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Are Companies Inflating Earnings & Equity by Granting Employee Stock Options?

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## **Abstract**

The issue of how to report the impact of Employee Stock Options (ESO) to shareholders has been a fiercely contested debate in the business community for decades, with hundreds of billions of dollars of compensation and potential expense in question. The Financial Accounting Standards Board (FASB) made significant progress by finally requiring the expensing of ESOs under ASC 718, but the standard has flaws that are causing shareholders to receive reported earnings and equity that are significantly misstated. Earnings are misstated due to loss that occurs at the exercise of an ESO that is never recorded as an expense, and equity is misstated by both the cumulative effect of these unrecorded losses, as well as the improper practice of recorded ESOs on the balance sheet as increases to equity. The purpose of this undergraduate honors thesis is to analyze the magnitude and impact of these misstatements. A case study of Apple Inc. shows that these misstatements can be significantly large and can persist over significantly long periods of time, and an Initial Public Offering (IPO) case study shows that the impact is amplified by the dramatic share price changes that occur during an IPO. I recommend an alternative method of accounting for ESOs that would fully disclose the impact to shareholders. I also discuss the necessary yet drastic changes required to adopt this new method and the challenges that will need to be overcome to make the changes.

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## **Employee Stock Options**

### **What Are Employee Stock Options?**

Employee Stock Options (ESOs) are a common form of compensation given to many executives and employees in a wide variety of companies. An ESO gives the employee the right to purchase one or more of the company's shares at some point in the future at a specific price. This price is called the "strike price", and it remains contractually set regardless of what the future market share price is. The employee receives a payoff from the ESO when the future market price rises higher than the strike price and the employee can use (exercise) the ESO to purchase a share for less than the share is worth in the marketplace. The employee can then sell the shares and instantly realize the difference. There is no guarantee that the employee will receive a payout from the ESO, however, because the future market price may never be above the strike price during the period of time in which the option is exercisable. In this case, the employee can buy the shares at a lower price in the marketplace than by exercising the ESO, so the ESO will be worth nothing and will be allowed to expire.

ESOs differ from standard traded stock options (TSOs) in several ways. Both ESOs and TSOs are usually "American" style options, meaning that they can be exercised at any time during the exercise window, but TSOs generally are exercisable immediately and expire within one year of issuance. An employee cannot exercise an ESO until the end of a vesting period, which is generally two to four years long (U.S. Congress, 2004), and then the employee generally has an exercise window of several years before the ESO expires. Unlike TSOs, ESOs may have restrictions that prevent employees from selling or transferring them to another party, and employees may forfeit their ESOs if they leave the company. Employees with ESOs are also prohibited from many short-selling strategies that would be available to the holder of a TSO

(Huddart, 1994).

### **The Benefits of ESO Use**

Companies grant ESOs for a variety of reasons. By providing the employee with a potential future payout that is contingent on the rise in the company's share price, the ESO may be intended to align the interests of the employee with that of the shareholders. Shareholders provide the invested capital and are the actual owners of the firm's assets, but they hire management and employees to run the business, generate a return, and raise the value of their investment. Management and employees have a relatively high level of autonomy from shareholders, so this creates a potential agency problem because management and employees may have different motivations than the shareholders have. ESOs may be granted to attempt to counter the agency problem by providing a financial motivation to management and employees to work harder, run the business better, generate higher returns, and increase the stock price for shareholders.

The agency problem is a particularly important issue for high level management, so ESOs are most often granted to executive level employees. Executives are ultimately responsible for making the important decisions about the direction and operation of the company, and additional effort contributed by executives can have a substantial impact on the performance of the company. An example of an agency problem is the situation in which management has a higher level of risk aversion than shareholders. The company is generally the main source of income for management, so they are highly dependent on the survival of the company and could be more risk averse in decision-making, while shareholders may be much less risk averse regarding the particular company because they can eliminate much of their exposure to the inherent risk of the

company through diversification.

Another reason for using ESOs as compensation is to reduce taxes. A tax legislation called the Omnibus Budget Reconciliation Act of 1993 (OBRA) capped tax deductions for compensation to an employee in excess of \$1 million, except when the compensation is deemed “performance based”, meaning that the amount received is dependent on a financial indicator such as sales, profits, or stock price (U.S. Congress, 2004). Under OBRA, compensation above \$1 million in the form of ESOs is still tax deductible, and this additional tax savings is often credited with being a major factor in the growth of ESO use (Shorter et Al., 2007).

ESOs are also a non-cash form of compensation, which allows a company granting ESOs to compensate employees while also saving cash for other purposes. This is a particularly important motivation for small startup companies that have little cash but hope to obtain and retain top talent. ESOs have been widely used by startup technology companies that depend on highly skilled programmers and creative minds but have very little cash with which to compensate top talent (Apostolou, 2005).

Prior to ASC 718 in 2004, a major advantage of granting ESOs as compensation was that, as long as the strike price was set at or above the market price of the underlying stock on the grant date, the company would not need to record any compensation expense at all for ESOs. ESO compensation therefore increased earnings compared to an equal amount of cash compensation, which would need to be recorded as an expense. After ASC 718, companies now need to record compensation expense for the expected payout to the employee as of the grant date. However, if the option pricing model used to estimate the expected payout is inaccurate, or if any additional payout unexpectedly occurs when the ESO is actually exercised, the difference is never included in net income or disclosed anywhere on the financial statements. By granting

an ESO, a company is able to offer a financial incentive to an employee that has an unlimited payout potential, but the company will never be required to expense more than the predetermined amount that is calculated and justified on the grant date. As a result, companies may still have an earnings-related motive to compensate employees using ESOs.

This motivation is apparent in the current “cheap stock” issue (Ernst & Young, 2011), in which pre-IPO companies are calculating the expense to be recording for the ESOs that they grant in the year leading up to an IPO based on expectations for shares of small, private companies, and based on their own prior past performances as small, private companies. When the companies go public and see a dramatic rise in share price that would be entirely uncharacteristic of their estimates, the payouts resulting from ESOs exercised after the IPO can be vastly larger than the expense recorded for them. Under current accounting standards the company never needs to make an adjustment to correct for this effect.

### **Criticisms of ESO Use**

The ability of ESOs to counter the agency problem has often been questioned, and some believe that ESOs may actually be increasing both agency problems and the risk of financial reporting fraud. Gormly et al. (2011) studied firm’s responsiveness to unexpected increases in liability and regulatory risk, and found that a higher level of ESO compensation led to less risk-reducing activities by company management in response to the risk increase. They found that the convexity of ESOs leads to management responding more aggressively when they have a low sensitivity to volatility and when their ESOs are more in-the-money.

