



BACC 635: Corporate Financial Problems

Project: **Employee Stock Options**

Company of Study: Cisco Systems, Inc.

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(Opposition approach)

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Introduction

Cisco Systems Inc. was founded in 1984 by a small group of computer scientists from Stanford University. The company's worldwide headquarters are in San Jose, California. Cisco invented a multi-protocol router to handle different local area network protocols.¹

In years, the company became a worldwide leader in computer networking technology. In the fiscal year 2004, Cisco had total revenues of \$22 billion.

Employee Stock Option (ESO) Plan

Cisco, a startup technology corporation, uses the ESO as a method to compensate employees to level comparable to major corporations. The ESO stimulates employees' effort for a good work and the varying vesting periods helped Cisco retain employees by setting a mandatory period of residency at the company before exercising the stock options.

Cisco's ESO Plan is divided into three programs: the Discretionary Option Grant Program, opened to employees; the Automatic Option Grant Program, opened to non-employee members of the Board of Directors; and the Stock Issuance Program, opened to independent, non-employee consultants.²

Generally, the Exercise price of the option shall be equal to the Fair Market Value (FMV) of share of Common Stock on the option grant date in accordance with these programs.³

The maximum number of Common Stock reserved for issuance over the term of the Plan shall not exceed 2,504,006,600 shares.⁴

Advantages and disadvantages of ESO

Tax view

The attractiveness of ESO is explained also by the tax aspect for both counterparties of the transaction:

- Employer has tax benefit as a deduction from Pretax Income the difference between stock FMV and option's Exercise Value (which will be taxable income for Employee)
- Employee has tax savings up to 7.65%. His income from ESO is treated as capital gain and is subject to income tax only, not subject to FICA.

“Price of dilution”

The Shareholder is that party, which incur the outlay. Stock options outstanding are included in diluted earnings per share computation.

DILUTIVE EFFECT OF ESO.⁵

(millions, except %):

	Year Ended	July 31, 2004	calculation
Common stock, outstanding shares (basis)		6,735	
Granted options		195	
Canceled options		-52	
Net options granted		143	
Grant dilution		2.1%	= 143 / 6735
Exercised options		96	
Exercise dilution		1.4%	= 96 / 6735
Shares diluted		7,057	
Dilutive impact, in shares		209	
Dilution, % to basis		3.1%	= 209 / 6735

This 3.1% of dilution for earnings per share is that real price of ESO, which shareholders incur. The effect of granted options is included into the denominator of the earnings per share calculation. Shareholders pay this “dilution price” because the increased productivity of employees should increase FMV of stock.

With Compensation Expenses, deducted from the corporate Income, the earnings per share will be reduced twice:

- in the denominator as described above, and
- in the numerator as decreased Income.

Controversies

Recognition of the Compensation Expenses became a very controversial aspect around the FASB standard, SFAS 123(r)⁶. It defines a *fair value method* of accounting for Compensation Expenses. The standard encourages expensing the employees’ Compensation cost, estimating its measure with Fair Value of the Option using option pricing models. However, the original SFAS 123⁷ allows an entity to continue measuring the Compensation cost using the *intrinsic value method* prescribed by APB Opinion No.25.⁸ Entities, electing to remain the accounting in accordance with APB Opinion No.25, must make pro-forma disclosures of net income and earnings per share, as if the fair value method had been applied.

According to both methods, the compensation cost is an expense because of its performance-based feature.⁹ This is the conceptual controversy between FASB and Cisco Systems and similar companies, who insist, that “ESO do not represent compensation, but an added element of employment to ensure the joint success of the enterprise and the employee”.¹⁰ ESO measures *intangible quality* of employee’s *future service in advance*. Compensation Expense is a tangible quantitative measurement.

Intrinsic Value Method

Under this method, compensation cost is an expense, measured by the difference of FMV of stock and Exercise Price of the option, so called Intrinsic Value, at the grant date. This Intrinsic Value is zero by definition of the most ESO plans: Exercise Price of the option is equal to the FMV of the underlying stock at the grant date. Therefore, the assumed Compensation Expenses of Cisco and similar companies is zero and there is no worry about decreasing the corporate Income.

Fair Value Method

Under this method, compensation cost is measured at the grant date, based on the value of the option awarded, and is recognized as an expense over the vesting period. The value of the option awarded is estimated using the option pricing models.

Option Pricing Models

The Black-Scholes-Merton formula is named in the SFAS 123(r) among the option pricing models useful for valuing the option. According to this Standard, “Models *can be adjusted* to account for options granted to employees.” FASB realized that “The Black-Scholes formula assumes that option exercises occur at the end of an option’s contractual term, and that expected volatility, expected dividends, and risk-free interest rates are constant over the option’s term. If used to estimate the fair value of instruments, the Black-Scholes-Merton *formula must be adjusted* to account for employee share options that are not consistent with the model’s assumptions (for example, the ability to exercise before the end of the option’s contractual term)”.

