Determinants of CEO Compensation:
Empirical Evidence from Listed Banks of Bangladesh

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Abstract: *CEO Compensation has received massive attention in recent years because CEO compensation plays a pivotal role to meet the company's objectives or shareholders' goals. Determinants of CEO compensation are examined through firm performance, corporate governance mechanisms (including board composition and ownership structures) and external monitoring parameters. The empirical research conducted on listed banks of Bangladesh during the period from 2006 to 2013. This research finds a positive relationship of CEO pay with firm performance and firm size. CEO pay is higher due to weak corporate governance mechanisms. This study also finds that independent directors, female directors, institutional investors, and directors' nominees can't play their monitoring role in setting CEO compensation. The results recommend that the banks should disclose executive information in more details particularly CEO information including performance incentives. Moreover, the regulators or government should more emphasize on efficient corporate governance mechanisms which will reduce the agency cost of the shareholders.*

Keywords: *Agency cost, CEO compensation, corporate governance, external monitoring.*

1. Introduction

Agency problem occurs due to separation of management and shareholders and management compensation has received massive attention in academic research to mitigate the agency problem. Alignment of the incentive of top management with the interests of shareholders has been characterized as an important mechanism of corporate governance. Jensen and Meckling (1976) argue that the agency problem can be solved through management compensation and implementation of good governance. Clarkson et al. (2011) also stated that performance based remuneration packages and effective monitoring defined as encompassing corporate governance and remuneration disclosure are the two ways to mitigate the agency problem. Managerial compensation plays a pivotal role in motivating, rewarding, and disciplining managers to follow and maximize specific firm objectives or shareholders' wealth (Jensen and Murphy, 1990 and Firth et al., 1999).

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To date, most of the prior empirical research examined the relationship between pay and performance and effectiveness of corporate governance mechanism on executive compensation using firms only US, UK, Japan, Australia, China, Hongkong and other developed economies. But the relationship between top management pay and performance, effectiveness of corporate governance mechanisms through board composition and ownership structures on executive pay has not been examined yet in developing country like Bangladesh. As a result, there is a dearth of research using data from Bangladeshi firms. This gap of research inspires me to do my research in CEO pay related to Bangladesh and filling up this gap is my research motivation of this study.

Banking sector in Bangladesh is growing very fast and it is considered as the promising sector due to its contribution to a significant percentage in national GDP. Banking sector is well structured, complies with the rules and regulation properly and disclosure is higher as compared to other companies in Bangladesh. Moreover, CEO information is disclosed separately in the financial statements of the banks. But there is no relevant study on how CEO compensation is determined in listed banks of Bangladesh.

The research question of this study is to find out the main determinants of CEO compensation in listed banks of Bangladesh. To do so, I will try to find out whether there is a positive relationship between pay and performance in CEO pay. Shareholders are widely dispersed and less informed about the business activities which may increase firms' wealth and can't monitor each activity of managers and investment opportunities. But effective corporate governance mechanisms monitor the activities of managers and mitigate the agency cost born by the shareholders. Thus, I will evaluate the effectiveness of the corporate governance mechanisms through board composition and ownership structures in setting CEO pay. Executive compensation research finds that firm size is a significant determinant in CEO compensation. I will try to find out whether this is also applicable in the listed banks of Bangladesh. These are the main empirical research questions that I seek to address in this study.

This paper contributes to the pay literature in many ways: First, there is dearth of research studies relating to determinants of CEO compensation in banks of Bangladesh. Thus, this study will provide a remedy for the paucity of compensation research and will add value to the CEO pay literature in Bangladesh. Second, this paper investigates the relationship among CEO pay, firm performance, corporate governance parameters (such as board composition and ownership structure) and external monitoring and multivariate analysis has been done considering all the variables. This multivariate analysis will help to understand which factors contribute significantly in determination of CEO pay. Third, this study will help to understand the mechanisms of corporate governance systems in banks and how it works and to what extent it is effective in determination of CEO pay. Finally, the findings of this study will enrich the corporate governance mechanisms and

pay performance relationship will contribute to work as a better alignment of management and shareholders by reducing agency problem in the listed banks of Bangladesh.

This study is organized as follows: Section 2 shows setting CEO compensation in banks of Bangladesh; Section 3 explains the selection process of the samples; Section 4 describes literature review and hypothesis development; Section 5 presents research method including research models and data sources; Section 6 describes analysis of the results and implications. This section explains the disclosure pattern of CEO remuneration in annual reports, descriptive statistics, correlation matrix and multivariate analysis of CEO pay level models and CEO pay at lagged models; Section 7 describes additional analysis considering the time adjustment of CEO pay level and CEO pay at lagged models. Section 8 presents conclusion by giving summary of the findings and some recommendations.

2. Setting CEO Compensation in Banks of Bangladesh

Executive compensation information is not disclosed properly in many countries and even pay setting process is also not clear or transparent. The Board of Directors decides the CEO pay without the approval of shareholders. Most of the firms form a compensation committee comprising nonexecutive directors or outsiders to determine the executive pay (Firth et al., 1999). Main (1993) stated that compensation committee may not play the independent role due to reciprocal relationship with the executive directors. Firth et al., (1999) stated that executive compensation is also determined by comparing the size and industry of the similar group. Firth et al., (1999) also find that in UK, firms are adopting Cadbury committee's recommendation on corporate governance and setting the top level remuneration. Pay setting process is determined by the boards, or compensation committee or corporate governance guidelines or peer group review. This pay setting process also varies from industry to industry and country to country.

In Bangladesh, CEO pay setting process in listed banks is different from other countries. There is no separate compensation committee for the executive compensation. The board of directors of the bank appoints the competent Chief Executive Officer (CEO) with the approval of Bangladesh Bank. Bank companies require approval of Bangladesh Bank in respect of appointment, dismissal, release or removal of Bank CEO in accordance with Bank Companies Act 1991 (15(4)). One of the responsibilities of the board of directors is to appoint an honest, efficient, experienced and suitable CEO to obtain confidence of the depositors, strengthen the financial base and ultimately ensure better good governance.

Before an appointment of CEO, Bank requires to submit full bio-data, terms and conditions of appointment including direct and indirect payable salary and allowances and facilities to Bangladesh Bank[1]. Bangladesh Bank provides the guideline for CEO in terms of salary and allowances, which are:

1. Consider the financial condition of the bank, area of its operation, business volume and earning capacity, CEO's qualification, age and experience and peer banks, remuneration in fixing the salary and allowances of the CEO.

2. Total monthly salary should be determined and specified in amount in Taka. Total salary should comprise direct salary covering basic pay, house rent, festival allowance, other allowances and other facilities (e.g. provident fund, utility bill, leave fare assistance etc.).

3. Terms of salary, allowances and other facilities specified in the terms and conditions of appointment can't be changed during the tenure but in case of renewal, salary can be newly fixed considering the job performance of the CEO.

4. CEO should not be entitled to any other direct and indirect facilities (e.g. dividend, commission, club expenses etc.) other than salary, allowances and other facilities mentioned in (2).

5. CEO has to pay the tax and bank will not pay the income tax of the CEO and CEO is not allowed to continue service if his/her age is over 65.

Banks do not disclose the pay setting process clearly and executives information is not disclosed in the financial statements in total. Only few banks disclose the total executive information in details with information about compensation. In Bangladesh, there are no uses of stock options like other countries i.e. CEO can't hold any shares as per bank regulation and no opportunity to earn dividend income and capital gain. CEO receives basic salary, house rent, house maintenance, medical allowance, provident fund, bonus and other facilities and components of CEO compensation varies bank to bank and on performance of CEO.

3. Selection Process of Sample

Total 236 firm years are considered as sample for listed banks of Dhaka Stock Exchange (DSE) during the period from 2006 to 2013. Bangladesh Securities and Exchange Commission (BSEC), the regulatory authority, firstly, introduced corporate governance guideline in 2006 and later revised in 2012 to ensure proper monitoring and governance of the firms. All the banks have to prepare the corporate governance compliance checklist since 2006. Only few banks disclose the corporate governance information in details voluntarily before implementation of corporate governance guideline (amendment) 2012.

The name of the listed banks is given in the Table 1.

Table 1: Listed Banks of Dhaka Stock Exchange (DSE)

Obs	Name of Bank	Obs	Name of Bank
1	ARAB BANGLADESH BANK	16	MUTUAL TRUST BANK
2	AL-ARAFAH ISLAMI BANK	17	NATIONAL BANK
3	BANK ASIA	18	NCC BANK
4	BRAC BANK	19	ONE BANK
5	CITY BANK	20	PREMIER BANK
6	DHAKA BANK	21	PRIME BANK
7	DUTCH-BANGLA BANK	22	PUBALI BANK
8	EASTERN BANK	23	RUPALI BANK
9	EXIM BANK	24	SHAHJALAL ISLAMI BANK
10	FIRST SECURITY ISLAMI BANK	25	SOCIAL ISLAMI BANK
11	ICB ISLAMIC BANK	26	SOUTHEAST BANK
12	IFIC BANK	27	STANDARD BANK
13	ISLAMI BANK BANGLADESH	28	TRUST BANK
14	JAMUNA BANK	29	UNITED COMMERCIAL BANK
15	MERCANTILE BANK	30	UTTARA BANK

4.   Literature Review & Hypothesis Development

Determinants of CEO compensation are examined on the basis of prior empirical research and managerial theories of the firm. In this study, level of CEO remuneration is used and dependent variable. The potential determinants of CEO pay that I will examine are performance measures (ROA and Tobin's Q); corporate governance mechanisms through board composition (board size, independent directors and female directors) and ownership structures (institutional ownership, foreign investors and directors' ownership); firm characteristic (firm size) and external monitoring (debt to total equity). On the basis of prior empirical research, hypothesis are described below.

