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The Comparative Study Between CEO Compensation, CEO/Chairman Role and Accounting Performance in New York Stock Exchange (NYSE) Companies: An Empirical Study

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Abstract

This study investigated the effect of CEO roles with accounting performance towards CEO compensation in the New York Stock Exchange (NYSE) companies from the period 2005 to 2010. This study had selected one hundred and twenty companies through stratified sampling method. This study had demanded the characteristics of numerical and objectivity as such the quantitative research methodology was applied. The research question for this study was: is there a relationship between CEO compensation, CEO & Chairman dual role, and CEO role?. It was found that, there was a relationship between CEO salary, CEO bonus, CEO total compensation, and accounting firm performance, under both roles.

Index Terms: CEO compensation, accounting performance and compensation, NYSE CEO compensation, CEO duality and compensation, Net earnings and CEO compensation, and market activities and CEO compensation

Introduction

The purpose of this research is to understand in-depth the effect of CEO roles on the CEO compensation system using accounting performance as a benchmark from 2005 to 2010. This interesting and important study in the executive compensation area will reveal some scientific methodologies or trends to understand the nature of CEO contract under respective CEO roles.

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This study was conducted also in the influence of, over the past decade, the United States public had raised concerns on bonuses declared to CEOs of large public companies. That is, they believed that CEO should only be rewarded based on corporate performance or stockholders' maximization of wealth. This notion perhaps is due to failure to understand the determinants of CEO compensation by the public. As such, has led to blame CEOs of rent grabbing (misused of power and monopolization of the CEO compensation sys-tem). Thus, these ever growing concerns bring to the foreground conclusion the need to further study CEO compensation system. As such, this article will focus on one interesting aspect of executive compensation study, that is, the impact of CEO roles on CEO compensation using accounting performance as a benchmark.

The CEOs and other executives would like to eliminate the risk exposure in their compensation packages by decoupling between pay and performance and linking it to a more stable factor, firm size. This strategy indeed has deviated from obtaining the optimum results from a principal-agent contract. The most researched topics in the executive compensation are between the CEO compensation and firm performance. Although executive compensation and firm performance have been the subject of debate amongst academics, however, there is little consensus on the precise nature of the relationship as such, further research in greater detail need to be conducted to understand in finer terms the relationship between them. As such, this research will use eight sub variables of accounting performance to understand 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 stocks outstanding (BVCSO), and market value per common stocks outstanding (MVCSO). Therefore, all these sub-variables of accounting performance will assist in understanding the effect on the CEO compensation system using CEO roles as a control variable. That is, companies will be grouped on the basis of CEO duality and CEO roles and then perform statistical tests between CEO salary, CEO bonus, CEO total compensation, and accounting performance.

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 regulates 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 has adopted the quantitative research method as it is the method to be used for historical data collection and descriptive studies. The longitudinal study approach has been adopted under quantitative research method, to study the corporate financial records from 2005 to 2010. The random sample method has been selected for this research to obtain a total sampling population of one hundred and twenty companies from the NYSE index.

For the statistical tests, CEO compensation is assigned as dependent variable; accounting performance as independent variable. The total of six statistical models is created to answer research question of this study. The survey method has been adopted as it is the most appropriate approach to collect historical data. The inferential statistics-based methodology, which is very instrumental to this quantitative research, has been used to obtain statistical results. The 95 percent confidence level will be assumed for all the statistical calculations.

Data Findings and Conclusions

Table 1 (Regression Analysis - ANOVA)

CEO & CHAIRMAN ROLE	Salary	Bonus	Total Compensation
Accounting Performance	$F_{(8,200)}$=13.634 p=.000 R^2=0.353	$F_{(8,197)}$=10.588 p=.000 R^2=0.301	$F_{(8,180)}$=95 p=.000 R^2=0.809
CEO ROLE	Salary	Bonus	Total Compensation
Accounting Performance	$F_{(8,495)}$=27.341 p=.000 R^2=0.306	$F_{(8,448)}$=42.556 p=.000 R^2=0.432	$F_{(8,466)}$=89.413 p=.000 R^2=0.606

The ANOVA table 1 results were based on linear regression tests. It had shown that there was a relationship between CEO salary, CEO bonus, CEO total compensation, and accounting performance, in both CEO duality and CEO roles. In CEO duality role companies, first and second models between CEO salary, CEO bonus, and accounting performance were .353 and .301 respectively, as such characterized as moderate models. Thus, these models indicated that in CEO duality role companies, accounting performance had moderate impact on CEO short-term compensation. The third model between CEO total compensation and accounting performance was .809 as such characterized as strong model.