So, the ready formula for Fair Value method of accounting does not exist. “In contrast, a lattice model can be designed to accommodate dynamic assumptions of expected volatility and dividends over the option’s contractual term. Therefore, the design of a lattice model more fully reflects the substantive characteristics of a particular employee share option. *Nevertheless*, both a lattice model and the Black-Scholes-Merton formula can provide a fair value estimate that is consistent with the measurement objective and fair-value method of this Standard”.¹¹

FASB partially realized that Black-Scholes formula does not completely satisfy the accounting measurement requirements. FASB has to realize more - the Black-Scholes formula:

- does not work well with options that are deep-in the-money or substantially out-of-the money
- biases option values for very high or very low volatility stocks
- mis-prices as the time until expiration increases

By definition, Black-Scholes formula was developed for a European call option (exercised at the expiration day) and only for short-term options in nature (not for a long-term ESO), freely tradable in the financial markets, etc.

Developers of the recommended models did not know that FASB will use these models for ESO. Mark Rubenstein, Ph.D., one of the developers of the lattice binomial model, concluded to the FASB that the lattice binomial model is not appropriate for valuing ESO and should not be used.

Offered example in the SFAS 123(r), uses the Exercise Price of the Option equal to current FMV of the stock. The intrinsic value is zero by this recommendation. Option pricing switches from intrinsic value to time value, generated by long-term period of Option.

Alternative Models

SFAS 123(r) developed the criteria for eligible model, formula or technique. This way FASB opened the door for developing the different models for ESO.

Among those new is the Bulow-Shoven model.¹² This model expanded the standard Black-Scholes model to be applicable to the long-term options and should be useful for deferred compensation benefits. The basis for the conclusion used in this formula is the discussion between FASB and IASB of unvested options as though they have the same value as vested options, times a fraction representing the vesting probability of the option.

The Bulow-Shoven proposal for unvested options treats them as equivalent to vested options times a recognition factor as well. But in their case, the vested option equivalents are always 90 days securities, instead of the linearly amortization the option's estimated value over vesting period. Also, in contrast with the FASB, the model does not require the recognition factor be justified as an ultimate vesting probability so long as the firm uses a formula that expenses the number of options that actually vest by the vesting date. Therefore the value of a long-term option can be thought of as the value of an option that must be exercised immediately, plus the ex ante value of a series of one day extensions that run until the final expiration date. The value of a 0 day option is, of course, just its intrinsic value. A 5-year option could be valued as 1826 1-day extensions, or 20 quarterly extensions, or even a series of uneven extension, so long as the last extension brought the total life to five years.

Conclusion

ESO is one of the most controversial subjects in accounting. Cisco Systems, Inc. is an active opponent to the SFAS 123(r). ESO is a very important program for Cisco Systems, Inc.: there are \$22 billion of common stock outstanding by the end of fiscal 2004 and there are \$25 billion of common stock authorized by the Board of Directors for repurchase for ESO. According to Cisco, tracking all those itemized awards for the Fair Value method purpose would be very costly for the company.

FASB's allowance to use different complicated models will make impossible to audit the ESO-companies. Auditors will need to have a Mathematician Ph. D. in their staff to understand these models. The charge for Ph. D. staff-auditor will boost the audit expenses. That will increase the prices of ESO-companies' production and decrease the purchasing power of the dollars, that is inflation elevating factor.

Consequences

SFAS 123(r), if prevail, will threaten ESO plans with the requirement to expense the Compensation Cost using the Fair Value method. The financial impact could be measured in billions of dollars. Cisco will have to evaluate the affordability of its rank-and-file ESO programs. The likely result would be far reduced ESO programs. This would remove a major retention and recruitment tool and effect a major change in company culture: loss in employee's ownership.

The developments between FASB and Cisco in regards to expensing Compensation Cost were the following.

In 1984 FASB started considering APB Opinion No. 25 to determine whether stock- based compensation be expensed. Numerous opposition letters from the corporate side prevented FASB to force the corporate America to implement the Fair Value method until 2003. In 2003, FASB voted 7 to 0 in favor of it. Microsoft's shift on this method bolstered FASB. It was seen as a positive development for the FASB.

In Apr 2004, Anti-expensing International ESO coalition sent 1680 opposition letters to the FASB. The coalition is comprised of individuals, trade associations and companies representing a diverse range of industries, including high-tech, such as Cisco and Intel, manufacturing and service companies, in the United States and abroad.

