

A Combined Study of Canada's Top CEO Compensation Sectors - Energy, Metal, & Mining - An Empirical Study

Dr. Yusuf Mohammed Nulla¹

Abstract

This study investigated CEO compensation system of Canada's top CEO compensation sectors, energy, metal, and mining. It tested the relationship between CEO cash compensation, firm size, accounting firm performance, and corporate governance in TSX/S&P index companies from 2005 to 2010. The totaled of fifty one Canadian energy, metal, and mining companies were selected through random sample method from TSX/S&P index companies list. The research question for this study was - is there a relationship between CEO cash compensation, firm size, accounting performance, and corporate governance in energy, metal, and mining industries?. 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 in energy, metal, and mining. The correlations between CEO cash salary, firm size, and accounting performance were good to strong positive ratios; the correlation between CEO salary and corporate governance had weak mixed ratios; the correlations between CEO bonus, total compensation, and firm size had strong positive ratios; the correlations between CEO bonus, total compensation, firm performance, and corporate governance were ranged from weak negative to strong positive ratios.

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

Introduction

The purpose of this research is to understand in-depth top Canadian CEO compensation sectors, energy, metal, and mining. Over the past decade, Canadian 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 through monopolization of the compensation system. Thus, these ever growing concerns bring to the foreground conclusion the need to further study in depth at least top Canadian business sectors, energy, mining, and metals, in terms of primary relationship and the resulting dynamics between CEO compensation, firm size, accounting performance, and corporate governance.

The CEOs and 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 the 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.

¹ Ph.D.,D.Phil., MSc, MBA, B.Comm, yusuf.nulla@ugsm-monarch.ch

The most researched topics in the executive compensation are between CEO compensation and firm performance. Although executive compensation and firm performance have been the subject of debate amongst 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 with 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 to 1986. 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) find 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 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 adopted to study corporate financial records from 2005 to 2010. The totaled of fifty one Canadian energy, metal, and mining companies were selected through random sample method from TSX/S&P index companies list. 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 totaled of nine statistical models were 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 quantitative research, had been used to obtain statistical results. The 95 percent confidence level will be assumed for all the statistical tests.

Data Findings and Conclusions

Table 1 (Regression Analysis - ANOVA)

| | Salary | Bonus | Total Compensation |
|----------------------|--|--|--|
| Firm Size | $F_{(2,299)}=218.565$ p=.000 $R^2=0.594$ | $F_{(2,268)}=401.812$ p=.000 $R^2=0.750$ | $F_{(2,256)}=369.484$ p=.000 $R^2=0.143$ |
| Firm Performance | $F_{(8,283)}=95.181$ p=.000 $R^2=0.729$ | $F_{(8,284)}=73.938$ p=.000 $R^2=0.676$ | $F_{(8,261)}=132.365$ p=.000 $R^2=0.802$ |
| Corporate Governance | $F_{(7,291)}=13.443$ p=.000 $R^2=0.244$ | $F_{(7,253)}=9.648$ p=.000 $R^2=0.211$ | $F_{(7,250)}=6.564$ p=.000 $R^2=0.155$ |

The above ANOVA table 1 results were based on the linear regression testing. It had shown that there was a relationship between CEO salary, CEO bonus, total compensation, firm size, firm performance, and corporate governance in energy, metal, and mining industries. The first two models between CEO salary, CEO bonus, and firm size had ratios of .594 and .750 as such characterized as strong. The third model between firm size and total compensation was .143 as such characterized as weak.

This is perhaps due to the very weak influence perhaps a negative influence of long-term benefits beta on CEO compensation model. The fourth, fifth, and sixth models between CEO salary, CEO bonus, total compensation, and firm performance, were .729, .676, and .802, as such characterized as strong. The seventh, eighth, and ninth models between CEO salary, CEO bonus, and corporate governance were .244, .211, and .155, as such characterized as weak. Thus, in the CEO contract, the elements of corporate governance or qualitative criteria were small in determining CEO pay.

