

# THE IMPACT OF CEO STOCK OPTION EXPENSING AS PER SFAS 123 (R) ON EARNINGS QUALITY

Veronica Paz <sup>1</sup>, Syed Zaidi <sup>2</sup>

<sup>1</sup>Associate Professor, Department of Accounting, Eberly College of Business and Information Technology, Indiana University of Pennsylvania. E-mail: [veronica.paz@iup.edu](mailto:veronica.paz@iup.edu)

<sup>2</sup>Assistant Professor, Department of Accounting, College of Business Administration, California State University San Marcos. E-mail: [szaidi@csusm.edu](mailto:szaidi@csusm.edu)

## ABSTRACT

This paper examines the relationship between stock option expensing as per SFAS 123 (R) as a part of CEO compensation and earnings quality. We hypothesize the expensing of CEO stock options as per SFAS 123 (R) positively influences earnings quality. This study contributes to literature by further enhancing our knowledge of CEO compensation and the bonding effect of stock options awarded to CEOs. The ExecuComp database provides the sample for CEO compensation from 2000 to 2009. Estimating earnings quality using multiple regressions, we find empirical support for our hypotheses.

## Keywords:

CEO compensation, Stock Options, Earnings Quality, SFAS 123 (R), Executive Compensation

## 1. INTRODUCTION

Chief Executive Officer (CEO) compensation, earnings, and the stock options of CEOs are coming under additional accounting examination as evidenced by the Statement of Financial Accounting Standards (SFAS) 123 (R) issued by the Financial Accounting Standards Board (FASB). CEOs receive large amounts of compensation in the form of stock options even if companies are not making earning targets. This study investigates the impact of expensing CEO stock options as per SFAS 123 (R) on earnings quality. We expect to find a positive relationship between expensing of CEO stock options as per SFAS 123 (R) and earnings quality. With the expensing of stock options, earnings will be lower due to the additional expense; however, the earnings quality as determined by the valuation of the future cash flows will be higher.

Agency theory has been the primary foundation for research to examine the relationship between firm performance and executive compensation.

This underlying theory applies to the observation that the executive of a firm is acting on behalf of, and in the interest of, absentee owners of the firm. The firm's strategy, developed by the CEO executive, should reflect the objectives of the firm's owners. The agency theory, holds that executive officers of a firm will tend to act in their own self-interest in contrast to the interests of the owners who seek to maximize the value of their investment (Butler and Newman 1989). A compensation structure that aligns agents' interests with those of shareholders' may avoid this conflict of interest (Jensen & Meckling, 1976; Tosi, Werner, Katz, & Gomez-Mejia, 2000). Companies grant CEO stock options to align their interests with those of the owners' creating a bonding effect between CEOs and owners.

Previous accounting treatment for stock options, SFAS No. 123, Accounting for Stock- Based Compensation, firms could account for options using either the fair value or the intrinsic value method prescribed by Accounting Principles Board (APB) No. 25 (FASB, 1995)<sup>1</sup>. Prior to SFAS 123 (R), SFAS 123 allowed stock options to be valued using the intrinsic value method and not to be expensed. However, under SFAS 123 (R), FASB requires the expensing of stock options.

This study contributes to the literature by providing empirical evidence of the association between expensing CEO stock options as per SFAS 123 (R) and earnings quality, thereby further enhancing our knowledge in this area. We find a positive relationship between earnings quality and expensing of CEO stock options pre and post SFAS 123 (R). SFAS 123 (R) allows compensation to be properly expensed reflecting total compensation transfer to CEOs. Cheng and Warfield (2005) study the effect of equity investments to earnings quality. Their findings suggest that stock based compensation and ownership can provide top executives incentives to manage earnings.

The remainder of the paper follows this structure. Section 2 provides the literature review. Section 3 discusses the research method states hypotheses. Section 4 analyzes the results. Section 5 concludes the paper.

## **2. LITERATURE REVIEW**

This section provides the literature review. We partition this section into three areas: CEO compensation and shareholders, earnings quality, and SFAS 123 (R).

---

<sup>1</sup> APB is a former authoritative body to issue pronouncements on accounting standards until it was replaced by FASB in 1973.

## **2.1. CEO Compensation and Shareholders**

Compensation plans are the payments firm owners make to executives who manage the business. CEO's compensation is comprised of salary, bonus, stock options, restricted stock, and other long-term incentives (Cheng and Farber 2008). CEO salary and bonus represent a major proportion of total compensation (Benston 1985; Lambert and Larcker 1987).

The supplementary major components of compensation other than salary and bonus primarily represent compensation related to long-term performance measures or deferred compensation that are not explicitly linked to the firm valuation. Stock options, stock appreciation rights (SARs), performance units and shares, restricted stocks, and phantom stocks provided for compensation based on a firm's valuation over several years (Kumar et al. 1993). Analysis must take into account both the total amount and the mix of compensation (Finkelstein and Hambrick 1989). Hence, a review of the equity compensation of CEOs provides a different variation of a long-term focus.