Firm Performance

Executive remuneration should be linked to firm performance in order to stimulate the CEO to maximize shareholders' wealth. This pay performance relationship is the basic principle of principal agent theory (Dechow and Sloan, 1991; Baker, 1992; and Kaplan, 1994). There is a positive relationship between executive remuneration and firm performance (Coughlin and Schmidt, 1985; Murphy 1985; Jensen and Murphy, 1990; Conyon and Peck, 1998; Ramswamy et al., 2000) but other studies find that there is no

relationship or relationship between firm performance and executive compensation is week (Conyon et al., 1995; Zhou, 1999; Fernandes, 2008 and Luo and Jackson, 2012).

Empirical evidence finds mixed result by using the same performance measures in different parts of the world. The reason is explained by Luo and Jackson (2012) and they stated that pay performance relationship varies based on different data, institutions and model specifications. There is no relevant study how CEO pay is determined in the listed banks of Bangladesh. To align the interest of managers with the interest of owners, agency theory says that manager's compensation work as a function of firm performance (Kaplan, 1994 and Murphy, 1985, 1999). Thus, I develop my first hypothesis in this way:

H1:   Ceteris paribus, there is a positive relationship between firm performance and CEO pay.

H1(a):   Ceteris paribus, there is a positive relationship between ROA (return on assets) and CEO pay.

H1(b):   Ceteris paribus, there is a positive relationship between Tobin's Q and CEO pay.

Corporate Governance Mechanisms

Shleifer and Vishny (1997) study provided that executives try to maximize their self interest from the shareholder resources. Thus, firms have developed corporate governance mechanisms to control the self serving behavior of managers and to mitigate the agency cost borne by shareholders. Agency problems are greater due to weak corporate governance mechanisms which ultimately lead to higher CEO compensation in US firms (Core et al., 1999). Basu et al., (2007), using data of 174 large Japanese firms, also find that top executive pay is higher in firms with weaker corporate governance mechanisms. Ozkan (2007) stated that corporate governance mechanisms such as board composition and ownership structures have the influence on compensation policy and reduce the agency conflicts between executives and shareholders. Therefore, effective corporate governance mechanisms (including board composition and ownership structures) are important for controlling managerial compensation.

Board Composition

Board Size

A company's board is the primary internal corporate governance mechanism responsible for setting management compensation, design and implementation of incentive system and monitoring senior management (Finkelstein & Hambrick, 1988, 1996; Lorsch, 1989; Jensen, 1993 and Tosi, and Mejia, 1997). The board of directors has the power to control the activities of CEO and restrict CEO compensation. Jensen (1993) and Lipton and Lorsch (1992) study finds that small boards are more effective than large boards. Studies related to

US find that large board size is not effective in monitoring the CEO's remuneration but Fung et al., (2001) stated that firms with a large number of directors tend to restrain CEO remuneration. Large board increased the monitoring capability and having more business expertise in the board reduces the decision making power of CEO (Conyon and Peck, 1998 and Guest, 2008).

In Bangladesh, the size of board member should not be less than 5 and not more than 20 according to corporate governance guideline 2006 and 2012. The empirical evidence shows that small board is effective while some other papers report that large board is effective in restricting the CEO pay. This indicates that empirical evidence is mixed and thus I develop the hypothesis as:

H2a: Ceteris paribus, there is a positive relationship between the size of the board of directors and CEO pay.

H2b: Ceteris paribus, there is a negative relationship between the size of the board of directors and CEO pay.

Independent Directors

Board effectiveness depends on the presence of nonexecutive directors in the board (Fama and Jensen, 1983; Weisbach, 1988 and Core et al., 1999). It is assumed that non executive independent directors are effective and independent and work on behalf of the shareholders interest. The greater the number of outside directors on the board, the stronger the corporate governance of the firm (Conyon and Peck, 1998 and Weisbach, 1988). Independent directors have added incentive to closely monitor the managers when they own relatively high stockholdings (Fama and Jensen, 1983). Parthsarathy et al. (2006) stated that presence of the higher number of independent directors in the board ensures proper monitoring of the firm and limits managerial power to act against the interest of the shareholders.

Corporate governance literature indicates that there is a negative relationship between proportions of nonexecutive directors and top management pay but empirical evidence is mixed (Boyd, 1994; Kren and Kerr, 1997). Some studies find a significant positive relationship of proportion of nonexecutive director with the CEO pay (Croci et al., 2012; Firth et al., 1999; Lambert et al., 1993; Ezammel and Watson, 2002 and Cheng and Firth, 2006).

In listed banks of Bangladesh, the number of independent directors on the board must be at least one tenth of the total number of directors (minimum one) according to corporate governance guideline 2006. But corporate governance guideline 2012 revised it and changes made for independent directors from one tenth to one fifth of the board. This change implies that the regulatory authority emphasizes more on the presence of independent directors in the

board to play the monitoring role on behalf of the shareholders. The number of board directors is minimum five and maximum twenty where as number of independent director ranges from one tenth to one fifth. It is difficult for the small number of independent directors to play the effective monitoring role. Moreover, independent directors receive only meeting fee which is not a sufficient remuneration for their supervisory role. Thus, I assume that role of independent directors will not be effective enough to restrict the CEO pay and develop my next hypothesis as:

H3:   Ceteris paribus, there is positive relationship between independent directors and CEO pay.

In this study, I will try to find out the relationship between percentage of independent directors and CEO pay.

Female Directors

Earlier empirical research rarely focused on the presence of female directors in the board. Nowadays, gender diversity or proportion of female directors in the board also plays a crucial role in effective governance of banks. Robinson and Dechant (1997) stated that female directors are hard workers and having good communication skills with problem solving and decision making capacity in the entire board. Eagly and Carli (2003) find that females reach to directorship position and demonstrate that they are highly proficient, diligent, and sincere about responsibilities and take best preparation before board meeting and improve board effectiveness. Adams and Ferreira (2009) examined the role of female directors and find that female directors are regular in board meeting and try to join in monitoring committees. Smith et al., (2006) represent the importance of presence of female directors in the board and find that female directors are efficient in decision making due to their better understanding capability of the market and their presence in the board enhances the image of the firm that ultimately contribute in firm performance. Carter et al., (2003) finds a positive relation between percentage of female directors and firm performance. This implies that firm performance is good when there is a presence of female directors in the board. If the firm performance is good then CEO will expect positive return from the banks.

In Bangladesh, females' involvement is increasing in the corporate sector and they demonstrate their capability by participating in the board of directors. The number of female directors in the banking sector is also increasing over the years because they have the capacity to effectively manage the business. On the other hand, it is also argued that most female directors are appointed by the controlling shareholders and in this situation, generally female directors work on behalf of the controlling shareholders ti represent the laters' interests and they often have no voice or remain silent in the board. Thus, I assume that there may be a positive relationship between female directors and CEO pay and develop my hypothesis as:

H4:   Ceteris paribus, there is a positive relationship between the female directors and CEO pay.

Ownership Structures

Ownership structures have the influence on executive compensation. In this study, three categories of ownership structures such as institutional ownership, foreign investors and director ownership are examined on CEO compensation in listed banks of Bangladesh.

Institutional Shareholdings

Institutional investors are normally banks and financial institutions and hold a large percentage of ownership of the firms and monitor the activities of the management. Individual investors can't create pressure on management due to their less investment as well as dispersed ownership structure. But institution plays a significant role as a large (block) shareholder and controls the discretionary decision making power of management and executive compensation. Parthasarathy et al., (2006) study stated that institution plays an active role in the shareholders meetings of the company, voices their opinion and ensures that managers need to win their support on matters that require shareholder approval. They also said that institution can play a monitoring role like independent directors by restricting compensation of CEO and other executives if it is unfavorable for the shareholders. Firth et al., (1999) and Ozkan (2007) find that there is an association between existence of institutional shareholders with lower CEO pay which means that higher level of institutional shareholders restrain CEOs from awarding himself very high compensation.

The empirical evidence is mixed. There is a positive relationship between pay and institutional shareholding which implies that monitoring role of institutional shareholders is either weak or absent (Parthasarathy et al., 2006). Croci et al., (2012) stated that institutional ownership is associated with high levels of CEO cash and total compensation in continental Europe, especially in family firms. They also added that institutional investors encourage firms to provide performance based compensation to their CEOs.

