The Examination of Top Manager Compensation System of NYSE Energy Companies

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Abstract

This study investigated CEO compensation system of NYSE energy companies. It tested the relationship between CEO compensation, firm size, accounting firm performance, and corporate governance, from 2005 to 2010. The totaled twenty five companies were selected through random sampling method from NYSE index companies. The research question for this study was: is there a relationship between CEO cash compensation, firm size, accounting performance, and corporate governance?. To answer this question, nine statistical models were created. It was found that, there was a relationship between CEO salary, CEO bonus, total compensation, firm size, accounting performance, and corporate governance. The correlations between CEO salary, CEO bonus, CEO total compensation, and firm size were ranged from moderate to strong positive ratios. The correlations between CEO compensation and firm performance were ranged from low negative to strong positive ratios. The correlations between CEO compensation and corporate governance were ranged from low negative to moderate positive ratios.

Index Terms: CEO compensation, CEO Compensation, Accounting Performance, Firm Size, Corporate Governance, CEO Power, Energy Compensation, NYSE Compensation, and CEO Bonus.

Introduction

The purpose of this research is to understand in-depth CEO compensation system of NYSE energy companies. Over the past decade, the United States public had raised concerns over bonuses declared to CEOs by their board of directors. The failure to understand the determinants of CEO compensation from the public had led to blame CEOs of rent grabbing, misused of its power towards board in terms of monopolization of the compensation system. Thus, these ever growing concerns bring to the foreground conclusion the need to further study in depth at least one important sector of the American economy, the energy sector.

The CEOs and the other executives would like to eliminate the risk exposure in their compensation packages by decoupling their pay from performance and linking it to a more stable factor, firm size. This strategy indeed deviates from obtaining optimum results from the principal-agent contract. In general, previous studies had found a strong relationship between CEO compensation and firm size but the correlation results were ranged from nil to strong positive ratios. The variables used in previous studies as a proxy for firm size were either total sales, total number of employees, or total assets. To understand in-depth, firm size needs to be studied with CEO compensation using both total sales and total number of employees.

The most researched topics in executive compensation are between CEO compensation and firm performance.

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Although executive compensation and firm performance have been the subject of debate amongst the academics, however, there was little consensus on the precise nature of the relationship as such, further researched in greater detail need to be conducted to understand in finer terms the true extent of the relationship between them. As such, this research had unprecedentedly used eight variables to test between CEO compensation, that is, return on assets (ROA), return on equity (ROE), earnings per share (EPS), cash flow per share (CFPS), net profit margin (NPM), book value per common shares outstanding (BVCSO), and market value per common shares outstanding (MVCSO).

The relationship between CEO compensation and corporate governance (CEO Power) was not researched extensively in the past. In fact, only few credible researched papers were available for study. That is, CEO power only had been the subject of recent focus among researchers, primarily due to researchers have failed to find the strong relationship between CEO compensation, firm size, and firm performance. The variables used in previous studies as a proxy for corporate governance are CEO age, CEO tenure, and CEO turnover. In addition, third party data collection, segment population focus such as industry, and the use of different statistical methods, all have led to diverge in the results. Therefore, corporate governance needs to be studied with CEO compensation on an extensive basis such through using CEO age, CEO shares outstanding, CEO share value, CEO tenure, CEO turnover, management 5 percent ownership, and individual/institutional 5 percent ownership.

Literature Review

CEO Compensation and Accounting Performance Linkage

The CEO cash compensation is generally believed to be weakly related to firm performance, according to a majority of studies conducted in the United States and the United Kingdom. It is believed that the CEO power and weaker governance play an important role in the weak relationship between CEO cash compensation and firm performance. Henderson and Fredrickson (1996) stated that while CEO total pay may be unrelated to performance, it is related to the organizational complexity that they manage. Likewise, other similar studies conducted by Murphy (1985); Jensen and Murphy (1990); and Joskow and Rose (1994) supported this nature of the relationship.

Jensen and Murphy (1990) argued that incentive alignment as an explanatory agency construct for CEO pay is weakly supported at best. That is, objective provisions of principal-agent contract cannot be comprehensive enough to effectively create a strong direct CEO pay and performance relationship. They found that the pay performance sensitivity for the executives is approximately $3.25 per $1000 change in shareholder wealth, small for an occupation in which the incentive pay is expected to play an important role. This is supported by the legendary work of Tosi, Werner, Katz, and Gomez-Mejia (2000) on pay studies in the form of the meta-analysis, they find that overall ratio of change in CEO pay and change in financial performance is 0.203, an accounting for about 4% of the variance. The estimated true correlation between CEO pay and return on equity is .212. And the estimated true correlation between CEO pay and total assets is 0.117. Thus, these other financial measures account for less than 2% of variance in CEO pay levels. This weak relationship is explained by Borman & Motowidlo (1993) and Rosen (1990), who stated that the archival performance data focuses only on a small portion of the CEO's job performance requirements and therefore it is difficult to form an overall conclusion.

