

THE ROLE OF CORPORATE GOVERNANCE IN EXECUTIVE COMPENSATION SYSTEM

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Abstract

This research study explores the relationship between the executive compensation and corporate governance among the New York Stock Exchange (NYSE) and the Toronto Stock Exchange (TSX/S&P) companies from 2005 to 2010. The quantitative research method was selected for this research study. The eighty largest companies from the New York Stock Exchange and the Toronto Stock Exchange were selected. The random sample method was used to select the two populations from each index. The research question for this research study was: is there a relationship between CEO cash compensation and corporate governance among the Toronto Stock Exchange and the New York Stock Exchange companies. The four statistical regression models found that there was a weak relationship between corporate governance and executive compensation among the TSX/S&P and the NYSE populations. Also, the Pearson correlation results indicated that the corporate governance has a minimal role towards the determination of the executive compensation.

Keywords: Corporate Governance, Executive Compensation, Corporate Reporting, CEO Power, Management Accounting

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1 Introduction

This research study is conducted to understand the relationship between CEO cash compensation and Corporate Governance from 2005 to 2010, among the Toronto Stock Exchange (TSX/S&P) and the New York Stock Exchange. The compensation of CEOs continues to attract the interest of shareholders, academics, media, and the general public. It is believed that the recent growth in CEO pay, against the backdrop of corporate scandals and governance failures that plagued corporations around the world, has put executive compensation at the center of the debate on corporate governance. The CEO compensation system has been greatly misunderstood by the public for some time, but it has been emerged as a concern during the period of the global credit crunch from 2007 to 2009. The general social, ethical belief is that CEOs should be rewarded based on accounting performance and should be penalized if companies perform below market expectations. This belief resulted in numerous single studies conducted in the United States and United Kingdom, yet these studies have failed to arrive at robust conclusions on the relationship between CEO pay and financial performance. Gomez-Mejia and Barkema (1998) admitted that after six decades of research, the failure to identify a robust relationship between executive compensation and firm performance has led scholars into a blind alley. A factor analysis conducted by Tosi, Werner, Katz and Gomez-Mejia (1998) finds that less

than 5 percent of CEO pay is explained by performance factors. Williams (1985) believed that executives themselves set their pay using outside consultants to legitimize compensation package, therefore transparency is minimized within decision making system. Jensen and Murphy (1990) and Hubbard and Palia (1995) favored executive compensation to be measured by the shareholder value. On the other hand, Nyberg, Fulmer, Gerhart and Carpenter (2010) measured firm performance using accounting variables such as net income, return on equity, and return on assets. The great scholars in the field of executive compensation such as, Gomez-Mejia, Eugene F. Fama, Michael Jensen, and Kevin Murphy have expressed concerns: why are robust conclusions not achieved; why these studies have arrived at divergent or inconsistent results; and why it has failed to establish defining factors that influenced CEO compensation system. Tosi et al. (2000) have blamed these concerns to different methods of collection, different statistical techniques, different samples, different moderator variables, and differences in how constructs of interest have been used in various studies. As such, these reasons have hampered to reach definite and consistent conclusions among previous studies. In addition, CEO cash compensation has rarely been studied as a separate study despite it is believed to be a strong proxy towards determining CEO total compensation. Agarwal (1981), Finkelstein & Boyd (1998), and Finkelstein and Hambrick (1989,1996) concluded that

simple measures of cash compensation are an excellent proxy for the CEO total pay. Similarly, Mehran (1992) reported that CEOs took 67% of total pay in the form of salary and a bonus and 22% in the form of equity based incentives. Overall, previous studies have failed to understand the CEO compensation system either due to: the few variables used in their studies; the focus on a distinct population segment; or the use of different statistical methodologies. That is, to understand CEO compensation system requires combinations of multi-variables comprised of dependent and independent variables as such, lacked focus, comprehensiveness, and discipline, to understand true determinants of CEO compensation. Therefore, all of these shortcomings suggest the need to conduct a new research to understand the true factors affecting the CEO compensation system.

Research Question:

Among TSX/S&P and NYSE companies, what relationship is there between CEO cash compensation and Corporate Governance?

Research Hypothesis:

H₀: Among TSX/S&P and NYSE companies, there is no relationship between CEO cash compensation and Corporate Governance.

H₁: Among TSX/S&P and NYSE companies, there is a relationship between CEO cash compensation and Corporate Governance.

2 Literature review

According to Jensen and Murphy (1990), voting power of CEO includes CEO and his immediate family stock ownership and the percentage of stocks over which CEO has a sale or shared power to direct the voting. It is believed that CEO's in large firms tend to own less stock and have less compensation based incentives than CEOs in small firms. This is supported in their other research, Jensen and Murphy (1990b), who finds that as a percentage of total corporate value, CEO stock ownership has never been high in large companies. That is, there exists a small and insignificant positive coefficient of the ownership interaction variable, which implied that the relation between compensation and performance is independent of an executive's stock holdings. In addition, according to their earlier study, Jensen and Murphy (1989), they find that median CEO of one of nation's 250 largest public companies own shares just over \$2.4 million, less than 0.07% of the company's market value. In addition, they find that 9 out of 10 CEOs own less than 1% of their company's stock, and 1 in 20 CEOs own more than 5% of the company's outstanding stocks. Overall, they find that CEOs receive about 50% of their base pay in the form of bonuses. Their study is based on sampling of 73 manufacturing firms during a 15 year period. This is contradicted by Mehran (1995), who finds a positive relationship between the percentage of total cash