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

| | Salary | Bonus | Total Compensation |
|-----------------|--------|-------|--------------------|
| Total Sales | 0.697 | 0.828 | 0.766 |
| Total Employees | 0.718 | 0.757 | 0.750 |

The above table 2 illustrated the correlation results between CEO salary, CEO bonus, total compensation, and firm size in energy, metal, and mining. It had shown that there was a strong correlation existed between CEO salary, CEO bonus, total compensation, total sales, and total employees. Thus, it indicated that in Canadian energy, metal, and mining companies, CEO pay is highly correlated to firm size variables such as total sales and total employees. The relationships between CEO salary, total sales, and total employees were .697 and .718 indicated that the level of total sales and total employees were influential factor in determining CEO salary. Likewise, the relationships between CEO bonus, total sales, and total employees were .828 and .757 indicated that the level of total sales and total employees were influential factor in CEO bonus. Likewise, the relationships between CEO total compensation, total sales, and total employees were .766 and .750 indicated that the level of total sales and total employees were influential factor in determining CEO total compensation. Overall, it had shown that cash and non-cash components of CEO compensation was equally influenced by variables of firm size.

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

| | Salary | Bonus | Total Compensation |
|------------------------------|--------|-------|--------------------|
| Return on Assets | 0.133 | 0.107 | 0.084 |
| Return on Equity | 0.132 | 0.184 | 0.142 |
| Earnings Per Share | 0.146 | 0.143 | 0.111 |
| Cash Flow Per Share | 0.381 | 0.295 | 0.227 |
| Net Profit Margin | 0.530 | 0.691 | 0.645 |
| Common Stock Outstanding | 0.785 | 0.747 | 0.811 |
| Book Value of Common Stock | 0.622 | 0.590 | 0.759 |
| Market Value of Common Stock | 0.387 | 0.359 | 0.344 |

The above table 3 illustrated the correlation results between CEO salary, CEO bonus, CEO total compensation and firm performance in energy, metal, and mining. It had shown that there was a weak positive correlation existed between CEO salary, CEO bonus, CEO total compensation, return on assets (ROA), return on equity (ROE), earnings per share, and cash flow per share (CFPS). Thus, it had indicated that in the Canadian energy, mining, and metal sectors, among the balance sheet items such as ROA, ROE, and CFPS, the influence to any component of CEO compensation was characterized as weak positive, perhaps due to CEO compensation contract gives less importance to assets and related returns. In addition, there was also a weak positive relationship between CEO compensation and earnings per share (EPS). It was also found that there was a strong correlation between CEO salary, CEO bonus, CEO total compensation, net profit margin (NPM), common shares outstanding (CSO), book value of common shares outstanding (BVCSO), and market value of common shares (MVCS). Thus, it had indicated that accounting net income is one of the major determinant of the CEO compensation model.

In addition, common shares outstanding surprisingly found to be highly correlated with CEO salary perhaps had influenced by additional shares issued and outstanding in the market. In addition, the value of common shares at cost and market were also found to be highly correlated with CEO salary indicated the effect of strong earnings and positive market reactions.

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

| | Salary | Bonus | Total Compensation |
|--------------------------|--------|--------|--------------------|
| CEO Age | 0.214 | 0.237 | 0.215 |
| CEO Shares Outstanding | -0.217 | -0.136 | -0.211 |
| CEO Share Value | 0.110 | 0.177 | 0.040 |
| CEO Tenure | 0.259 | 0.276 | 0.166 |
| CEO Turnover | -0.046 | -0.065 | -0.063 |
| MGMT. 5% Ownership | -0.149 | 0.059 | -0.123 |
| INDV./INST. 5% Ownership | 0.183 | 0.033 | 0.114 |

The above table 4 illustrated the correlation results between CEO salary, CEO bonus, total compensation, and CEO power energy, metal, and mining. It had shown that there was a weak mixed correlation 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. Thus, it had indicated that in energy, metal, and mining sectors, the correlations between CEO salary and corporate governance were .214, -.217, .110, .259, -.046, -.149, and .183, respectively. The correlations between CEO bonus, CEO age, CEO share value, CEO tenure, 5 percent management ownership, and 5 percent individual/institutional ownership found to be weakly positive, except for CEO shares outstanding and CEO turnover which had a weak negative relationship.