According to Jensen and Murphy (1990), it is possible that CEO bonuses are strongly tied to an unexamined or unobservable measure of performance. If bonuses depend on performance measures observable only to board of directors and are highly variable, they could provide a significant incentive. One way to detect the existence of such phantom performance measures is to examine the magnitude of year-to-year fluctuations in CEO compensation. The large swings in CEO pay from year to year are consistent with the existence of an overlooked but important performance measure: small annual changes in CEO pay suggested CEO pay is essentially unrelated to all relevant performance measures.

Furthermore, they argued that although bonuses represent 50% of CEO salary, such bonuses are awarded in ways that are not highly sensitive to performance as measured by changes in the market value of the equity, the accounting earnings, or the sales. In addition, they find that while more of the variation in CEO pay could be explained by changes in accounting profits than the stock market value, however, the pay-performance sensitivity remains insignificant.

Jensen and Murphy (1990) find in their studies that CEO received an average pay increase of $31,700 in years when stockholders earned a zero return, and received on average an additional 1.35¢ per $1,000 increase in the shareholder's wealth. These estimates are comparable to those of Murphy (1985 and 1986); Coughlan and Schmidt (1985); and Gibbons and Murphy (1990), who found pay-performance elasticity of approximately 0.1 – salaries and bonuses increased by about one percent for every ten percent rise in value of the firm. Additionally, they stated that average pay increase for CEO whose shareholders gain $400 million was $37,300, compared to an average pay increase of $26,500 for CEOs whose shareholders lose $400 million.

Their Forbes study was based on executive compensation surveys covered from 1974 to1986. Jensen and Murphy (1990) explained that small pay-performance sensitivity is due to, boards have fairly good information regarding managerial activities and therefore weight on output is small relative to weight on input. On the other hand, Jensen and Zimmerman (1985) argued that the evidence was inconsistent with the view that executive compensation is unrelated to firm performance and that executive compensation plans enrich managers at the expense of shareholders. This argument was supported by Mehran (1995), who reported that CEO pay structure is positively related to same year performance. In addition, Gibbons and Murphy (1990) also find in their studies that CEO salaries and bonuses are positively and significantly related to firm performance as measured by the rate of return on common stock. That is, CEO pay changes about 1.6% for each 10% return on common stock. In addition, they found that the CEO cash compensation was positively related to the firm performance and negatively related to the industry performance, ceteris paribus. Similarly, Antle and Smith (1986) find no relation between salary and bonus and industry returns. Blanchard, Lopez-de-Silanes and Shleifer (1994); and Bertrand and Mullainathan (2001) argued that there is an evidence that CEO cash compensation increases when firm profits rise for reasons that clearly have nothing to do with managers' efforts.

Murphy (1985), and Jensen and Murphy (1990) found a significant relationship between the level of pay (measured by changes in executive wealth) and performance (measured by changes in firm value). At the same time, Jensen and Murphy (1990) argued that failure to include a cash performance measure in pay performance studies may thus create the impression that management compensation is unresponsive to corporate performance. Similarly, Iyengar, Raghavan J. (2000) finds that on average, level of CEO cash compensation is positively related to the firms' level of operating cash flows. On the other hand, Carpenter and Sanders (2002) argued that the CEO's total pay may be unrelated to performance, but it may relate to organizational complexity they manage.

This argument is supported by Jensen and Murphy (1989) , they believed that political forces factor in contracting process which implicitly regulate executive compensation by constraining the type of contracts that can be written between management and shareholders. These political forces, operating in both political sector and within organizations appear to be important, but were difficult to document because they operate in informal and indirect ways. The public disapproval of high rewards seems to have truncated the upper tail of the earnings distribution of corporate executives. The equilibrium in the managerial labor market then prohibits large penalties for poor performance as such dependence of pay on performance is decreased. Their findings are supported by the statistics collected on pay-performance relation, raw variability of pay changes and inflation-adjusted pay levels, all have declined substantially since 1930.