(salary and bonus) compensation and percentage of shares held by managers. His study is based on one year's collection of data. Ungson and Steers (1984) believed that firms where CEOs have large stock ownership and long tenure, they can largely shape their pay. Similarly, Finkelstein and Hambrick (1988) believed that the relative power of a CEO may affect the height of the hurdles that are set to qualify for contingent pay. In addition, they believed that strong family's position in the firm will increase executive's power. Moreover, they find that CEO compensation and CEO stock ownership are related in an inverted U-shaped manner, compensation highest in situations where CEO stock ownership is characterized as moderate. That is, the point of inflection happened when CEO stock ownership reached about 9 percent in the first 18 years, beyond that, salaries started to decline due to tax preference of incurring capital gains over current income. Bertrand and Mullainathan (2000) finds that CEOs at firms lacking five percent (or larger) stock ownership tend to receive more luck based pay, that is, pay associated with profit increases that are entirely generated by external factors rather than by CEOs' efforts. In addition, they also find that firms that have fewer external stakeholders, CEO cash compensation is marginally reduced when option based compensation is increased.

Murphy (1986) stated that CEO performance is influenced by CEO tenure. That is, he believed that increased CEO tenure may promote principal trust of an agent and in turn agent will take actions in the principal's interest. Similarly, Sigler (2011) finds that CEO tenure appears to be an important variable in determining the level of CEO compensation. His examination is based on two hundred and eighty firms listed on the New York Stock Exchange from 2006 to 2009. In addition, Finkelstein and Hambrick (1989) believed that CEO tenure is thought to have a positive link with compensation. That is, pay steadily increases as CEO gains and solidify power over-time. However, they find in their study that such a relationship is not observed between CEO tenure and CEO pay. As such, they then decided to conduct additional testing, cross sectional associations of CEO compensation and CEO tenure, and have found that there is an existence of a curvilinear relationship, a U-shaped pattern. That is, CEO tenure increases pay up to 18 years and then it started to decline gradually. They have provided two possible explanations for this curvilinear relationship. Firstly, they believed that power accrues for a while and then diminishes due to CEO's reduced mobility in the managerial labor market, or due to his evolution into a figurehead with one or two younger high priced executives carry the actual weight of a CEO's job. Secondly, they believed that executives reached a point where they prefer stock over cash compensation. This could occur because of changes in family and financial circumstances. This supposition is supported when they have examined two sub samples and have found that stock compensation carries a higher

proportion of total compensation. As such, they believed that CEO tenure increases a shift in pay mix from cash to stock earnings, support the notion that personal circumstances influence pay. In addition, they believed that long CEO tenure will create opportunity to recruit sympathetic board members for CEOs. In addition, they find that the average tenure of a CEO is significantly lower in externally controlled firms (2.96 years) than management-controlled firms (5.92 years). Thus, they believed that the boards of externally controlled firms may not need to pay from profitability because CEO tenure is dependent on the owner's satisfaction with CEO performance.

Deckop (1988) argued that CEO age has little effect on CEO compensation. However, Finkelstein and Hambrick (1989) finds an inverted U-shaped relationship between CEO age and CEO cash compensation, indicating, CEO cash compensation increases until CEO reached the age of 59 years and then it starts to decline. This is consistent with the view that earnings over time is in line with CEO's need for cash, which tends to drop off as he or she gets older due to no major expenditures to incur such as, house and child rearing expenses. This is supported by McKnight et al. (2000), who find that CEO compensation is positively related to a certain age, but it starts to decline afterward. This is further supported by Weir (2000), who finds that the relationship between CEO salaries and CEO age are significantly related, but weakening over time, and the relationship between CEO age and CEO bonus appears nonlinear in nature. That is, at about age 53, the proportion of bonus as a percentage of salary begins to decrease at an increased rate. On the other hand, according to Gibbons and Murphy (1992), who finds that CEO age is a well-recognized determinant of compensation and have shown to be significantly related to CEO pay.

Jensen and Murphy (1990) finds that CEO turnover probabilities are negatively and significantly related to changes in shareholder wealth. In addition, they concluded that the dismissals were simply not an important source of CEO incentives. Gilson and Vetsuypens (1990) examined the nature of compensation packages for financially distressed firms. They found that within a small sample of financially distressed firms, when a turnover occurs, insider replacement CEOs were paid substantially less than their predecessors, but outsider replacement CEOs were paid substantially more. Similarly, Murphy and Oyer (2002) finds that outside CEO replacements receive higher compensation than inside CEO replacements. That is, outside replacement CEOs, at median, typically make \$335,360 more than their predecessors while inside CEOs are typically paid only \$126,156 more than their predecessors. Brickley (2003) concluded that firm performance continues to explain very little variation of CEO turnover.

The study conducted by Boudreaux (1973), Plamer (1973), and Gomez-Mejia, Tosi, and Hinkin (1987) believed that when there is no external equity holder with at least five percent of the stock, firm is called management controlled firm. Jensen and Murphy (1989) finds that executive inside stock ownership can provide incentives, but these holdings are not generally controlled by corporate board and the majority of top executives have small personal equity ownership. Mehran (1995) finds a negative relation between the management ownership and level of compensation. Core et al. (1999) finds that CEO equity ownership or the presence of another executive board member who owns at least 5% of the outstanding equity significantly reduces the level of CEO compensation. Bertrand and Mullainathan (2000) finds that CEOs in firms that lacks a five percent (or larger) external shareholder tend to receive more luck based pay, that is, pay associated with profit increases that are entirely generated by external factors rather than by managers' efforts. In addition, they also find that firms lack large external shareholders, cash compensation of CEOs is less reduced when their option based compensation is increased.