The correlations between CEO bonus and corporate governance were .237, -.136, .177, .276, -.065, .059, and .033, indicated that there was a weak influence on CEO bonus. Firstly, perhaps due to weak influence of non-performance factors or CEO contract ignored corporate governance factors. Secondly, the board ignored CEO shares ownership in the company and market price of the stock as a performance factor. Thirdly, the board also ignored the impact of management-controlled and owner-controlled criteria towards determining CEO bonus. Fourthly, CEO tenure and CEO age had a weak positive relationship with CEO bonus perhaps duration of the service and increased aging had not been appreciated by the board. The correlations between CEO total compensation, CEO age, CEO shares value, CEO tenure, and 5 percent individuals/institutional ownership found to have weak positive ratios, except for CEO shares outstanding, CEO turnover, and 5 percent management ownership, that had weak negative ratios. The correlations between CEO total compensation and corporate governance were .215, -.211, .04, .166, -.063, -.123, and .114 respectively, indicated weak mixed ratios.

Conclusion

Overall, there was a relationship existed between CEO salary, CEO bonus, CEO total compensation, firm size, accounting performance, and corporate governance in energy, metal, and mining industries. The correlations between CEO salary, CEO bonus, CEO total compensation, total sales, and total employees were characterized as strong ratios. There was a weak positive correlation existed between CEO salary, CEO bonus, CEO total compensation, return on assets (ROA), return on equity (ROE), earnings per share (EPS), and cash flow per share (CFPS). However, there was a strong correlation existed between CEO salary, CEO bonus, total compensation, net profit margin (NPM), common shares outstanding (CSO), book value of common shares outstanding (BVCSO), and market value of common shares (MVCS). There was a positive correlation existed between CEO salary, CEO age, CEO shares, CEO tenure, and individuals/institutional 5 percent ownership.

Conversely, there was a weak negative correlation existed between CEO salary, CEO shares outstanding, CEO turnover, and management 5 percent ownership. The correlations between CEO bonus, CEO age, CEO share value, CEO tenure, management 5 percent ownership, and individual/institutional 5 percent ownership found to have weak positive ratios. Conversely, the correlations between CEO bonus, CEO shares outstanding, and CEO turnover were found to have negative ratios. The correlations between CEO total compensation, CEO age, CEO share value, CEO tenure, and individuals/institutional 5 percent ownership found to have weak positive ratios. In contrary, the correlations between total compensation, CEO shares outstanding, CEO turnover, and management 5 percent ownership were found to have weak negative ratios.

