CEO COMPENSATION: RELATIONSHIP WITH PERFORMANCE AND INFLUENCE OF BOARD OF DIRECTORS

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Abstract

This paper tries to find the relationship between the compensation given to the chief executive officer and the performance of the company. Further, it tries to determine the influence of the size of the Board members on the pay scale of the executive. The data consisted of the largest thirty companies in Sweden for the period of 2004-2008. After controlling for firm size and growth opportunities, I find a negative and insignificant relationship between pay and performance. Contradictory to previous studies no correlation between large board size and chief executive officers compensation was found. This paper adds more empirical evidence to the idea of chief executives pay being independent of his performance.

Keywords: Corporate governance, compensation, performance, Board size.
Acknowledgements

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Usman Tariq
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Introduction

The area of this study is corporate governance. According to Shleifer and Vishny (1997) corporate governance deals with the various ways in which suppliers of finance to a corporation make sure of getting a return on their investment. The practical importance of this subject is growing with each passing day. This is a field which has been written and debated about a lot in our social and academic circles but scandals like WorldCom, Enron, AIG and more recently Lehman Brothers, makes us wonder how well we are implementing this concept.

One of the important concepts in corporate governance (and the one this paper is going to deal with) is of agency cost. This is the cost that arises when there is a separation of ownership and management (Jensen and Meckling, 1976). According to the agency theory given by Jensen and Meckling (1976) the principal (who provides finance) and the agent (who manages the firm) both want to maximize their utility\(^1\) and in doing so they will not act in the best interest for each other. They further suggest that the shareholders (principal) can control the actions of the agent by methods like auditing, formal control systems, budget restrictions and the establishment of incentive compensation system. An implication of this theory can be that it is always complicated to evaluate the actions of the agent i.e. whether their actions have a positive or negative effect on the firm value. That is why it would be in the interest of the shareholders to align the pay of the agent with the performance of the firm.

The focus of this paper will be on the compensation of the chief executive officer (CEO). In the recent years there has been a debate about the level of compensation and the bonuses given to a chief executive officer\(^2\) so one really begins to wonder if these pays are justified? And then question arises that are these CEOs being paid for their performance or is it just a trend everyone

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\(^1\) Maximization of gains in terms of compensation (agent) and maximum returns (principle).

\(^2\) “It was reported that Lee Raymond, the retired Chairman of Exxon, was paid $51.1 million in 2005, the equivalent of $141000 a day, nearly $6000 an hour. It was also reported that Exxon gave Lee Raymond, one of the most generous retirement packages in history, nearly $400 million, including pension, stock options and other perks, such as a one million consulting contract, two years of home security, personal security, a car and driver, and use of Exxon corporate jet for professional purposes. Exxon defended Raymond’s compensation, noting that during the twelve years that he ran the company, Exxon became the second largest oil company and its stock went up 500% (as of April 2006)” Lipman and Hall (2008)
is following. In the past we have seen that the CEOs pay have been increased without being justified by their performances. Countries like Britain have developed new legislations like ‘say on pay’ to control the pays of the chief executive officer and influence it through the voice of the shareholders (Ferri and Maber, 2009).

The second aspect of this paper deals with the influence of Board of directors on the compensation of the CEO. Fama and Jensen (1983) argue that a major function of the Board of directors is to mitigate agency cost and reduce the conflict between the management and shareholders. Board of directors also has the responsibility of structuring the compensation of the chief executive officer. Ideally their role is to act in the best interest of the company and the shareholders. This role of the board of directors has been under scrutiny as they were not able to foresee and prevent the ‘frauds’ in the aforementioned companies.

1.1 Background

The debate of CEOs being paid exorbitant sums is not a new one. Investors expect the CEO who is being paid high to perform and prove his worth. According to Langsam et al. (1997) the average CEO compensation is about 209 times that of a typical U.S factory worker. Although in other countries like Germany and Japan, it is not that high (25 and 20 times respectively), but still great disparity exists between the two classes. Conventionally the executive compensation had been linked to performance and it was deemed that the high pay for a CEO (for his expertise) was justified. But there has been an exponential increase in all the pay levels of CEOs irrespective of their performances (Langsam et al. 1997).

In the UK steps have been taken to increase the transparency and improve the accountability of the CEO e.g. the introduction of Greenbury report (1995), Hampel report (1998), DTI consultation paper (the department of trade and industry), the directors remuneration report regulation (2002) etc (Ferri and Maber, 2009). Similarly in the Unites States there has been the introduction of Sarbanes- Oxley Act of 2002. Although it was in a response to major scandals like Enron and WorldCom, but it has been linked to excessive CEO compensation (Farmer, 2008). In relation to the second issue discussed in this study (Board of directors), the Sarbanes-Oxley Act also tried to restrict the corporate board structure.
Much literature can be found on the performance of the company and the structure of board but less is written on the size of the board which will be the focus of this study (Yermack, 1996).