Gomez-Mejia, Tosi, and Hinkin (1987) finds that executives in externally controlled firms receive more compensation for performance and less for scale of operation than their counterparts in firms without dominant stockholders. Lambert et al. (1987) finds a negative relation between the existence of outside block holders that owns at least 5% of outstanding shares and executive compensation. This is supported by David, Kochar and Levitas (1998), who find that CEO pay is negatively correlated with the presence of pressure resistant institutional investors and positively correlated with presence of pressure sensitive ones. This is also supported by Cyert, Kang and Kumar (2002), who finds a negative relationship between equity ownership of largest shareholder and amount of CEO compensation. In addition, they find that doubling the percentage ownership of the outside shareholder reduces non salary compensation by 12-14%. This is further supported by Dyl (1998), who finds a negative relation between CEO equity ownership and compensation, which he blamed for monitoring activities that reduce agency costs.

3 Research methodology

This research requires a process of deductive reasoning by use of measurement tools to collect, count, and classify data. It demands a high level of objectivity and impartiality in processing and assessments, to achieve clear conclusions. In addition, it requires the use of statistical calculations to understand the nature and extent of the relationship between CEO cash compensation and Corporate Governance. As such, quantitative research method

will be adopted for this research study. Creswell (2009) stated that if problem calls for identification of factors that influence an outcome, the utility of an intervention, or understanding clear outcomes, then a quantitative approach is most suitable. The sample will consist of forty largest companies each of the New York Stock Exchange and the Toronto Stock Exchange companies, a total of eighty companies. Each company will have annual revenues in excess of two billion dollars. Within the system of quantitative research framework, this research will select a longitudinal study and survey methods to collect six years of data from 2005 to 2010. It will select a random sampling method to select sample populations. Descriptive and inferential statistics approaches such as the linear regression method will be used to transform surveyed data into statistical results. In this research study, CEO cash compensation

will be used as dependent variable and the Corporate Governance will be used as independent variables. The sub dependent variables of CEO cash compensation will be CEO salary and bonus. The sub independent variables of the Corporate Governance will be CEO age, CEO total stock holdings, total value of CEO stocks, CEO tenure, CEO turnover, 5% management ownership, and 5% individuals/institutional ownership. The ninety five percent (95%) confidence interval will be assigned for all the statistical tests.

3.1 Statistical models

The separate models were developed for the dependent variables salary and bonus:

$$\text{Salary: } Y_1 = c + B_1X_1 + B_2X_2 + B_3X_3 + B_4X_4 + B_5X_5 + B_6X_6 + B_7X_7 + \epsilon$$

$$\text{Bonus: } Y_2 = c + B_1X_1 + B_2X_2 + B_3X_3 + B_4X_4 + B_5X_5 + B_6X_6 + B_7X_7 + \epsilon$$

(Y_1 =salary; Y_2 =bonus; c =constant predictor; B_1 =influential factor for CEO age; B_2 =influential factor for CEO total stock holdings; B_3 =influential factor for total value of CEO stocks; B_4 =influential factor for CEO tenure; B_5 =influential factor for CEO turnover; B_6 =influential factor for 5% management stock ownership; B_7 =influential factor for 5% individuals/institutional stock ownership; and ϵ =error).

Let X_1 =value of CEO age; X_2 =value of CEO total stock holdings; X_3 =value of total value of CEO stocks; X_4 =value of CEO tenure; X_5 =value of CEO turnover; X_6 =value of 5% management stock ownership; and X_7 =value of 5% individuals/institutional stock ownership.

Confidence level (α) was set at 5 percent.

Weak ratio=+/- .000 to .249; moderate ratio=+/- .250 to .499; good ratio=+/- .500 to .749

strong ratio=+/- .750 to 1.000

4 Results

4.1 Regression models

The correlation results had found that there was a relationship between CEO salary, CEO bonus, and CEO power, among TSX/S&P and NYSE indexes companies, except for the relationship between CEO bonus and CEO power in NYSE medium sized companies. Among TSX/S&P and NYSE populations, it was found that there were weak to moderate positive correlations between CEO salary and CEO age. However, among TSX/S&P and NYSE populations, it was found that there were weak negative correlations between CEO salary and CEO age. Among TSX/S&P and NYSE populations, it was found that there were weak mixed correlations between CEO salary, CEO bonus and CEO total stocks. That is, the correlation was depended on board decision to reward based on extent of cash over stock options, and design and culture of CEO cash compensation system of a particular market. In TSX/S&P population, it was found that there were positive correlations between CEO salary, CEO bonus, and CEO total value of stocks. In NYSE population, it was found that there were weak mixed correlations between CEO salary, CEO bonus, and CEO total value of stocks. That is, the nature of this correlation was depended on the market price of the stock, and design and culture of

the CEO compensation system in a particular market. Among TSX/S&P and NYSE populations, it was found that there were weak positive correlations between CEO salary, CEO bonus, and CEO turnover. Among TSX/S&P and NYSE populations, it was found that there were weak negative correlations between CEO salary, CEO bonus, and CEO turnover. Among TSX/S&P and NYSE populations, it was found that there were weak mixed correlations between CEO salary, CEO bonus, and 5% management ownership. That is, the nature and extent of correlation will be based on design and culture of the CEO compensation system in a particular market. Among TSX/S&P and NYSE populations, it was found that there were weak negative correlations between CEO salary, CEO bonus, and 5% individual/institutional ownership. The CEO total stock holdings, total value of CEO stocks, CEO tenure, and 5% management ownership had a positive firm size influence on CEO cash compensation. The CEO age, CEO turnover, and 5% individuals/institutional ownership had a negative firm size influence on CEO cash compensation. Compared to previous studies, few circumstances the results were in agreement; some instances there were no previous studies to relate with; and in other cases previous results had lacked empirical results to compare clearly with these research findings.