The increased use of ESOs may also have led to the escalation of financial reporting fraud, as evidenced by the major accounting frauds of the early 2000’s in which executives walked away with hundreds of millions of dollars in payouts from ESOs. O’Connor et al. (2006)

hypothesized that vested ESOs create an incentive for management to commit financial reporting fraud to create a short-term boost to share price at the expense of the long-term health of the company. In their test of 65 matched pairs of public U.S. firms that either had or had not been discovered misreporting financial results, they showed that increases in ESOs had several effects on the likelihood of financial reporting fraud. For example, as a CEO receives more ESO compensation, the source of fraud risk shifts from primarily being related to CEO duality, to being increasingly dependent on whether the Board of Directors also has ESOs. This shift shows that, as ESOs become a larger element of compensation, the influence of the ESOs gradually plays more of a role in financial statement fraud than factors related to corporate governance.

### **The Cost of ESOs: Dilution to Shareholders**

The payout that the employee receives from exercising the ESO is very clear; the employee receives shares that are worth more than the cash that they paid for them. The employee would realize the cash difference if he or she were to sell the shares in the market, which over 95% of the time occurs immediately after the ESOs are exercised (Huddart, 1994).

What is more difficult to see is how the company experiences the loss from making the payout. There is no direct transfer of cash or assets to the employee. Instead, the payout is in the form of dilution to existing shares that creates an indirect wealth transfer from the existing shareholders to the employee. Each shareholder's ownership of the total company is reduced, and for the shareholder to still have claim to the same amount of value, the total value of the firm must be increased by the value of the ownership being given up through. When an ESO is exercised and shares are issued to employees at below market values, the increase in the value of the company (the cash received from the employee) is less than the value of the ownership that is given up (the market value of the shares).



An example included in Appendix A shows the dilutive loss to the shareholders of a company from issuing stock at below market prices, which is what occurs when an ESO is exercised, and also shows the economic effects of several other types of transactions. In the example, each shareholder begins with a share worth \$25, and the dilution caused by an ESO reduces the share value to \$23.

The example also shows that shareholders are unaffected by the issuance and repurchase of shares if done at the market price, which means that share repurchases cannot be used to counteract dilution. The example then shows that, ignoring taxes, an equal amount of cash compensation given instead of ESO compensation would result in the same reduction of share value from \$25 to \$23, which highlights the need for the full amount of ESO losses to be reported, just as the same amount of cash compensation would be.

### **Development of ESO Accounting**

Even though the shareholder losses through dilution have been well documented, the issue of how to properly account for and disclose ESOs has been a fiercely contested debate for decades. In October of 1972, the Accounting Principles Board (APB), which was the predecessor to the Financial Accounting Standards Board (FASB), issued Opinion 25 to govern the accounting for stock-based compensation to employees. APB Opinion 25 addressed the accounting for ESOs and required that they be expensed at their intrinsic value at the grant date. No adjustments were required to be made in future periods regardless of any future changes to share price or actual compensation received. Under this standard, companies could issue ESOs with an exercise price at or above the market price at the grant date and never record compensation expense for the ESOs at all.

In June of 1993 the FASB proposed FAS 123, which would have required that

compensation expense related to the issuance of an ESO be recorded at the fair value of the ESO at grant date. This move was assisted by the creation and mainstream acceptance of option pricing models, such as the Black & Scholes model and the binomial model, which allowed for the estimation of the fair value at the grant date. The proposal for the “fair-value” method caused a massive backlash from the business community, especially from start-up technology companies that had very little cash and used ESOs extensively to acquire top management talent (Apostolou, 2005). These companies argued that the change would stifle innovation and growth in what had become one of America’s most prized industries. The smaller companies also argued that FAS 123 would put them at a major disadvantage to the larger, more established technology companies, who would be more able to immediately absorb the large expense (Apostolou, 2005).

The pressure on the FASB grew even more intense as the business community lobbied Congress to stop the new proposed FASB standard. Connecticut Senator Joe Lieberman led the opposition in Congress and proposed a bill that would have essentially transferred authority over this issue to the SEC, and would have set a dangerous precedent for government intervention in accounting standard setting (Apostolou, 2005). In 1995, the FASB bowed to this pressure in their issuance of FAS 123, which merely “encouraged” the use of the fair value method and required that companies disclose in the footnotes what the impact would have been, but allowed companies to continue to use the intrinsic value method under APB Opinion 25 in the statements. Most companies, of course, chose to continue using the intrinsic value in order to record no compensation expense at all for ESOs.

Throughout the remainder of the 1990’s and early 2000’s the use of ESOs continued to increase in popularity. This was fueled by a wave of new cash-poor technology firms that needed a cash-free way to compensate employees, and by the extended bull market that made equity

compensation even more attractive (Shorter, 2007). Additionally, the Omnibus Budget Reconciliation Act of 1993 greatly accelerated the amount of compensation through stock options because compensation through stock options continued to be tax deductible, while deductions for other forms of compensation were capped at \$1 million.

In the 1998 Annual Report for Berkshire-Hathaway, famed investor Warren Buffet wrote at length about his concern over stock option accounting:

“A distressing number of both CEOs and auditors have in recent years bitterly fought FASB’s attempts to replace fiction with truth and virtually none have spoken out in support of the FASB...Existing accounting principles ignore the cost of stock options when earnings are being calculated, even though options are huge and an increasing expense at a great many corporations... When we consider investing in an option-issuing company, we make an appropriate downward adjustment to reported earnings, simply subtracting an amount equal to what the company could have realized by publicly selling options of like quantity and structure... The earning revisions that Charlie and I have made for options in recent years have frequently cut the reported per-share figures by 5%, with 10% not all that uncommon. On occasion, the downward adjustment has been so great that it has affected our portfolio decisions, causing us either to make a sale or to pass on a stock purchase we might otherwise have made.”

In the early 2000’s, accounting scandals at companies such as Enron raised concerns among the public about the deceptive accounting practices of corporations. The focus on improving financial reporting and transparency opened the door for ESO expensing, even though many in the business community continued to fight against it.

## **Current Standards for Reporting ESOs: ASC 718**

In 2004, the FASB finally revised FAS 123, creating ASC 718 (originally FAS 123R), which remains the current standard governing ESOs. ASC 718 requires the fair-value method, and, as a result, companies can no longer avoid recording any expense at all for ESOs.

The FASB lists the following reasons for revising FAS 123:

1. To address concerns of users and others.
2. To improve the comparability of reported financial information by eliminating alternative accounting methods.
3. To simplify U.S. GAAP.
4. For convergence with international accounting standards.

Under this regulation, the compensation cost of an ESO is expensed based on the fair-value of the ESO at the grant date. This regulation also applies to options being granted to non-employees as payment for goods and services. The FASB gives several options for measuring this fair value, including the Black-Scholes and binomial option pricing models. The grant-date fair value is then amortized to the income statement over the period in which the employee or service provider is said to provide the service, which is generally the vesting period of the options. This new standard also requires companies to estimate the number of ESOs that are expected to be forfeited, rather than accounting for them as forfeitures when occurred. Even though this method is termed the “fair-value” method, no adjustments are be made to the amount of the expense recorded after the grant date, regardless of the eventual compensation paid to the employee at exercise.