1.2 Problem formulation

Is the compensation of a chief executive officer related to the performance of the company? Many studies have tried to answer this question but the results are vague and in some cases totally different from each other. Johnson (1982), Finkelstein and Boyd (1998), Tosi et al. (2000) found no relationship between these two variables whereas Belliveau et al. (1996), Brick et al. (2005) and Ozkan (2007) found a strong and positive relationship between them. Following the previous studies, this paper will try to determine whether there is any relationship between the pays of CEOs in Sweden’s largest firms and the performance of those firms. The hypothesis developed is

**H1: The compensation of a CEO is positively related to firm performance.**

The other part of this paper will try to determine relationship between the number of Board of directors in these companies and pays given to the CEO. As mentioned earlier, one of the key functions of the Board is to set the compensation of the chief executive officer. The main issue here is to discuss whether the number of Board members has an impact on the compensation and does a large Board of directors necessarily mean greater compensation to the CEO? Jensen (1993) is of the opinion that larger board is easy for an executive to manipulate and consequently small board of directors should be more effective in controlling the actions of the CEO. This view is also shared by Lipton and Lorsch (1992) and Yermack (1996). Thus my second hypothesis in this regard is as follow

**H2: A large board of directors implies greater compensation given to the CEO.**
1.3 Earlier theories

Managerialism is a concept which is built on the premise that separation of ownership from control can and does cause divergence of interest between the management and owners (Tosi et al. 2000). Managers concentrate on maximizing firm size rather than the value of the company. In doing so, they get more pay, power and prestige. This may lead to less or even negative returns for the shareholders. Extensions of managerialist perspective have some interesting implications like CEOs can try and change the size of the company (rather than focusing on performance). For instance it is observed that the pay of CEO increases following a major acquisition. Also larger size is used to ‘justify’ a size premium (which the CEOs get). The CEO can also eliminate the risk exposure by pegging their pays to firm size (which is more stable) rather than concentrating their efforts on improving performance. Commenting further the authors say that Board of directors align themselves with the interest of CEOs. Because of this highly paid directors are usually accompanied by highly paid CEOs. Both parties can use size to justify pay (Tosi et al. 2000).

The classical article of Jensen and Meckling (1976) builds on this theory and try to define agency relationship. According to Jensen and Meckling (1976, p.308) “We define an agency relationship as a contract under which one or more persons (the principal(s)) engage another person (the agent) to perform some service on their behalf which involves delegating some decision making authority to the agent. If both parties to the relationship are utility maximizers there is good reason to believe that the agent will not always act in the best interests of the principal”. The author suggests that the shareholders can control the agent by methods like auditing, formal control systems, budget restrictions and the establishment of incentive compensation system. An important conclusion drawn by these authors is that there is always an agency cost (monitoring, bonding and residual loss) when there is a separation of ‘control and ownership’. So the owner-manager or the equity provider (whoever is taking more risk) has to see that the cost of monitoring or bonding does not decrease the value of the firm.
Jensen and Murphy (1990) have another interesting perspective of CEO pay and incentives. According to them it is not how much the CEO is getting paid but the way he is paid is more important. They found out that for every $1000 increase in the performance of a company there is a change of just 6.7 cents in salary and bonus over a period of two years. The study also finds that when discussing pay for performance, CEO compensation gets worse than better. Supporting Fama (1980) they find out that compensation policy is one of the most important factors in an organizations success. It shapes the behavior of the executives and also helps attract good and competent CEOs. It is argued that because of public pressure directors are reluctant to reward CEOs with substantial financial gains for superior performance.

1.4 **Empirical findings**

There are conflicting results of CEO compensation and firm performance. Tosi et al. (2000) site the findings of two different set of studies. One study by Finkelstein and Boyd (1998) report a significant correlation between Return on Equity and cash compensation of only 0.13 and supporting this finding Johnson (1982) reported the significant correlation of 0.003 between the two variables. Contradictory to these Belliveau et al. (1996) found a strong significant correlation of 0.41 between the two variables. Reporting their results Tosi et al. (2000) find out that CEO pay has a very strong positive relationship with the size of the firm and a weak pay-performance relationship.

Ozkan (2007) suggests that there is a positive relationship between CEO pay and the performance of a company (at least in the UK). The result show that the positive relation is only for cash compensation but when total compensation is considered then the relationship becomes less significant. On the other hand a study by Brick et al. (2005) shows that there is a strong negative relation between CEO compensation and the performance of a company. They find if the firm is large the CEO and directors engage into cronyism and are paid regardless of the performance of the company.

Writing on the same subject of CEO pay and corporate performance, Zhou (2000) doing a research on Canadian firms finds out that CEO pay is positively related to the firm size and compensation depends on company performance.
Based on these studies we can say that the relationship between CEO pay and performance is still not very well established.

1.5 Factors affecting CEO pay

In their paper Shah et al. (2009) took a sample of 114 listed companies in Pakistan for a period of 2002-2006 and tried to determine the factors that influence the pay scale of chief executive officer. They found out that compensation of CEO was a function of performance measures, size of the firm, corporate governance variables like CEO duality, board independence, board size, ownership structure (shares by board of directors/ Total number of shares), ownership concentration (shares held by top ten shareholders/Total number of shares) and audit committee independence.

Berkema and Mejia (1998) have also identified a few factors which influence the pay scale of a CEO (their study based on US firms). They are of the opinion that market forces play a role in determining the pay of the CEO. The ownership structure of the firm influences greatly. According to them the firms with large blockholders influence the pay given to the CEO. They usually have the power to discipline the CEO and also have the incentive to do so. When talking about blockholders institutional investors are the prominent class that is currently increasing their equity shares in the US market. Another important factor is the recent development of remuneration committees. These committees are responsible for developing a proposal of pay for the CEO. This proposal is then passed by the Board of directors (Berkema et al. 1998). The members of the remuneration committee are usually outside the company, in this way there is a separation of control and management (which is a good thing according to the agency theory).