Table 1. Regression models

Table 1										
TSX/S&P (Salary and Corporate Governance): Model Summary ^b										
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
TSX/S&P (Salary and Corporate Governance)	.390 ^a	0.152	0.126	391649.93	0.152	5.768	7	225	0	0.631
NYSE (Salary and Corporate Governance)	.381 ^a	0.145	0.119	316080.35	0.145	5.497	7	227	0	0.778
TSX/S&P (Bonus and Corporate Governance)	.282 ^a	0.08	0.05	1101479.1	0.08	2.72	7	220	0.01	1.029
NYSE (Bonus and Corporate Governance)	.283 ^a	0.08	0.05	1018598.2	0.08	2.681	7	215	0.011	1.137

4.2 Pearson correlations

In TSX/S&P population, the correlation results had shown a weak positive correlation of 0.111 between the CEO salary and CEO age. In NYSE population, correlation results had shown a weak positive correlation of 0.136 between the CEO salary and CEO age. In TSX/S&P population, correlation results had shown a weak positive correlation of .05 between the CEO bonus and CEO age. In NYSE large population, correlation results had shown a weak positive correlation of .05 between bonus and CEO age. The study conducted by Deckop (1988) argued that the CEO's age had little effect on CEO compensation. Finkelstein and Hambrick (1989) found an inverted U-shaped relationship between CEO age and CEO cash compensation. That is, CEO cash compensation had increased up to 59 years age, beyond which real cash earnings had decreased on a consistent basis till retirement. This is supported by McKnight et al. (2000) found that CEO compensation was positively related to age, but it had provided diminishing returns on marginal pay as age increased. This effect was so profound that marginal CEO compensation level decreased till CEO retirement age. Overall, previous research studies and this research study's results were found to be divergent. That is, previous studies had found an inverted U-shaped correlation results, whereas, this research study's results were ranged from weak negative to weak positive ratios.

In TSX/S&P population, the correlation results had shown a moderate positive correlation of .347 between CEO salary and CEO total stock holdings. Whereas, in the NYSE population, there was a positive correlation of .033 between CEO salary and CEO total stock holding. In the TSX/S&P population, a weak positive correlation of .169 between CEO bonus and CEO total stock holdings. Whereas, in the

NYSE population, there was a weak negative correlation of -.017 between CEO bonus and CEO total stock holdings. Therefore, these results had indicated that there were weak mixed correlations between CEO salary, CEO bonus, and CEO total stock holdings. That is, the correlations between them were dependent on the extent of cash over stock options rewards, and design and culture of the CEO cash compensation system of a particular market. The study conducted by Jensen and Murphy (1989) found that CEO stock ownership had not played any role towards pay performance sensitivity in CEO cash compensation. This is supported by Murphy and Jensen (1990), who found that there was a small and insignificant existence of positive coefficient of CEO total stock ownership, which implied that the relation between CEO compensation and firm performance was independent of the executive's stock holdings. The studies conducted by Agrawal & Knoeber (1996), Himmelberg et al. (1999), and Demsetz and Villalonga (2001), all had failed to find any relationship between firm value and the executives' equity stakes. However, Ungson and Steers (1984) found that firms where the CEO had large stock ownership, longest tenure, control of top management team or other means, a CEO can largely shape his or her pay. This was supported by Finkelstein and Hambrick (1989), who believed that executives who own significant portions of their firms are likely to control not only operating decisions but board decisions as well. Such executives would hence be in a position to essentially set their own compensation. In addition, a study conducted by Mehran (1995) found a positive relationship between percentages of total compensation in cash (salary and bonus) and percentages of shares held by managers. Overall, previous studies and this research study's results were found to be divergent. That is, previous studies had

found from nil to strong correlations between CEO compensation and CEO total stock holdings, however, this research study's findings ranged from weak negative to weak positive ratios.

In the TSX/S&P population, the correlation results had shown a weak positive correlation of .210 between CEO salary and total value of CEO stocks. Whereas, a weak positive correlation of .154 was found between CEO salary and total value of CEO stocks. In the TSX/S&P population, a weak positive correlation was found of .226 between CEO bonus and total value of CEO stocks. Whereas, a weak positive correlation of .06 was found among CEO bonus and total value of CEO stocks. The literature review had indicated there was only one research study conducted on the correlation between CEO compensation and total value of CEO stocks. That is, the study conducted by Jensen and Murphy (1990), who found that, the total value of CEO stocks were immaterial towards determining CEO compensation.