Optimal contracts for and between management and investors, such as compensation agreements, seek to align the interests of the executives with those of external equity claimants' (Healy and Palepu 2001). Murphy and Zimmerman (1986) in an effort to explain the principle-agent problem, find that the level of managerial effort depends on an executive's incentive contract (Lilling 2006). Proper incentive based compensation contracts decrease the likelihood of CEOs acting in their self-interest. Managerial ownership and stock-based compensation, such as option and stock grants, are important mechanisms designed to align managers' incentives with those of shareholders' (Cheng and Farber 2008; Jensen & Meckling, 1976). Compensation schemes are the primary means of aligning managers' interest with those of owners' (Fama and Jensen 1983; Boyd 1994; Jensen & Meckling, 1976). Core, Guay, and Verrecchia (2003) find that the increase in managerial ownership improves firm performance.

## **2.2. Earnings Quality**

We define earnings as high quality if they are persistent; an attribute based solely on the time series properties of earnings. Some define earnings as high quality if earnings accurately represent the economic implications of underlying transactions and events. Dechow and Dichev (2002) define earnings by relating the accruals from current periods to the operating cash

flows from last-period, current-period, and next-period. In terms of CEO compensation contracts, shareholders should not only use earnings to assess firm value, they should also use additional information about the CEO's actions related to cash flow.

Comiskey and Mulford (2000) define earnings as high quality if the contemporaneous cash flows are greater (less) than the recognized revenues or gains (expenses or losses), and low quality if the associated cash flows are less than (greater than) the recognized revenues or gains (expenses or losses). In contrast, Dechow and Dichev (2002) define earnings to be of equal quality for firms with high versus low realizations of the sum of the error terms if the variance of the sum of the errors for the firms is equal. Earnings management allows management or those who have control over the accounting records to administer the outcome of the earnings towards their preference (McNichols 2002). Therefore, less active earnings management suggests higher earnings quality (Yang 2006). In addition, less active earnings management also suggests that CEOs' goals align with shareholders' goals.

CEOs as agents of the firms should be maximizing short-term and long-term shareholders' wealth, as they are now shareholders as well.

Executive compensation reduces shareholders' agency costs which in turn enhances the firm value (Kanagaretnam et al. 2009). CEOs awarded with high equity compensation prefer the higher earnings quality since the higher earnings quality is associated with the lower cost of capital and higher stock prices (Francis et al. 2004, 2005). Huang, Wang, and Zhang (2009) find high CEO ownership is associated with the lower cost of equity capital. The lower the cost of equity capital increases firm valuation and earnings quality. Less expenditures in the form of lower cost of equity, capital improves earnings quality. Attaway (2000) finds a positive relationship between the firm performance and stockholders equity as a part of CEO compensation, which in turn increases the earnings quality. The executive stock options are effective in generating positive future payoffs for the firm in terms of accounting earnings (Erickson et al. 2006). Accounting earnings have a positive impact on earnings quality.

Offering CEOs stock ownership options reduces firms' costs and provides more predictable and persistent earnings. The information gap between CEOs and shareholders decreases when both parties are in alignment. This bond and alignment between two parties leads to persistent earnings, which in turn, can improve earnings quality.

### **2.3. SFAS 123 (R)**

In December 2004, FASB released a revised pronouncement, SFAS No.123 (R), requiring all firms to expense stock options to employees based on the fair value at grant date (Ferri and Sandino 2009; Lin et al. 2011). The revised statement, SFAS No. 123 (R), the Share- Based Payment, completely supersedes APB Opinion No. 25. The revised regulation requires all companies to include the impact of fair value reporting for stock option compensation in their income statements. The fair value of an option is determined by option pricing models that take into account current stock price, exercise price, expected dividend yield, expected risk-free interest rate, expected stock price volatility, and expected life of the option (FASB 2004). Furthermore, SFAS 123 (R) requires stock option expensing at fair value with the transfer of ownership in the form of stock options.

The FASB justified the implementation of SFAS No. 123 (R) by stating that “disclosure is not an adequate substitute for recognition” (FASB, 2004, , p. 20). The FASB believes that the value of stock-based compensation is an expense that should be recognized in net income (Aboody et al. 2004).

Issuing stock options transfers claims on equity from existing stockholders to employees and dilutes existing shareholder interests. Because employees provide services to the firm, the value of the transferred ownerships represents a cost of generating earnings (Lin et al. 2011). Effectively, stock compensation represents a transfer of wealth from stockholders to management.

The revised statement, SFAS 123 (R), became effective for fiscal years, annual or interim periods, beginning June 15, 2005 or later, and requires all firms to expense stock options based on a fair market value (FMV) as determined by the organization (Young 2011).