Another idea which is similar to remuneration committee is of ‘say on pay’ (Ferri and Meber, 2009). This concept was introduced by the government of United Kingdom and it requires the Board of directors to prepare an executive compensation report and the shareholders have to post an advisory. It was introduced to increase ‘accountability, transparency and performance linkage’ of executive pay (Ferri and Meber, 2009). In the beginning of 1990 the public was concerned about high wages for CEOs (they were scared of the ‘American culture’ of high wages for CEOs). The government in power introduced a ‘Greenbury’ Report which asked for greater disclosure of CEO compensation. The next government suggested that the shareholders
and not the government are responsible for clear disclosure. Finally in 2002 the Directors Remuneration Report Regulation asked for enhanced disclosure and submitting a report to non-binding shareholders vote at annual meeting. (Ferri and Meber, 2009)

During their analysis Ferri and Meber (2009) found that before the introduction of ‘say on pay’ CEO’s cash payment (or total remuneration) was insured against negative outcome, but ‘say on pay’ led to higher accountability of the CEO. The second important finding was that the introduction of ‘say on pay’ did not affect the level or growth rate of the pay of CEO. From this we can conclude that governmental factors (or political factors) also play a role in determining CEO pay.

The paper by Finkelstein and Boyd (1998) sheds light on performance and pay of a chief executive officer. They say that the compensation paid to the CEO depends upon his expertise i.e. the more technical his work; the higher will he be paid.

1.6 Board of directors

Much literature has been linked to the role of Board members. According to Boyd (1994), the Board members are an important ‘internal control mechanism’ for setting CEO compensation. The Board also has the responsibility for controlling the future projects and making the decision of succession of CEO (Raheja, 2005).

Board of directors is supposed to act on the behalf of the shareholders and should represent their best interest. There has been mixed empirical findings on the relationship of Board members and financial performance. Dalton et al. (1999) who did a meta-analysis of 131 American companies found no evidence of a relationship between board composition and financial performance. Another study by Hermalin and Weisbach (1998) suggests that large board of directors is negatively related to company performance. These studies dealt with size of the Board and the performance of the company, however, this paper deals with number of Board members and their influence on compensation of the CEO. Guest (2009) researched on 1880 public firms in UK from a period of 1983-2002 and found that as the size of the Board increases, the pay of the chief executive officer increases. Similarly Core et al. (1999) did a study on 205 publically traded US firms and found larger Boards giving out more compensation to CEOs.
What is the right size of Board of directors? This is also a debatable topic. The proponents of a large Board of directors say that if there is a need for external resources (more budget, external fundings etc) then the Board should be large. Additionally, the complicated the mechanism of governing the company and therefore needing more knowledgeable people should add up to having a larger Board of directors (Dalton et al. 1999). Small Boards have their advantages. For instance Jensen (1993) is of the view that large boards are ineffective as they can be easily manipulated by the CEO. As documented by Lipton and Lorsch (1992) the board members usually don’t express their disapproval of the policies made by top management or explicitly criticize them because of their performance.

1.7 Summary of Literature review
The table below documents a summary of the previous studies relating to CEO compensation, its relationship with performance and the role of Board of Directors.

<table>
<thead>
<tr>
<th>Author</th>
<th>Studies</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jensen and Meckling (1976)</td>
<td>Theory of the firm: Managerial behavior, agency cost, and ownership structure.</td>
<td>There is always an agency cost involved when there is a separation of ownership and control.</td>
</tr>
<tr>
<td>Tosi et al. (2000)</td>
<td>How Much Does Performance Matter? A Meta-Analysis of CEO Pay Studies</td>
<td>The authors report a weak correlation between CEO pay and performance but a strong positive correlation with CEO pay and size of the firm.</td>
</tr>
<tr>
<td>Authors and Year</td>
<td>Topic</td>
<td>Findings</td>
</tr>
<tr>
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</tr>
<tr>
<td>Brick et al. (2005)</td>
<td>CEO compensation, director compensation, and firm performance: Evidence of cronyism?</td>
<td>They found a strong negative relationship with CEO compensation and firm performance. In large firms CEO and Board members engage into cronyism.</td>
</tr>
<tr>
<td>Shah et al. (2009)</td>
<td>Determinants of CEO Compensation. Empirical Evidence from Pakistani Listed Companies.</td>
<td>They found out that compensation of CEO was a function of performance measures, size of the firm, CEO duality, board independence, board size, ownership structure, ownership concentration and audit committee independence.</td>
</tr>
<tr>
<td>Berkema and Mejia (1998)</td>
<td>Managerial compensation and firm performance: A general research framework</td>
<td>Market conditions, ownership structure, institutional investors and remuneration committees influence the pay scale of a CEO.</td>
</tr>
<tr>
<td>Ferri and Meber (2009)</td>
<td>Say on pay vote and CEO compensation: Evidence from the UK</td>
<td>Legislation plays an important role in controlling CEO pay and leads to higher accountability.</td>
</tr>
<tr>
<td>Boyd (1994)</td>
<td>Board control and CEO compensation</td>
<td>The Board is an important ‘internal control mechanism’ for setting CEO compensation.</td>
</tr>
<tr>
<td>Core et al. (1999)</td>
<td>Corporate governance, chief executive officer compensation, and firm performance</td>
<td>Their study found out that the larger the Board, the greater is the compensation received by the CEO.</td>
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<td>-------------------</td>
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<td>------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Guest (2009)</td>
<td>Board structure and executive pay: evidence from the UK</td>
<td>They document a strong positive relationship between the size of the Board and CEO compensation</td>
</tr>
<tr>
<td>Jensen (1993)</td>
<td>The Modern Industrial Revolution, Exit, and the Failure of Internal Control Systems</td>
<td>Large Board is easier for the CEO to manipulate and increase his remuneration</td>
</tr>
</tbody>
</table>
Data and methodology

The paper aims at studying the pay-performance relationship of chief executive officers in Sweden. Further, the impact of Board size on the pay of these CEOs will be checked.