In this study, only listed banks are considered. So, institutional owners of these banks are peer groups with other banks and financial institutions in the same industry. It is assumed that institutional owners may not play their monitoring role effectively in restricting the CEO pay in the same industry. Moreover, institution may motivate to provide performance based compensation to the CEO. Thus I develop my hypothesis as:

H5: Ceteris paribus, there is a positive relationship between the shareholdings of institutional shareholders and CEO pay.

Directors Shareholdings

Directors are more active and concerned about business activities when they have share ownership in the firm. Shleifer and Vishny (1986) stated that director shareholdings

stimulate to reach best firm performance. When directors have the ownership, they can earn through cash and stock earnings. Directors can earn dividend and capital gain from the shares. Therefore, they have less demand of cash compensation to align the interests of executives and shareholders. Ozkan (2007) study finds that CEO receives low compensation when director ownership is high. Firth et al., (1999) find that there is a negative relationship between director shareholdings and director's pay. Since director earns rewards based on stock price performance so they receive low cash compensation and no controversy over excessive pay exists. There is also empirical evidence of positive relationship between director shareholdings and directors pay. Basu et al., (2007) study find positive and statistically significant relation between top executive pay and director ownership which implies that top executive earned higher income when board owns a higher percentage of shares. Moreover, director holds the executive positions and decide their own compensation which give raise the excessive remuneration.

In listed banks of Bangladesh, directors have the scope to earn both dividend and capital gain from the shares but CEO can't hold any shares as per bank regulation. So, there is no scope to earn dividend and capital gain from share price. CEO only receives the cash compensation rather than stock earnings. The empirical evidence of the relationship between director ownership and CEO compensation is mixed. Thus, I want to examine the relationship between directors' ownership and CEO pay in the listed banks of Bangladesh and thus develop the hypothesis as:

H6a: Ceteris paribus, there is a positive relationship between the proportional shareholdings of directors and CEO pay.

H6b: Ceteris paribus, there is a negative relationship between the proportional shareholdings of directors and CEO pay.

Foreign Ownership

Foreign investors are more concerned about their investment and they demand high quality and better qualified executive in managing the business and expect a good return from their investment. This demand leads to a positive relationship between CEO pay and the presence of foreign investors. If the performances of the executives are outstanding, foreign investors want to pay a good amount in response of their performance. Uchida (2006) examined the relation between stock option adoption and foreign shareholding and described a positive relation between the stock option compensation and foreign shareholding. Fung et al., (2001) stated that CEO pay is higher because foreign shareholders demand to hire the best possible professional managers.

In Bangladesh, foreign investors' investment in the banking sector is increasing day by day. But there is no scope of using stock option or stock based incentive schemes for the

CEO. As the foreign investors are concerned about their investment, they demand highly talented candidate as CEO and have the interest to pay high remuneration. Thus, I develop my next hypothesis as:

H7:   Ceteris paribus, there is a positive relationship between the presence of foreign ownership and CEO pay.

External Monitoring (Leverage)

Debt holders are more active and play their monitoring role when management activities are against of their interest.   There is comparatively less research to find out the relationship between executive remuneration and leverage ratio. Leverage is used as proxy of external monitoring in compensation related empirical research. Previous research find that there is a negative relationship between leverage and pay performance sensitivity of the CEOs in banking industry (Houston and James, 1995; John et al., 2010). John and Qian (2003) find that CEO has low pay performance sensitivity in the banking industry vis-a-vis manufacturing firms and this difference is due to debt ratios between two firms. John and John (1993) observed that debt holders control the firms and decision making power of management when there is existence of external debt. Firms with high leverage try to avoid stock options (Kato et al., 2005). Fung et al., (2001) document that CEO receives low compensation when firms have high debt ratios and this indicates that debt holders create pressure on the board and CEO.

In listed banks of Bangladesh, there is no use of stock option for CEO compensation. Debt holders have the monitoring capacity to restrict the CEO pay when CEO's performance and activities are again the interest of the debt holders. Thus, I assume a negative relationship between debt holders and CEO pay and develop my next hypothesis as:

H8: Ceteris paribus, there is a negative relationship between leverage and CEO pay.

Firm Characteristics

Firm Size

In compensation studies, firm size plays a significant role in determination of executives' remuneration. There is a positive relationship between firm size and executive compensation (Conyon, 1997; Core et al., 1999; Fung et al., 2001; Ghosh, 2003; Parthasarathy et al., 2006 and Lazarides et al., 2008). Firth et al. (1996 and 1999) stated that pay size relationship is observed all around the world where research has been conducted. Larger firms pay higher compensation to the CEO (Conyon and Murphy, 2000 and Ozkan, 2007).

It is common that large firms will pay high remuneration to the executives because of huge amount of sales (interest revenue) or profit in large firms. In listed banks of Bangladesh, I also assume this positive relationship between firm size and CEO pay following Conyon, 1997; Core et al., 1999 and Fung et al., 2001 studies and thus develop my hypothesis as:

H9: Ceteris paribus, there is a positive relationship between firm size and CEO pay.

5. Research Method

5.1 Models

A Pooled cross sectional method has been applied to test the hypothesis. The CEO pay model is following with the methodology used by Luo and Jackson (2012) and Kato et al. (2007).

$$LNTCEOP = \beta_0 + \beta_1 \, FirmPerformance + \beta_2 Board\ Composition + \beta_3\ Ownership\ Structures + \beta_4\ External\ monitoring + \beta_5\ Firm\ Characteristic + \varepsilon$$

Where LNTCEO represents the natural logarithm of total CEO remuneration. Total CEO pay is rightly skewed and transformed into natural logarithm of total CEO pay to adjust the normality of total pay. Previous empirical studies of other countries related to Compensation also considered the logarithm form of compensation. Firm performance is divided by internal and external performance following Core et al., (1999). Internal performance is explained by ROA and external performance is represented by Tobin's Q which considers the market value of shares and growth of the firm.

The models are further restructured on the basis of above equation:

$$LNTCEOP = \beta_0 + \beta_1\ ROA + \beta_2\ LNBSIZE + \beta_3\ ID + \beta_4 FEDIR + \beta_5\ INT + \beta_6\ OWNDIR + \beta_7\ FINVTR + \beta_8\ DEBT2TE + \beta_9\ LNASSET + \varepsilon \ \ldots\ldots\ldots\ldots\ldots(1)$$

$$LNTCEOP = \beta_0 + \beta_1\ TOBIN'S\ Q + \beta_2\ LNBSIZE + \beta_3\ ID + \beta_4\ FEDIR + \beta_5 INT + \beta_6\ OWNDIR + \beta_7\ FINVTR + \beta_8\ DEBT2TE + \beta_9\ LNASSET + \varepsilon \ldots\ldots..(2)$$

$$LNTCEOP = \beta_{0} + \beta_1\ ROA + \beta_2\ TOBIN'S\ Q + \beta_3\ LNBSIZE + \beta_4\ ID + \beta_5\ FEDIR + \beta_6\ INT + \beta_7\ OWNDIR + \beta_8\ FINVTR + \beta_9\ DEBT2TE + \beta_{10}\ LNASSET + \varepsilon \ldots\ldots\ldots\ldots\ldots (3)$$

Definition of variables and their expected relationship with CEO pay are given in the Table 2.

Table 2: Definition of Variable

Variables		Variables Explanation	Expectation
Compensation			
CEO Compensation	LNTCEOP	Natural Logarithm of Total CEO Pay	
Firm Performance			
Return on Assets	ROA	Net Profit Before Tax/ Average Total Assets	+
Tobin's Q	Tobin's Q	Book value of total assets minus book value of total Equity plus market value of total equity divided by book value of total assets	+
Corporate Governance Mechanism			
Board Structure Information			
Board Size	LNBSIZE	Natural Logarithm of Board Size	+/-
Independent Directors	ID	% of Independent directors in a board	+
Female Directors	FEDIR	% of Female directors in a board	+
Ownership Information			
Institutional Ownership	INT	% of ownership held by Institution	+
Director's Ownership	OWNDIR	% of Ownership held by all directors in a board	+/-
Foreign Investors	FINVTR	% of Ownership held by Foreign Investors	+
External Monitoring			
Debt Ratio	DEBT2TE	Book value of total debt divided by book value of total equity	-
Firm Characteristic			
Firm Size	LNASSET	Natural logarithm of book value of total assets	+

5.2 Data Sources

The major sources of data for this empirical analysis are annual report of banks available at specific bank websites and website of Dhaka Stock Exchange (DSE). In this study, the data set includes the information of listed banks' total CEO pay, performance measures such as ROA and Tobin's Q, corporate governance mechanisms through board composition such as board size, percentage of independent directors, presence of female directors in the board and ownership structures like percentage of ownership by institution, foreign investors and director ownership and external monitoring information such as leverage and firm characteristic such as firm size. All of the above information is collected from directors' report, corporate governance report, profit and loss account, balance sheet, and notes or any other part of the annual report where it is available.