Thus, it illustrated that CEO total compensation had strongest models signifying long-term CEO compensation was significantly influenced by accounting performance under both roles. Similarly, in CEO role companies, third and fourth models between CEO salary, CEO bonus, and accounting performance were .306 and .432 respectively as such also characterized as moderate models. Thus, these models indicated that in CEO role companies, accounting performance had moderate impact on CEO short-term compensation. The sixth model between CEO total compensation and accounting performance was .606, as such characterized as strong model. Thus, it also illustrated that, CEO duality role, accounting performance had materially influenced CEO total compensation, signifying long-term CEO compensation aspects had played an important role towards this model. Overall, both in CEO duality and CEO roles companies, accounting performance had moderately affected CEO salary and CEO bonus models, yet it had shown the strongest with CEO total compensation level.

Table 2 – Correlations (CEO Compensation vs. Accounting Performance)

CEO ROLES	Salary		Bonus		Total Compensation	
	CEO & Chairman	CEO	CEO & Chairman	CEO	CEO & Chairman	CEO
Return on Assets	0.025	0.053	0.146	0.085	0.011	0.07
Return on Equity	0.001	0.047	0.040	-0.23	0.017	0.068
Earnings Per Share	0.150	0.115	0.255	0.045	0.190	0.101
Cash Flow Per Share	0.470	-0.011	0.300	-0.039	0.411	-0.018
Net Profit Margin	0.344	0.141	0.420	0.164	0.577	0.182
Common Stock Outstanding	0.544	0.035	0.366	0.057	0.874	0.124
Book Value of Common Stock	0.343	0.220	-0.074	0.145	0.383	0.276
Market Value of Common Stock	0.472	0.495	0.379	0.513	0.769	0.690

The above table 3 illustrated the correlation results between sub-variables of CEO compensation and sub-variables of accounting performance both under CEO duality and CEO roles scenarios. In CEO duality companies, it had shown that there were weak positive correlations existed between CEO salary, return on equity (ROE), return on assets (ROA), and earnings per share (EPS). That is, the correlations were, .025, .001, and .150 respectively. Similarly, it was found that, in CEO role companies, the correlations between CEO salary, return on equity (ROE), return on assets (ROA), and earnings per share (EPS), were characterized as weak. Thus, in both type of roles, these balance sheet related items had nil to negligible impact towards determination of CEO salary, perhaps Board did not consider these sub-variables as true performance criteria of CEO effort. In CEO duality companies, the correlations between CEO salary, Cash flow per share, net profit margin, common stocks outstanding, book value per common stock, and market value per common stock were characterized as moderate to good positive ratios. That is, the correlations were .470, .344, .544, .343, and .472 respectively.

However, it was found that, in CEO role companies, the correlations between CEO salary, cash flow per share, net profit margin, common stocks outstanding, book value per common stock, and market value per common stock were characterized as weak to moderate positive ratios, except for cash flow per share which had a -.011 ratio. That is, the correlations were -.011, .141, .035, .220, and .495 respectively. In addition, CEO duality role companies had a relatively higher influence than CEO role companies. In particular, the net profit margin effect on CEO salary was relatively higher in CEO duality role companies than in CEO role companies, suggesting board had emphasized performance con-sequences to CEO & Chairman duality role person. However, under both types of roles, market value per common stock, which essentially interprets the current business activities impact on CEO salary, was characterized as highest. That is the correlations were .472 and .495, respectively.