1.8 Data

The data of 30 largest companies (all of them based in Sweden) for a period of 2004-2008 is collected, a total of 150 observations. Large companies are classified on the basis of largest market capitalization. While market capitalization here refers to closing share price at the yearend times the number of shares outstanding at the yearend. Large companies are chosen because the bigger the size, the greater will be the CEO compensation and more prospects for conflict of interest will be there and secondly large cap organizations have more well defined reports on compensation of CEO. The source of the data will be the financial reports of these companies. Financial reports are a reliable source of data for publics companies as they are audited externally.

1.9 Research design and variable definition

The study will be a deductive one as I am going to conduct my research based on earlier literature, deducted my hypothesis from them and finally going to put them to empirical test. Longitudinal design of research will be done in order to determine the causal relationship between the variables (Bryman and Bell, 2003). As mentioned earlier, hand collected data from the financial reports will be used. This method of data collection is archival research, in which the researcher cannot influence the data itself; hence the data is more reliable and unbiased, adding the attribute of positivistic research to the study (Farmar, 2008).

3.2.1 CEO compensation: The chief executive pay has several components namely salary, bonus, stock options, stocks, pensions and perquisites. For my analysis, two measures of compensation are used. The first is the cash compensation which includes salary and bonus. In

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3 Although other measures for firm size are visible like amount of sales. In my study firm size measured by price times outstanding share shows relevance for the analysis of CEO compensation, as many previous studies have utilized it.
previous papers like Agarwal (1981), Finkelstein and Boyd (1998) it is shown that the chief executive officer’s cash compensation is a good proxy for total pay of CEO. The second is total compensation which includes salary, bonus, pension, perquisites, stocks and stock options. The main problem faced here is the evaluation of stock options. Most companies which have sanctioned options to the CEO have given the value of stock options in the financial statements using the Black-Sholes model. This problem had been faced by Core et al. (1999) and although they used 25% of the exercise price, they remedied this problem by using three different measures of CEO compensation (namely salary, cash compensation and total compensation). The results were very similar. However, for this paper I will be using two variables i.e. Cash compensation and total compensation.

Quantitative measure of CEO compensation in this study will utilize the logarithmic CEO compensation as compensation will vary sharply depending upon the firm size, market type, and competition in the market. This approach has been used by Core et al. (1999), Finkelstein and Boyd (1998) and Zhou (2000).

3.2.2 Performance: Performance of the firm can be measured by Return on Equity (ROE). The ROE is the Net Income divide by Total Equity and shows firm’s efficiency of making profits from every unit of equity. The performance of the company depends on many factors (like the economy as a whole, inflation, industry from which the company belongs etc), but ROE remains the most important. This ratio has been previously used as a proxy for firm performance in many papers like Finkelstein and Boyd (1998), Johnson (1982) and Ozkan (2007). In most cases this figure was given in the financial statements but in case it was absent, it was calculated by taking the net profit from the income statement and dividing it by total equity in the balance sheet.

\[
\text{Return on Equity} = \frac{\text{Net income}}{\text{Total Equity}}
\]

3.2.3 Board Size: In view of my second hypothesis, the number of the Board of directors is another variable that should affect the pay scale of the CEO. As explained earlier, a key role of the Board of directors is to monitor the activities of CEO but this function is influenced by social factors (e.g. friendship). Furthermore, both parties can engage in croyism (Brick et al. 2005).
Also large board may be ineffective in controlling the actions of CEO (Jensen 1993). The number of Board of directors is found in every financial statement.

3.2.4 Firm Size This variable is one of the most important in determining CEO pay. Following previous studies, the market capitalization (or market cap) is calculated by multiplying the price of share at year end with the number of shares outstanding at the year end.

\[
\text{Market capitalization} = \text{Share price at year-end} \times \text{Number of shares outstanding}
\]

3.2.5 Growth: Growth or investment opportunities of a company measured in terms of market to book value. Market value is calculated as mentioned before and the book value is taken from the balance sheets of the companies. According to Penman (1996), as this ratio reflects the growth in earnings, it is a suitable indicator of growth. Previously this ratio is used by Core et al. (1999) as a proxy for growth.

\[
\text{Market to book value} = \frac{\text{Market capitalization}}{\text{Book value of equity}}
\]

1.10 Methodology
To see the correlation between CEO total compensation and firm performance, the following regression model is to be utilized. The regression analysis seeks the causal effect of one variable upon the other.

\[
\ln (\text{Total Compensation }_{it}) = \alpha + \beta_1 (\text{Performance }_{it}) + \epsilon_i \quad (1)
\]

Here \( \alpha \) is the intercept. \( \beta_1 \) is the coefficient of performance. \( \ln(\text{Total compensation}) \) is the logarithmic series of CEO pay which includes salary, bonus, pension, perquisites, stocks and stock options in the specified time frame treated as dependent variable.