Mehran (1995) finds that companies in which CEO compensation is relatively sensitive to firm performance, produce higher returns for stockholders than companies in which relationship between CEO pay and performance is weak. Lambert and Larcker (1987) and Sloan (1993) find in their empirical studies that there is a positive relation between CEO compensation and stock returns. Jensen and Murphy (1990) believed that cash compensation should be structured to provide big rewards for outstanding performance and meaningful penalties for poor performance. Also, they believed that weak link between CEO cash compensation and corporate performance would be less troubling if CEOs owned a large percentage of corporate equity.

According to McEachern (1975); Allen (1981); Amould (1985); Gomez-Mejia, Tosi, and Hinkin (1987); Dyl (1988); Gomez-Mejia and Tosi (1989); and Kroll, Simmons, and Wright (1989), the relationship between executive pay and performance may be stronger in owner-controlled than management-controlled firms. Werner and Tosi (1995) have shown that managers in widely held firms are paid more than managers in closely held firms through high salaries, bonuses, and long-term incentives. Dyl (1988) argued that that there is a downside hedge in the pay of CEOs in management-controlled firms, given that it is more strongly related to firm size, not the performance. In addition, Antle and Smith (1986) believed that owner-controlled firms will seek to transfer some of the risks borne to managers, and this should be reflected in their compensation policies.

Research Methodology

This research had adopted quantitative research method, as it is the method to be used for historical data collection and descriptive studies. The longitudinal study approach was selected to study corporate financial records from 2005 to 2010. The random sampling method had been selected to obtain total sample population of twenty five companies from NYSE index. For statistical tests, CEO compensation was assigned as the dependent variable; firm size was assigned as control and independent variables; and accounting performance and corporate governance had been assigned as independent variables. Each sub-variables of CEO compensation had been used separately to test with all sub-independent variables of firm size, firm performance, and corporate governance. The total of nine models was created to address the research question. The survey method had been adopted as it is the most appropriate approach to collect historical data. The Inferential statistics-based methodology, which is very instrumental in this quantitative research, had been used to obtain statistical results. The 95 percent confidence level will be assumed for all the research attestations.

Data Findings and Conclusions

Table 1 (Regression Analysis - ANOVA)

	Salary	Bonus	Total Compensation
Firm Size	$F_{(2,143)}$=58.5999 p=.000 R^2=0.450	$F_{(2,141)}$=25.215 p=.017 R^2=0.263	$F_{(2,124)}$=69.594 p=.000 R^2=0.529
Firm Performance	$F_{(8,140)}$=24.805 p=.000 R^2=0.586	$F_{(8,132)}$=17.780 p=.000 R^2=0.519	$F_{(8,121)}$=66.571 p=.000 R^2=0.801
Corporate Governance	$F_{(7,142)}$=5.833 p=.000 R^2=0.223	$F_{(7,118)}$=4.974 p=.000 R^2=0.228	$F_{(7,132)}$=11.022 p=.000 R^2=0.369

The above ANOVA table 1 results were based on the linear regression test. It had shown that there was a relationship between CEO salary, CEO bonus, total compensation, firm size, firm performance, and corporate governance. The first and third models between CEO salary, CEO total compensation, and firm size were .450 and .529 respectively, as such characterized as strong ratios.

The third, fourth, and fifth models between CEO salary, CEO bonus, CEO total compensation, and firm performance were .586, .519, and .801 respectively, as such characterized as strong ratios. Thus, these models indicated that salary and long-term benefits (non-cash components) variables had a strong positive influence towards determining CEO cash and long-term compensations. In addition, it also indicated that the CEO contract had been weighted towards firm performance. The second, seventh, eight, and nine models between CEO salary, CEO bonus, CEO total compensation, and corporate governance were .263, .223, .228, and .369 respectively, as such characterized as weak ratios. This is due to weak influence of bonus betas of firm size and CEO power in respective statistical models, perhaps CEO bonus contract didn't include multi variables of corporate governance and firm size.

Table 2 – Correlations (CEO Compensation vs. Firm Size)

	Salary	Bonus	Total Compensation
Total Sales	0.664	0.33	0.723
Total Employees	0.652	0.446	0.618

The above table 2 illustrated the correlation results between CEO salary, CEO bonus, CEO total compensation, and firm size. It had shown that there was a strong correlation existed between CEO salary, CEO total compensation, total sales, and total employees. On the other hand, CEO bonus had a moderate relationship with total sales and total employees. Thus, it indicated that in NYSE energy companies, CEO salary and long-term benefits are highly correlated with firm size. The relationships between CEO salary, total sales, and total employees were.664 and.652 respectively, which indicated that total sales and total employees were influential factor in determining CEO salary. However, the relationships between CEO bonus, total sales, and total employees were.330 and.446 respectively, which indicated that the level of total sales and total employees had a moderate influence in determining CEO bonus. Likewise, the relationship between CEO total compensation, total sales, and total employees was.723 and.618 respectively, which indicated that the level of total sales and total employees were a strong influential factor in determining CEO total compensation. In addition, it had shown that salary and non-cash components of CEO compensation were equally influenced by variables of firm size.