6.   Analysis of Results and Implications

6.1 Disclosure Pattern of CEO remuneration

All the listed banks of Bangladesh have to disclose CEO compensation information as separate line item in the profit and loss account and detail information in the notes or director report or corporate governance report. The CEO compensation is the total compensation including basic salary, house rent, house maintenance, medical allowance, festival bonus, incentive bonus, provident fund etc. In practice, all listed banks disclose the CEO compensation information as separate line item in the profit and loss account. But most banks do not disclose the total CEO remuneration in detail breakdown. Only few banks disclose the total CEO remuneration with breakdown information in details and disclose the bonus information as festival bonus and incentive bonus. Bangladesh is a Muslim country and there are two big religious festivals and CEO receive bonus in these festivals. Some banks disclose only bonus in the breakdown of CEO information but it is difficult to identify whether it is festival bonus or incentive bonus. Incentive bonus information is not disclosed separately and the reason might be incentive bonus is adjusted with basic salary or total salary. Since details CEO remuneration information are not available in all listed banks thus only total cash compensation of the CEO is measured as the executive compensation following Parthasarathy et al., 2006; Firth et al., 2006 and Leone et al., 2006 studies. Moreover, total cash compensation is considered because total CEO compensation reflects the past and current performance and this is consistent with Gaver and Gaver, 1998 and Comprix and Mueller, 2006. Compensation figures of the CEO are expressed as Bangladeshi Taka.
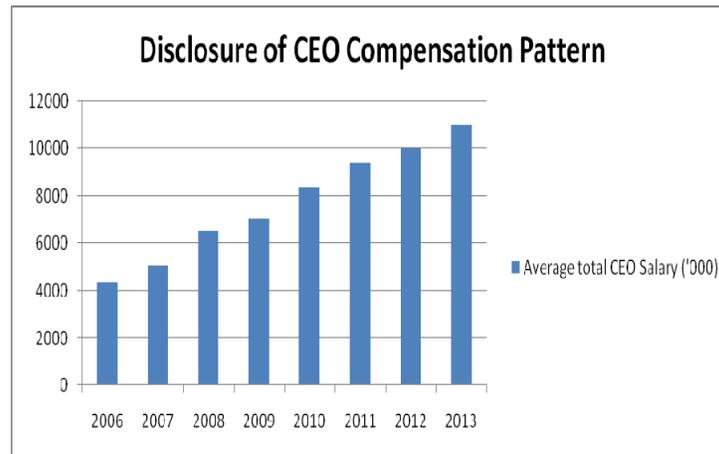
Figure -1- Trend Of Total Ceo Pay From 2006 To 2013

Figure 1 illustrates the mean of annual total CEO compensation for the period 2006 to 2013. The mean of total CEO salary increased remarkably over the year and it is highest in 2013 and lowest in 2006 as expected. The total CEO remuneration is rightly skewed. Total CEO remuneration is transformed into natural logarithm form to adjust for normality of total pay.

6.2 *Descriptive Statistics*

Table 3 represents descriptive statistics of each variable for the sample of 236 firms during the period from 2006 to 2013. Total CEO pay is expressed in thousands in descriptive statistics. The mean CEO pay is Tk. 7,788,196, ranging from a maximum of Tk. 21,606,090 and minimum of Tk. 361,080 with a standard deviation of Tk. 3,534,794. The median CEO pay is Tk. 7,836,187. The average of total CEO pay in listed banks in Bangladesh is only Tk. 7,788,196 which is much lower compared to other developed countries[2]. But given the low per capita GDP in Bangladesh, CEO compensation in banking sector is significantly higher than average salary in the country[3]. Reaz and Arun (2006) also point out that executive in banks are the highest paid executives among any Bangladeshi companies. CEO's in the banking industry received the highest compensation compared to other industries all over the world and this finding is consistent following the Fernandes (2008).

Performance is measured by two ways: Return on Assets (ROA) and Tobin's Q. Performance measured by ROA and the mean of ROA is 2.48% and a range from -20.52% to 7.78% and standard deviation is 2.72. The mean of Tobin's Q, performance measurement of firm value or growth, averages is 1.14 and ranges from 0.92 to 5.78. The Tobin's Q in listed banks of Bangladesh is higher than US banks but lower than UK firms[4].

Table 3: Descriptive Summary Statistic

	Obs.	Mean	Min.	Median	Max.	SD
CEO Pay (in thousands)	236	7788.196	361.08	7836.187	21606.09	3534.79
ROA (%)	236	2.4777	-20.520	2.9176	7.7823	2.717
Tobin's Q	236	1.1357	0.92431	1.0687	5.7795	0.3422
BSIZE	232	13.89655	5	14	27	4.25563
ID (%)	232	7.19215	0	6.66667	50	8.3561
FEDIR (%)	232	11.475	0	9.090	92.307	11.872
INT (%)	236	14.262	0	13.46	64.82	11.150
OWNDIR (%)	236	19.764	0	19.23	57.15	13.645
FINVTR (%)	236	2.1107	0	0	37.42	6.298
DEBT2TE	236	12.147	-16.728	11.348	230.977	15.216
Total Asset (in million)	236	97588.41	14302.84	81481.92	549979.1	71731.3

The mean (median) board size is 13.90 (14) and ranges from minimum 5 to maximum 27 with a standard deviation 4.25. The average board size in US banks is 13 (Pathan and Faff, 2013); 9 for UK companies (Veprauskaite and Adams, 2013); 13.80 in China (Liang et al., 2013) and 29.99 in Japan (Basu et al., 2007). Thus, average board size is similar to US and China.

On average, the percentage of independent directors is 7.19% and a range from minimum 0% to maximum 50% with a standard deviation 8.36%. The minimum percentage of independent directors in the board is one tenth that is minimum one (corporate governance guideline 2006) and one fifth (corporate governance guidelines, 2012). But descriptive statistics represent that minimum percentage of independent director is 0% which implies that some banks don't have the minimum number of independent directors according to corporate governance guideline 2006 and 2012 and even some banks mentioned in the checklist are in the process of as recruitment of independent directors is in process. The percentage of independent directors is 70.91% in US banks (Pathan and Faff, 2013); 23% in China (Liang et al., 2013); 24% in Thailand (Pathan et al., 2007), 50.61% in India (Parthasarathy et al., 2006). Thus, the percentage of independent directors in listed banks of Bangladesh is very low compared to other countries.

The mean percentage of female directors in the board in listed banks of Bangladesh is 11.48% which is almost same in China 11% (Liang et al., 2013) but in US banks, the percentage of female directors is only 7.94% (Pathan and Faff, 2013).

The mean percentage of institutional shareholding is 14.26% and maximum is 64.82% where and standard deviation is 11.15%. Institutional ownership in listed banks of

Bangladesh is only 14.26% while Hat in UK is 31.4% (Ozkan, 2007), 16% in Hongkong (Firth et al., 1999), and 17.84% in India (Parthasarathy et al., 2006) which implies that institutional ownership is too low in Bangladesh as in compared to other countries. The proportional shareholding of directors mean is 19.76% and maximum is 57.15% with the standard deviation 13.65. The average director shareholding in UK is 4.19% (Ozkan, 2007) and in Hongkong 44% (Firth et al., 1999) which indicates that average director shareholdings in Bangladesh is higher than UK but lower than Hongkong companies. The mean percentage of foreign investors is only 2.11% with a maximum of 37.42% in Bangladesh while average foreign share ownership is 16% in Chaina (Fung et al., 2001) and 24% in Japan (Sakawa et al., 2012). It is difficult for the the small number of foreign investors to play the monitoring role in restricting the CEO pay in listed banks.

The mean of leverage ratio is 12.15% with a standard deviation of 15.26. Total asset average mean is 97588.4 million and ranges from 14302.84 to 549979.1 million with a standard deviation of 71731.33 million.

6.3 Correlation Matrix

Pearson correlation matrix between each variable is reported in Table 4 of the appendix. CEO compensation (Natural logarithm form) is positively associated with ROA (0.1777) and Tobin's Q (0.0091) indicating that the higher the performance of banks, the higher the CEO compensation in listed banks of Bangladesh. Board size (Natural logarithm form) (0.0428) have a positive relationship with CEO pay. Independent directors (0.3137) have the positive relationship with CEO pay which implies that independent directors are not effective enough to monitor the CEO pay. Female directors have the positive correlation (0.1772) with the CEO pay and it indicates that female directors monitoring role is not effective to restrict CEO pay because they are appointed by the controlling shareholders and as a result, they have no voice in the board.