Next I control for two firm-specific characteristics i.e. firm size and growth.

\[
\ln (\text{Total Compensation }_{it}) = \alpha + \beta_1 (\text{Performance }_{it}) + \beta_2 (\text{Firm Size }_{it}) + \beta_3 (\text{Growth }_{it}) + \epsilon_i \quad (2)
\]

Here $\alpha$ is the intercept. $\beta_1$, $\beta_2$ and $\beta_3$ are the coefficients of performance, size and growth respectively. $\text{Ln(Total compensation)}$ is the logitmetric series of CEO pay which includes salary, bonus, pension, perquisites, stocks and stock options in the specified time frame treated as dependent variable. Performance, firm size and growth are independent variables. The size and growth will be treated as control variables in the model.

In order to check my second hypothesis, I see the impact of size of the Board on CEO compensation. Jensen (1993, p.865) commenting on the size of the Board explains ‘when boards get beyond seven or eight people they are less likely to function effectively and are easier for the CEO to control’. Whereas Lipton and Lorch (1992) recommend limiting the Board members to seven or eight people. Commenting further they suggest that when a group increases in size, it faces problems of coordination and processing which hinders their effectiveness.

In the light of these studies a Board of more than seven is deemed as large. I reestimate the model 2 by introducing dummy variable ‘Board size’. The value of the variable is 1 if the Board is large and 0 if it is small.

$$\text{Ln (Total Compensation }_{it}) = \alpha + \beta_1 (\text{Performance }_{it}) + \beta_2 (\text{Firm Size }_{it}) + \beta_3 (\text{Growth }_{it}) + \beta_3 (\text{Board Size }_{it}) + \epsilon$$

In order to see the relationship between cash compensation and these variables Model 1,2 and 3 are reestimated by replacing the dependent total compensation by cash compensation. Cash compensation includes salary and bonus.
Empirical Results

1.11 Descriptive Statistics
Table 1 documents the summary statistics of the sample from the year 2004-2008. During these years, on average a chief executive officer in Sweden, as depicted by selected sample, earns 10,637 KSEK in cash compensation and this figure goes to 16,364 KSEK if the long term incentives are included. The standard deviation of total compensation, which measures the spread in compensation, shows that there is more deviation from the mean (11,995 KSEK) as compared to the cash compensation (6,945 KSEK). This means that there will be more variation in the pays of one CEO to the next, if longer term incentives are added to it. Average return on equity for these top thirty firms for the five years has been 26.28 percent while the mean market capitalization has been around 60.5 billion SEK. The average market to book value is 4.01, showing the growth firms. The board size had a median value of 8 and a standard deviation of 2.

In Table 2, Panel A I report the descriptive statistics of yearly cash and total compensation. An increasing trend is observed in both of these measurements of compensation (the only exception being the cash compensation in the year 2008, which can be because of the financial crisis in that year). Mean total compensation has increased by 10.5\%⁵ annually whereas the average cash compensation has risen by 4.4\% annually. The highest amount of cash compensation (24,692 KSEK), during the sample period was given to the CEO of Modern Times Group AB and the lowest amount (1,251 KSEK) was paid to the CEO of Hakon Invest AB.

⁵ The formula of geometric mean was used to calculate the annual percentage increase.
The figure above shows the average composition components of total CEO pay. As can be observed the total fixed salary of a CEO is approximately 46% of the total salary. The important point to note here is that this fixed part of the salary is regardless of his performance. It is true that in a competitive market an attractive pay package has to be offered in order to attract a CEO which matches the requirements and has the competence and knowledge to run the company. Otherwise he has plenty of options to switch companies and go to a better paying firm (Lipman and Hall, 2008). But it will be better for these firms to tie this compensation with performance based incentives like options and restricted stocks etc. By doing this, it will be a win-win situation for both parties.

The panel B of table 2 reports the mean, median and standard deviation of the Return on Equity during the five year period. The Return on Equity increases from 2004 to 2007, but in 2008 it goes down (from 34.05% to 24.83%). On average the Return on Equity increases by 5.1%. The most profitable company in terms of Return on Equity appears to be Atlas Copco AB, which had a Return on Equity of 57.7% in the year 2008. The lowest Return on Equity was -2.4% reported by Saab AB in the year 2008.
Panel C of table 2 reports the descriptive statistics of the first control variable, market capitalization. The range of market capitalization varies from 3,096 MSEK to 449,928 MSEK. A significant decrease in the market capitalization is seen from the year 2007 to 2008. This can be attributed to the sharp decrease in the share prices of companies during the year 2008. Panel D shows the descriptive statistics of the market to book ratio which is the second control variable. The ratio is almost the same in 2004 and 2005 (3.29 and 3.26 respectively). In 2006 and 2007 market to book ratio increases to 5.04 and 5.71 respectively. This increase might be from the investors optimism in the growth potential for these companies. In 2008, the average market to book ratio falls steeply. As market capitalization is the numerator in calculating market to book ratio, a decrease in market capitalization would mean a decrease in market to book ratio (if there are no significant changes in the book value). This can explain the dramatic decrease in market to book ratio for the year 2008. Panel E documents the descriptive statistics for the number of Board members. No change can be seen throughout our sample period and the average number of Board members remains at 9.