Interestingly, the IRS deems the employee to have received compensation in the total amount of the actual payout to the employee when the ESO is exercised, which is the actual difference

between the market value of the shares received and the cash paid for them. If the ESO is deemed a nonqualified ESO by the IRS, then the company may deduct the entire amount received by the employee, even if this amount differs from the expense recorded in the financial statements. ASC 718 requires that any excess tax benefits or costs that occur from the exercising of unqualified ESOs be reported as a financing cash flow on the statement of cash flows, rather than as a reduction or increase to income taxes paid.

### **How ASC 718 is Implemented**

Appendix B contains an example to illustrate how ASC 718 is implemented. When the ESO is granted, the fair value of the options is determined, but no journal entry is made because the services have not yet been rendered by the employee. For each period in which the employee renders the services, a portion of the grant-date fair value of the ESO is recorded as an expense in an amount equal to the percentage of the total service period that elapsed during the current period. The corresponding credit in the journal entry increases an equity Paid-in Capital account for stock options. When the ESO is exercised and the new shares are issued to the employee, the following journal entry is made:

- 1) Cash is increased by the amount the employee paid for the shares.
- 2) The grant-date fair value amount of the ESO (which will have accumulated in the Paid-in Capital-Stock Compensation account) is closed out.
- 3) Common stock and Paid-in Capital are collectively increased by the total of 1) and 2).

Essentially, the increase to Paid-in Capital represents the new stock being recorded as if it were issued at the market value that was expected to occur based on the option pricing model.

## **Problems with ASC 718**

ASC 718 is a significant improvement to previous standards, but there are still two issues with the new standard that result in companies overstating both earnings and equity:

- I. **Unrecorded Costs:** The total expense recorded for an ESO over its lifetime is the cost expected at the grant date, but the actual cost experienced by shareholders when the ESO is exercised can be significantly more or less than the expense recorded. This additional gain or loss to shareholders can be very significant, but it is never disclosed to shareholders in the financial statements.
- II. **Equity Overstatement:** As the expense for the ESO is recorded each period, equity is increased. Economically, however, the shareholders are not seeing an increase in their equity from the issuance of an ESO, but instead are taking on a payout risk that is similar to a contingent liability.

### **Unrecorded Costs of ESOs**

With ASC 718, the FASB recognizes that there is a dilutive cost incurred by the shareholders when an employee is compensated through ESOs, and that the cost should be disclosed on the income statement. But because ESOs are issued to compensate employees for services provided, the FASB has focused their efforts on the concept of “compensation expense.” The FASB determined that the “compensation expense” should be determined based on the grant date value of the ESO because that is when the instrument is transferred to the employee. Additionally, the company and the employee enter into the agreement based on their knowledge and expectations of what the payout will be on that date, and the company compensates the employee for the value of their services based on these estimates.

The FASB explains:

“In deciding whether and on what terms to exchange equity instruments for employee services, both parties to the agreement presumably base their decisions on the current fair value of the instrument to be exchanged—not its possible value at a future date.”

This is a logical means to classify an amount that should be labeled “compensation expense”, and it matches the expense recorded for the ESO with the value of the services provided by the employee. The company values the services of the employee at a particular amount, and then compensates them by granting them instruments that are worth that amount at the grant date.

But regardless of the amount of “compensation” that is intended to be given to the employee, the volatile nature of ESOs results in the employee receiving an *actual* payout that can be significantly different than the intended compensation amount. An additional payout and loss that actually occurs may not be “compensation”, but it is still a loss to shareholder through dilution that should not be entirely ignored. It is a real cost that is decreasing the wealth of the shareholders, and should be recorded as some type of loss or expense, even if it does not qualify as “compensation expense.”

### **Diluted EPS Discussion**

Some argue that the dilutive costs of ESOs are accounted for in the diluted earnings per share (EPS) calculation, and therefore the additional gain or loss beyond the expected amount would be represented in this manner as well. In ASC 718, the FASB explains their decision to require the expensing of ESOs, and addresses the EPS disclosure issue:

“Earnings per share is a metric—no expense (cost), revenue, or

other element of financial statements is “recognized” by including its effect only in earnings per share.”

It follows that if there is an additional gain or loss occurring from the exercise of an ESO, and that the additional gain or loss should be disclosed, EPS disclosure alone would not be sufficient.

### **Measuring Unrecorded Losses using Excess Tax Benefits**

The U.S. Internal Revenue Service (IRS) considers the compensation received by the employee from ESOs to be the difference between the strike price and the market price at exercise, which is the actual payout to the employee. This compensation amount is taxed differently depending on whether the ESO is classified as a qualified or an unqualified ESO.

Employees granted qualified ESOs, also known as “incentive options”, receive preferable tax treatment. If they follow the guidelines set forth by the IRS, they do not have to pay tax on the compensation element when the ESO is exercised (IRS, 2012). They instead pay tax on this amount when they sell the shares they acquire from exercising the ESO, and they are taxed at lower capital gains tax rates. However, the company compensating the employee with a qualified ESO is not allowed a deduction for the compensation element, so that is the reason why many companies do not issue qualified ESOs.

Most ESOs are nonqualified stock options (Huddart, 1994). Employees granted nonqualified ESOs are required to pay tax on the compensation element at ordinary income rates when the ESO is exercised (IRS, 2012), and the company is allowed a tax deduction in that year for the full compensation element. When the amount of the actual payout is greater than the expense recorded for the ESO, then the company deducts a greater expense for tax purposes than is shown on the financial statements, resulting in additional tax savings. Under ASC 718, the



company is required to disclose the additional tax savings as a cash inflow from financing activities, and the line item is labeled “excess tax benefits from equity awards.”

This excess tax benefit that is reported can be divided by the company’s tax rate to find the additional tax deduction that was taken above the amount of expense recorded on the financial statements. This additional deduction amount is the total amount of losses that resulted from unqualified ESOs that the company did not record on the financial statements but was able to use to reduce their taxes. Although this measure would only represent the unrecorded losses associated with unqualified ESOs (not qualified “inventive” ESOs), the measure can show at least a minimum amount of unrecorded losses that are definitely occurring.

As part of a bill proposed to congress in 2011 to close the apparent tax loophole related to ESOs, U.S. Senators Carl Levin and Sherrod Brown asked the IRS to analyze the total amount of tax deductions and the excess tax benefits related to unqualified ESOs for all corporations in the U.S. The IRS determined that between 2005 and 2009 the total amount of additional tax deductions taken by U.S. corporations for actual losses resulting from ESOs beyond the expenses that were recorded in the financial statements ranged from \$12 billion and \$61 billion each year.