Table 4 : Correlation Matrix

	CEO Pay (Natural Log)	ROA (%)	Tobin's Q	BSIZE (Natural Log)	ID (%)	FEDIR (%)	INT (%)	OWNDIR (%)	FINVTR (%)	DEBT2TE	TOTAL ASSET
CEO Pay	1.0000										
ROA (%)	0.1777	1.0000									
Tobin's Q	0.0091	-0.1307	1.0000								
BSIZE	0.0428	0.4269	-0.1458	1.0000							
ID (%)	0.3137	-0.0672	-0.0701	-0.2857	1.0000						
FEDIR (%)	0.1772	0.0122	-0.1169	-0.0642	0.0345	1.0000					
INT (%)	0.1771	-0.0202	-0.0284	0.0899	0.0291	0.0613	1.0000				
OWNDIR (%)	0.2051	-0.1318	-0.0024	0.3663	-0.1200	-0.1949	-0.0250	1.0000			
FINVTR (%)	-0.0092	-0.1554	0.0435	-0.1426	0.0465	-0.0644	-0.1874	-0.0833	1.0000		
DEBT2TE	-0.2082	0.0843	-0.0568	-0.0602	-0.0559	0.0274	-0.1151	-0.1367	0.0276	1.0000	
TOTALASSET	0.2778	0.2276	-0.1771	0.2776	0.3950	0.0193	0.0363	-0.0227	0.1514	0.0106	1.0000

There is a positive relationship of CEO pay with director's shareholdings (0.2051) and institutional shareholdings (0.1771) but negative relationship with foreign investors' shareholdings (-0.0092). This result implies that both institution and directors are not effective enough to monitor the CEO pay. Total asset (Natural logarithm form) is considered as firm size and there is a positive correlation of CEO pay and firm size (0.2778) as expected. This positive correlation indicates that firm size plays a significant role in CEO pay like other developed countries. There is not high correlation with other variables that may generate multicolinearity problem. This data set avoids the multicolinearity problem.

6.4 Multivariate Analysis

6.4.1 Determinants of CEO pay level models

In this study, determinants of CEO pay are examined on the basis of firm performance, corporate governance (board composition and ownership structures), external monitoring and firm characteristic. Table 5 of the appendix represents the regression models (Equation 1, 2, and 3) of CEO pay levels. In regression analysis, total CEO remuneration is transformed into natural logarithm form because CEO pay is highly right skewed. Another advantage of using natural logarithm of total CEO remuneration as dependent variable is that regression coefficients measure the proportionate effects of a variable on compensation, rather than Taka value effect.

Performance measures are examined separately as well as jointly on total CEO remuneration. Return on assets (ROA) in equation (1), Tobin's Q in equation (2) and both ROA and Tobin's Q are presented in equation (3) while considering all other factors constant. The regression result from equation 1 represents a good fit for the model of CEO pay and explained by 34.40% variability in CEO compensation.

In equation 1, total CEO pay is positively related with ROA after controlling other factors and it is significant at 1% level. The empirical result therefore supports hypothesis 1(a) i.e., there is a positive relationship between CEO pay and ROA and the result is consistent with Murphy, 1985; Jensen and Murphy, 1990; Fung et al., 2001; Kato and Kubo,2006 and Basu et al., 2007 studies. The result indicates that listed banks of Bangladesh determined their CEO pay on the basis of ROA. CEO receives high compensation when ROA is high.

Table 5: Regression Results of Determinants of Total CEO Pay Level Models

	Expectation	**(1)**	**(2)**	**(3)**
Constant		11.86402	11.26618	11.28576
		(0.000)	(0.000)	(0.000)
ROA	(+)	0.0984424		0.1000842
		(0.001)		(0.001)
Tobin's Q	(+)		0.1722982	0.1968491
			(0.000)	(0.000)
LNBSIZE	(+) / (-)	-0.4898989	-0.0079231	-0.4663235
		(0.003)	(0.961)	(0.005)
ID (%)	(+)	0.01817765	0.02132985	0.01869196
		(0.000)	(0.001)	(0.000)
FEDIR (%)	(+)	0.01241966	0.01250845	0.01307439
		(0.000)	(0.000)	(0.000)
INT (%)	(+)	0.0105272	0.0100245	0.0106131
		(0.012)	(0.025)	(0.011)
OWNDIR (%)	(+) / (-)	0.0198539	0.0122892	0.019856
		(0.000)	(0.002)	(0.000)
FINVTR (%)	(+)	0.0011338	0.0061239	0.0007718
		(0.841)	(0.392)	(0.891)
DEBT2TE	(-)	-0.0078828	-0.0072397	-0.0076373
		(0.033)	(0.118)	(0.049)
LNASSET	(+)	0.1652856	0.1464764	0.176245
		(0.032)	(0.092)	(0.021)
R^2		0.3440	0.2811	0.3536
Observations		232	232	232

This table shows coefficients from the OLS regression of the total CEO remuneration which denotes : **LNTCEOP**- Natural Logarithm of Total CEO Salary ; **ROA** (Return on Assets)- ROA is calculated by net profit before tax divided by average total assets; **Tobin's Q**- Tobin's Q is computed by book value of total assets minus book value of total equity plus market value of total equity divided by book value of total assets**.; LNBSIZE**- Natural Logarithm of total number of directors in the board; **ID**- Percentage of Independent directors in a board; **FEDIR**- Percentage of Female directors in a board.; **INT**- Percentage of ownership holds by Institution; **OWNDIR**- Percentage of share ownership holds by all directors in a board. **FINVTR**- Percentage of Ownership hold by Foreign Investors; **DEBT2TE**- Book value of total debt divided by book value of total equity; **LNASSET**- Natural logarithm of book value of total assets. Total asset is used as proxy of firm size. The standard errors and t statistics are not reported but t statistics are calculated using white's (1980) heteroskedasticity-consistent standard error and only probability is presented in the parenthesis.

This table shows coefficients from the OLS regression of the total CEO remuneration which denotes : LNTCEOP- Natural Logarithm of Total CEO Salary ; ROA (Return on Assets)- ROA is calculated by net profit before tax divided by average total assets; Tobin's Q- Tobin's Q is computed by book value of total assets minus book value of total equity plus market value of total equity divided by book value of total assets.; LNBSIZE- Natural Logarithm of total number of directors in the board; ID- Percentage of Independent directors in a board; FEDIR- Percentage of Female directors in a board.;

INT- Percentage of ownership holds by Institution; OWNDIR- Percentage of share ownership holds by all directors in a board. FINVTR- Percentage of Ownership hold by Foreign Investors; DEBT2TE- Book value of total debt divided by book value of total equity; LNASSET- Natural logarithm of book value of total assets. Total asset is used as proxy of firm size. The standard errors and t statistics are not reported but t statistics are calculated using white's (1980) heteroskedasticity-consistent standard error and only probability is presented in the parenthesis.

The hypothesis 2a assumes that there is a positive relationship between board size and CEO pay while the hypothesis 2b assumes that there is a negative relationship between board size and CEO pay. The empirical result shows that board size is negatively related to CEO pay and significant at 1% level. The empirical result is consistent with the predicted hypothesis 2b and rejects the hypothesis 2a. The result is consistent with the Conyon and Peck, 1998; Fung et al., 2001 and Guest, 2008 studies but opposite of the result in US (Core et al., 1999). The negative relationship implies that large board has the greater monitoring capacity and business expertise which reduce the decision making power of the CEO. Moreover, CEO faces difficulties to convince or satisfy more directors in the board and failure to get reward for high compensation.

The third hypothesis is there is a positive relationship between CEO pay and independent directors. This study finds a strongly positive relationship between independent directors and CEO pay and the result is consistent with Croci et al., 2012; Cheng and Firth, 2006; Ezammel and Watson, 2002; Firth et al., 1999; Lambert et al., 1993 studies. This finding can be explained in several ways. First, independent directors are not effective enough to monitor the CEO pay which indicates corporate governance is weak. Second, CEO pay is high because independent directors are satisfied enough for the performance of CEO. Third, independent directors are appointed by the board and the board tries to appoint their selected person as independent directors and the independent directors play their role on behalf of the board. Fourth, independent directors increase the CEO pay and use it as a comparison benchmark to reappoint themselves in the following years. Fifth, independent directors receive only meeting fee and the amount of meeting fee is only Taka five thousand per meeting. This amount is not good enough as the honorarium for their responsibilities and monitoring activities of the firm. Finally, according to Corporate Governance Guideline 2006, there must be one tenth (1/10) independent director in the board (e.g. minimum is one) and Corporate Governance Guideline (amendment) 2012 revised it and new guideline requires one fifth (1/5) independent directors in the board. Some banks disclosed in the compliance of corporate governance checklist that they will appoint the independent director soon or it is in process. So, the numbers of independent directors are not sufficient enough to play their monitoring role in the board.

The fourth hypothesis assumes that there is a positive relationship between presence of female directors and CEO pay. This study found a positive relationship between female directors in the board and CEO pay and the result is significant at 1% level. This can be explained in several ways: First, The result implies that CEO is more active and performs better when board is directed and controlled by female directors. Second, Female directors have affordability to pay high compensation i.e. banks having female directors have much money and have the ability to pay high compensation. Third, female directors are effective enough in the board and their presence increases the firm performance which ultimately increase the higher CEO pay. Finally, female directors are appointed by the board and the board is mainly controlled by the controlling shareholders i.e. sponsor shareholders, who appoint their nominated person as CEO and maximize their self interest. Thus, controlling shareholders decide everything according to their own way and female directors have no voice in the board about CEO compensation issue.

Institutional investors may not play their monitoring role effectively in the same industry. The present study had a hypothesis that there is a positive relationship between CEO pay and institutional ownership and found the hypothesis true. The result is significant at 5% level. This result is consistent with the study of Parthasarathy et al., 2006; Croci et al., 2012 and Fernandes et al., 2012 studies. This result implies that monitoring role of institutional shareholder is either absent or weak to restrain the CEO pay in listed banks. This result can be explained in several ways: First, institutional investors motivate firms to provide performance based compensation package to the CEO. Second, the mean percentage of institutional ownership in listed banks is only 14.26% which is not large enough in compare to other countries to play their monitoring role[5]. Third, only listed banks are considered in this study, so other banks and financial institution don't play their monitoring role to restrict the CEO pay within the same peer group or industry. Finally, institutional investors are passive investors and institutional monitoring is not an important governance mechanism in banks to restrict CEO pay.