1.12 Findings and Analysis

Model 1 in Table 3 documents the regression result for CEO total compensation and company performance. The results suggest that there is a negative relationship between the two variables, however, it is not statistically significant and the value of $R^2$ is only 0.005, which is too low. In Model 2, two control variables (firm size and firm growth opportunities) are added. The results do not change much and still a negative relationship between performance and the total compensation of the chief executive officer persists, and like in Model 1, this relationship is not statistically significant. However, there is a significant increase in the value of $R^2$ (0.356). This result challenges the agency theory and indicates that there might be other factors except corporate performance which determine the compensation of a CEO. The CEOs might be paid high in order to retain, attract or build long term relationships with the organization (Duffhues and Kabir, 2008). This result is similar to Langsam et al. (1997) who also finds a negative relationship between the two variables (without any statistic significance). This is also in accordance with the study of Gai and Michaud (2009), who find no relation of return on equity

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6 This was the time period where impact of financial crisis appeared all over the world.
with the compensation of the chief executive officer. A more recent study of firms in Pakistan, Shah et al. (2009) also came up with the conclusion that CEO compensation is not correlated with performance.

This study finds out that there is a positive relationship (t=8.54, significant at 1% level) between the total compensation of CEO and the size of firm (results are documented in Table 3, Model 2). One of the reason for this can be that large companies have more complicated structure and they need more knowledgable and competent person to run it. In addition most of these firms are multinationals with surplus amount of resources at their disposal and can afford to pay high wages to their CEOs. This result is in congruence with the results of Kostiuk (1990) who suggested that these two varibles are positively linked to each other and this relationship has been stable over time. A more recent study by Gai and Michaud (2009) tested the impact of firm size on six different types of CEO compensations namely CEO salary, restricted stock grants, stock options awarded, bonus, Long-term Incentive Payouts (LTIP) and total CEO compensation. They find that the size has a positive impact on all these six components. This relationship can have a negative effect on the firm and can propogate ‘moral hazard’ as CEOs can engage in deal-making (which are aimed at improving CEOs pay rather than the value of the firm). Fich et al. (2009) analysed the firms which were involved in corporate deals and their findings pointed out that the total pay of the CEO increased for firms which were involved in deal making (e.g. joint ventures, strategic alliances, seasoned equity offerings and spinoffs) irrespective of the success of the deal.

Model 2 in Table 3 shows the regression result for the second control variable which is the market to book ratio. It has a positive but no statistically significant realationship with the total compensation of CEO. The result are consistent with the findings of Gaver and Gaver (1992), who took a sample of 237 growth firms and 237 nongrowth firms. They found that CEOs in high-growth firms were recieving more compensation than their counterparts. This result is explained by Smith and Watts (1992), who give the rationale that more complexed firms with greater growth opportunities require higher quality managers who demand higher wages.

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7 Moral hazard may arise whenever a principal compensates agents based on input or output monitoring because their actions or performance is either hard to monitor or difficult to observe (Fich et al., 2009).
As mentioned before, to test the influence of Board members on the pay scale of CEO, a dummy variable was introduced to Model 2. The results from the regression (mentioned in Table 3, Model 3) suggest that there is a negative but not statistically significant relationship between total compensation and a large Board. These finding are in contrast with the findings of Core et al. (1999) who did a study on 205 publically traded US firms and found that larger boards pay more compensation to CEOs. The result from my study also contradicts from the findings of Guest (2009). His research was based on 1880 publicly traded firms in UK from a period of 1983-2002. He found that the pay of chief executive was an increasing function of the size of the Board.

The results presented above do not exhibit conflicting findings when the dependent variable is changed to cash compensation. I use the previous regression models but instead of CEO total compensation now I use cash compensation as the dependent variable. The explanatory variables will remain the same.

The results from the table 4, Model 1 show the regression result for cash compensation received by the CEO and the performance of the company. As expected the results do not diverge much from my previous findings when the dependent variable was total compensation. Adding the control variables of firm size and growth opportunities does not have a considerable impact on the nature of this relationship, although the value of $R^2$ increases noticeably. This finding gives no support to the argument that remuneration given to the CEO acts as an incentive for him to perform better and increase the value of the company. A European study done by Duffhues and Kabir (2008) on Dutch firms tried to answer the same question. Their study is quite similar to this one and the variables used here are also the same. For instance their study was based on accounting and capital market based performance measures (one of them was return on equity). They also used cash compensation as a proxy for CEO pay. They found a negative ($t=3.21$, significant at 1% level) negative pay-for-performance relationship.

Model 2 in Table 4 shows the coefficients of the control variables (firm size and growth). As expected, they do not change markedly when cash compensation is used as the dependent variable. The firm size has a positive significant relationship with the dependent variable and growth has a positive but insignificant relationship.
The Model 3 in Table 4 shows the effect of the dummy variable of Board Size on CEO cash compensation. A negative and insignificant relationship is found between the two variables. Hence this relationship does not change when cash compensation is used as the dependent variable. From the discussion above, the regression analysis suggest that there is no relationship between CEO compensation (total or cash) and the size of the Board.

In summary, when studying the level of cash and total compensation, I find that performance does not affect the level of compensation (neither cash nor total). Hence there is no relationship between the compensation of the CEO and the performance of the company. So the study cannot find evidence to support the first hypothesis. As noted earlier this result can mean that there are factors other than performance of the firm which determine the pay scale of CEOs in Sweden. Lubatkin et al. (2005) comments that as there is a dominance of major business groups in Swedish industry, the job security of these executives is high. If they are laid off from one company, they are readily recruited by another group. Hence this ‘informal employment security network’ and the small size of the Swedish managerial labor market makes these CEOs more powerful and influential in setting their own pays, regardless of their performance. Finally, in the light of the discussion above, there might be a need to make more legislations to improve the corporate governance in Sweden.