In the TSX/S&P population, the correlation results had shown a weak positive correlation of .105 between CEO salary and CEO turnover. Whereas, in the NYSE population, a weak positive correlation of .178 was found between CEO salary and CEO tenure. In the TSX/S&P, the correlations had a weak negative correlation of -.027 was found between CEO bonus and CEO turnover. Whereas, in the NYSE population, a weak negative correlation of -.037 was found between CEO bonus and CEO tenure. The study conducted by Murphy (1986) found that CEO tenure was influenced by CEO performance-contingent pay. In addition, he believed that a long CEO tenure may promote a principal's trust of an agent. Hermalin and Weisbach (1998), Bebchuk and Fried (2003), and Larcker and Rusticus (2004) found that CEOs over time acquire greater managerial power. Sigler (2011) argued that tenure of CEO appeared to be one of significant variables in determining the level of CEO compensation. However, Finkelstein and Hambrick (1989) stated that a monotonic relationship was not found between CEO tenure and CEO pay.

In the TSX/S&P population, the correlation results had shown a weak positive correlation of .001 between CEO salary and 5% management stock ownership. Whereas, in the NYSE population, a weak positive correlation of .166 was found between CEO salary and CEO turnover. In the TSX/S&P population, the correlation results had shown a weak positive correlation of .101 between CEO bonus and 5% management stock ownership. Whereas, in the NYSE population, a weak negative correlation of -.012 between CEO bonus and CEO tenure. The study conducted by Jensen and Murphy (1990) found that CEO turnover probabilities were negatively and significantly related to changes in shareholder wealth. In addition, they concluded that the dismissals were simply not an important source of CEO incentives. Murphy and Oyer (2002) found that outside CEO replacements receive higher compensation than insider

CEO replacements. That is, outside replacement CEOs, at median, typically make \$335,360 more than their predecessors while insiders were typically paid only \$126,156 more than their predecessors. Brickley (2003) concluded that firm performance continues to explain very little variation of CEO turnover.

In the TSX/S&P population, the correlation results had shown a weak negative correlation of -.018 between CEO salary and 5% individuals/institutional stock ownership. Whereas, in the NYSE population, the correlation results had shown a weak negative correlation of -.176 between salary and 5% individual/institutional stock ownership. In the TSX/S&P population, the correlation results had shown a weak positive correlation of .08 between bonus and 5% individuals/institutional stock ownership. Whereas, in the NYSE population, the correlation results had shown a weak negative correlation of -.157 between bonus and 5% individuals/institutional stock ownership. The study conducted by Gomez-Mejia, Tosi, and Hinkin (1987) found that executives in externally controlled firms receive more compensation for performance and less for scale of operation than their counterparts in firms without dominant stockholders. In addition, they believed that outside dominant stockholders view firms primarily as investments and have power and incentive to align compensation of CEOs with performance of firms. Lambert et al. (1987) found a negative relation between CEO compensation and 5% of outstanding stocks, when an outside block holder owns at least 5% of outstanding stocks. This is supported by David, Kochar and Levitas (1998), who found that CEO pay was negatively correlated with presence of pressure resistant institutional investors and positively correlated with presence of pressure sensitive ones. This is also supported by Cyert, Kang and Kumar (2002), who found a negative relationship between equity ownership of largest shareholder and amount of CEO compensation. In addition, doubling the percentage ownership of the outside shareholder reduced non-salary compensation by 12-14%. That is, equity ownership of the largest external shareholder had a strong negative relation to the size of CEO equity compensation and total variable pay

4.3 Model validity

A valid model requires a variance of residuals that are homogeneous across predicted values, known as homoscedasticity. If model is well fitted, then there should be no pattern to residuals plotted against fitted values. If the variance of residuals is non-constant, then residual variance is said to be heteroscedastic. In this research, graphical methods (histogram and scatter plots) were used to detect heteroscedasticity between salary, bonus, CEO age, CEO total stock holdings, total value of CEO stocks, CEO tenure, CEO turnover, 5% management share ownership, and 5% individual/institutional stock ownership, among

TSX/S&P and NYSE populations. It was found from these graphical results that there wasn't any concern of existence of heteroscedasticity as such, all four statistical models were described as homoscedastic..

Table 2. Pearson correlations

Table 2: Correlations									
Correlations (TSX/S&P: Salary and Corporate Governance)									
		SALARY	CEO AGE	CEO SHARES OUTSTANDING	CEO SHARES VALUE	CEO TENURE	CEO TURNOVER	=/> 5% MGMT	=/> 5% INDVS./INST IS.
Pearson Correlation	SALARY	1	0.08	0.171	0.347	0.21	-0.105	0.001	-0.018
	CEO AGE	0.08	1	0.039	-0.061	0.374	-0.123	-0.06	0.117
	CEO SHARES	0.171	0.039	1	0.545	0.26	-0.055	0.48	0.017
	CEO SHARES VALUE	0.347	-0.061	0.545	1	0.331	-0.048	0.288	0.013
	CEO TENURE	0.21	0.374	0.26	0.331	1	-0.273	0.169	0.008
	CEO TURNOVER	-0.105	-0.123	-0.055	-0.048	-0.273	1	-0.026	0.011
	5% MGMT	0.001	-0.06	0.48	0.288	0.169	-0.026	1	-0.156
	5% INDVS./INST IS.	-0.018	0.117	0.017	0.013	0.008	0.011	-0.156	1
	Correlations (NYSE: Salary and Corporate Governance)								
		SALARY	CEO AGE	CEO SHARES OUTSTANDING	CEO SHARES VALUE	CEO TENURE	CEO TURNOVER	=/> 5% MGMT	=/> 5% INDVS./INST IS.
Pearson Correlation	SALARY	1	-0.05	0.169	0.226	-0.037	-0.027	0.101	-0.08
	CEO AGE	-0.05	1	0.033	-0.066	0.359	-0.082	-0.042	0.117
	CEO SHARES	0.169	0.033	1	0.545	0.262	-0.054	0.479	0.022
	CEO SHARES VALUE	0.226	-0.066	0.545	1	0.335	-0.048	0.289	0.015
	CEO TENURE	-0.037	0.359	0.262	0.335	1	-0.276	0.177	0.01
	CEO TURNOVER	-0.027	-0.082	-0.054	-0.048	-0.276	1	-0.048	0.025
	5% MGMT	0.101	-0.042	0.479	0.289	0.177	-0.048	1	-0.162
	5% INDVS./INST IS.	-0.08	0.117	0.022	0.015	0.01	0.025	-0.162	1