Hypothesis 6a assumes that there is a positive relationship between CEO pay and director shareholdings and hypothesis 6b assumes that there is negative relationship between CEO pay and director shareholdings. The empirical result reports the significant positive relationship and supports the hypothesis 6a and rejects the hypothesis 6b. The empirical result shows a positive relationship between director shareholdings and CEO pay and it is significant at 1% level. This result is consistent with the study of Basu et al., (2007). Director holds shares of the banks and they earn the dividend income and capital appreciation. But according to Bangladesh Bank rules, CEO can't hold any shares of the bank which indicates CEO can't earn any dividend income or any capital appreciation from the shares. Directors try to compensate the CEO by paying high cash compensation

including basic salary, bonus, house rent allowance and house rent maintenance facilities. Moreover, most directors are the sponsor shareholders, who control the board in a way to increase their personal wealth. Reaz and Arun (2006) stated that sponsor shareholders control everything such as appointment or firing of CEO and salary determination. Thus, sponsor shareholders try to appoint their nominated person as CEO who will look at their interests and pay high to serve their own objectives.

CEO pay is higher in banks with foreign shareholders, with emphasize on recruiting highly qualified CEO before their investment and that there is a positive relationship between CEO pay and foreign investors hypothesis 7. Foreign investors monitor properly and pay high if the performance of the CEO is good. The empirical result reveals a positive relationship between foreign investors' ownership and CEO pay but the result is not significant. The positive relationship indicates that foreign investors pay a good amount in response of the CEO's performance. But the mean percentage of foreign investors is only 2.11% in Bangladesh while foreign share ownership is 16% in China (Fung et al., 2001) and 24% in Japan (Sakawa et al., 2012). The small number of foreign investors can't play their monitoring role properly in CEO pay as compared to other countries. But the empirical result shows a positive relationship as expected.

External monitoring can also play a crucial role in CEO pay. External debt holders can exert extra pressure on board to reduce the CEO compensation and thus develop the hypothesis as there is a negative relationship between external monitoring and CEO compensation. The coefficient is negative and significant at 5% level and this result support hypothesis 8. The depositors are the major debt holders of the bank. The implication of this result is that when firm has high debt, debt holders perform their monitoring role by creating more pressure on board and restricting the CEO pay and this result is consistent with Fung et al., (2001); Houston and James (1995) and John et al., (2010) studies.

Previous compensation literature finds that firm size is a significant determinant for executive remuneration. The empirical result shows that firm size (represented by natural logarithm of total assets) is positively and significantly associated with CEO pay as expected. The result supports the hypothesis 9 and consistent with Conyon, 1997; Core et al., 1999; Conyon and Murphy, 2000; Fung et al., 2001; Ghosh, 2003; Parthasarathy et al., 2006 and Lazarides et al., 2008 studies. Firth et al. (1996 and 1999) stated that pay size relationship is observed all around the world where research has been conducted and this is also applicable in listed banks of Bangladesh.

The regression in equation uses performance measure named Tobin's Q considering all other factors constant. Tobin's Q represents the market value of the firm or growth of the firm. The model explains about 28.11% of the variability of the CEO pay in Equation 2. The hypothesis 1(b) assumes that there is a positive relationship between Tobin's Q and

CEO pay. The empirical result indicates a positive relationship and it is significant at 1% level and this result supports hypothesis 1(b) and consistent with the Ozkan (2007) study in UK. The result implies that increase of the firm value or growth also increases the CEO remuneration. The demand of highly professional and talented CEO is increased due to increase of firm value or growth.

Most of the results for equation 2 are almost similar to those reported in equation 1. For example, positive and statistically significant coefficients are observed for independent directors, female directors, institutional ownership, director ownership, and firm size (total assets). The empirical result reports a positive relationship between foreign investors' ownership and CEO pay but it is not significant which is similar to equation 1. In equation 2, the major differences are board size and debt to equity. In equation 1, the result reported that board size is negatively related to CEO pay and it is significant at 1% level. According to equation 2, there is a the negative relationship with the CEO pay and the direction is similar with equation 1 which implies that large board is effective in restricting CEO pay but it is not significant. Another difference is the debt to equity ratio. There is a negative relationship with the CEO pay as like equation 1, because debt holders create more pressure on management and restrict the CEO pay but the result is not significant in equation 2.

Equation 3, considered both performance measure ROA and Tobin's Q in the same equation and run the regression. The model explains about 35.36% of the variability in CEO pay. ROA is positively and statistically associated with CEO pay and significant at 1% level. Another performance measure Tobin's Q which represents the growth of the firm is also associated with CEO pay and statistically significant at 1% level. This implies that firm considers both performance measures in setting CEO compensation. The findings for 3 show that independent directors, female directors, institutional investors, directors' ownership and firm size are positively and significantly associated with CEO pay and the result is similar with equation 1 and 2. Foreign share ownership is positively related with CEO pay but it does not achieve statistical significance and this result is also similar with equation 1 and 2. The result of board size and debt to equity ratio in equation 3 are similar to equation 1 but varies with the equation 2. Board size is negatively associated with CEO pay in all equations and it is statistically significant at 1% level in equation 1 and 3. This result implies that large board is effective in restricting CEO pay and it is difficult for the CEO to increase the remuneration by convincing many directors in the board. There exists negative relationship between CEO pay and debt to equity ratio in all the equations but the result is statistically significant in equation 1 and 3. This result indicates that debt holders have the capacity to exert pressure on management activities and restrict the CEO pay if management activities are against the interest of shareholders.

6.4.2   *Determinants of CEO pay at lagged models*

Determinants of CEO pay are also examined using the lag model in Table 6 of the appendix. Lag model is considered because CEO pay might be based on previous year's facts and figures. Moreover, it requires minimum three months to publish the annual report. As a result, previous year's firm performance, board characteristics, ownership structures and firm characteristics might be significant factors for CEO pay. CEO pay is related to lagged variables such as ROA, Tobin's Q, LNBSIZE, ID, FEDIR, INT, OWNDIR, FINVTR, DEBT2TE and LNASSET and denoted as ROA(-1), Tobin's Q(-1), LNBSIZE(-1), ID(-1), FEDIR(-1), INT(-1), OWNDIR(-1), FINVTR(-1), DEBT2TE(-1) and LNASSET(-1).

Table 6: Regression Results of Determinants of CEO Pay Considering Lag Models

	Expectation	**(1)**	**(2)**	**(3)**
Constant		12.89093	12.25081	12.38806
		(0.000)	(0.000)	(0.000)
ROA(-1)(%)	(+)	0.1028269		0.1049082
		(0.002)		(0.001)
Tobin's Q (-1)	(+)		0.1912672	0.2189509
			(0.001)	(0.002)
LNBSIZE (-1)	(+) / (-)	-0.4438799	0.0896344	-0.4225281
		(0.004)	(0.568)	(0.005)
ID (-1) (%)	(+)	0.01642275	0.02229148	0.016758
		(0.005)	(0.006)	(0.004)
FEDIR (-1) (%)	(+)	0.01241046	0.01252239	0.0132995
		(0.000)	(0.000)	(0.000)
INT (-1) (%)	(+)	0.0109003	0.0105454	0.0111124
		(0.013)	(0.026)	(0.011)
OWNDIR (-1) (%)	(+) / (-)	0.0198697	0.0118014	0.0199876
		(0.000)	(0.004)	(0.000)
FINVTR (-1) (%)	(+)	0.0010074	0.0062225	0.0008009
		(0.872)	(0.415)	(0.896)
DEBT2TE (-1)	(-)	-0.0081728	-0.0073972	-0.0079261
		(0.029)	(0.122)	(0.044)
LNASSET(-1)	(+)	0.1239319	0.1010067	0.1307362
		(0.119)	(0.270)	(0.095)
R^2		0.3238	0.2493	0.3377
Observations		202	202	202

This table shows coefficients from the OLS regression of the total CEO remuneration which denotes : **LNTCEOP**- Natural Logarithm of Total CEO Salary ; **ROA(-1)** (Return on Assets)- ROA is calculated by net profit before tax divided by average total assets of previous year ; **Tobin's Q(-1)-** Tobin's Q is computed

by book value of total assets minus book value of total equity plus market value of total equity divided by book value of total assets of previous year**; LNBSIZE(-1)-** Natural Logarithm of total number of directors in the board of previous year; **ID(-1)-** Percentage of Independent directors in a board; **FEDIR(-1)**- Percentage of Female directors in a board; **INT(-1)-** Percentage of ownership holds by Institution of previous year; **OWNDIR(-1)**- Percentage of share ownership holds by all directors in a board; **FINVTR(-1)**- Percentage of Ownership hold by Foreign Investors of previous year; **DEBT2TE(-1)**- Book value of total debt divided by book value of total equity of previous year; **LNASSET(-1)**- Natural logarithm of book value of total assets of previous year. Total asset is used as proxy of firm size. The standard errors and t statistics are not reported but t statistics are calculated using white's (1980) heteroskedasticity-consistent standard error and only probability is presented in the parenthesis.