Also the number of Board of directors do not have a significant impact on the cash or total compensation of the CEOs in Sweden. As mentioned earlier, this result is different than the previous studies (Core et al. (1999), Guest (2009)). The reason for the divergence of my results from previous studies could be that these studies were done in US and UK, whereas my results are from Sweden. As pointed out by Shliefer and Vishny (1997) the structure of corporate governance differs from country to country and there might not be one perfect system appropriate for all countries. Hence, results from the regression indicate that in case of Sweden, larger boards do not necessarily mean greater compensation to the CEO.
Conclusion

The study tried to examine the relationship between the pay of a CEO and the performance of the company, controlling for firm size and growth (investment opportunities). It also tries to find the impact of the size of Board of directors in a company. The conclusion of this paper is that there is a statically insignificant and negative realtionship between CEO pay and the performance of the company. The compensation of the chief executive officer is an increasing function of the size of the firm i.e. the larger the firm the larger would be the compeensation. The growth (investment opportunities) of a company are positively related to the remuneration recieved by the chief executive officer but this relation also remains statiscally insignificant. The interesting part of this study is the finding that a large board of directors does not necessarily translates into high salary given to the chief executive officer. This relationship is negative and statistically insignificant. This observation is contrary to many studies done on different firms in USA.  

In light of these finding, for the time period under study, in Sweden it does not matter if the board of directors is small or big. The second conclusion is a bit worrisome. There is a weak negative relationship between the remuneration recieved by the chief executive officer and the performance of the company. This can have adverse effects on the company and the shareholders as this result means the CEO is not being paid for his performance. This leaves our question unanswered `Are the CEOs being paid for their performance?’

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8 See Core et al.(1999), Yermack (1996)
Tables

Table 1 Descriptive Statistics

This table reports the sample statistics for the principal variables. It shows the firms characteristics over the period of 2004-2008. Cash compensation includes the salary and bonus given to the CEO. CEO compensation is the sum of salary, bonus, pension and other remuneration (stocks, stock options and perquisites). Performance is taken in terms of Return on Equity, which is net income divided by total equity. Control variables are firm size and growth. Firm size is taken as the natural log of market capitalization. Market capitalization is year-end share price times total stocks outstanding. Growth is taken in terms of market to book value, calculated by dividing market capitalization by the book value of equity. Board size is the number of Board members in the company.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>Median</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cash compensation (KSEK)</td>
<td>10,637</td>
<td>946</td>
<td>6,945</td>
</tr>
<tr>
<td>Total compensation (KSEK)</td>
<td>16,364</td>
<td>14,584</td>
<td>11,995</td>
</tr>
<tr>
<td>Performance (Percentage)</td>
<td>26.28</td>
<td>19.55</td>
<td>32.25</td>
</tr>
<tr>
<td>Firm size (Millions SEK)</td>
<td>60,527</td>
<td>27,615</td>
<td>83,002</td>
</tr>
<tr>
<td>Growth</td>
<td>4.01</td>
<td>2.71</td>
<td>5.95</td>
</tr>
<tr>
<td>Board size</td>
<td>9</td>
<td>8</td>
<td>2</td>
</tr>
</tbody>
</table>
Table 2 Descriptive Statistics

This table shows the yearly mean, median and standard deviation of the variables. Panel A shows descriptive statistics of total compensation (the sum of salary, bonus, pension, stocks, stock options and perquisites) and Cash compensation (the salary and bonus). Panel B shows descriptive stats of performance variables. Performance is taken in terms of Return on Equity, which is net income divided by total equity. Panel C and D shows the control variables which are firm size and growth. Firm size is taken as the natural log of market capitalization. Market capitalization is year-end share price times total stocks outstanding. Growth is taken in terms of market to book value, calculated by dividing market capitalization by the book value of equity. Panel E shows statistics for Board size, the number of Board members in the company.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Compensation (KSEK)</td>
<td>Mean</td>
<td>12,595</td>
<td>14,592</td>
<td>15,463</td>
<td>16,792</td>
</tr>
<tr>
<td></td>
<td>Median</td>
<td>10,534</td>
<td>12,825</td>
<td>13,203</td>
<td>14,767</td>
</tr>
<tr>
<td></td>
<td>Std. Dev.</td>
<td>7,371</td>
<td>10,017</td>
<td>9,486</td>
<td>8,541</td>
</tr>
<tr>
<td>Cash Compensation (KSEK)</td>
<td>Mean</td>
<td>9,207</td>
<td>9,608</td>
<td>10,384</td>
<td>11,238</td>
</tr>
<tr>
<td></td>
<td>Median</td>
<td>7,307</td>
<td>8,601</td>
<td>9,959</td>
<td>10,202</td>
</tr>
<tr>
<td></td>
<td>Std. Dev.</td>
<td>5,143</td>
<td>5,595</td>
<td>5,679</td>
<td>5,407</td>
</tr>
<tr>
<td>Performance (Percentage)</td>
<td>Mean</td>
<td>20.33</td>
<td>20.55</td>
<td>31.54</td>
<td>34.05</td>
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<tr>
<td></td>
<td>Median</td>
<td>16.85</td>
<td>18.00</td>
<td>23.90</td>
<td>21.50</td>
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<tr>
<td></td>
<td>Std. Dev.</td>
<td>13.84</td>
<td>11.50</td>
<td>37.53</td>
<td>50.67</td>
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<tr>
<td>Panel C: Control variable descriptive statistics</td>
<td>2004</td>
<td>2005</td>
<td>2006</td>
<td>2007</td>
<td>2008</td>
</tr>
<tr>
<td>Firm size (Million SEK)</td>
<td>Mean</td>
<td>49,146</td>
<td>59,810</td>
<td>75,277</td>
<td>71,951</td>
</tr>
<tr>
<td></td>
<td>Median</td>
<td>15,898</td>
<td>22,437</td>
<td>33,801</td>
<td>34,867</td>
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<tr>
<td></td>
<td>Std. Dev.</td>
<td>75,891</td>
<td>89,760</td>
<td>97,715</td>
<td>86,470</td>
</tr>
<tr>
<td>Panel D: Control variables descriptive statistics</td>
<td>2004</td>
<td>2005</td>
<td>2006</td>
<td>2007</td>
<td>2008</td>
</tr>
<tr>
<td>Growth</td>
<td>Mean</td>
<td>3.29</td>
<td>3.26</td>
<td>5.04</td>
<td>5.71</td>
</tr>
<tr>
<td></td>
<td>Median</td>
<td>2.60</td>
<td>2.75</td>
<td>3.31</td>
<td>2.60</td>
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<tr>
<td></td>
<td>Std. Dev.</td>
<td>2.27</td>
<td>2.01</td>
<td>6.13</td>
<td>10.67</td>
</tr>
<tr>
<td>Board size</td>
<td>Mean</td>
<td>9</td>
<td>9</td>
<td>9</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td>Median</td>
<td>8</td>
<td>8</td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>Std. Dev.</td>
<td>3</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
</tbody>
</table>
Table 3 Regression CEO Total Compensation

