing.

Poitras, G. (2004), "Executive Stock Option Disclosure: Are Current Accounting Standards Adequate?", Corporate Finance Review 9: 5-19.

Poitras, G. (2002), “Short Sales Restrictions and Rights Issues on the Stock Exchange of Singapore”, Pacific Basic Finance Journal 10: 141-62.

Ratliff, P. (2005), “Reporting Employee Stock Option Expenses: Is the Debate Over?”, *CPA Journal* 75 (Nov.): 38-43.

Rubinstein, Mark (1995), “On the Accounting Valuation of Employee Stock Options”, Journal of Derivatives 3: 8-24.

Securities and Exchange Commission (2005a), “Staff Accounting Bulletin No. 107, Topic 14: Share-Based Payment”, March 29, 2005.

Securities and Exchange Commission, Office of Economic Analysis Memorandum (2005b), “Economic Perspectives on Employee Option Expensing: Valuation and Implementation of FAS 123 (R)”, March 18, 2005.

NOTES

1. As Dyson (2005, p.28) observes: “Although presented as a revision to existing accounting standards, SFAS 123(R) is an extensive (295 page) rewrite of existing standards.” While FAS 123 did require public entities that used the intrinsic value method of APB 25 to disclose pro forma measures of net income and earnings per share as if the fair value method was used, the location of such disclosures in the notes to the financial statements combined with the sometimes confusing or obscure presentation of such disclosures was deemed to be sufficient to warrant a substantive rewriting of the standard. The FASB rule changes followed closely on similar changes by the International Accounting Standards Board in IFRS 2, *Share-based Payments*, in Feb. 2004. The differences between the IASB and FASB standards are detailed in FASB (2004, §B258-B269). As such, FAS 123R is consistent with the need to “maximize the opportunity for convergence of US and international accounting standards” mandated by Congress and reflected in the Norwalk Agreement issued in Sept. 2002.
2. The general position is illustrated in a Dec. 13, 2001 letter from the International Employee Stock Option Coalition to Sir David Tweedie, Chairman of the IASB: “We continue our strong support for a disclosure-based standard because many of us do not believe that stock options are an appropriate compensation expense. Rather, the cost of stock options is borne by the shareholders in the form of potential dilution. In any case, even if the options should, in theory, be expensed, no reliable method has been found to measure that value in a way that would not be misleading to investors.”
3. While requiring adherence to GAAP in making filings, there are a number of SEC regulations that come into play that complement or supercede FAS 123R. In particular, Regulation S-K details information to be included in most filings to the SEC and Regulation S-B governs filings for small businesses. On the specific issue of *ExSO* disclosure, the key information source is the proxy statement filing which is governed by Rule 14 of the Securities Exchange Act (1934).
4. The website for the IESOC (www.savestockoptions.org), once a focal point for information about attempts to deter changes in the standard, is now inactive.
5. The legislation in the Senate (S. 1940) was sponsored by Senators John McCain and Carl Levin. Senator Levin was also sponsor of a bill introduced in 1994 to curb the use of stock options. This bill was defeated 88-9.
6. In Canada, the fraction of the largest 100 public companies that offered stock options to employees increased from one-third of in 1991 to two-thirds in 1995. By 2000, a review of proxy statements filed with the Toronto Stock Exchange reveals that all companies in the top 100 are using *ESOs* (Klassen 2002).

7. Analyzing a random sample of 10 of the 100 largest Canadian companies, Klassen (2002) finds that the top five executives' stock option grants accounted for 44% of all stock options awarded in 2000, leaving 56% of all stock options granted to regular employees.
8. This convergence process has been reaffirmed by another memorandum of understanding between FASB and IASB issued Feb. 27, 2006 that details various areas for both short term and long term efforts.
9. This quote was made at an American Enterprise Institute conference on mandatory option expensing held in Jan. 2004.
10. Another aspect of *ESOs* that is difficult to value concerns the treatment of the option in the event of changes in corporate control. In some situations, *ESO* provisions can be a form of poison pill that deters hostile takeovers.
11. Information about the funds from operations measure can be found at a number of websites such as www.nareit.com and www.realpac.ca.
12. Named executive officers include the CEO and the four other most highly compensated executives.
13. For example, the CEO, John Chambers had *ExSOs* for over 38 million shares with a vested intrinsic value of over \$196 million and a further unvested amount of \$17.5. These dollar values would be considerably higher if the fair value were reported.