References

- Agrawal A, and Knoeber, C.R. (1996), 'Firm performance and mechanisms to control agency problems between managers and shareholders', *Journal of Finance Quantitative Analysis*, Vol. 31(3), pp. 377-397.
- Allen, M.P. (1974), 'The Structure of inter-organizational elite co-optation', *American Sociological Review*, Vol. 39, pp. 393-406.
- Amould, Richard J. (1985), 'Agency costs in Banking Firms: An Analysis of Expense Preference Behaviour', *Journal of Economics and Business*, Vol. 37, pp. 103-112.
- Antle, Rick, and Smith, Abbie (1986), "An Empirical Investigation of the Relative Performance Evaluation of Corporate Executives", *Journal of Accounting Research*, Vol. 24, No. 1 (Spring), pp. 1-39.
- Belkaoui, A., and Picur, R. (1993), 'An analysis of the use of accounting and market measures of performance, CEO experience and nature of deviation from analyst forecasts', *Managerial Finance*, Vol. 19(2), pp. 33-54.
- Bertrand, Marianno and Mullainathan, Sendhil (2001), 'Are CEO's Rewarded for Luck? The Ones Without Principals Are', *Quarterly Journal of Economics*, pp. 901-932.
- Blanchard, Olivier Jean, Lopez-de-Selanes, Florencio, and Shleifer, Andrei (1994), 'What do Firms do with Cash indfalls?', *Journal of Financial Economics*, Vol. 36 (3), pp. 337-360.
- Borman, W. C., & Motowidlo, S. J. (1993), 'Expanding the criterion domain to include elements of contextual performance', in N. Schmitt & W. C. Borman (Eds.), *Personnel selection in organizations*, pp. 71-98, San Francisco, CA: Jossey Bass.
- Boyd, Brian K. (1994), 'Board Control and CEO Compensation', *Strategic Management Journal*, Vol. 15, pp. 335-344. Carpenter, M. A., & Sanders, W. M. G (2002), 'Top management team compensation: The missing link between CEO pay and firm performance' *Strategic Management Journal*, 23, pp. 367-375.
- Coughan, Anne T., and Schmidt, Ronald M. (1985), "Executive Compensation, Management Turnover, and Firm Performance: an Empirical Investigation", *Journal of Accounting and Economics*, Vol. 7, Nos. 1-3 (April), pp. 43-66.
- Cyert, Richard, Sok-Hyon, Kang, and Praveen Kumar (2002), 'Corporate Governance, Take-overs, and Top-Management Compensation: Theory and Evidence,' *Management Science*, Vol. 48 (4), pp. 453-469.
- David, P., Kochar, R., and Levitas, E. (1998), 'The effect of institutional investors on the level and mix of CEO compensation', *Academy of Managerial Journal*, Vol. 41, pp. 200-228.
- Deckop, John R. (1988), "Determinants of Chief Executive Officer Compensation", *Industrial and Labor Relations Review*, Vol. 41, No. 2, pp. 215-226.
- Demsetz, H. and Villalonga, B. (2001), 'Ownership structure and corporate performance', *Journal of Corporate Finance*, Vol. 7(3), pp. 209-233.
- Dyl, Edwardn A. (1998), 'Corporate control and management compensation', *Managerial and Decision Economics*, vol. 9, pp. 21-25.
- Finkelstein, S. & Boyd, B. K. (1998), 'How much does CEO matter? The role of managerial discretion in the setting of CEO compensation', *Academy of Management Journal*, Vol. 41, pp. 179-199.