The empirical result using the lagged models is almost same as like CEO pay level models. CEO pay is positively and statistically significant to firm performance (ROA and Tobin's Q), percentage of independent directors, percentage of female directors, institutional investors, and director ownership and negatively related to board size and debt to total equity. CEO pay is positively related to foreign investors but not significant like CEO pay level model. The only difference between CEO pay model and CEO lagged model is the firm size. CEO pay is positively and statistically associated with firm size in CEO pay level model, where as in lagged model, CEO pay is positively associated in three equations as expected but statistically significant in equation 3 only. This result implies that previous year's firm size is also a significant factor for CEO pay.

The overall result concludes that previous years firm performance, board characteristics, ownership structures and firm characteristics have significant influence on CEO pay and this is evident using the lagged model in Table 6 of the appendix.

7.   Additional Analysis

7.1 Determinants of CEO pay level models considering time dummy

Table 7 of the appendix represents the regression result of the determinants of CEO compensation after controlling time effect. The result shows that time is a significant factor from 2008 to 2013 in explaining the determinants of CEO pay.

There is no change of result in Table 7 as compared to Table 5 in terms of ROA, board size, female directors, and institutional ownership after considering the time effect which implies that the result of these variables are consistent with or without time adjustment. Performance measured by ROA, female directors and institutional ownership are positively and statistically associated with CEO pay where as board size is negatively and statistically significant with CEO pay in equation 1 and 3.

Table 7: Regression Results of Determinants of Total CEO Pay after Controlling Time

	Expectation	(1)	(2)	(3)
Constant		21.09465	18.92545	20.47212
		(0.000)	(0.000)	(0.000)
ROA	(+)	0.1197706		0.1231036
		(0.000)		(0.000)
Tobin's Q	(+)		0.091157	0.1675653
			(0.231)	(0.003)
LNBSIZE	(+) / (-)	-0.3903911	0.1339432	-0.3791303
		(0.010)	(0.426)	(0.012)
ID (%)	(+)	0.006003001	0.01398384	0.005729108
		(0.289)	(0.063)	(0.308)
FEDIR (%)	(+)	0.01525801	0.01453051	0.01575941
		(0.000)	(0.000)	(0.000)
INT (%)	(+)	0.0089502	0.0083193	0.0091475
		(0.029)	(0.060)	(0.025)
OWNDIR (%)	(+) / (-)	0.0122586	0.0054725	0.0123154
		(0.014)	(0.240)	(0.013)
FINVTR (%)	(+)	0.0127626	0.016159	0.0122979
		(0.027)	(0.028)	(0.034)
DEBT2TE	(-)	-0.0052209	-0.004779	-0.0052208
		(0.182)	(0.342)	(0.195)
LNASSET	(+)	-0.2339463	-0.1858036	-0.2176079
		(0.009)	(0.086)	(0.016)
YEAR DUMMY				
2007		0.1877547	0.1557556	0.1695097
		(0.148)	(0.256)	(0.192)
2008		0.3566903	0.3232475	0.343093
		(0.016)	0.025	(0.021)
2009		0.54816	0.4702736	0.5290885
		(0.000)	(0.002)	(0.001)
2010		0.696605	0.66331	0.6201842
		(0.000)	(0.000)	(0.000)
2011		0.9944976	0.8531098	0.9696709
		(0.000)	(0.000)	(0.000)
2012		1.062317	0.8528993	1.050409
		(0.000)	(0.000)	(0.000)
2013		1.195172	0.9108525	1.186437
		(0.000)	(0.001)	(0.000)
R^2		0.4519	0.3578	0.4579
Observations		232	232	232

This table shows coefficients from the OLS regression of the total CEO remuneration which denotes : **LNTCEOP-** Natural Logarithm of Total CEO Salary ; **ROA** (Return on Assets)- ROA is calculated by net profit before tax divided by average total assets; **Tobin's Q-** Tobin's Q is computed by book value of total assets minus book value of total equity plus market value of total equity divided by book value of total

assets**.; LNBSIZE**- Natural Logarithm of total number of directors in the board; **ID**- Percentage of Independent directors in a board; **FEDIR**- Percentage of Female directors in a board; **INT**- Percentage of ownership holds by Institution; **OWNDIR**- Percentage of share ownership holds by all directors in a board; **FINVTR**- Percentage of Ownership hold by Foreign Investors; **DEBT2TE**- Book value of total debt divided by book value of total equity; **LNASSET**- Natural logarithm of book value of total assets. Total asset is used as proxy of firm size. The standard errors and t statistics are not reported but t statistics are calculated using white's (1980) heteroskedasticity-consistent standard error and only probability is presented in the parenthesis.

But the result of some other variables directional sign or significance level become changed which implies that time has significant effect on these variables. Tobin's Q is positive in all equations as expected and the result indicates that CEO pay is positively related to Tobin's Q but statistically significant in equation 3 only. The empirical result shows a positive relationship between independent directors and CEO pay in all equations as before and this implies that independent directors are not effective in monitoring the CEO pay. But the result is statistically significant in equation 2 which reveal that independent directors are affected by time factors. Director ownership is positively associated with CEO pay in all equations as before and this indicates that directors appoint their nominated person as CEO who will look directors interest and directors pay high compensation. But the result is statistically significant in equation 1 and 2. Foreign investor ownership is also positively associated with CEO pay as before and this time the result is significant in all equations after controlling time effect. This result explains that foreign investors are highly concerned about their investment and demand high quality talented CEO and pay high compensation. Debt to total equity i.e. leverage is negatively associated with CEO pay in all equation as before and the result point out that debt holders create pressure on CEO pay if CEO's activities are against the interest of the debt holders but the result is not statistically significant after considering the time dummy. The interesting finding is that firm size is negatively related to CEO pay and statistically significant. The reason is CEO pay might be affected by change of political government in 2007-08 and stock market turmoil in 2010-11.

7.2 Determinants of CEO pay at lagged models considering time dummy

Table 8 (in Appendix) represents the regression result of determinants of CEO compensation considering the lagged model after controlling time dummy. CEO pay is related to lagged variables such as ROA, Tobin's Q, LNBSIZE, ID, FEDIR, INT, OWNDIR, FINVTR, DEBT2TE and LNASSET after controlling time dummy and denoted as ROA(-1), Tobin's Q(-1), LNBSIZE(-1), ID(-1), FEDIR(-1), INT(-1), OWNDIR(-1), FINVTR(-1), DEBT2TE(-1) and LNASSET(-1). The empirical result shows that time has a significant effect on CEO pay from 2008 to 2013.

The result of determinants of CEO pay is almost same between CEO pay level model after controlling the time dummy (Table 7) and CEO pay lagged model after considering

the time dummy (see appendix Table 8) in terms of ROA, board size, independent director, female director, institutional investors, director ownership, foreign investors, leverage and firm size. The only difference is the performance measure named as Tobin's Q. Tobin's Q is positively and statistically associated with CEO pay in both equations 2 and 3 in Table 8 which implies that CEO pay depends on firm performance.

Table 8: Regression Results of Determinants of Total CEO Pay at Lagged Models Considering Time Dummy

	Expectation	(1)	(2)	(3)
Constant		21.7884	19.78558	21.14297
		(0.000)	(0.000)	(0.000)
ROA(-1)	(+)	0.1173671		0.1210267
		(0.000)		(0.000)
Tobin's Q (-1)	(+)		0.1155824	0.1869313
			(0.057)	(0.008)
LNBSIZE (-1)	(+) / (-)	-0.3400923	0.2158543	-0.3306842
		(0.013)	(0.193)	(0.015)
ID (-1) (%)	(+)	0.006287751	0.01555378	0.005950149
		(0.349)	(0.074)	(0.371)
FEDIR (-1) (%)	(+)	0.0151658	0.01451112	0.01584667
		(0.000)	(0.000)	(0.000)
INT (-1) (%)	(+)	0.0089451	0.0086745	0.0092295
		(0.036)	(0.065)	(0.031)
OWNDIR (-1)(%)	(+) / (-)	0.0125687	0.0051986	0.0127976
		(0.015)	(0.264)	(0.013)
FINVTR (-1) (%)	(+)	0.01174	0.0155313	0.0112997
		(0.066)	(0.051)	(0.073)
DEBT2TE (-1)	(-)	-0.0054919	-0.0049449	-0.005499
		(0.173)	(0.341)	(0.185)
LNASSET(-1)	(+)	-0.262287	-0.2256345	-0.2459471
		(0.004)	(0.052)	(0.007)
YEAR DUMMY				
2008		0.2765158	0.2453228	0.2567288
		(0.041)	(0.086)	(0.057)
2009		0.3591566	0.3249367	0.3445476
		(0.007)	(0.013)	(0.011)
2010		0.6246855	0.5475389	0.6043866
		(0.000)	(0.000)	(0.000)
2011		0.7065279	0.6662885	0.622819
		(0.000)	(0.000)	(0.000)
2012		0.9641104	0.8267997	0.9385024
		(0.000)	(0.000)	(0.000)
2013		1.061337	0.8584186	1.049464
		(0.000)	(0.001)	(0.000)
R^2		0.4252	0.3233	0.4340
Observations		202	202	202