The revised rule requires the adoption of fair value reporting for stock option compensation leading to greater (more negative) expenses thereby increasing overall conservatism in income (Heltzer 2010).

### **3. DATA AND METHODOLOGY**

This section provides the data and methodology. We partition this section into four areas: Dependent variable, Independent variables and Control variables, Model and Sample Selection.

In an efficient market, a firm value is defined as the present value of expected future net cash flows, discounted at the appropriate risk-adjusted rate of return (Kothari 2001). By expensing stock options, FASB believes that the financial reports provide a more accurate valuation of the firm. Additional costs, such as CEO compensation expense and monitoring costs, could negatively affect earnings quality. Because of this change, additional monitoring costs arise to ensure application of proper accounting methods. These actions improve the earnings quality of the firm, although at a price of additional monitoring costs. Therefore, we propose the following hypotheses:

**Hypothesis 1a:** The expensing of stock options in CEO compensation, effective by SFAS 123 (R) in 2005, is positively associated with earnings quality as measured before 2005.

**Hypothesis 1b:** The expensing of stock options in CEO compensation, effective by SFAS 123 (R) in 2005, is positively associated with earnings quality as measured after 2005.

### 3.1. Dependent Variable

Our dependent variable is earnings quality (EQ). We use Dechow and Dichev (2002) model to measure earnings quality with cash flow from operations (CFO) as a primary variable. Earnings predictability and accrual quality, both discretionary and non-discretionary, serve as additional proxies for earnings quality as mentioned by Dechow and Dichev (2002). The following earnings quality model provides the dependent variable:

$$\Delta WC = \beta_0 + \beta_1 CFO_{t-1} + \beta_2 CFO_t + \beta_3 CFO_{t+1} + \varepsilon_t \quad (1)$$

The change in working capital through the sum of past, present, and future cash flows from operations, with estimation error represented by the residual of regression serves as the definition of earnings. The change in working capital and the proxy for CFO is cash flow from operations for cash flow related to accruals. Where,  $CFO_{t-1}$ ,  $CFO_t$ , and  $CFO_{t+1}$  represent past, present, and future cash flows from operations, respectively. Residuals from the regression equation reflect the error term.

The residual represents the portion of the change in working capital accruals not explained by lagged, current, and future cash flows. The residuals from the regression reflect the accruals that are unrelated to cash flow (Dechow and Dichev 2002). Prior research demonstrates that the cash flow

component of earnings is more persistent than the accrual component (Sloan 1996; Fairfield et al. 2003). Prior research indicates that non-current accruals are given a lower weight in determining annual management compensation than cash flows from operations and current accruals (Kumar et al. 1993). Therefore, we incorporate cash flow from operations to test the earnings quality.

We include an error term as the residual of the regression with the change in working capital as the change of working capital from previous year to current year. The regression produces residuals for each case, which in turn functions as the error term. We estimate the final regression for all the terms mentioned above including the estimation error, which yields the earnings quality proxy.

### **3.2. Independent Variables and Control Variables**

The CEO compensation data exists in the Wharton Research Data Services (WRDS) Executive Compensation (ExecuComp) Database. CEO Compensation consists of the following components: salary, cash bonus, stock options, restricted stocks, and others. Following extant literature, we define cash as the sum of salary and annual bonus (Duru and Reeb 2002; Nourayi and Daroca 2008; Rajagopalan and Prescott 1990; Core, et al., 2003; Attaway, 1997; Jensen and Murphy 1990). Stock based compensation is the sum of the value of stock options and other stock based compensation. Other stock based compensation is comprised of SARs, phantom stocks, and restricted stocks. Total Compensation is the sum of all of these components. To obtain the aggregate of CEO compensation, we add salary (SALARY), Bonus (BONUS), Black Scholes dollar value of stock options awarded (STK\_OPT), other stock based compensation (OTHER), and long-term incentive plan (LTIP) payouts. Following Finkelstein and Hambrick (1989) and Boyd (1994), we estimate CEO stock options awards as compensation by taking the natural log and dividing by total compensation (TDC1). Other stock based compensation is the sum of SARs, the value of any phantom stocks (PHANTOM), and the value of any restricted stock options (RSTSTK). The summation equation below equals total CEO Compensation:

$$TDC1 = \sum (SALARY + BONUS + STK\_OPT + OTHER + LTIP \text{ Payouts} + \text{All Other} + \text{Value of Option Grants}) \quad (2)$$

The different components of CEO compensation represent a continuum of shared risk between shareholders and agents, (Finkelstein and Hambrick

1989) and serves as an alignment of the CEO to the shareholders. The percentage of insider stock ownership (%STKOWN) functions as an independent variable. The variable total compensation (TDC1) in this study, serves as the deflator of the individual salary components.

CEO cash compensation, namely salary and bonus, should be positively linked to firm valuation assessed from a shareholder perspective (Agarwal 1981; Ashley and Yang 2004; Attaway, 2000; Gaver and Gaver 1993, 1995; Lewellen & Huntsman, 1970; Sanders and Mason 1998).