- Finkelstein S. and Hambrick, D. (1989), 'Chief executive compensation: A Study of the intersection of markets and political processes', *Strategic Management Journal*, Vol 10, Issue 2, pp. 121-134.
- Finkelstein S. and Hambrick, D. (1996), *Strategic Leadership: Top Executive and their Effects on Organization*. West Publishing: New York.
- Fox, Hartland (1983), 'Top Executive Compensation, Conference Board publication. Gibbons, Robert, and Murphy, Kevin J. (1990), "Relative Performance Evaluation for Chief Executive Officers", *Industrial and Labor Relations Review*, Vol. 43, No. 3, pp. 30S-51S.
- Gomez-Mejia, Luis R. and Tosi, Henry L., Hinkin, T. (1987), 'Managerial control, performance, and executive compensation', *Academy of Management Journal*, Vol. 30, pp. 51-70.
- Gomez-Mejia, Luis R. and Barkema, Harry G (1998), 'Managerial Compensation and Firm Performance: A General Research Framework' *The Academy of Management Journal*, Vol. 2, No. 2, Special Research Forum on Managerial Compensation and Firm Performance, pp. 135-145.
- Gomez-Mejia, Luis R. and Tosi, Henry L. (1989), 'The Decoupling of CEO Pay and Performance: An Agency Theory Perspective', *Administrative Science Quarterly*, 34, pp. 169-189.
- Gomez-Mejia, Luis R. and Tosi, Henry L. (1994), 'CEO Compensation Monitoring and Firm Performance', *The Academy of Management Journal*, Vol. 37, No. 4 (Aug. 1994), pp. 1002-1016.
- Gray, S. R., & Cannella, A. A. (1997), "The Role of Risk in Executive Compensation", *Journal of Management*, Vol. 23, pp. 517-540.
- Hambrick, D.C. and Finkelstein, S. (1995), 'The Effects of Ownership Structure on Conditions at the Top: The Case of CEO Pay Raises', *Strategic Management Journal*, Vol. 16, pp. 175-194.
- Himmelberg CP, Hubbard RG, and Palia D. (1999), 'Understanding the determinants of managerial ownership and the link between ownership and performance', *Journal of Finance Economics*, Vol.. 53(3), pp. 353-384.
- Iyengar, Raghavan J. (2000), 'CEO Compensation In Poorly Performing Firms', *Journal of Applied Business Research*, Vol. 16, Issue 3, pp.1-28.
- Jensen M., and Murphy, K. (1985), "Management Compensation And The Managerial Labor Market", *Journal of Accounting and Economics*, Vol. 7, No. 1-3, pp. 3-9.
- Jensen M., and Murphy, K. (1990), 'Performance pay and top management incentives', *Journal of Political Economy*, Vol. 98, pp. 225-264.
- Jensen M., and Murphy, K. (1990b), 'CEO Incentives: It's not how much you pay but how', *Harvard Business Review*, Vol. 68, No. 3, pp. 138-153.
- Jensen M., and Murphy, K. (2010), 'CEO incentives – It's not how much pay, but how', *Journal of Applied Corporate Finance*, Vol. 22, pp. 64-76.
- Jensen, Michael C., and Meckling, William H. (1976), 'Theory of the firm: Managerial behaviour, agency costs and ownership structure, *Journal of Financial Economics*, Vol. 3, pp. 305-360.
- Jensen, Michael C., and Ruback, Richard S. (1983), 'The market for corporate control', *Journal of Financial Economics*, Vol. 11, pp. 5-50.
- Jensen, Michael C. and Zimmerman, Jerold L. (1985), "Management Compensation And The Managerial Lbor Market", *Journal of Accounting and Economics*, Vol. 7, No. 1-3, pp. 3-9.
- Joskow, Paul L., and Nancy, L. (1994) 'CEO Pay and Firm Performance: Dynamics, Asymmetries, and Alternative Performance Measures', *NBER Working Paper Series*, vol. w 4976.
- Kostiuk, Peter F. (1990), 'Firm Size and Executive Compensation', *The Journal of Human Resources*, University of Wisconsin Press, Vol. 25, pp. 90-105.
- Lambert, R. and Larker, D. (1984), 'Stock Options and Marginal Incentives', Working Paper, Northwestern University, Evanston, IL.
- McEachern, W. (1975), *Managerial control and performance*. Lexington, MA: Lexington Books.
- Mehran, H. (1992), 'Executive Incentive Plans, Corporate Control, and Capital Structure', *Journal of Financial and Quantitative Analysis*, Col. 27, pp. 539-560.
- Mehran, H. (1995), 'Executive compensation structure, ownership, and firm performance' *Journal of Financial Economics*, Vol. 38: 163-184.

