

Corporate Performance and the Chief Executive Officer's Compensation in the Service Industry

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Abstract: This study examines the relationship between corporate performance and the CEO compensation.

Data were collected from www.sedar.com [the official site that provides access to most public securities documents and information filed by public companies and investment funds with the Canadian Securities Administrators (CSA) in the SEDAR filing system], www.sec.gov/edgar.shtml, and www.hoovers.com to examine the relationship between corporate performance and the CEO compensation. Results suggest that CEO compensation is the function of net profit margin. This paper offers useful insights for the service industry owner/operators based on empirical evidence.

INTRODUCTION

Corporate performance and the Chief Executive Officer (CEO) compensation by corporations is the focus of this paper. Agency problems have been seen prevalent in the service industry [1]. Agency problem, in the context of this study, is defined as the possibility of conflicts of interest between the shareholders and managers of a firm. Because of the agency problem, the issues of CEO compensation have been a subject of debate and research in North American countries [2].

The modern history of executive compensation research began in the early 1980s and paralleled the emergence and general acceptance of agency theory [3]. The components of CEO compensation are classified into four categories: salary, bonus, long-term incentive rewards (e.g., stock options), and benefits [4].

An agent (CEO) may not work in the favor of shareholders (principal) to maximize their wealth, which in turn, leads to principal-agent problem in the service industry. According to agency theory, each firm consists of principals (shareholders) and agents (managers). The assumptions of agency theory are that agents are motivated by self-interest, are rational actors, and are risk-averse. According to agency theory, an agency problem exists when an agent such as a CEO has established an agenda that odds with stockholder interests [5]. The nature of the conflict between a CEO and shareholders may arise because the CEO's objectives may not coincide with the shareholders' objectives in the service industry. Therefore, principal (shareholders) can motivate an agent (CEO) by controlling his or her incentives [6].

The CEO is a part of corporate governance. Corporate governance is described as the process and structure used to direct and manage the business and affairs of the corporation with the objective of enhancing shareholder value [7].

Corporate governance calls for three factors: i) transparency in decision making, ii) accountability which follows from transparency because responsibilities for actions taken or not taken by the board of directors can be ascertained easily, and iii) accountability in the sense of safeguarding the interest of the stakeholders and the investors in the organization. Lee [7] found a positive correlation between corporate governance and share price performance.

The board of directors are cast with fiduciary responsibilities towards the company and include: i) potential liability for breach of trust; ii) the duty to act honestly and exercise such degree of skill and diligence as would amount to reasonable care, which an ordinary person would be expected to take; iii) the duty to disclose any personal interests of potential conflicts of interest; and iv) the duty not to compete with the company [8].

In some Canadian corporations (e.g., Livent Inc. and Corel Corporation), senior executives have been accused of "overseeing a massive fraud" and the CEO has been accused of insider trading by the Ontario Securities Commission [9] which is not in the favor of shareholders because it has a negative impact on share price. This process shows lack of accountability to by the board of directors. In response to criticism of a lack of accountability by board of directors, in the mid 1990s, the Toronto Stock Exchange (TSX) adopted corporate governance guidelines for publicly traded firms listed on the stock exchange [9].

Because agency problem has negative impact on shareholders' wealth in the service firms, it is important to minimize these issues; the purpose of this paper is to find the relationship between firm performance and the CEO compensation.

Although authors such as Stiglitz's [10], Murphy's [3], etc., have tested relationships between corporate performance and CEO compensation, there has not been much research conducted on the determinants of CEO compensation in the North American service industry. Therefore service firms were selected to complete this research paper. This

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study contributes to the growing literature on the CEO pay by analyzing data from Canada and the USA. The results may be generalized to the service industry.

CORPORATE PERFORMANCE AND THE CEO COMPENSATION

Several studies address the need to tie compensation to performance. Stiglitz [10] found that firms attempt to find that contract which will maximize profit and are subject to the constraint that some workers accept the contract. Diamond and Verrecchia [11] stated that because managers commonly serve as agents rather than owners of firms, their decision will depend on corporate incentives.

The relationship between compensation and performance has been empirically tested in some studies. Murphy [12] assessed that the relationship between compensation and performance is significant after evaluating compensation data for executives. Kerr and Kren [13] found a significant relationship between cash compensation and measure of performance (return on assets and stock returns) for U.S. firms. This relationship was not significant when using cash plus options as compensation measure.