Table 3 – Correlations (CEO Compensation vs. Firm Performance)

	Salary	Bonus	Total Compensation
Return on Assets	0.172	0.222	0.183
Return on Equity	0.175	0.175	0.185
Earnings Per Share	0.323	0.367	0.381
Cash Flow Per Share	0.598	0.435	0.649
Net Profit Margin	0.436	0.511	0.641
Common Stock Outstanding	0.678	0.468	0.808
Book Value of Common Stock	0.42	0.116	0.38
Market Value of Common Stock	0.59	0.438	0.808

The above table 3 illustrated the correlation results between three categories of CEO compensation and firm performance. It had shown that there was a weak positive correlation existed between CEO salary, CEO bonus, CEO total compensation, return on assets (ROA), and return on equity (ROE). It had shown that there was a moderate to strong positive relationship between CEO salary, CEO bonus, CEO total compensation, earnings per share (EPS), cash flow per share (CFPS), net profit margin (NPM), common stock outstanding (CSO), book value of common stock (BVCSO), and market value of common stock outstanding (MVCSO). The only negative correlation was found between CEO bonus and the book value of common stock.

Thus, it indicated that in NYSE energy companies, among the balance sheets involved items such as return on assets and return on equity, the influence to any component of CEO compensation was characterized as weak, perhaps due to CEO compensation contract gives less importance to assets and related returns. On the other hand, earnings per share, cash flow per share, net profit margin, common stocks outstanding, book value per common share, and market value per common share were significant determinants of CEO compensation, indicated, perhaps equity related components had a strong influence on CEO compensation as such, CEO contract was primarily based on equity related criteria.

Table 4 – Correlations (CEO Cash Compensation vs. Corporate Governance)

	Salary	Bonus	Total Compensation
CEO Age	0.246	-0.219	-0.044
CEO Shares Outstanding	0.008	-0.031	-0.113
CEO Share Value	0.144	0.248	0.475
CEO Tenure	-0.075	-0.038	0.031
CEO Turnover	-0.034	-0.006	-0.115
MGMT. 5% Ownership	-0.136	-0.12	0.016
INDV./INST.5% Ownership	-0.239	-0.202	-0.111

The above table 4 illustrated the correlation results between three categories of CEO compensation and CEO corporate governance. It had shown that there was a weak negative to weak positive correlations existed between CEO salary, CEO age, CEO shares outstanding, CEO share value, CEO tenure, CEO turnover, 5 percent management ownership, and 5 percent individuals/Institutional ownership. That is, in NYSE energy companies, the correlations between CEO salary and corporate governance were .246, .008, .144, -.075, -.034, -.136, and -.239, respectively. The only positive correlations were with CEO age, CEO shares outstanding, and CEO share value, indicated that CEO experience and CEO shares ownership had some level of appreciation by the board of directors in determining the increment of CEO salary. The negative correlations between CEO salary, CEO tenure, CEO turnover, management 5 percent ownership, and individuals/institutional 5 percent Ownership indicated that the duration of CEO's service was not appreciated by the board and also the type of ownership structure had no influence on the determination of CEO salary.

The correlations between CEO bonus and corporate governance were -.219, -.031, .248, -.038, -.006, -.120, and -.202, respectively. That is, the correlations between CEO bonus, CEO age, CEO tenure, CEO turnover, management 5 percent ownership, and individuals/institutional 5 percent ownership were found to be weakly negative, except for CEO shares outstanding. On the other hand, the correlations between CEO tenure, CEO turnover, management 5 percent ownership, and individuals/institutional 5 percent ownership were found to have a weak negative relationship, perhaps due to no influence of non-accounting performance factors or CEO contract completely ignored corporate governance factors. That is, the board again ignored the experience level of CEO, duration of the CEO's service, and CEO shares ownership towards determining CEO bonus.