Interestingly, the bulk of these additional deductions related to ESOs were taken by a small number of companies. In 2005, just 100 companies took 56% of the additional tax deductions, and just 250 took 76%. Between 2005 and 2009, 250 companies took between two thirds to three quarters of all of the additional tax deductions. This concentration means that a small number of companies are experiencing a large amount of losses from ESOs that are not being reported to shareholders.

## **Increasing Equity**

When the grant date fair value of an ESO is gradually expensed over the vesting period, the ESO is simultaneously recorded on the balance sheet as an increase in equity. However, the expensing of the ESO does not actually increase the wealth of the shareholder, but rather creates a contingency for the shareholders to lose wealth at some point in the future (Penman, 2010). As a result, ESOs should be classified as contingent liabilities, and the recording of ESOs as equity represents an overstatement of equity. When an ESO is exercised and equity is actually issued, then the increase to equity should be recorded.

The FASB requires the recording of ESOs as equity for a number of reasons, but the reasons are primarily based on the current definitions of assets, liabilities and equity. Under FASB Concept Statement 6, ESOs do not qualify as liabilities because the definition of a liability requires that the company be obligated to “transfer assets” to the employee. The wealth transfer from the exercise of an ESO does not qualify as a “transfer of assets” due to the definition of what an asset is. Under the FASB Statement No. 150 which differentiates whether or not “an equity-settled obligation embodied in a freestanding financial instrument should be classified as a liability”, ESOs also do not qualify as liabilities. Additionally, the FASB justifies the classification of ESOs as equity instruments because the company is required to issue equity shares if the ESO is exercised.

Interestingly, a cash-settled ESO is treated as a liability because a transfer of cash meets the requirements of a “transfer of assets”. The settlement of an ESO in cash or equity has the same economic effect on shareholders, as evidenced by the dilution example given earlier, but these two instruments are treated as having an opposite effect on shareholder wealth. The prime example of this contradiction is when an ESO allows for the choice of cash-settlement or equity-

settlement, and the determination about whether or not the ESO is classified as equity or a liability is based on which party is allowed to choose the means of payment, and which means they are most likely to choose. The two methods of payment are economically identical but are being recorded as if they were entirely differently because of uneconomic factors.

The fundamental causes of this contradiction are the current definitions of assets, liabilities, and equity (Mosso, 2009). The transfer of cash is a clear transfer of an asset. In contrast, when shareholders transfer wealth to an employee through dilution, this does not meet the criteria for a transfer of an asset under the current definitions. For ESOs to be properly recorded as liabilities, the definition of liabilities will need to go beyond the current definition and include the loss to shareholders through dilution. The definition of equity should also be further refined to exclude instruments that are actually reducing shareholder value, but that are simply recorded as equity because they are tied to equity instruments. In 2004, the FASB stated in their issuance of ASC 718 that they had on their agenda a project on distinguishing between liabilities and equity that would potentially lead to changes in the definitions of equity and liabilities in Concepts Statement 6. For this reason, they did not address changes to the definitions in this standard.

## **Apple Inc. Case Study**

Apple Inc. has been required to implement ASC 718 and expense the compensation cost of ESOs starting with their 2006 fiscal year financial statements. Since 2006, Apple has experienced significant rises in stock price. This case study tests the hypothesis that, over a significantly long period of time, the dramatic rises in Apple's stock price resulted in actual payouts from ESOs that were significantly higher than the expected payouts calculated using the option pricing models. The unrecorded loss would result in an overstatement of earnings, and both the accumulation of these unrecorded losses and the classification of ESOs as equity would result in an overstatement of equity.

### **Estimating Unrecorded Losses Using Excess Tax Benefits**

As previously explained, for ESOs that meet the criteria of non-qualified ESOs, the IRS allows companies to deduct the full payout to the employee at the exercise of the ESO. If the payout to the employee from exercising the ESO is greater than the total expense recorded for the ESO, then the excess deduction results in additional tax savings. Under ASC 718, this additional tax savings is required to be disclosed as a financing cash inflow on the Statement of Cash Flows, and is titled "Excess tax benefits from equity awards". The total amount of the excess deduction taken by the company represents the amount of the unrecorded loss to shareholders for all non-qualifying ESOs exercised during the year. The actual deduction amount can be determined from the tax savings amount by dividing the tax savings by the company's tax rate. This amount of unrecorded loss must be reduced by the tax benefit that results from it to arrive at the after-tax unrecorded loss experienced by the shareholders.

Table 1 shows how the excess tax benefits method is implemented with Apple Inc.

**Table 1: Calculation of After-Tax Unrecorded Loss to Shareholders**

<b>(in \$millions)</b>	<b>Total</b>	<b>2011</b>	<b>2010</b>	<b>2009</b>	<b>2008</b>	<b>2007</b>	<b>2006</b>
Excess Tax Benefits from Equity Awards	\$3,649	\$1,133	\$751	\$270	\$757	\$377	\$361
÷ Tax Rate		35%	35%	35%	35%	35%	35%
= Excess Deduction (Before-Tax Unrecorded Loss to Shareholders)	\$10,426	\$3,237	\$2,146	\$771	\$2,163	\$1,077	\$1,031
Less: Tax Benefit	\$3,649	\$1,133	\$751	\$270	\$757	\$377	\$361
<b>= After-Tax Unrecorded Loss to Shareholders</b>	<b>\$6,777</b>	<b>\$2,104</b>	<b>\$1,395</b>	<b>\$501</b>	<b>\$1,406</b>	<b>\$700</b>	<b>\$670</b>

This method does not account for any unrecorded losses from incentive options or other forms of equity compensation, so this measurement serves as a conservative measure of what the minimum unrecorded loss to shareholders must be. Apple may also utilize incentive options or other forms of equity compensation that have caused further dilution to shareholders.

Because the expense for an ESO is recorded straight-line in each year of the vesting period, but the actual loss through dilution occurs when the ESO is exercised, there is a timing difference. When ESOs are granted and exercised in various years, this timing difference makes it difficult to analyze the actual losses to the expenses recorded. Fortunately, the excess tax benefit method avoids this problem because the excess tax benefit is already calculated using the intrinsic value of each ESO exercised with the total expenses recorded for that ESO. Most ESOs are unqualified, so this method is useful in estimating the impact of most of the company's ESOs.

Table 2 shows the magnitude of the unrecorded losses compared to Apple's earnings.

**Table 2: Unrecorded Losses vs. Earnings**

(in \$millions)	Total	2011	2010	2009	2008	2007	2006
<b>Unrecorded Loss</b>	\$6,777	\$2,104	\$1,395	\$501	\$1,406	\$700	\$670
<b>Earnings</b>	\$58,489	\$25,922	\$14,013	\$8,235	\$4,834	\$3,496	\$1,989
<b>Unrecorded Loss as % of Earnings</b>	<b>11.6%</b>	<b>8.1%</b>	<b>10.0%</b>	<b>6.1%</b>	<b>29.1%</b>	<b>20.0%</b>	<b>33.7%</b>

Table 2 shows that unrecorded losses from ESOs have significantly inflated Apple's earnings in each of the past six years, with an overstatement ranging from 6%-33%. Over the entire six year period, the total accumulated unrecorded losses are over 11% of total earnings reported for the period. In other words, if the full economic impact of ESOs was recorded during this period, Apple's total earnings for the period would have been 11% lower.