In March 2005, the SEC upheld new requirement to expense employees' stock- based compensation but sweetened the policy, allowing these expenses to be valued in a previous method. How Anti-expensing International ESO Coalition will respond still remains to be seen.

Appendix 1

Summary of Cisco's opposition.¹³

- ESO do not represent compensation.
- ESO measure is dilution, experienced by the shareholders, agreed to this cost of the employees' incentives, not a FMV of the non-traded options.
- There is a double-count impact on the earning per share, if considering the dilution effect and reduction of Income by fair-valued Compensation Expenses.
- In accordance with Matching Principles, the benefits from ESO in the Income, should be valued in the same manner as Compensation Expenses
- There is a lack of reliable valuation models available today.
- Expenses, measured with unreliable and inaccurate valuation model cannot result in increased usefulness, relevance and comparability in financial reporting.
- ESO and traded options are very different instruments and cannot be valued by the same formulas.
- As SFAS123 proposed, the intrinsic value of ESO is zero, so the Pricing models value the time value of the long-term option, which is inconsistent with the idea of the formula.
- Broad ranges of values derive for the same option depending on the estimation approach used. The variation is over 400%. *(broad range for manipulation with Financial Statements)¹⁴.*
- To achieve the real values, company needs tracking 43 million of itemized grants. This has impractical application issue. *(violates cost-benefit constraint of the Accounting framework)¹⁵.*
- There are numerous issues and complexities that have not been addressed in the Standard *(Capital accounts of the company)*.

Appendix 2

Pro-forma statement illustrates the company's Income affected by changes in estimates for Black- Scholes model in the attached Tables:

Table 1 Original Cisco Pro-forma¹⁶,

Table 2 Effect of change in estimates from:

<i>company's calculated</i>	<i>to</i>	<i>pertained to traded options, for which</i>	
		<i>Black-Scholes model was developed¹⁷</i>	
<i>time to expiration:</i>			
<i>weighted-average</i>	<i>5.41</i>	<i>short-term fraction of the year</i>	<i>0.4</i>
<i>volatility:</i>	<i>40%</i>		<i>30%</i>

(Press Ctrl+q in ESO_class_new.xls to make changes and Ctrl+e to restore the data)

Footnotes

¹ Cisco Systems Corporate Timeline, p.1 (http://newsroom.cisco.com/dlls/corporate_timeline.pdf)

² Cisco Systems, Inc. 1996 Stock Incentive Plan, p.1
(<http://www.sec.gov/Archives/edgar/data/858877/000119312504158427/dex101.htm>)

³ Cisco Systems, Inc. 1996 Stock Incentive Plan, p.13
(<http://www.sec.gov/Archives/edgar/data/858877/000119312504158427/dex101.htm>)

⁴ Cisco Systems, Inc. 1996 Stock Incentive Plan, p.4
(<http://www.sec.gov/Archives/edgar/data/858877/000119312504158427/dex101.htm>)

⁵ SEC, Cisco Systems, Inc. 10-K (<http://www.edgar.com>)
(http://yahoo.brand.edgar-online.com/doctrans/finSys_main.asp?formfilename=0001193125-04-158427&nad=)

⁶ Statement of Financial Accounting Standards No. 123 (revised 2004) Share-Based Payment

⁷ Statement of Financial Accounting Standards No. 123 Accounting for Stock-Based Compensation

⁸ APB Opinion No. 25 Accounting for Stock Issued to Employees.

⁹ Summary of FASB Statement No. 123 "Accounting for Stock-Based Compensation"
(<http://www.fasb.org/st/summary/stsum123.shtml>)

¹⁰ Letter of Comment No.3078 from Dennis Powell, Senior Vice President and CFO, Cisco Systems, Inc. to Suzanne Bielstein, Director of Major Projects, FASB.

¹¹ Statement of Financial Accounting Standards No. 123 (revised 2004) Share-Based Payment

¹² The "Research Paper No. 1848 "Accounting for Stock Options" by Jeremy Bulow and John B. Shoven.
(http://webct.albany.edu:8900/bfin635_4264_spr05/BulowShoven.pdf)

¹³ Letter of Comment No.3078 from Dennis Powell, Senior Vice President and CFO, Cisco Systems, Inc. to Suzanne Bielstein, Director of Major Projects, FASB.

¹⁴ Note of the authors of the paper

¹⁵ Note of the authors of the paper

¹⁶ SEC, Cisco Systems, Inc. 10-K (<http://www.edgar.com>)

(http://yahoo.brand.edgar-online.com/doctrans/finSys_main.asp?formfilename=0001193125-04-158427&nad=)

¹⁷ On-line Tutorial, (<http://www.expectationsinvesting.com/tutorial6.shtml>)