The CEO compensation comes in the form of cash compensation, stock compensation, and fringe benefits. Cash compensation is defined as the sum of salary, bonus, and other compensation [14]. Although, executives (CEOs) are paid fixed salaries, they may not work in the favor of shareholders (principal) because of the conflict of interest. It has been found out that executives who are awarded fixed salary lack a direct incentive to promote firm's performance because they do not share in the resulting gains in the firm's value [15]. Murphy [3] found a positive relationship between firm performance and CEO cash compensation (salary).

Although Murphy [3] has found a positive relationship between firm's performance and CEO's salary, cash payment in the form of base salary theoretically does not make any links between the corporate performance and executive wealth. This is just a base amount which is paid to executives on a yearly (short-term) basis. Thus, base salary does not have incentive to induce executives to act in the long-run to optimize shareholders' value. That may be one of the reasons why salary component became declining weight in the total compensation over the last decade.

Annual bonus is another form of CEO compensation. Annual bonus is defined as cash compensation that is determined at the end of an annual pay cycle and is based on only one year's growth of performance information [16]. Annual bonus plan for the CEO is made on the basis of annual accounting performance (e.g., net income before tax). The logic behind this form of payment is that it is the pay-for-performance system based on objective measures (sales, income, and returns). It is also a direct and immediate measure to induce management incentive to act for the sake of corporations [17].

Although, annual bonus motivates an executive (CEO) to work in the favor of shareholders, it may not maximize executive performance in the long-run. Chalmers, Koh, and Stapledon [18] found a positive relationship between executive bonus and smaller firm performance only. Therefore,

bonus plan may not work for the larger firms to maximize shareholders' wealth.

Stock-based managerial incentives are believed to be a powerful tool by which shareholders can motivate the CEO to work hard to improve firms' profitability in the long-run [19]. Stock based incentives plan (right to purchase company stock at a given price) is a long-term incentive plan for executives [16]. This includes stocks granted to managers with underlying assumptions that managers would become a shareholder of the corporation and will act in the favor of stockholders. Stock options are given to executives (CEOs) as bonus based on their performance and has been the largest component of total compensation for executives over the last decade. Bebchuk [20] indicates that equity based compensation has increased considerably in both the new-economy and old-economy firms. Equity based compensation reduces agency problems and agency costs by providing a direct link between executive wealth and corporate performance. Thus, stock option reward motivates executives to take action that increase company's share price, which in turn, maximizes shareholders' wealth.

A strong link between firm performance and stock compensation has been found [16]. Inside stockholdings are likely to act as substitutes for CEO compensation, since less incentive compensation is needed to maximize stock value [21]. Murphy [3] also indicates that stock options provide a direct link between executive rewards and share-price appreciation, since payout from exercising options increases dollar for dollar with increases in the stock price. Thus, stock option executive compensation plan can be considered a best compensation plan because it works in the favor of the firm's long-run performance.

In summary, it is found that firms are subjected to agency problem in which CEO (agent) may not work in the favor of shareholders (principal) to maximize their wealth by improving firm performance. The decisions related to CEO compensation (bonus, stock options, etc.) are made based firm's accounting performance. Therefore, it is theorized that CEO compensation is the function of firm performance (NPM, ROE, ROA, AT, and SG) in the service industry.

METHODOLOGY AND DATA

Measurement

To remain consistent with previous studies, measures pertaining to CEO compensation and firm performance were taken from Choi [5] and Zhou [4]. The study applied co-relational and non-experimental research designs. The process of measurement is central to quantitative research because it provides the fundamental connection between empirical observation and mathematical expression of quantitative relationships.

Firm performance (Independent variable) was measured by using five ratios (proxy variables): i) net profit margin (NPM), ii) return on equity (ROE), iii) return on assets (ROA), iv) assets turnover (AT), and v) one-year sales growth (SG).

The CEO compensation (dependent variable) was measured as total cash compensation; that is, the sum of annual salary plus bonus. This study excluded deferred compensation benefits like pensions, profit sharing plans, etc. A

dummy variable was used to determine whether companies offering stock options tend to pay less cash compensation. In addition, dummy variable acts as a control variable to find the relationship between firm performance and the CEO compensation. The dummy variable was coded "1" for firms that provide stock options in addition to cash compensation and "0" for firms that do not provide stock options in addition to cash compensation.