Financial Leverage (LEV) predicts firm performance and behaves as an independent variable in this study. Leveraged firms are risky and result in managers seeking safe investments at the expense of shareholders. Financial leverage can be positively or negatively related to firm performance. Financial leverage is the ratio of total long-term debt divided by total assets.

Prior studies use return on equity (ROE) as the measure of accounting earnings (Baber et al. 1996; Baber et al. 1998; Lambert and Larcker 1987; 1999). Return on equity as the annual stock market return on the shares of common stock serves as a control and independent variable for this regression model (Core, Holthausen & Lacker, 1999). In addition, the independent variable, total assets (TA), calculates as the natural log of total assets.

We also include HIGH\_TEC as the dummy variable in the regression. This indicator variable is set equal to 1 for firms belonging to high tech industries, such as Drugs with SIC codes from 2833 to 2836, Computers with SIC codes from 3570 to 3577, Electronics with SIC codes from 3620 to 3674, Programming with SIC codes from 7370 to 7374, and Research and Development with SIC codes from 8731 to 8734. For all other industries, the variable is set to 0.

We use an additional dummy variable (DUMMY\_YEAR) in the model to test H1. The dummy variable is set to 0 for periods before SFAS 123 (R) implementation to test H1a. The years prior to SFAS 123 (R) implementation include 2001, 2002, 2003, and 2004. The variable is set to 1 after SFAS 123 (R) implementation date effective June 15, 2005 for H1b. The years post SFAS 123 (R) implementation includes 2006, 2007, 2008, and 2009.

Implied Option Expense (IMPLIED\_OPT\_EXP) obtained from CompuStat

deflated by TA serves as an additional independent variable. We postulate using the period after 2005, that the expensing of stock options incentives of the CEO is positively associated with earnings quality. Stock options increase expense; and therefore, increase earnings quality post adoption of SFAS 123 (R). TA deflates the control variable stock compensation expense (STOCK\_COMP\_EXP). We use STOCK\_COMP\_EXP to test period's post 2005 in H1b.

### **3.3. Model**

Ordinary least square regression tests the hypotheses using the following regression model:

$$EQ_t = \beta_0 + \beta_1 \text{SALARY}_t + \beta_2 \text{BONUS} + \beta_3 \text{STK\_OPT}_t + \beta_4 \text{OTHER}_t + \beta_5 \text{LEV}_t + \beta_6 \text{ROE}_t + \beta_7 \text{HIGH\_TEC}_t + \beta_8 \text{DUMMY\_YEAR}_t + \beta_9 \text{IMPLIED\_OPT\_EXP}_t + \varepsilon_t \quad (3)$$

Each regression equation is at time  $t$ , where  $\beta_0$  is the intercept, and  $\beta_1$  and  $\beta_9$  are the coefficients for each variable.

### **3.4. Sample Selection**

The Standard and Poor's (S&P) ExecuComp Database provides the CEO compensation data mainly from the ExecuComp Annual Compensation and Company Financial and Director Compensation databases. CompuStat provides access to the company specific data such as firms' leverage, total assets, return on equity, and implied option expense. If ExecuComp and/or CompuStat, information for any company in the population is missing or incomplete that company is not included in the sample and not replaced. The firms in this study operate within several different industries. We segment the sample by industry classification SIC code and year. Consistent with prior research, firms with SIC codes 4900 (utilities) and firms with SIC codes ranging from 6000 to 6999 (financial services) were eliminated from the sample. These firms are in regulated industries and experience an added degree of monitoring that differentiates their corporate structure from those of other industries.

The study uses firm year observations from 2001 to 2009. This study omits the year 2005 as the effective date of SFAS 123 (R) is June 15, 2005, for publicly traded companies. This study looks at four years before (2001 to 2004) and four years after (2006 to 2009) SFAS 123 (R) implementation to evaluate the immediate response to the standards implementation.

This effort produced 8,231 observations in the sample. The screening process described reduced the sample to 3,599 observations for years 2001 through 2004 to test H1a and 4,632 observations for years 2006 through 2009 to test H1b. The year 2007 represents the largest proportion of the sample with 15.2%. All years in the sample represent between 10.7% and 15.2% of the entire sample. Consumer durables represent the largest industry in the sample with 20.1%. Other industries are only representative of .03% of the sample. Furniture and fixtures comprise only .09% of the sample. We classify industries following Durnev and Kim (2005). This research tests the impact post SFAS 123 (R) implementation (H1b) by removing years 2006 through 2009 and years 2001 through 2004 are separated to test the impact pre SFAS 123 (R) implementation (H1a).

## 4. RESULTS

### 4.1 Descriptive Statistics

Table 1 provides the descriptive statistics for the variables in this study including the minimum value, maximum value, mean, standard deviations, kurtosis, and skewness.