Table 3 compares the unrecorded losses to the actual total losses incurred by the shareholders to show the percentage of the actual losses experienced by shareholders that were never recorded. The total loss to shareholders each year provided in the Apple 10-K as "the total intrinsic value of the options that were exercised during the year."

**Table 3: Percentage of Actual Losses that were Not Recorded**

(in \$millions)	Total	2011	2010	2009	2008	2007	2006
<b>Unrecorded Loss</b>	\$6,777	\$2,104	\$1,395	\$501	\$1,406	\$700	\$670
<b>Total Actual Loss</b>	\$9,927	\$2,600	\$2,000	\$827	\$2,000	\$1,300	\$1,200
<b>% of Actual Loss that is Never Recorded</b>	<b>68%</b>	<b>81%</b>	<b>70%</b>	<b>61%</b>	<b>70%</b>	<b>54%</b>	<b>56%</b>

The required share-based compensation expense is intended to account for the loss to shareholders from the exercise of ESOs. However, Table 3 shows that, of the actual losses being incurred by the shareholders, a vast majority of between 54%-81% were not recorded as a loss or

expense. In total, 68% of the losses incurred over the period were not recorded.

The unrecorded losses accumulate in shareholders' equity over time, and the cumulative effect creates a significant overstatement over time. Additionally, the ending balance of shareholders' equity is overstated even more due to the incorrect practice of recording ESOs as an increase to equity when the ESOs are amortized. The overstatement each year due to this practice is equal to the amount of ESO compensation expense that is newly recorded during the year, plus the amount expensed in previous years for ESOs that still have not been exercised. Determining the amount recorded in previous years for outstanding ESOs would require a much more detailed schedule of all ESOs and the cumulative amount expensed at each date, but the effect can be conservatively estimated simply by the amount of newly recognized expense each year. Table 4 calculates the total equity overstatement that results from both the cumulative effect of unrecorded losses in retained earnings as well as the increase to equity that results from the incorrect classification of ESOs. The total overstatement is then compared to the total equity for each period to determine the overstatement as a percentage of equity.

**Table 4: Equity Overstatement vs. Total Equity**

	<b>2011</b>	<b>2010</b>	<b>2009</b>	<b>2008</b>	<b>2007</b>	<b>2006</b>
<b>Accumulated Unrecorded Losses</b>	\$6,777	\$4,673	\$3,278	\$2,776	\$1,371	\$670
<b>+ Increase to Equity from Classification</b>	\$1,168	\$879	\$710	\$516	\$242	\$163
<b>= Total Equity Overstatement</b>	<b>\$7,945</b>	<b>\$5,552</b>	<b>\$3,988</b>	<b>\$3,292</b>	<b>\$1,613</b>	<b>\$833</b>
<b>Total Equity</b>	\$76,615	\$47,791	\$27,832	\$21,030	\$14,532	\$9,984
<b>Overstatement as % of Equity</b>	<b>10.4%</b>	<b>11.6%</b>	<b>14.3%</b>	<b>15.7%</b>	<b>11.1%</b>	<b>8.3%</b>

As Table 4 shows, the misclassification of ESOs as equity in addition to the accumulation of unrecorded losses creates an equity overstatement each year between 8%-15%.

Theoretically, if the option pricing models used to estimate and record the future ESO losses are accurate, then over a long enough period of time the actual ESOs losses incurred should theoretically revert to the estimates. However, this case study shows that an individual company can, for a significantly long period of time, continue to recorded expenses that far less than the actual losses incurred by shareholders. This could be due to incorrect valuations by the options price models, or could be due to random chance that will eventually be eliminated by a reversion to the estimates. Regardless, the reversion to the estimates, if the reversion ever occurs, can clearly take a significantly long period of time. As a result, the use of an average expected expense alone is inappropriate for recording the full economic impact of ESOs, and an adjustment should be made at some point to record the actual amount of losses.



## IPO Case Study

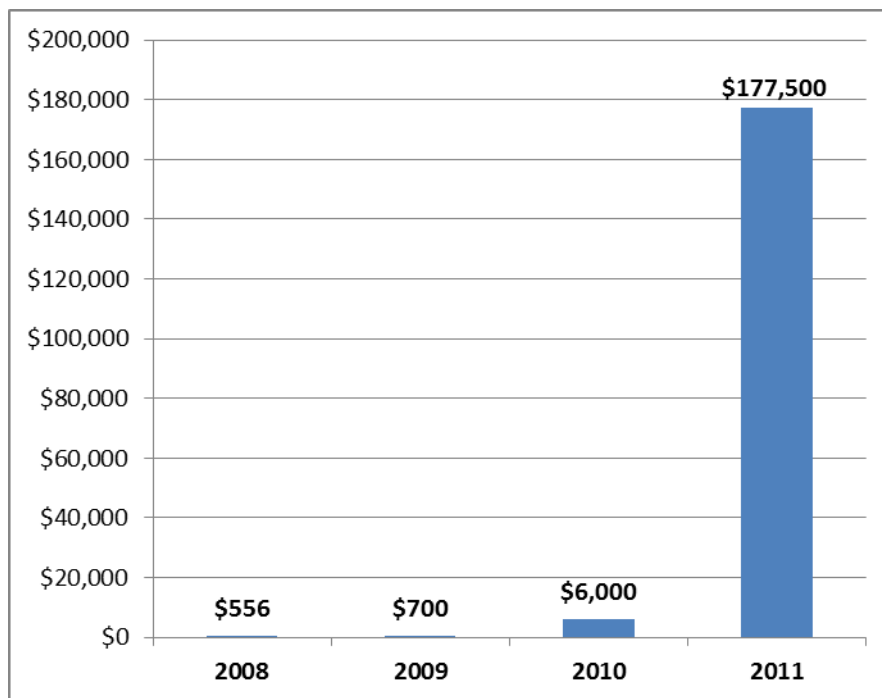
When option pricing models are used to estimate the expected payoffs from ESOs, several inputs to the model must be estimated. The most important estimate that must be made is the estimate of the expected volatility of the underlying company shares in the future periods. Volatility of the underlying shares highly affects the value of an ESO because an ESO derives its payoff potential from the extent to which the underlying share price is likely to rise above the strike price. The volatility estimate is based on the past performance of the company's shares, the past performance of the shares of comparable companies, and the outlook for both the company and the industry. The models assume that the volatility will remain constant in the future.