This table shows coefficients from the OLS regression of the total CEO remuneration which denotes : **LNTCEOP**- Natural Logarithm of Total CEO Salary ; **ROA(-1)** (Return on Assets)- ROA is calculated by net profit before tax divided by average total assets of previous year ; **Tobin's Q(-1)-** Tobin's Q is computed by book value of total assets minus book value of total equity plus market value of total equity divided by book value of total assets of previous year**; LNBSIZE(-1)-** Natural Logarithm of total number of directors in the board of previous year; **ID(-1)-** Percentage of Independent directors in a board; **FEDIR(-1)**- Percentage of Female directors in a board; **INT(-1)-** Percentage of ownership holds by Institution of previous year; **OWNDIR(-1)**- Percentage of share ownership holds by all directors in a board; **FINVTR(-1)**- Percentage of Ownership hold by Foreign Investors of previous year; **DEBT2TE(-1)**- Book value of total debt divided by book value of total equity of previous year; **LNASSET(-1)**- Natural logarithm of book value of total assets of previous year. Total asset is used as proxy of firm size. The standard errors and t statistics are not reported but t statistics are calculated using white's (1980) heteroskedasticity-consistent standard error and only probability is presented in the parenthesis.

The result of determinants of CEO pay in terms of ROA, Tobin's Q, board size, female directors, and institutional ownership are similar in comparing the CEO pay level model (appendix Table 5) and CEO pay lagged model after controlling time dummy (appendix Table 8). This result shows that CEO pay is positively and statistically associated with firm performance (including both ROA and Tobin's Q), female directors and institutional ownership and negatively and statistically associated with board size. But the differences between these two models in Table 5 and Table 8 are percentage of independent directors, director ownership, foreign investors, debt to total equity and firm size due to time effect. Independent directors are positively and significantly associated with CEO pay in equation 2 only which indicates that they are not effective in restricting the CEO pay. CEO pay is positively and significantly associated with director ownership in equation 1 and 3 and this implies that controlling shareholders monitor everything in their own way and nominated their selected person as CEO and pay high to serve the controlling shareholders objectives. CEO pay is positively and statistically associated with foreign investors after controlling time and this result means that foreign investors are highly concerned about their investment and demand talented person as CEO and pay high for their qualification, experience and performance. Leverage has no impact on CEO pay after controlling time dummy which implies debt holders can't create pressure on management when time is controlled. Firm size is negatively and statistically associated with CEO pay. The relationship between firm size and CEO pay might be affected by two factors which are change of political government in 2007-08 and stock market turmoil in 2010-11.

8. Conclusion

Management compensation research has failed to reach a strong conclusion that CEO pay depends on firm performance due to mixed empirical evidence. The empirical results in this study document a positive relation between CEO pay and ROA and the relationship is significant at 1% level. The empirical result also reports that there is a positive relationship between Tobin's Q (which represents the firm value or growth) and CEO pay

and it is also significant at 1% level. These two findings indicate that CEO pay is determined on the basis of internal and external firm performance i.e. firm performance and this conclusion is evident on the basis of the empirical results. Reaz and Arun (2006) study stated that CEOs contracts in banks are linked to performance and the empirical result of this study supports this statement.

Board size is negatively and statistically related with CEO pay and it is consistent with Conyon and Peck, 1998; Fung et al., 2001 and Guest, 2008 studies. Theoretical literature implies that small board is more effective then large board but this is not applicable in listed banks of Bangladesh. This study finds that large board restricts the CEO pay and more effective than small board. Large board reduces the decision making power of the CEO through proper monitoring and utilizing the business expertise. Furthermore, CEOs fail to get high compensation by satisfying the many diversified business expertise directors. Independent directors can't play their monitoring role in restricting CEO pay because independent directors are not effective and independent. Independent directors are appointed by the board and their renewal depends on whether independent directors work on behalf of the board. Independent director receives only meeting fee and this amount is not enough as the compensation for that supervisory role in the board. Moreover, the number of independent directors is small enough to play their strong monitoring role in the board. Female directors have the positive and significant relationship with CEO pay. This result can be interpreted in two ways: CEO is more active and performs better when board is directed and controlled by female directors because female directors are hard worker, timely decision maker, efficient in managing the board and understand the market environment. This attributes of females directors increase the image of the firm by creating more value to the firm. On the other hand, female directors have no voice about CEO compensation issue because both female directors and CEO are appointed by the board and the board is mainly controlled by the controlling shareholders (sponsor shareholders) to maximum their self interest.

The empirical result finds a positive relationship between institutional investors and CEO pay. This can be explained in two ways: First, institutional investors motivate firms to give performance based compensation to CEO. On the other hand, institutional role is either absent or weak in listed banks of Bangladesh because the mean percentage of institutional ownership is only 14.26% which is comparatively less in compare to other developed countries.   Moreover, institutional investors are passive investors and institutional monitoring is not important governance mechanism in the same or peer group industry to restrict the CEO pay.

Directors appoint their nominated person as CEO who will look at their interests and pay high compensation to CEO due to serve their own objectives. Moreover, CEO has no opportunity to earn dividend and capital gain from shares because as per bank regulation

CEO can't hold any shares of the bank and directors try to compensate them by paying more cash compensation. The mean percentage of foreign shareholders is only 2.11% and this is not sufficient enough to monitor the activities of the CEO in comparion with other countries. But the positive thing is that the number of foreign investors and their investment is increasing nowadays. CEO receives low compensation when the firms' debt ratio is high which implies that debt holders (mainly depositors) have the power to create pressure on the activities of the board and the CEO remuneration. Finally, the empirical result reports that firm size is a significant determinant in CEO compensation.

The overall findings of this study are (1) CEO compensation is determined on the basis of firm performance after controlling other factors; (2) CEO compensation is higher due to weak corporate governance mechanisms in the listed banks of Bangladesh and (3) firm size is also a significant determinant in CEO compensation.

The results of this study should be of interest to regulators, practitioners and academics who look for determinants of CEO remuneration and the empirical results recommend some suggestions to improve the pay literature in Bangladesh and reduce the agency problem between shareholders and executives. First, only few banks disclose the breakdown information of total CEO remuneration. This makes it difficult to do rigorous research by considering all the components of CEO information. The regulatory authority should concentrate more on disclosure of executives' information with breakdown in details and performance bonus or incentives should be clearly specified. Second, large board is effective in monitoring CEO pay but role of independent directors are not effective enough to control the CEO pay. Generally, the banks disclose the information in corporate governance checklist and comply with the minimum requirement of independent directors. But whether the independent directors are playing their role as independent is a matter of question. This study also finds that institutions are not playing their monitoring role in limiting the activities of executives and CEO pay. CEO pay is high due to weak corporate governance mechanisms in listed banks. So, Bangladesh Bank and Bangladesh Securities and Exchange Commission (BSEC) should more emphasize on efficient corporate governance mechanisms. Third, in listed banks, Board formulates two committees which are executive committee and audit committee. Board decides the remuneration package of executives and collects the approval from Bangladesh Bank. Separate compensation committee is available in the firms of developed countries. But in listed bank of Bangladesh, there is no separate compensation committee. So, Bangladesh Bank should introduce separate compensation committee to design effective compensation package for the executives. Fourth, this study finds that stock option and grants are widely used in US and UK but there are no use of equity based incentives like stock option and grant in listed banks of Bangladesh. The regulatory authority such as Bangladesh Bank and Bangladesh Securities and Exchange Commission (BSEC) should introduce the option and grant as incentive for the

executives. This stock and grant will also help to reduce the agency problem between the managers and shareholders.

End Notes

1. Source: BRPD (Banking Regulation and Policy Department) circular letter no- 3, dated February 1, 2006.

2. Fung et al., (2001) study reveals that the average cash compensation is USD 614,000 in US (Core et al., 1999); average pay is GBP 291,000 excluding option and other deferred compensation in UK (Conyon , 1997); average compensation for executives is $281,000 in Canada (Zhou,1999); average CEO pay in Hongkong is HK$ 4 million (Firth et al.,1999). (Exchange rate on December 31, 2013 between: USD and TK. is 77.68; GBP and Tk. is 128.6694; Hongkong and Tk. is 10.0177).

3. According to source of World Bank, GDP per capita income in Bangladesh is 957.82 USD (in 2013) or equivalent to TK. 74,403.46. (Exchange rate between USD and TK. is 77.68 on December 31, 2013).

4. Pathan and Faff (2013) find Tobin's Q is 1.07 in US banks where as Ozkan (2007) and Veprauskaite and Adams (2013) study find Tobin's Q is 1.64 and 1.56 in UK firms respectively.

5. Institutional ownership is 31.4% in UK (Ozkan, 2007); 16% in Hongkong (Firth et al., 1999); and 17.84% in   India (Parthasarathy et al., 2006).

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