In addition, Table 1 also provides information on CEO compensation elements as deflated by TDC1. CEO compensation data include salary, bonus, stock options, and other forms of compensation.

**Table 1: Descriptive Statistics**

Variables	n	Minimum	Maximum	Mean	Standard Deviation	Kurtosis	Skewness
EQ	8231	.00001	22.162	.12327	.39749	1351.74	29.510
SALARY	8231	.00000	2.0681	.26091	.19073	3.505	1.644
BONUS	8231	.00000	1.0000	.09149	.13285	3.979	1.802
STK_OPT	8231	.00000	4.9204	.13319	.22823	42.253	3.839
OTHER	8231	.00000	1.0000	.04549	.09696	34.102	5.311
%STKOWN	8209	.00000	99.853	12.341	19.076	4.364	2.123
LEV	8231	.00000	3.3873	.18104	.18273	21.807	2.540
ROE	8231	-3942.51	1726.79	2.8804	117.561	608.413	-19.259
TA	8231	1.6963	12.3970	7.30429	1.53288	-.052	.224
HIGH_TEC	8231	0	1	.26	.438	-.789	1.100
DUMMY_YEAR	8231	0	1	.56	.496	-1.936	-.253
IMPLIEDOPEXP	7409	-.1037	.6659	.007159	.023649	164.396	9.928

The data from Table 1 suggests the mean earnings quality for all firms in the study is 12.3%. The mean salary for CEOs in the study is 26.1% of total compensation (TDC1) with an average bonus of 9.1%. CEO stock options as a percentage of total CEO compensation (TDC1) represent 13.3% percent.

### 4.2 Univariate Tests

Table 2 reports the Pearson bivariate correlations among dependent and independent variables. As shown in the table, the correlations between earnings quality and the control variables are in line with existing theories. None of the reported correlations is great than 0.50; therefore, multicollinearity is not an issue.

**Table 2: Pearson Bivariate Correlations**

Variable	EQ	SALARY	BONUS	STKOPT	OTHER	%STKOWN	LEV	ROE
EQ	1.000							
SALARY	.113	1.000						
BONUS	-.008	-.047	1.000					
STK_OPT	-.044	-.079	-.267	1.000				
OTHER	-.009	-.016	-.073	-.007	1.000			
%STKOWN	.003	-.201	.175	-.340	-.087	1.000		
LEV	-.026	-.045	.012	.035	.039	-.022	1.000	
ROE	-.086	-.061	.054	.006	-.010	.005	-.037	1.000

Note:

$p < .05$

The highest correlation coefficient between any two variables is 0.37 as displayed in Table

2. The correlation between SALARY and %STKOWN displays low correlation. Results indicating a low negative correlation suggest inverse relations between two variables.

### 4.3 Regression Analysis

The research design is a multiple regression model examining the relationship between earnings quality and stock options as a part of CEO compensation, with other independent control variables. Hypothesis 1 tests for the positive association of earnings quality with the expensing of stock options in CEO compensation as measured before and after 2005, the effective date of SFAS 123 (R). The hypotheses testing uses a data set that consists of data collected for the dependent and independent variables including years from 2001 to 2009. Table A (Appendix) displays the data for all sample years, data with implied option expense utilized for years 2001-2004 for H1a, and data with stock option expense utilized for years 2006 to 2009 post SFAS 123 (R) implementation for H1b.

Hypothesis 1a tests the dependent change in earnings quality before 2005, whereas hypothesis 1b tests the dependent change in earnings quality after 2005. The Financial Accounting Standards Board instituted SFAS 123 (R) to mandate the expensing of stock options for more informative, transparent, and comparable earnings quality. Increase in stock options increases expenses. Hence, the precision of earnings improves with the adoption of SFAS 123 (R). Utilizing the period post 2005, we postulate that the expensing of stock options incentives of the CEO compensation package positively improves earnings quality. The hypotheses test the more the value of stock options awarded to CEOs as part of the compensation package, the better the impact on Earnings Quality (EQ).

A (Appendix) reflects the  $R^2$  value of .128 for the implied option expense sample 2001- 2004. This result suggests that the independent variable for all sample years prior to SFAS

123 (R) implementation explains 12.8% of the variation in the earnings. This low percentage suggests that earnings quality is not dependent on these control variables. The correlation coefficient for these variables is 0.358.

Moreover, the F statistic of 72.104 is greater than the critical value. Given that, the significance level (0.000) is less than alpha (.01), we reject the null hypothesis. Therefore, there is support for H1a supports the expensing of stock options in CEO compensation, effective by SFAS 123 (R) in 2005, is positively associated with earnings quality as measured before 2005.

Regression analysis shows that the following variables are statistically significant at the .01 level for sample years 2001-2004: SALARY, BONUS, LEV, HIGH\_TEC, and IMPLIED\_OPTION\_EXPENSE. Therefore, the evidence supports H1a stating the expensing of stock options in CEO compensation, effective by SFAS 123 (R) in 2005, is positively associated with earnings quality as measured before 2005.