When a company conducts an IPO and becomes a publicly traded company, it often experiences a sudden and dramatic change in its share price that would be entirely uncharacteristic of the prior volatility of the company's share price and of those of other small, private companies that the company would be compared to. If a company issues ESOs in the years leading up to an IPO, the volatility estimate input for the model may be lower than the resulting volatility that actually occurs. This would result in a fair value assigned to the ESOs that is too low and therefore an expense recorded for the ESO that is also too low. When the company completes the IPO, the payouts from ESOs would be far larger than the expense recorded.

In this case study, I analyze the losses incurred from the exercise of ESOs for five companies that completed an IPO in 2011. The hypothesis is that ESOs will be exercised in the first year of the IPO at payoffs that are far larger than the payoffs expected when the ESOs were granted. As a result, the payoffs will greatly exceed the expense recorded. Chart 1 shows the massive and uncharacteristic payoffs from LinkedIn's ESOs in 2011 compared to previous years.

LinkedIn began to be publicly traded on May 19<sup>th</sup>, 2011.

**Chart 1: LinkedIn Total Intrinsic Value of ESOs Exercised** (in \$ thousands)



The excess tax benefit method was used with each of the five companies to determine the unrecorded losses that occurred as a result of the exercise of unqualified ESOs 2011.

Additionally, the total actual loss from ESOs exercised in 2011 was published in the notes to the financial statements as “the total intrinsic value of the options exercised during the year”. The results of this analysis are shown in Table 5.

**Table 5: Excess Tax Benefit Analysis (In \$ Thousands)**

<b>(in \$ thousands)</b>	<b>LinkedIn</b>	<b>Zynga</b>	<b>Demand Media</b>	<b>Jive Software</b>	<b>Pandora Media</b>
Excess Tax Benefits (Costs) from Equity Awards	\$1,600	(\$13,750)	\$126	\$0	\$0
÷ Tax Rate	35%	28.7%	35%	34%	34%
= Excess Deduction (Before-Tax (Over-) Under-recorded Loss to Shareholders)	\$4,571	(\$47,909)	\$360	\$0	\$0
Less: Tax Benefit	\$1,600	(\$13,750)	\$126	\$0	\$0
<b>= After-Tax (Over-) Under-recorded Loss to Shareholders</b>	<b>\$2,971</b>	<b>(\$34,159)</b>	<b>\$234</b>	<b>\$0</b>	<b>\$0</b>
Actual Loss	\$177,500	\$78,200	\$16,487	\$25,550	\$51,900
<b>% of Actual Loss that is (Over-) Under-recorded</b>	<b>2%</b>	<b>(44%)</b>	<b>1%</b>	<b>0%</b>	<b>0%</b>

As Table 5 shows, the results from this analysis were unexpected. The unrecorded losses determined for the five companies using the excess tax benefit method were far lower than expected compared to the amount of actual loss that occurred. Jive software and Pandora Media did not even list any excess tax benefits as financing cash inflows, even though they experienced large actual losses from ESOs. The results of this analysis indicate that the companies must be granting primarily qualified “incentive” options rather than the unqualified options that result in the reporting of excess tax benefits.

For qualified ESOs, the actual losses cannot be directly compared to the expense recorded, as was the case for unqualified ESOs in the excess tax benefit method. Instead, Table 6 compares the actual losses incurred for all ESOs in 2011 to the cumulative amount of expense recorded for all ESOs in the prior three to four years. ESOs are almost always not exercisable

until after a 2-4 year vesting period, so the ESOs exercised during 2011 must have been granted in prior years and expensed each year of the vesting period. The cumulative expense for the prior three to four years is therefore a rough estimate of the expenses recorded for the ESOs exercised during 2011. This expense estimate is conservative because it also contains expense recorded for ESOs that were not exercised in 2011.

**Table 6: Prior Expense vs. Actual Loss**

(In \$ thousands)	Comp. Expense Recorded Over Prior 3-4 Years					Actual Loss to Shareholders in 2011	Percentage of Actual Loss that is Recorded
	2007	2008	2009	2010	Total		
<b>LinkedIn</b>	\$1,805	\$4,605	\$6,152	\$8,832	<b>\$21,394</b>	\$177,500	<b>12.1%</b>
<b>Zynga</b>		\$689	\$3,990	\$25,694	<b>\$30,373</b>	\$78,200	<b>38.8%</b>
<b>Demand Media</b>	\$3,670	\$5,451	\$7,171	\$9,329	<b>\$25,621</b>	\$16,487	<b>155.4%</b>
<b>Jive Software</b>		\$433	\$599	\$3,404	<b>\$4,436</b>	\$25,550	<b>17.4%</b>
<b>Pandora</b>	\$283	\$333	\$477	\$1,612	<b>\$2,705</b>	\$51,900	<b>5.2%</b>

Table 6 shows that the dramatic changes in share price that resulted from IPOs have led each company to record prior expenses for ESOs that were dramatically different from the actual amount of losses incurred when the ESOs were exercised during the year of the IPO. Most of the companies recorded expenses that were only a small fraction of the eventual loss incurred, as was expected. However, the expense recorded for Demand Media was actually significantly more than the actual loss incurred. This highlights that there is a potential under the current standards to overstate or understate the expense recorded, and this effect is amplified by the dramatic changes that result from an IPO.

## **Recommendations for Proper Accounting**

I propose a different method for accounting for ESOs that would greatly improve the disclosure to shareholders of the full economic losses they are experiencing. I recommend recording ESOs at the grant date as both a contingent liability and prepaid compensation asset, and then marking the liability to market either each period or on the exercise of the ESO by recording an additional gain or loss. This method would solve the issue of unrecorded losses as well as the issue of overstated equity, and would disclose to shareholders the true economic impact of ESOs.

### **ESOs as a Liability**

When an ESO is exercised, the employee realizes an increase to his or her personal wealth. The wealth realized by the employee is not magically created out of thin air; it is a wealth transfer from the existing shareholders. When the ESO is granted, the shareholders become contingently liable to make this wealth transfer to the employee at some point in the future, and the amount of the payout is contingent on the future share price. These characteristics make an ESO a contingent liability rather than an increase to equity.

When a company is awaiting the outcome of litigation, for example, the company is required to initially record a liability based on what they expect to pay out in damages. When the verdict is finalized, the company must pay out an actual amount of money. If the actual amount differs from expected amount, the company must recognize a gain or loss to make the total recorded loss equal the actual amount incurred. The company is not allowed to ignore the additional loss, and the same should be true of losses from ESOs.

Similar to the requirements for a contingent liability, the estimated loss from an ESO is already required to be estimated and expensed based on when the contingency is created at the

grant date. The amount of the loss recorded for the ESO is just never updated when the actual loss occurs at the exercise date. Additionally, the ESO is recorded as an increase to equity instead of a liability. If ESOs were properly recorded as contingent liabilities, the following would be the appropriate accounting for ESOs:

**On the Grant Date:**

- A contingent liability would be recorded for the expected payout from the ESO. The grant date is the point at which the shareholders become obligated to pay some contingent amount in the future, and the option pricing models can be used to estimate how much this amount is expected to be.
- A prepaid compensation asset should be recorded for the expected payout from the ESO. The ESO, which is an instrument with economic value, is transferred to the employee on the grant date in exchange for future services that have not yet been rendered by the employee.