4.4 Regression coefficients¹:

1. TSX/S&P (Salary and Corporate Governance):

$$Y_1 = 597239 + 6113.2X_1 - 4304.6X_4 + 106735X_5 - 76357X_6 - 18295X_7 \text{ (Appendix A – Table 4)}$$

2. NYSE (Salary and Corporate Governance):

$$Y_2 = 952406 + 3138.3X_1 - 0.019X_2 + 4785.4X_4 - 224471X_5 - 80729X_6 - 41181X_7 \text{ (Appendix A – Table 4)}$$

3. TSX/S&P (Bonus and Corporate Governance)

$$Y_3 = 1150543 + 6563.4X_1 + 0.005X_2 - 26737X_4 + 230903X_5 + 17100.5X_6 - 82789X_7 \text{ (Appendix B – Table 5)}$$

4. NYSE (Bonus and Corporate Governance)

$$Y_4 = 1280465 - 2308.5X_1 - 0.0094X_2 + 0.001X_3 - 19971X_4 - 194228X_5 + 351090X_6 - 111119X_7 \text{ (Appendix B – Table 5)}$$

The empirical coefficients in the equation one, TSX/S&P population, $Y_1 = 597239 + 6113.2X_1 - 4304.6X_4 + 106735X_5 - 76357X_6 - 18295X_7$; and the equation two, NYSE population, $Y_2 = 952406 + 3138.3X_1 - 0.019X_2 + 4785.4X_4 - 224471X_5 -$

¹ X₁=value of CEO age; X₂=value of CEO total stock holdings; X₃=value of total value of CEO stocks; X₄=value of CEO tenure; X₅=value of CEO turnover; X₆=value of 5% management stock ownership; and X₇=value of 5% individuals/institutional stock ownership.

80729X₆-41181X₇, had shown that equation one X₁ (CEO age), X₅ (CEO turnover), X₆ (5% management stock ownership), and X₇ (5% individuals/institutional stock ownership) were relatively higher to the equation two, indicated that these betas were significant in the regressions, providing much clearer evidence that positive and negative shocks are transitory in the TSX/S&P executive compensation relationship to corporate governance. That is, in the TSX/S&P population culture, CEO age, CEO turnover, the extent of management shares ownership in the company, and the external ownership had relatively stronger influence than in the NYSE population culture, perhaps indicated that relationship with the internal or external shareholders had influenced towards determining CEO cash compensation in particular bonus. On the other hand, it was found that equation one X₂ (CEO total stock holding), X₃ (total value of CEO stock holding), and X₄ (CEO tenure) were relatively lower to the equation two, indicated that these betas had less influence in the TSX/S&P executive compensation framework relative to NYSE executive compensation framework. That is, in the TSX/S&P population culture, CEO stock holding and ownership, and CEO tenure had relatively weaker influence than in the NYSE population culture, perhaps indicated that the CEO stock ownership and the extent of CEO service in the company were not appreciated to the level of the NYSE population towards determining CEO cash compensation, demonstration of a difference in the executive compensation cultures. According to Brauer and Westermann (2010), who stated that a negative coefficient on the betas would imply a smooth (non-oscillating) impulse-response pattern. The larger the beta, the faster is the reversion to the mean. X₁ (CEO age) and X₄ (CEO tenure) are > 0 indicated that, significant influence to the predictability and value relevance. However, X₂ (CEO total stock holding), X₅ (CEO turnover), X₆ (5% management stock ownership), and X₇ (5% individuals/institutional stock ownership), were < 0, indicated that all these variables had a weak negative influence on CEO cash compensation.

The empirical coefficients in the equation three, TSX/S&P population,

$$Y_3 = 1150543 + 6563.4X_1 + 0.005X_2 - 26737X_4 + 230903X_5 + 17100.5X_6 - 82789X_7;$$
 and the equation