Table A (Appendix) reflects the  $R^2$  value of .078 for the sample after SFAS 123 (R) implementation for years 2006-2009.

This represents the proportion of the total variation or 7.8% of the value of earnings quality explained by the independent variables after implementation of SFAS 123 (R). The findings suggest that earnings quality is not dependent on these control variables. The correlation coefficient for these variables is 0.280. Furthermore, F statistic of 48.669 is greater than the critical value. Given that the significance level (0.000) is less than alpha (.01), we reject the null hypothesis. Therefore, there is support for H1b that the expensing of stock options in CEO compensation, effective by SFAS 123 (R) in 2005, is positively associated with earnings quality as measured after 2005.

A regression analysis of earnings quality as the dependent variable shows statistical significance for SALARY, STK\_OPT, OTHER, LEV, ROE, HIGH\_TEC, and IMPLIED\_OPT\_EXP. IMPLIED\_OPTION\_EXP from 2006-2009 is positively related to earnings quality (EQ) suggesting expensing of stock options as mandated by SFAS 123 (R) and earnings quality have an association. Therefore, these results support H1b stating that the expensing of stock options in CEO compensation, effective by SFAS 123 (R) in 2005, is positively

associated with earnings quality as measured after 2005. These findings augment the agency theory providing evidence of the mitigation of these conflicts by bonding and alignment of CEO's interest to shareholders interests.

## **5. CONCLUSION**

This study presents a framework for the understanding of stock options as a part of CEO compensation expense as prescribed by FASB 123 (R). By examining earnings quality and expensing of stock options, we find support for the bonding effect. The results support all hypotheses. A positive association exists between the expensing of stock options in CEO compensation, effective by SFAS 123 (R) in 2005, and earnings quality. Not one predictor variable had an advantage over the other variables in predicting earnings quality. We find a statistically significant difference in earnings quality and the expensing of CEO stock options as part of CEO compensation tested before and after 2005.

With the majority of the publically traded firms using stock options and other forms of long-term compensation to align the interests of the CEO and owners, there is a hope and need for continued efforts in improving the transparency and comparability of financial statements as prescribed by the FASB. Compensation committees should continue to monitor CEO incentives to reduce agency costs and thus improve EQ. An objective of this study was to direct attention to these results whereby the actions proposed may increase the global comparability and transparency among financial statements. Business education and management training of CEOs are the groups targeted for such recommendations.

This study makes significant contributions to the research on earnings quality and stock options as part of CEO compensation. This study contributes to the literature in the area of executive compensation by examining stock options expensing as part of CEO compensation and its relationship to earnings quality.

However, suggestions for future research indicate, there is a great deal yet to be learned about the nature of CEO compensation and its relationship to earnings quality. We hope that future researchers will address some of these issues in further investigations. All of these contributions to the literature are positive and help further the study of earnings quality and expensing of stock options.

As a result of this study, several additional interesting research questions arise. With the enactment of Sarbanes-Oxley Act passed in 2002 the impact on the relationship between CEO stock option compensation and earnings quality might require additional exploration. This study focuses on CEO compensation; future studies might include research on executive and employee compensation, which may provide more objective information on compensation. Stock options granted to all employees not just the CEO can be an interesting future study. To see if other long term compensation components affect earnings quality such as restricted stock and phantom stock for example, might be a future investigation.

Additionally, reviewing the compensation committee characteristics may be a future research opportunity. Compensation committee characteristics such as independence, existence, experience, and educational background may affect the components of the CEO Compensation. To study the compensation committee's impact on earnings quality could be a future exploratory study.

## Appendix

### Table A: Ordinary Least Square Regression Analysis

Variable	All Sample Years 2001-2009			Implied Option Expense 2001-2004			Stock Compensation Expense 2006-2009		
	Coefficient	<i>t-value</i>	Significance	Coefficient	<i>t-value</i>	Significance	Coefficient	<i>t-value</i>	Significance
Constant	.025**	2.013	.044	-.120***	-5.378	.000	.052***	4.443	.000
SALARY	.219***	9.393	.000	.322***	6.757	.000	.200***	8.796	.000
BONUS	.040	1.127	.260	.250***	4.053	.000	.026	.635	.526
STK_OPT	-.029	-1.302	.193				-.035**	-1.991	.047
OTHER	.076*	1.728	.084	.138	1.465	.143	.110***	2.566	.010
LEV	.007	.280	.780	.151***	3.290	.001	-.064***	-2.654	.008
ROE	.000***	-6.298	.000	.000	-1.322	.186	.000***	-6.791	.000
HIGH_TEC	.175***	17.089	.000	.085***	4.178	.000	.138***	13.060	.000
DUMMY_YEAR	.000	.028	.978						
IMPLIED_OPT_EXP	.000***	-5.064	.000	4.835***	18.005	.000	.000***	-4.007	.000
<i>R</i>			.234			.358			.280
<i>R</i> <sup>2</sup>			.055			.128			.078
<i>F</i>			53.077			72.104**			48.669
<i>Significance</i>			.000***			.000***			.000***