**At the End of Each Period:**

- Compensation expense will be accrued based on amount of the services rendered, which is determined based on the amount of the vesting period that has elapsed. This will also reduce prepaid compensation.
- The contingent liability could be marked-to market using the option pricing models, and a gain or loss could be recorded. This loss would not need to be classified as “compensation expense”.

**At Exercise:**

- Any additional gain or loss should be recorded, and does not need to be classified as “compensation expense.”

- The liability is removed.
- The equity shares are issued and recorded as if issued at the market price.
- The cash amount of the strike price is collected.

A detailed example to illustrate this recommended method is shown in Appendix C.

### **Drastic Changes Needed**

As previously discussed, ESOs do not qualify as liabilities under the current FASB definitions. The necessary changes could only be made if there were changes made to the definitions of assets, liabilities, and equity. These definitions are such fundamental concepts that making the changes would fundamentally change the current accounting model.

David Mosso (2009), former Vice Chairman of the FASB, argues that there are fundamental problems with the current accounting model, including the definition of assets, liabilities, and equity, and calls for revolutionary changes. Mosso argues that the source of the problems lies in the absence of a clear, specific objective of financial reporting. With an ambiguous objective, there is no means to make decisions or draft definitions in a way that will ensure that the overall objective is achieved. When referring to the FASB's "Objectives of Financial Reporting" Concepts Statement issued in 2002, Mosso states,

"In the 63 paragraphs subsumed under that title there is no single objective that is dominant and no one that is even modestly helpful in decision making about a particular accounting transaction. The statement has objectives like 'information that is...useful in investment and credit decisions...or...useful in assessing the enterprise's cash flow prospects.' Objectives that broad could be fulfilled by extracting information from the Wall Street Journal, accounting degree not required."

Mosso puts forward a new financial reporting model which has a clearly defined overall objective of measuring wealth. Mosso explains,

“With that objective, a balance sheet would display the components of an entity’s wealth, assets and liabilities, and the owners’ equity in those assets and liabilities. Owner’s equity would measure the entity’s real economic net worth. An income statement would display the change in wealth, entity income (or earnings).”

The definitions and accounting requirements created under the new model would have to meet the overall objective of measuring wealth. Under this model, ESOs would be recorded as a liability because they are potential reductions to wealth. Additionally, the model would maintain the recording of “compensation expense” based on the grant date fair value of the ESOs transferred to the employee, but the additional gain or loss at exercise will also be recorded on the income statement as a reduction in wealth, and will be classified as revenue or a loss from the business of option writing. But Mosso contends that the much needed changes to GAAP are highly unlikely to occur given the existing standard setting system. Mosso explains,

“The current accounting standard-setting model suffers from major flaws: It is disgracefully slow in resolving problems because of the labyrinthine due process. It is rife with conflicts of interest because reporting entities heavily influence the terms of their own accountability in reporting to shareholders and the public. It is largely focused on specific transactions so standard-setting effort is fragmented and ineffectual beyond the narrow scope of most projects. And, it fosters buck-passing from practicing accountants to standard setters



because dubious self-serving accounting practices at the entity level can survive for years if bucked up the line for standard setters to resolve.”

With regard to the adoption of his new wealth measurement model, Mosso goes on to say,

“A serious proposal to adopt the wealth measurement model in lieu of the current GAAP model would be greeted with outrage in most sectors of the business world. Accounting standard-setting bodies would be lobbied and threatened with financial extinction if they made a formal move to consider the proposal. They would be “due processed’ into a virtual life imprisonment.”

The Employee Stock Option issue exposes the major changes that are required of both GAAP and the standard setting process. Given the current state of standard setting it may be very difficult to make the necessary changes to have the true impact of ESOs disclosed.

## **Conclusion**

The issue of how to expense Employee Stock Options has been a fiercely contested debate in the business community for decades, and has exposed issues with both GAAP and the entire standard setting process. The FASB made significant progress by finally requiring the expensing of ESOs with ASC 718, but the standard has several flaws that are causing both earnings and equity overstatements. The amount of loss actually experienced by shareholders through the exercise of ESOs can be significantly more or less than the expense recorded for them, but the difference is not recorded on the income statement or anywhere on the financial statements. These unrecorded losses have a cumulative effect on the balance of equity each year, and equity is also continually overstated by the practice of recording ESOs as an increase to equity rather than as a liability. A case study of Apple Inc. shows that, over a significantly long period of time, a company can continue to have unrecorded losses that would otherwise significantly impact their net income, and that the combination of the cumulative effect of these unrecorded losses as well as the unwarranted increase to equity from the issuing of ESOs can cause a significant overstatement of equity. A case study of companies who recently completed IPOs shows that the effect of unrecorded losses is amplified when an IPO occurs because of the dramatic changes that occur to share prices. The input estimates of volatility used to estimate the expense to be recorded for ESOs granted prior to the IPO can be significantly different from the volatility that actually occurs, resulting in a massive difference between the actual loss that occurs and the expense that is recorded. I recommend an alternative method of accounting for ESOs that would require the company to record an ESO on the grant date as both a contingent liability and a prepaid compensation asset, and then mark the liability to market either each period, or when the ESO is finally exercised. To make these necessary changes, revolutionary

changes must be made to both GAAP and the standard setting process, but the types of changes required will be very difficult to institute given the current standard setting environment.

## Appendix A: Dilution Example

(Adapted from Mosso, 2009)

Assume that a company is formed by four shareholders that each own one share. The company is formed through a capital contribution by each member of \$25, creating a total book value of the company of \$100. To isolate the effects from the following events, we will simplify the example and set the market capitalization equal to the book value throughout.

Now assume that the company issues an additional share to a fifth person at the market price. The fifth person contributes \$25, increasing the total book value and market value of the company to \$125. There are now 5 shareholders that each have one share, so the value per share is  $\$125/5 = \$25$ . As can be seen from this event, the value of the original shareholders' investment is unaffected by the issuance of additional shares at the market value.

Now assume instead that the company issues an additional share to a fifth person, but at a lower price than the market price. This is what occurs when an ESO is exercised. The fifth person, who is the employee, contributes only \$15 for the share. The value of the firm is increased by \$15 to \$115, and with 5 shares outstanding, the total market value per share is  $\$115/5 = \$23$ . The exercise of the ESO reduced the value of each share by \$2, and created a total transfer of wealth to the employee from the shareholders of  $\$2 * 4 \text{ shareholders} = \$8$ . The shareholder receives this wealth transfer by paying only \$15 for a share that is now worth \$23.