Sample and Procedures

The study constructed a database from a selection of approximately 500 financial-report announced by public companies between January 1, 2003 and December 31, 2005. The selection was drawn from "www.sedar.com" [the official site that provides access to most public securities documents and information filed by public companies and investment funds with the Canadian Securities Administrators (CSA) in the SEDAR filing system], www.sec.gov/edgar.shtml, and www.hoovers.com to collect a sample of service companies. Out of approximately 500 financial-reports announced by public companies between January 1, 2003 and December 31, 2005, only 218 financial reports were usable.

To overcome with the sampling issues, this study selected only service firms (e.g., food services, hotel services, insurance services, computer services, consumer services, health care services, leisure services, telecommunication services, transportation services, business services, financial services, and retail services). Most other empirical studies were conducted on industrial firms. In the service industry which is not involved in manufacturing, there might be other factors that affect CEO compensation, because in this industry the total investment in machinery and equipment is almost non-existent. If this industry leases the facilities (buildings) then the total capital that is invested is mainly in working capital and it might be that the skills and resourcefulness of the CEO's of this industry is different from that of manufacturing firms. We chose not to sample companies from the service industry and from manufacturing because the later were studied before and therefore focused on service industry firms.

Data Collection

Numerical (quantitative) and financial data were collected to test hypothesis. Financial statements and proxies submitted by companies to Securities and Exchange Board of Canada and USA were used to collect data.

Based on the hypothesis, executive compensation can be modeled as follow:

$$\text{COMP}_{ji} = b_0 + b_1 * \text{NPM} + b_2 * \text{ROE} + b_3 * \text{ROA} + b_4 * \text{AT} + b_5 * \text{SG} + b_6 * \text{DUMMY}$$

where b_0 = constant of the regression equation

b_1, b_2, b_3, b_4, b_5 , and b_6 = coefficient of NPM, ROE, ROA, AT, SG, and DUMMY

COMP_{ji} = CEO compensation for firm j received in 2003-2005

DUMMY = Dummy variable with 1 = firms provided stock options in addition to cash compensation and 0 = firms did not provide stock options in addition to cash compensation

COMP = The natural logarithm of CEO cash compensation (salary plus bonus)

Net profit margin (NPM) = Net profit after interest and tax / sales

Return on equity (ROE) = Net profit after interest and tax / owners' equity

Return on assets (ROA) = Net profit after interest and tax / total assets

Assets turnover (AT) = Sales / total assets

One-year sales growth (SG) = Current year sales – previous year sales / previous year sales

Testing of Hypotheses

Data were processed with the Statistical Package for the Social Sciences (SPSS) computer program for Windows (version 11.5). We used multiple linear regression to accept or reject our null hypotheses and used $p < .05$ as our level of significance.

Relationship Between Firm Performance and CEO Compensation

It was theorized that CEO compensation is the function of firm performance (NPM, ROE, ROA, AT and SG) in the service industry.

A positive relationship between CEO compensation and net profit margin (see Table 1) was found; that is, CEO compensation is the function of the net profit margin in the North American service industry. However a negative relationship between year 2004 compensation and year 2005 compensation (see Table 1) was found; that is, upcoming year's compensation is not the function of previous years' CEO compensation in the service industry.

Non-significant relationships were found between net profit margin (2004), return on equity (2004 and 2005), return on assets (2004 and 2005), asset turnover (2004 and 2005), sales growth (2005), stock options (2004 and 2005), and CEO compensation (2005) (see Table 1).

Note that around 12.2% ($R^2 = 0.122$) of the variance in the degree of CEO compensation can be explained by the degree of Stock Options (2005), Net Profit Margin (2005), Asset Turnover (2005), Return on Equity (2004), CEO Compensation (2004), Asset Turnover (2004), Sales Growth (2005), Return on Equity (2005), Return on Assets (2004), Stock Options (2004), Net Profit Margin (2004) (see Table 2).

The regression equation is as follows:

CEO Compensation (2005) = 0.077 – 0.123 CEO Compensation (2004) – 0.195 Net Profit Margin (2004) + 1.237 Net profit Margin (2005) + 0.067 Return on Equity (2004) + 0.083 Return on Equity (2005) + 0.047 Return on Assets (2004) + 0.092 Return on Assets (2005) – 0.026 Asset Turnover (2004) + 0.139 Asset Turnover (2005) + 0.005 Sales Growth (2005) – 0.116 Stock Options (2004) + 0.122 Stock Options (2005).