In CEO bonus compensation models, in CEO duality role companies, the correlations between CEO bonus, return on equity (ROE), return on assets (ROA), and earnings per share (EPS) were characterized as weak positive ratios. That is, the correlations were .146, 040, and .255, respectively. However, in the CEO role companies, the correlations between CEO bonus, return on equity (ROE), return on assets (ROA), and earnings per share (EPS) were ranged from weak negative to weak positive ratios. That is, the correlations were .085, -.023, and .045. Thus, CEO bonus compensation was weakly better in CEO duality role companies then in CEO role companies. Overall, it had shown that CEO bonus was not rewarded based on these assets related criteria under both types of CEO role. In the CEO duality companies, the correlations between CEO bonus, cash flow per share, net profit margin, common stocks outstanding, book value per common stock, and market value per common stock were characterized overall as moderate positive ratios, except for book value per common stock which had a -.074 ratio. That is, the correlations were .300, .420, .366, -.074, and .379, respectively. However, it was found that, in CEO role companies, the correlations between CEO bonus, cash flow per share, net profit margin, common stocks outstanding, book value per common stock, and market value per common stock were characterized overall as weak to good positive ratios, except for cash flow per share which had a -.039 ratio. That is, the correlations were -.039, .164, .057, .145, and .513. Overall, CEO duality role companies had a relatively superior influence than CEO role companies.

In particular, similar to the CEO salary case, the net profit margin effect on CEO bonus was relatively higher in CEO duality role companies than in CEO role companies, indicated that net-earnings performance was given more importance in CEO contract in CEO & Chairman than CEO role companies. In contrary, it was found that the market value per common stock was highest in CEO role companies than in CEO duality role companies. That is, the correlations were .379 and .513, signifying Board had used its power over CEO by giving importance of performance of the market share price towards CEO bonus compensation.

In the CEO total compensation models, both in CEO duality and CEO role companies, the correlations between CEO total compensation, return on equity (ROE), return on assets (ROA), and earnings per share (EPS) were characterized as weak positive ratios. That is, in CEO duality role companies, the correlations were .014, 017, and .190, respectively. That is, in CEO role companies, the correlations were .070, .068, and .101, respectively. Overall, it had shown that CEO total compensation (CEO salary, CEO bonus, and long-term benefits) was not rewarded based on these assets related criteria, under both types of CEO roles. In CEO duality companies, the correlations between CEO total compensation, cash flow per share, net profit margin, common stocks outstanding, book value per common stock, and market value per common stock were characterized overall as moderate to strong positive ratios.

That is, the correlations were .411, .577, .874, .383, and .769, respectively. However, it was found that, in CEO role companies, the correlations between CEO total compensation, cash flow per stock, net profit margin, common stocks outstanding, book value per common stock, and market value per common stock were characterized overall as weak to good positive ratios, except for the cash flow per stock which had a -.018 ratio. That is, the correlations were -.018, .182, .124, .276, and .690, respectively. Comparatively, this signified that CEO duality role companies had a relatively superior influence than CEO role companies. In particular, similar to CEO salary and CEO bonus findings, the correlations between CEO total compensation, cash flow per stock, net profit margin, and common stocks outstanding were more influential in CEO duality role companies than in CEO role companies. That is, cash balance and net earnings performance were given more importance in CEO contract in CEO & Chairman role. In contrary, it was found that the market value per common stock was characterized as highest in both CEO duality and CEO roles companies.

That is, the correlations were .769 and .690, signifying the importance of current market value of common stock (based on business activities) towards the determination of long-term CEO compensation.

Conclusion

Overall, in both CEO duality and CEO roles companies, it was found that there was a relationship between CEO salary, CEO bonus, CEO total compensation, and accounting performance. In addition, the correlations between CEO salary, CEO bonus, CEO total compensation, return on assets, return on equity, and earnings per share were weak positive under both CEO duality and CEO roles companies. However, in both CEO duality and CEO roles companies, it was found that the correlation results were divergent when examined with cash flow per share, net profit margin, common stocks outstanding, book and market values per common stock.

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Appendix

Operational Hypothesis Statement

H_0: There is no relationship between CEO compensation and accounting performance, under both CEO duality and CEO roles, in the NYSE companies.

H_1: There is a relationship between CEO compensation and accountin performance, under both CEO duality and CEO roles, in the NYSE companies.

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

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.

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