- Murphy, Kevin J. (1985), 'Corporate performance and managerial remuneration, *Journal of Accounting and Statistics*, Vol. 7, pp. 11-42.
- Murphy, K. J. (1986), 'Incentives, learning and compensation: A theoretical and empirical investigation of managerial labor contracts', *Rand Journal of Economics*, Vol. 7, pp. 105-131.
- Murphy, Kevin J. (1999), 'Executive Compensation', *Handbook of Labor Economics*, Vol. III, Amsterdam: North-Holland, pp. 2485-2563.
- Murphy K. J. and Gibbons, R. (1989), 'Optimal Incentive Contracts in the Presence of Career Concerns: Theory and Evidence', pp. 90-109.
- Murphy, K. J., and Oyer, P. (2002), *Discretion in executive incentive contracts: Theory and evidence*, Working paper, University of Southern California and Stanford University.
- Murphy, K. R. and Slater, M. (1975), 'Should CEO pay be linked to results?', *Harvard Business Review*, vol. 53(3), pp. 66-73.
- Nulla, Yusuf Mohammed (2012), 'The Accounting relationship between CEO Cash Compensation and Firm Size in TSX/S&P companies', *International Journal of Scientific and Engineering Research*, Volume 3, Issue 7 (July).
- Nulla, Yusuf Mohammed (2012), 'The CEO Compensation System of New York Stock Exchange (NYSE) Technology Companies: An Empirical Study between CEO Compensation, Firm Size, Firm Performance, and CEO Power', *International Journal of Scientific and Engineering Research*, Volume 3, Issue 8 (August).
- Nulla, Yusuf Mohammed (2012), 'Is Accounting Net Profit Margin (NPM) a valid measure of CEO Cash Compensation?: A Comparative Analysis on TSX/S&P and NYSE Companies', *International Journal of Scientific and Engineering Research*, Volume 3, Issue 8 (September).
- Nulla, Yusuf Mohammed (2013), 'CEO, CEO/Chairman Duality, and Compensation: An Empirical Study of Toronto Stock Exchange Companies', *International Journal of Scientific and Engineering Research*, Volume 4, Issue 2 (February).
- Nulla, Yusuf Mohammed (2013), 'An Examination of CEO Compensation System in the Toronto Stock Exchange (TSX/S&P) Retail Companies', *International Journal of Scientific and Engineering Research*, Volume 4, Issue 2 (February).
- Nulla, Yusuf Mohammed (2013), 'The Effect of Return on Assets (ROA) on CEO Compensation System in TSX/S&P and NYSE Indexes Companies', *International Journal of Scientific and Engineering Research*, Volume 4, Issue 2 (February).
- Pfeffer, Jeffrey (1981), 'Managing with Power', Pitman Publication.
- Prasad, S. B. (1974), 'Top Management Compensation and Corporate Performance', *The Academy of Management Journal*, Vol. 17, pp. 554-558.
- Sigler, K. J. (2011), 'CEO Compensation and Company Performance', *Business and Economic Journal*, Volume 2011, pp. 1-8.
- Sanders, W. G., and Carpenter, M.A. (1998) 'Internationalization and firm governance: The roles of CEO compensation, top team composition, and board structure', *Academy of Management Journal*, Vol. 41, pp. 158-178.
- Sigler, K. J. (2011), 'CEO Compensation and Company Performance', *Business and Economic Journal*, Volume 2011, pp. 1-8.
- Simmons, S. A., M. Kroll, and P. Wright (1991), 'Winners and Losers in Acquisitions: A Conical Correlation Analysis', *Southeastern Division of The Institute of Management Sciences Meeting*.
- Sloan, R. (1993), 'Accounting Earnings and Top Executive Compensation', *Journal of Accounting and Economics*, Vol. 16, pp. 55-100.
- Tosi H. L., Werner S., Katz J., Gomeiz-Mejia L. R. (1998), 'A Meta-Analysis of Executive Compensation Studies,' unpublished manuscript, University of Florida at Gainesville, pp. 58.
- Tosi H. L., Werner S. Katz J., Gomeiz-Mejia L. R. (2000), 'How Much Does Performance Matter? A Meta-Analysis of CEO Pay Studies', *Journal of Management*, Vol. 26, pp. 301-339.
- Ungson, Gerardo R., and Richard M. Steers (1984), 'Motivation and politics in executive compensation', *Academy of Management Review*, Vol. 9, pp. 313-323.
- Werner, Steve, and Tosi, Henry, "Other People's Money: The Effect of Ownership on Compensation Strategy and Managerial Pay", *Academy of Management Journal*, Vol. 38, 1995, pp. 1672-1691.

Appendix

Operational Hypothesis Statement

H₀: There is no relationship between CEO compensation, firm size, accounting performance, and corporate governance in energy, metal, and mining industries

H₁: There is a relationship between CEO compensation, firm size, accounting performance, and corporate governance in energy, metal, and mining industries.

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: $Y_2 = c + B_1X_1 + B_2X_2 + \epsilon$

(Y₁=Salary; Y₂=Bonus; c=constant predictor; B₁=influential factor for Total Sales; B₂=influential factor for Total Number of Employees; and ϵ =error).