Note: For both samples before and after SFAS 123 (*R*)

\*  $p < .10$ ; \*\*  $p < .05$ ; \*\*\*  $p < .01$

## REFERENCES

- Aboody, D., M. E. Barth, and R. Kasznik. 2004. SFAS No. 123 Stock-Based Compensation Expense and Equity Market Values. *The Accounting Review* 79 (2):251-275.
- Agarwal, N. C. 1981. Determinants of Executive Compensation. In *Industrial Relations*: Wiley-Blackwell, 36-46.
- Ashley, A. S., and S. S. M. Yang. 2004. Executive Compensation and Earnings Persistence. *Journal of Business Ethics* 50 (4):369-382.
- Attaway, M. C. 1997. A study of the relationship between firm performance and CEO compensation. Doctoral Dissertation.
- ———. 2000. A study of the relationship between company performance and CEO compensation. In *American Business Review*, 77-85.
- Baber, W. R., S. N. Janakiraman, and S. H. Kang. 1996. Investment opportunities and the structure of executive compensation. *Journal of Accounting and Economics* 21 (3):297-318.
- Baber, W. R., S.-H. Kang, and K. R. Kumar. 1998. Accounting earnings and executive compensation: The role of earnings persistence. *Journal of Accounting and Economics* 25 (2):169-193.
- Baber, W. R., S. H. Kang, and K. R. Kumar. 1999. The explanatory power of earnings levels vs. earnings changes in the context of executive compensation. *The Accounting Review* 74 (4):459-472.
- Benston, G. J. 1985. The Self-Serving Management Hypothesis: Some Evidence. *Journal of Accounting & Economics* 7 (1-3):67-84.
- Boyd, B. K. 1994. Board control and CEO compensation. *Strategic Management Journal* 15 (5):335-344.
- Butler, S., and N. Newman. 1989. Agency control mechanisms, effectiveness and decision making in an executive's final year with a firm. *Journal of Institutional and Theoretical Economics* 145:451-

464.

- Cheng, Q., and D. B. Farber. 2008. Earnings Restatements, Changes in CEO Compensation, and Firm Performance. *Accounting Review* 83 (5):1217-1250.
- Cheng, Q., and T. D. Warfield. 2005. Equity Incentives and Earnings Management. In *Accounting Review: American Accounting Association*, 441-476.
- Comiskey, E., and C. W. Mulford. 2000. *Guide to Financial Reporting and Analysis* New York, New York: John Wiley & Sons.
- Core, J. E., W. R. Guay, and R. E. Verrecchia. 2003. Price versus non-price performance measures in optimal CEO compensation contracts. *Accounting Review* 78 (4):957-981.
- Core, J. E., R. W. Holthausen, and D. F. Larcker. 1999. Corporate governance, chief executive officer compensation, and firm performance. *Journal of Financial Economics* 51 (3):371-406.
- Dechow, P. M., and I. D. Dichev. 2002. The Quality of Accruals and Earnings: The Role of Accrual Estimation Errors *The Accounting Review* 77:35-69.
- Durnev, A., and E. H. Kim. 2005. To Steal or Not to Steal: Firm Attributes, Legal Environment, and Valuation. In *The Journal of Finance: Blackwell Publishing for the American Finance Association*, 1461-1493.
- Duru, A., and D. M. Reeb. 2002. International diversification and analysts' forecast accuracy and bias. *The Accounting Review* 77 (2):415-433.
- Erickson, M., M. Hanlon, and E. L. Maydew. 2006. Is There a Link between Executive Equity Incentives and Accounting Fraud? *Journal of Accounting Research* 44 (1):113-143.
- Fairfield, P. M., S. Whisenant, and T. L. Yohn. 2003. The Differential Persistence of Accruals and Cash Flows for Future Operating Income versus Future Profitability. *Review of Accounting Studies* 8 (2-3):221-243.