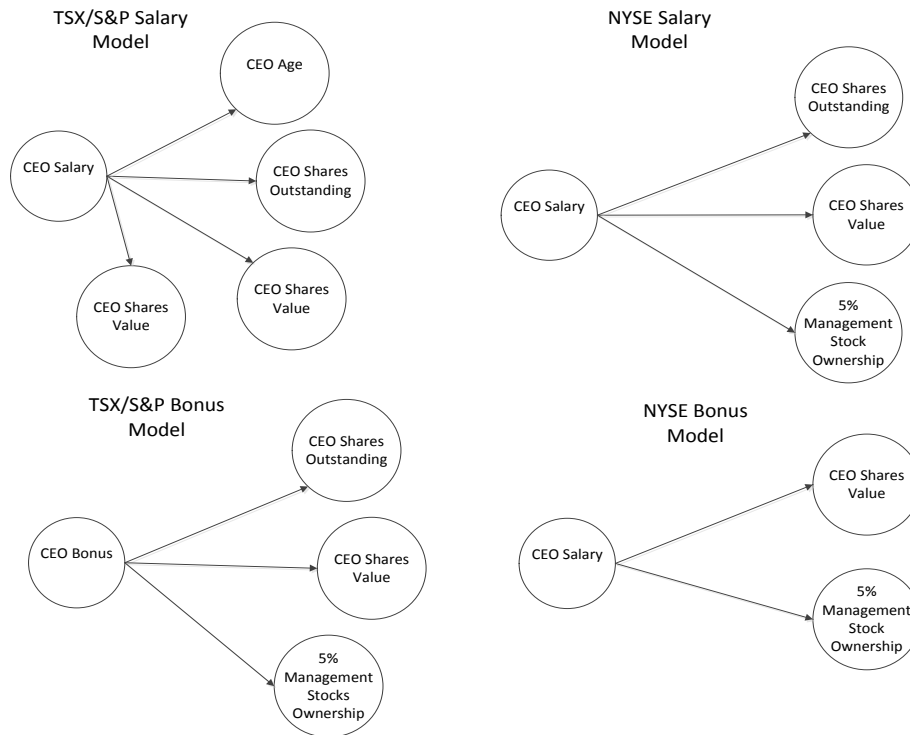
four, NYSE population, $Y_4 = 1280465 - 2308.5X_1 - 0.0094X_2 + 0.001X_3 - 19971X_4 - 194228X_5 + 351090X_6 - 111119X_7$ had shown that, the equation three X₆ (5% individuals/institutional stock ownership) was relatively higher to the equation four, indicated that the beta, although it was negative, provided less

negative shock to the TSX/S&P executive compensation model indicated that the external ownership had less negative influence to the executive compensation framework. On the other hand, it was found that, the equation three, TSX/S&P executive framework, X₄ (CEO tenure), and X₅ (CEO turnover) were relatively lower (higher negative shocks) to the equation four, indicated that these negative betas had undermined more in the TSX/S&P executive compensation framework relative to NYSE executive compensation framework. That is, both in the TSX/S&P & NYSE population cultures, CEO tenure and turnover had no correlation with CEO cash compensation. In the case of X₆ (5% management stock ownership), it was found that the NYSE executive compensation framework had been influenced more relative to TSX/S&P executive compensation framework, indicated that a higher positive transitory shock. That is, the management stock ownership had influenced the CEO cash compensation in particular in the NYSE population culture.

In addition, the collinearity tests confirmed that multicollinearity was not a concern in all the four statistical models. Also, the F-tests results (large numbers characterized statistical models usefulness) as provided in the table 1, had shown all four executive compensation regression models were statistically valid to draw conclusions.

4.5 Derived statistical executive compensation models

Based on the statistical results, there are four CEO cash compensation models had been developed among TSX/S&P and NYSE populations. The purpose of these models was to demonstrate the most influential variables that affect CEO salary and bonus. The following figure 3 had illustrated these derived statistical models. The first statistical model related to the TSX/S&P CEO salary consisted of CEO age, CEO shares outstanding, CEO shares value, and CEO tenure. The second statistical model related to the NYSE CEO salary consisted of CEO shares outstanding, CEO shares value, and 5% management stock ownership. The third statistical model related to the TSX/S&P CEO bonus consisted of CEO shares outstanding, CEO shares value, and 5% management stock ownership. The fourth statistical model related to the NYSE CEO bonus consisted of CEO shares value and 5% management stock ownership. Following are the four comparative executive compensation models:

Figure A.1. Derived regression models for the Toronto Stock Exchange and the New York Stock Exchange Salary and Bonus Models

5 Conclusion and future study

This research study was conducted to understand the nature and extent of the relationship between executive compensation and corporate governance, among the TSX/S&P and NYSE populations. It is also a comparative study to explore the executive compensation cultures of these two populations. In addition, to clarify shareholders, investors, and the public, the influence senior management shares ownership, age, tenure, and the nature of the ownership, on the determinants of CEO cash compensation. The eighty largest companies were sampled from prestigious New York Stock Exchange and the Toronto Stock Exchange indexes. The four statistical models were used for the statistical tests. The results indicated that, among TSX/S&P and NYSE populations, all model regressions (R^2) were characterized as weak ratios, perhaps due to the minimal influence of the CEO stock ownership, CEO tenure and age, and between ownership types. From previous studies such as of Finkelstein and Boyd (1989), argued that the balance of power between the board and the CEO is a major determinant of the CEO compensation. This is supported by Bebchuk and Fried (2005), who stated that executive compensation is consistent with executives who control their own

boards and maximize their own compensation subject to an outrage constraint. Aggarwal and Samwick (1999) and Bebchuk, Fried, and Walker (2002) found that, CEO power was widely believed to vary in cross section and over time. According to Eisenhardt (1989), CEO compensation is influenced by agency theory in the form of governance structure whereby a weaker governance structure leads to relatively greater CEO compensation. Fama and Jensen (1983) believed that the executives are in the position to use their power to influence the board of directors to keep them in check. This is supported by Yin, Tian, and Chow (2008) that, the managerial contract is determined through bargaining between the board and the manager.

The future research may focus on the impact of the International Financial Reporting Standard (IFRS) on the executive compensation system, in particular the countries that are recently adopted or plan to adopt in the near future. This research topic will make an invaluable contribution to the executive compensation literature towards understanding the nature and extent of influence of the IFRS. In addition, it can also be used as a proxy towards future studies such as in the United States, when it planned to adopt IFRS.