(X₁=Value of the Total Sales; X₂=Value of the Total Number of Employees).

Accounting Performance

For Salary: $Y_3 = c + B_1X_1 + B_2X_2 + B_3X_3 + B_4X_4 + B_5X_5 + B_6X_6 + B_7X_7 + B_8X_8 + \epsilon$

For Bonus: $Y_4 = c + B_1X_1 + B_2X_2 + B_3X_3 + B_4X_4 + B_5X_5 + B_6X_6 + B_7X_7 + B_8X_8 + \epsilon$

(Y₁=Salary; Y₂=Bonus; c=constant predictor; B₁=influential factor for Return on Assets (ROA); B₂=influential factor for Return on Equity (ROE); B₃=influential factor for Earnings per Share (EPS); B₄=influential factor for Cash Flow per Share (CFPS); B₅=influential factor for Net Profit Margin (NPM); B₆=influential factor for Common Shares Outstanding (CSO); B₇=influential factor for Book Value of Common Shares Outstanding (BVCSO); B₈=influential factor for Market Value of Common Share Outstanding (MVCSO); and ϵ =error)

Let X₁=Value of ROA; X₂=Value of ROE; X₃=Value of EPS; X₄=Value of CFPS; X₅=Value of NPM; X₆=Value of CSO; X₇=Value of BVCSO; B₈=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: $Y_6 = c + B_1X_1 + B_2X_2 + B_3X_3 + B_4X_4 + B_5X_5 + B_6X_6 + B_7X_7 + \epsilon$

(Y₅=Salary; Y₆=Bonus; c=constant predictor; B₁=influential factor for CEO Age; B₂=influential factor for CEO Shares Outstanding; B₃=influential factor for CEO Shares Value; B₄=influential factor for CEO Tenure; B₅=influential factor for CEO Turnover; B₆=influential factor for Management 5 percent Shares Ownership; B₇=Individuals/Institutional 5 percent Ownership; and ϵ =error).

Let X₁=Value of CEO Age; X₂=Value of CEO Shares Outstanding; X₃=Value of CEO Shares Value; X₄=Value of CEO Tenure; X₅=Value of CEO Turnover; X₆=Value of Management 5 percent Shares Ownership; and X₇=Value of Individuals/Institutional 5 percent Ownership.

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

| Canadian Energy, Metal, & Mining Companies | | | |
|--|-----------------------------------|----|-------------------------------------|
| 1 | Abington Resources Ltd. | 19 | Hudbay Minerals Inc. |
| 2 | Agrico-Eagle ines Ltd | 20 | Husky Energy |
| 3 | Akita Drillig Ltd. | 21 | IAMGOLD Corp. |
| 4 | Alamos Gold Inc. | 22 | Inmet Mining |
| 5 | Algonquin Power & Utilities Corp. | 23 | Jaguar Mining Inc. |
| 6 | Aurizon Mines Ltd. | 24 | Kinross Gold Corp. |
| 7 | Barrick Gold | 25 | Labrador Iron Ore Royalty Corp. |
| 8 | Birchcliff Energy Ltd. | 26 | Lundin Mining Corp. |
| 9 | Cameco Corporation | 27 | New Gold Inc. |
| 10 | Canada Utilities Ltd. | 28 | Nexen Inc. |
| 11 | Celtic Exploration Ltd. | 29 | Niko Resources Ltd. |
| 12 | Centerra Gold Inc. | 30 | North American Energy Partners Inc. |
| 13 | Compton Petroleum Corp. | 31 | Pan Orient Energy Corp. |
| 14 | Connacher Oil and Gas Ltd. | 32 | Petrobank Energy Inc. |
| 15 | Crew Energy Inc. | 33 | Petrolifera Petroleum Ltd. |
| 16 | Eldorado Gold Corp. | 34 | Power Corporation Canada |
| 17 | Enerflex Ltd. | 35 | Sheritt International |
| 18 | Ensign Energy Services Inc. | 36 | Silver Wheaton Corp. |