Natural log of the total cash compensation including salary, bonus, pension, perquisites, stocks and stock options is used as the dependent variable. A dummy variable that is 0 if the board is less than seven (small) and 1 if it is more than seven (large) is used to determine the size of the Board. Performance is taken in terms of Return on Equity, which is net income divided by total equity. Control variables are firm size and growth opportunities. Firm size is taken as the natural log of market capitalization. Market capitalization is year-end share price times total stocks outstanding. Growth opportunities is taken in terms of market to book value, calculated by dividing market capitalization by the book value of equity. T-statistics are provided in parentheses. One, two and three asterisks denote significance at the 0.1, 0.05 and 0.01 levels respectively.

<table>
<thead>
<tr>
<th>Independent variable</th>
<th>Model 1</th>
<th>Model 2</th>
<th>Model 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>16.41</td>
<td>7.547</td>
<td>7.71</td>
</tr>
<tr>
<td></td>
<td>(11.37)***</td>
<td>(7.247)***</td>
<td>(6.734)***</td>
</tr>
<tr>
<td>Performance</td>
<td>-0.001</td>
<td>-0.004</td>
<td>-0.004</td>
</tr>
<tr>
<td></td>
<td>(-0.766)</td>
<td>(-1.389)</td>
<td>(-0.197)</td>
</tr>
<tr>
<td>Firm Size</td>
<td>-</td>
<td>0.366</td>
<td>0.39</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(8.544)***</td>
<td>(8.595)***</td>
</tr>
<tr>
<td>Growth</td>
<td>-</td>
<td>0.021</td>
<td>0.019</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(1.127)</td>
<td>(0.993)</td>
</tr>
<tr>
<td>Board Size</td>
<td>-</td>
<td>-</td>
<td>-0.23</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(-1.538)</td>
</tr>
<tr>
<td>Number of observations</td>
<td>150</td>
<td>150</td>
<td>150</td>
</tr>
<tr>
<td>R²</td>
<td>0.004</td>
<td>0.356</td>
<td>0.367</td>
</tr>
</tbody>
</table>
Table 4 Regression CEO Cash Compensation

Natural log of the cash salary which includes salary and bonus is used as the dependent variable. A dummy variable that is 0 if the Board is less than seven (small) and 1 if it is more than seven (large) is used to determine the size of the Board. Performance is taken in terms of Return on Equity, which is net income divided by total equity. Control variables are firm size and growth. Firm size is taken as the natural log of market capitalization. Market capitalization is year-end share price times total stocks outstanding. Growth is taken in terms of market to book value, calculated by dividing market capitalization by the book value of equity. T-statistics are provided in parentheses. One, two and three asterisks denote significance at the 0.1, 0.05 and 0.01 levels respectively.

<table>
<thead>
<tr>
<th>Independent variable</th>
<th>Model 1</th>
<th>Model 2</th>
<th>Model 3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Intercept</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>16.03 (10.77)***</td>
<td>9.816 (8.777)***</td>
<td>9.24 (8.152)***</td>
</tr>
<tr>
<td>Performance</td>
<td>-0.001 (-0.866)</td>
<td>-0.004 (-1.114)</td>
<td>-0.003 (-0.851)</td>
</tr>
<tr>
<td>Firm Size</td>
<td>-</td>
<td>0.256 (5.58)***</td>
<td>0.293 (6.06)***</td>
</tr>
<tr>
<td>Growth</td>
<td>-</td>
<td>0.016 (0.817)</td>
<td>0.012 (0.631)</td>
</tr>
<tr>
<td>Board Size</td>
<td>-</td>
<td>-</td>
<td>-0.352 (-1.63)</td>
</tr>
<tr>
<td>Number of observations</td>
<td>150</td>
<td>150</td>
<td>150</td>
</tr>
<tr>
<td>R²</td>
<td>0.005</td>
<td>0.195</td>
<td>0.22</td>
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</tbody>
</table>
References


Ferri., Fabrizio., Maber., David. 2009. ‘Say on pay vote and CEO compensation: Evidence from the UK’