Appendices

Appendix A

Appendix A: Table 4												
Coefficients: TSX/S&P (Salary and Corporate Governance)												
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B		Correlations			Collinearity Statistics	
	B	Std. Error				Beta	Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance
(Constant)	597239	339511.69		1.759	0.08	-71790.199	1266268.421					
CEO AGE	6113.2	6408.052	0.065	0.954	0.341	-6514.243	18740.701	0.08	0.063	0.059	0.799	1.251
CEO SHARES OUTSTANDING	0	0.002	0.016	0.194	0.846	-0.004	0.005	0.171	0.013	0.012	0.578	1.73
CEO SHARES VALUE	0	0	0.353	4.579	0	0	0	0.347	0.292	0.281	0.635	1.575
CEO TENURE	4304.6	4596.178	0.07	0.937	0.35	-4752.412	13361.708	0.21	0.062	0.057	0.682	1.467
CEO TURNOVER	-106735	108824.24	-0.063	-0.981	0.328	-321179.744	107710.374	-0.105	-0.065	-0.06	0.923	1.084
5% MGMT	-76357	43625.474	-0.125	-1.75	0.081	-162324.033	9609.491	0.001	-0.116	-0.107	0.733	1.363
5% INDS./INST IS.	-18295	23144.557	-0.05	-0.79	0.43	-63902.64	27312.994	-0.018	-0.053	-0.049	0.953	1.049
Coefficients: NYSE (Salary and Corporate Governance)												
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B		Correlations			Collinearity Statistics	
	B	Std. Error				Beta	Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance
(Constant)	952406	123969.4		7.683	0	708128.029	1196683.861					
CEO AGE	3138.3	2265.818	0.091	1.385	0.167	-1326.463	7602.986	0.136	0.092	0.085	0.881	1.135
CEO SHARES OUTSTANDING	-0.019	0.008	-0.265	-2.496	0.013	-0.034	-0.004	0.033	-0.163	-0.153	0.335	2.982
CEO SHARES VALUE	0	0	0.38	3.444	0.001	0	0.001	0.154	0.223	0.211	0.309	3.232
CEO TENURE	4785.4	5490.688	0.07	0.872	0.384	-6033.809	15604.657	0.178	0.058	0.053	0.587	1.703
CEO TURNOVER	-224471	85126.875	-0.173	-2.637	0.009	-392211.338	-56731.512	-0.166	-0.172	-0.162	0.874	1.144
5% MGMT	-80729	41780.737	-0.137	-1.932	0.055	-163056.615	1598.722	-0.05	-0.127	-0.119	0.751	1.331
5% INDS./INST IS.	-41181	12966.598	-0.197	-3.176	0.002	-66731.628	-15631.057	-0.176	-0.206	-0.195	0.976	1.025

Appendix B

Appendix B: Table 5												
Coefficients: TSX/S&P (Bonus and Corporate Governance)												
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B		Correlations			Collinearity Statistics	
	B	Std. Error				Beta	Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance
(Constant)	1150543	945308.37		1.217	0.225	-712475.681	3013562.372					
CEO AGE	6563.4	17818.669	0.026	0.368	0.713	-28553.727	41680.536	-0.05	0.025	0.024	0.812	1.231
CEO SHARES OUTSTANDING	0.005	0.006	0.075	0.888	0.375	-0.006	0.017	0.169	0.06	0.057	0.579	1.726
CEO SHARES VALUE	0	0	0.236	2.9	0.004	0	0.001	0.226	0.192	0.188	0.633	1.579
CEO TENURE	-26737	13096.107	-0.16	-2.042	0.042	-52546.479	-926.719	-0.037	-0.136	-0.132	0.682	1.467
CEO TURNOVER	-230903	306747.64	-0.051	-0.753	0.452	-835443.442	373636.468	-0.027	-0.051	-0.049	0.92	1.087
5% MGMT	17100.5	123762.99	0.01	0.138	0.89	-226812.267	261013.333	0.101	0.009	0.009	0.734	1.363
5% INDS./INST IS.	-82789	65454.914	-0.084	-1.265	0.207	-211788.114	46209.707	-0.08	-0.085	-0.082	0.948	1.055
Coefficients: NYSE (Bonus and Corporate Governance)												
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B		Correlations			Collinearity Statistics	
	B	Std. Error				Beta	Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance
(Constant)	1280465	404618.46		3.165	0.002	482938.375	2077992.183					
CEO AGE	-2308.5	7206.115	-0.022	-0.32	0.749	-16512.225	11895.13	-0.051	-0.022	-0.021	0.892	1.12
CEO SHARES OUTSTANDING	-0.094	0.039	-0.334	-2.397	0.017	-0.172	-0.017	-0.012	-0.161	-0.157	0.22	4.535
CEO SHARES VALUE	0.001	0	0.32	2.319	0.021	0	0.002	0.06	0.156	0.152	0.225	4.44
CEO TENURE	-19971	17994.585	-0.095	-1.11	0.268	-55439.728	15497.053	-0.019	-0.075	-0.073	0.584	1.712
CEO TURNOVER	-194228	276691.44	-0.049	-0.702	0.483	-739602.734	351147.623	-0.002	-0.048	-0.046	0.863	1.159
5% MGMT	351090	138021.94	0.193	2.544	0.012	79040.145	623138.935	0.143	0.171	0.166	0.747	1.339
5% INDS./INST IS.	-111119	43186.15	-0.171	-2.573	0.011	-196241.755	-25996.847	-0.157	-0.173	-0.168	0.973	1.027

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