- Fama, E. F., and M. C. Jensen. 1983. Agency Problems and Residual Claims. *Journal of Law and Economics* 26 (2):327-349.
- FASB. 1995. Statement of Financial Accounting Standards No 123 Accounting for Stock-Based Compensation. Retrieved from <http://www.fasb.org/cs/BlobServer?blobcol=urldata&blobtable=MungoBlobs&blobkey=id&blobwhere=1175820923312&blobheader=application%2Fpdf>.
- ———. 2004. Statement of Financial Accounting Standards No 123 (Revised) Share-Based Payment: Retrieved from <http://www.fasb.org/cs/BlobServer?blobcol=urldata&blobtable=MungoBlobs&blobkey=id&blobwhere=1175823287357&blobheader=application%2Fpdf>.
- Ferri, F., and T. Sandino. 2009. The Impact of Shareholder Activism on Financial Reporting and Compensation: The Case of Employee Stock Options Expensing. In *The Accounting Review*. United States, Sarasota: American Accounting Association, 433-466.
- Finkelstein, S., and D. C. Hambrick. 1989. Chief Executive Compensation: A Study of the Intersection of Markets and Political Processes. *Strategic Management Journal* 10 (2):121-134.
- Francis, J., R. LaFond, P. Olsson, and K. Schipper. 2004. Costs of Equity and Earnings Attributes. *The Accounting Review* 79 (4):967-1010.
- ———. 2005. The market pricing of accruals quality. *Journal of Accounting and Economics* 39 (2):295-327.
- Gaver, J. J., and K. M. Gaver. 1993. Additional evidence on the association between the investment opportunity set and corporate financing, dividend, and compensation policies. *Journal of Accounting and Economics* 16 (1-3):125-160.
- ———. 1995. Compensation policy and the investment opportunity set. *Financial Management* 24 (1):19-33.

- Healy, P. M., and K. G. Palepu. 2001. Information asymmetry, corporate disclosure, and the capital markets: A review of the empirical disclosure literature. *Journal of Accounting and Economics* 31 (1-3):405-440.
- Heltzer, W. 2010. The Impact of SFAS No. 123(R) on Financial Statement Conservatism. *Advances in Accounting* 26 (2):227-260.
- Huang, H., Q. Wang, and X. Zhang. 2009. The effect of CEO ownership and shareholder rights on cost of equity capital. *Corporate Governance* 9(3):255-270.
- Jensen, M. C., and W. H. Meckling. 1976. Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of Financial Economics* 3 (4):305-360.
- Jensen, M. C., and K. J. Murphy. 1990. Performance Pay and Top-Management Incentives. *The Journal of Political Economy* 98 (2):225-264.
- Kanagaretnam, K., R. Mathieu, and R. Ramanan. 2009. Stock Option Grants, Current Operating Performance and Deferral of Earnings. In *International Journal of Management*, 26-32.
- Kothari, S. P. 2001. Capital markets research in accounting. *Journal of Accounting and Economics* 31 (1-3):105-231.
- Kumar, K. R., D. Ghicas, and V. S. Pastena. 1993. Earnings, cash flows and executive compensation: An exploratory analysis. *Managerial Finance* 19 (2):55- 75.
- Lambert, R. A., and D. F. Larcker. 1987. An Analysis of the use of Accounting and Market Measures of Performance in Executive Compensation Contracts. *Journal of Accounting Research* 25:85-125.
- Lewellen, W., and B. Huntsman. 1970. Managerial Pay and Corporate Performance. In *The American Economic Review*: American Economic Association, 710-720.

- Lilling, M. S. 2006. The Link Between CEO Compensation and Firm Performance: Does Simultaneity Matter? *Atlantic Economic Journal* 34 (1):101-114.
- Lin, C. C., C. Y. Hua, S. H. Lee, and W. C. Lee. 2011. The policy consequence of expensing stock-based compensation. *International Journal of Accounting and Information Management* 19 (1):80-93.
- McNichols, M. F. 2002. DISCUSSION OF The Quality of Accruals and Earnings: The Role of Accrual Estimation Errors. *The Accounting Review* 77:61-69.
- Murphy, K. J., and J. L. Zimmerman. 1986. Financial performancesurrounding CEO turnover. *Journal of Accounting and Economics* 16 (1-3):273-315.
- Nourayi, M. M., and F. P. Daroca. 2008. CEO compensation, firm performance and operational characteristics. *Managerial Finance* 34 (8):562-584.
- Rajagopalan, N., and J. E. Prescott. 1990. Determinants of Top Management Compensation: Explaining the Impact of Economic, Behavioral, and Strategic Constructs and the Moderating Effects of Industry. *Journal of Management* 16 (3):515-538.
- Sanders, W. M. G., and A. C. Mason. 1998. Internationalization and Firm Governance: The Roles of CEO Compensation, Top Team Composition, and Board Structure. *The Academy of Management Journal* 41 (2):158-178.
- Sloan, R. G. 1996. Do Stock Prices Fully Reflect Information in Accruals and Cash Flows about Future Earnings? In *The Accounting Review: American Accounting Association*, 289-315.
- Tosi, H. L., S. Werner, J. P. Katz, and L. R. Gomez-Mejia. 2000. How much does performance matter? A meta-analysis of CEO pay studies. *Journal of Management* 26 (2):301-339.
- Yang, Q. 2006. CEO equity compensation, external monitoring and earnings quality.

- Young, B. 2011. Employee Stock Option Exercise Behavior and Firms' Claims about Employee Stock Option Expense. Doctoral Dissertation.