The correlations between CEO total compensation and corporate governance were -.044, -.113, .475, .031, -.115, .016, and -.111, respectively. That is, the correlations between CEO total compensation, CEO age, CEO tenure, and management 5 percent ownership were found to be weakly positive, except for CEO share value which was characterized as moderate ratio. On the other hand, the correlations between CEO total compensation, CEO shares outstanding, CEO turnover, and individual/institutional 5 percent ownership had weak negative ratios, thus it indicated that non-cash components of CEO total compensation had nil to negative influence in determining CEO compensation, similar to the effect to CEO salary and CEO bonus.

More importantly, overall, corporate governance had a weak negative influence on CEO compensation mainly due to the strong influence of firm size and accounting firm performance as criteria towards determining CEO compensation.

Conclusion

Overall, there was a relationship existed between CEO salary, CEO bonus, CEO total compensation, firm size, accounting firm performance, and corporate governance. The correlations between CEO salary, CEO bonus, CEO total compensation, and firm size were ranged from moderate to strong ratios. The correlations between CEO salary, CEO bonus, CEO total compensation, and firm performance were ranged from weak negative to strong positive ratios. The correlations between CEO salary, CEO bonus, CEO total compensation, and corporate governance, were ranged from moderate positive to weak negative ratios. Overall, based on this in-depth research finding and despite the positive impact of firm size and accounting firm performance on CEO compensation, non-financial performance or qualitative criteria need to be further studied such as organizational culture, strategic objectives, and market and industry cultures.

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Appendix

Operational Hypothesis Statement

H_0: There is no relationship between CEO compensation, firm size, accounting performance, and corporate governance
H_1: There is a relationship between CEO compensation, firm size, accounting performance, and corporate governance

To address this operational hypothesis statement, separate models were developed for each dependent variable:

Firm Size

For Salary: $Y_1=c+ B_1X_1+B_2X_2+\epsilon$
For Bonus: $Y_2=c+ B_1X_1+B_2X_2+\epsilon$

(Y_1=Salary; Y_2=Bonus; c=constant predictor; B_1=influential factor for Total Sales; B_2=influential factor for Total Number of Employees; and ϵ=error).
(X_1=Value of the Total Sales; X_2=Value of the Total Number of Employees).

Accounting Performance

For Salary: $Y_3=c+ B_1X_1+B_2X_2+B_3X_3+B_4X_4+B_5X_5+B_6X_6+B_7X_7+B_8X8 +\epsilon$
For Bonus: $Y_4=c+ B_1X_1+B_2X_2+B_3X_3+B_4X_4+B_5X_5+B_6X_6+B_7X_7+B_8X8 +\epsilon$

(Y_1=Salary; Y_2=Bonus; c=constant predictor; B_1=influential factor for Return on Assets (ROA); B_2=influential factor for Return on Equity (ROE); B_3=influential factor for Earnings per Share (EPS); B_4=influential factor for Cash Flow per Share (CFPS); B_5=influential factor for Net Profit Margin (NPM); B_6=influential factor for Common Shares Outstanding (CSO); B_7=influential factor for Book Value of Common Shares Outstanding (BVCSO); B_8=influential factor for Market Value of Common Share Outstanding (MVCSO); and ϵ=error)

Let X_1=Value of ROA; X_2=Value of ROE; X_3=Value of EPS; X_4=Value of CFPS; X_5=Value of NPM; X_6=Value of CSO; X_7=Value of BVCSO; B_8=Value of MVCSO.

CEO Power

For Salary: $Y_5=c+ B_1X_1+B_2X_2+B_3X_3+B_4X_4+B_5X_5+B_6X_6+B_7X_7+\epsilon$
For Bonus: $Y_6=c+ B_1X_1+B_2X_2+B_3X_3+B_4X_4+B_5X_5+B_6X_6+B_7X_7+\epsilon$

(Y_5=Salary; Y_6=Bonus; c=constant predictor; B_1=influential factor for CEO Age; B_2=influential factor for CEO Shares Outstanding; B_3=influential factor for CEO Shares Value; B_4=influential factor for CEO Tenure; B_5=influential factor for CEO Turnover; B_6=influential factor for Management 5 percent Shares Ownership; B_7= Individuals/Institutional 5 percent Ownership; and ϵ=error).

Let X_1=Value of CEO Age; X_2=Value of CEO Shares Outstanding; X_3=Value of CEO Shares Value; X_4=Value of CEO Tenure; X_5=Value of CEO Turnover; X_6=Value of Management 5 percent Shares Ownership; and X_7=Value of Individuals/Institutional 5 percent Ownership.

All nine models assumed to have a confidence level (α) of 5 percent.