As is shown here, the exercise of the ESO dilutes all shares, including the share received by the employee, from \$25 to \$23, so the original payout is slightly reduced. Some have argued this dilution effect should be accounted for in the computation of the compensation expense related to ESOs by reducing the expense amount, but the FASB determined in ASC 718 that this dilutive effect is not very significant and is generally already priced in to the stock price when

the ESO is exercised. The relatively insignificant effect to employee compensation in reality highlights the fact that generally the amount of shares being issued from the exercise of ESOs is only a small fraction of the amount of shares outstanding. This means that rather than the \$2 wealth transfer per share to the employee in this example, in reality each share is only being reduced by pennies or fractions of pennies. This, of course, can still add up to substantial cost to shareholders.

One approach that companies use to attempt to counter the dilutive effect of ESOs is through share repurchases. Unfortunately, if the share repurchases occur at market value, then they have no effect on the dilution that occurred. In this example, if the company repurchases the share issued to the employee at the market value of \$23 per share, then total equity is reduced by the \$23 payment from \$115 to \$92, and the number of shares is reduced to 4. This creates no effect on the value of the shares outstanding, which remain at  $\$92/4 = \$23$  per share.

Now assume that rather than compensating the employee with an ESO, the company instead provides the same amount of payout to the employee in cash. In this situation, \$8 of cash is paid to the employee, and an equivalent amount of expense is recorded. This expense flows through the income statement, and by ignoring the effects of taxes, the expense will reduce equity by \$8. The total market value of the company is reduced to \$92, and the number of shares remains at 4. The market value of each share is therefore reduced to \$23, which is a reduction of  $\$8/4 = \$2$ . This example showcases the fact that the reduction of share value from cash compensation is exactly the same as the dilution to shareholders from the exercise of an ESO. The payout simply occurs in the indirect form of dilution rather than a direct transfer of assets.

## Appendix B: ASC 718 Example

### Example 1: ASC 718

A company issues an ESO to an employee on January 1, 2012 that allows the employee to purchase a share of company stock for \$100 (the strike price). The ESO vests in two years, and expires in five. The company's market price at the grant date is also \$100, and based on the expectations for future changes in the share price, the Black-Scholes model computes a fair-value of the ESO of \$50. The company has a 12/31 year end, and the company stock has a par value of \$10. The following journal entries are performed during the life of the ESO (adapted from Penman, 2010):

1/1/2012:	No Entry		
12/31/2012:	Dr. Compensation Expense (\$50/2)	\$25	
	Cr. Paid-in Capital-Stock Compensation		\$25
12/31/2013:	Dr. Compensation Expense	\$25	
	Cr. Paid-in Capital-Stock Compensation		\$25

If, on March 15<sup>th</sup>, 2014, the market price is \$180 and the ESO is exercised:

5/15/2014:	Dr. Cash	\$100	
	Dr. Paid-in Capital-Stock Compensation	\$50	
	Cr. Common Stock		\$10
	Cr. Paid-in Capital		\$140

If instead, at the end of five years the market price is \$90, and the ESO lapses:

1/1/2017:	Dr. Paid-in Capital- Stock Compensation	\$50	
	Cr. Paid-in Capital		\$50

In this example, the actual payout to the employee is \$80 (\$180 market price - \$100 strike price paid) but the expense recorded for the ESO is only \$50 (the grant date fair value). The additional \$30 compensation (\$80-\$50) to the employee beyond the recorded compensation expense is allowed as a tax deduction by the IRS if the ESO meets the criteria of a nonqualified

option, and ASC 718 requires that the cash value of the additional taxes saved be recorded as a financing cash flow in the Statement of Cash Flows. If the company's tax rate is 35%, then the additional tax benefit from ESO compensation would be  $\$30 * 35\% = \$10.50$ .

**Appendix C:  
Example of Recommended Accounting for ESOs**

Assuming the same facts as the ASC 718 example, the following journal entries would be implemented to account for ESOs as a contingent liability:

1/1/2012:	Dr. Prepaid Compensation	\$50	
	Cr. Liability- ESOs		\$50
12/31/2012:	Dr. Compensation Expense (\$50/2)	\$25	
	Cr. Prepaid Compensation		\$25
12/31/2013:	Dr. Compensation Expense (\$50/2)	\$25	
	Cr. Prepaid Compensation		\$25

If, on March 15<sup>th</sup>, 2014, the market price is \$180 and the ESO is exercised:

5/15/2014:	Dr. Cash	\$100	
	Dr. Liability- ESOs	\$50	
	Dr. Loss from Option Writing	\$30	
	Cr. Common Stock		\$10
	Cr. Paid-in Capital		\$170

If instead, at the end of five years the market price is \$90, and the ESO lapses:

1/1/2017:	Dr. Liability- ESOs	\$50	
	Cr. Gain- ESOs		\$50

Additionally, this method could implement mark-to-market accounting. The option pricing model used at the grant date could be implemented at the end of year to update the expected liability amount. Because the intended amount of compensation is fixed, the adjustment made each year would be classified as a gain or loss from the writing of a stock option:

1/1/2012:	Dr. Prepaid Compensation	\$50	
	Cr. Liability- ESOs		\$50



At the end of the first year, the share price has risen and the expected payout of the ESO (the true liability) is now \$65.

12/31/2012:	Dr. Compensation Expense (\$50/2)	\$25	
	Cr. Prepaid Compensation		\$25
	Dr. Loss from Option Writing	\$15	
	Cr. Liability-ESOs		\$15

At the end of the second year, the share price has risen further and the expected payout from the ESO is now \$70.

12/31/2013:	Dr. Compensation Expense	\$25	
	Cr. Prepaid Compensation		\$25
	Dr. Loss from Option Writing	\$5	
	Cr. Liability- ESOs		\$5

If, on March 15<sup>th</sup>, 2014, the market price is \$180 and the ESO is exercised:

5/15/2014:	Dr. Cash	\$100	
	Dr. Liability- ESOs	\$70	
	Dr. Loss from Option Writing	\$10	
	Cr. Common Stock		\$10
	Cr. Paid-in Capital		\$170

If instead, at the end of five years the market price is \$85, and the ESO lapses:

1/1/2017:	Dr. Liability- ESOs	\$70	
	Cr. Gain- Stock Option Writing		\$70

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**The Pennsylvania State University**  
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**M.S.** in Accounting (MAcc)

**B.S.** in Accounting, Finance, German, & International Studies

**Minor** in International Business

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**Philipps Universität**  
International Undergraduate Study Program

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### **AWARDS & DESTINCTIONS**

Accounting Department Student Marshal, Spring 2012

Graduated with “Highest Distinction” (Top 2% GPA)

Writing Across the Curriculum (WAC) Teaching Assistant, Spring 2012

Beta Gamma Sigma Honor Society

Penn State Chapter Student Vice President, 2011-2012

### **SCHOLARSHIPS**

Schreyer Academic Excellence Scholarship

Schreyer Internship Grant

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