As shown in Table 3, ANOVA's test is also non-significant at 0.007.

Table 1 - Regression Coefficients^{a,b}

	Un-Standardized Coefficients	Std. Error	Standardized Coefficients ^c	t	Sig.
(Constant)	0.077	0.088		0.877	0.382
CEO Compensation (2004)	-0.123	0.059	-0.143	-2.092	0.038
Net Profit Margin (2004)	-0.195	0.384	-0.042	-0.507	0.613
Net Profit Margin (2005)	1.237	0.473	0.213	2.618	0.010
Return on Equity (2004)	0.067	0.095	0.058	0.708	0.480
Return on Equity (2005)	0.083	0.070	0.091	1.175	0.241
Return on Assets (2004)	0.047	0.112	0.033	0.417	0.677
Return on Assets (2005)	0.092	0.112	0.056	0.822	0.412
Asset Turnover (2004)	-0.026	0.054	-0.036	-0.470	0.639
Asset Turnover (2005)	0.139	0.116	0.082	1.193	0.234
Sales Growth (2005)	0.005	0.027	0.014	0.185	0.853
Stock Options (2004)	-0.116	0.071	-0.130	-1.620	0.107
Stock Options (2005)	0.122	0.073	0.134	1.674	0.096

^a Dependent Variable: CEO Compensation (2005).^b Independent Variables: CEO Compensation (2004), Net Profit Margin (2004), Net Profit Margin (2005), Return on Equity (2004), Return on Equity (2005), Return on Assets (2004), Return on Assets (2005), Asset Turnover (2004), Asset Turnover (2005), Sales Growth (2005), Stock Options (2004), and Stock Options (2005). Stock options were dealt with as a single dummy variable 1 = firms provided stock options in addition to cash compensation and 0 = firms did not provide stock options in addition to cash compensation.^c Linear Regression through the Origin.**Table 2. Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.350 ^a	0.122	0.072	0.4131927841

^a Predictors: (Constant), Stock Options (2005), Net Profit Margin (2005), Asset Turnover (2005), Return on Equity (2004), CEO Compensation (2004), Asset Turnover (2004), Sales Growth (2005), Return on Equity (2005), Return on Assets (2004), Stock Options (2004), Net Profit Margin (2004).**Table 3. ANOVA^b**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	4.589	11	0.417	2.443	0.007 ^a
	Residual	32.951	193	0.171		
	Total	37.539	204			

^a Predictors: (Constant), Stock Options (2005), Net Profit Margin (2005), Asset Turnover (2005), Return on Equity (2004), CEO Compensation (2004), Asset Turnover (2004), Sales Growth (2005), Return on Equity (2005), Return on Assets (2004), Stock Options (2004), Net Profit Margin (2004).^b Dependent Variable: CEO Compensation - 2005.

DISCUSSION

The main purpose of this study was to examine whether the remuneration paid to CEOs of North American service firms is related to corporate performance. This was done by collecting data from "www.sedar.com" [the official site that provides access to most public securities documents and information filed by public companies and investment funds with the Canadian Securities Administrators (CSA) in the SEDAR filing system], www.sec.gov/edgar.shtml, and www.hoovers.com. It was found that CEO compensation is the function of net profit margin in the North American service firms. The study supports Stiglitz's [10] findings that firms attempt to find that contract which will maximize profit and Murphy's [3] findings in which he indicates a positive relationship between firm performance and CEO

cash compensation (salary). An Interesting finding of this paper is that current CEO compensation has nothing to do with the previous year's compensation.

Limitations

This study is limited to the service industry firms. The definition of CEO compensation used in this study can be extended by including other important items such as value of stocks granted, capital gains/losses on holding of stocks and options during the year, and pension benefits.

Because this study was co-relational and non-experimental, a causal link between firm performance and the CEO compensation cannot be definitively established. Therefore, a link between firm performance and the CEO compensation can only be suggested. Additionally, the find-

ings of this study could only be generalized to service firms similar to those that participated in this research.

Future Research

To further enhance the generalization of the findings beyond the service industry, additional research in other fields is advocated, complemented by studies focusing on a longitudinal design, allowing for tracking and assessing the evolution of the determinants of CEO compensation over time.

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Received: August 6, 2008

Revised: October 10, 2008

Accepted: October 19, 2008

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