

# Disclosure Quality of CEO Compensation and Its Determinants: Empirical Evidence from Listed Banks of Bangladesh

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***Abstract:** Disclosure quality of CEO compensation is an emerging issue in academic research nowadays. The purpose of this study is to find out the quality of CEO compensation disclosure and its determinants in the listed banks of Bangladesh. In this study, a self-structured CEO compensation disclosure index is prepared to measure the quality of CEO compensation disclosure considering the listed banks of Dhaka Stock Exchange (DSE) during the period from 2006 to 2013. The determinants of CEO compensation disclosure are examined through firm performance, board structure, ownership pattern, CEO compensation and audit quality. This study finds that overall CEO compensation disclosure measured by the index is very poor but increased over the years as expected. The empirical result also shows that firm performance (ROA), CEO compensation, director ownership, foreign investors and audit quality are the significant explanatory factors for CEO compensation disclosure index. But this study didn't find any significant association of CEO compensation disclosure index with firm size, board structure and institutional investors which indicate corporate governance mechanisms are very weak. Finally, this study recommends that government or regulators should more emphasize on transparency and accountability of CEO compensation disclosure through imposing mandatory disclosure requirement and monitoring by corporate governance mechanisms and reduce the agency cost and information asymmetry of the shareholders.*

***Keywords:** agency cost, CEO compensation disclosure index, corporate governance, information asymmetry.*

## 1. Introduction

Management compensation reduces the agency conflict between shareholders and managers. Jensen and Meckling (1976) stated that agency problem is reduced by aligning the interest of managers and shareholders through management compensation. But shareholders raise the burning question that management receives excessive amount from their wealth and therefore, management compensation itself promotes the question of agency conflict without adequate disclosure of management compensation. In addition,

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information asymmetry is boosted up when there is lack of timely and quality disclosure of management compensation (Bebchuk et al., 2002; Jensen et al., 2004). Agency conflict and information asymmetry enhances the demand of disclosure of management compensation to the public and quality disclosure of management compensation limits the agency conflict and information asymmetry. Thus, disclosure quality of management compensation is an emerging issue in academic research nowadays.

Empirical studies documented public disclosure of CEO compensation is a norm over the years in developed countries especially in US (Andjelkovic et al., 2002), UK (Canyon and Murphy, 2000), Canada (Zhou, 2000) and Australia (Merherbi et al., 2006). But most of the countries till do not disclose compensation information in public.

Banking sector is the promising sector in Bangladesh because it is growing very fast and contributes a substantial percentage in national Gross Domestic Product (GDP). Moreover, banking sector is well organized, follow the rules and regulation effectively and disclosure is comparatively better than any other sectors in Bangladesh (Rahman, 2016). It is published in the newspapers that CEOs are receiving excessive amount as compensation from the shareholder resources and shareholders are worried about their wealth. Moreover, compensation information in details is not available in the financial report. In addition, there is dearth of research on CEO compensation disclosure in Bangladesh particularly in banks. Thus, there is a gap of research on transparency of CEO compensation disclosure using data from Bangladeshi listed banks and filling up this gap is the research motivation of this study.

The research questions of this study are:

RQ (1): What is the quality of CEO compensation disclosure?

RQ (2): What are the determinants of quality of CEO compensation disclosure?

This empirical research will contribute to the disclosure literature in many ways: First, this study will enrich the disclosure literature in Bangladesh. Second, the finding of the research will help to materialize the current scenario of transparency and accountability about CEO compensation disclosure to the stakeholders. Finally, the findings of the study will help to regulators, practitioners, researchers and others to enrich the disclosure quality of CEO compensation and corporate governance mechanisms of the listed banks.

This study is organized in the following ways: section 2 describes literature review and hypothesis development; section 3 explains selection process of sample; section 4 presents the research method including research models and data sources; section 5 explains the empirical results. Section 6 presents the additional analysis. Finally this paper ends with the section 7 which presents the conclusion and some recommendation about the disclosure quality of CEO compensation in the listed banks of Bangladesh.

## 2. Literature Review and Hypothesis Development

In this study, disclosure quality of CEO compensation and its determinants are examined in the listed banks of Bangladesh. The hypothesis are developed based on prior empirical research and described below:

### Firm Performance

Empirical studies documented that disclosure is comparatively higher when firm performance is good. By disclosing more information, firms prove their transparency and accountability to the stakeholders. Coulton et al. (2001) study reported that disclosure transparency of CEO compensation is significantly and positively associated with firm performance. On the other hand, Malek (2015) study didn't find any significant relation between disclosure of individual executive directors' compensation and firm performance. Melis et al. (2015) study stated that poorly performing firms disclose compensation information in more details to limit negative publicity. In listed banks of Bangladesh, it is assumed that score of CEO compensation disclosure index will be comparatively high when firm performance is good and thus on the basis of above discussion I develop my first hypothesis as:

***Hypothesis 1: Ceteris Paribus, there is a positive relationship between firm performance and CEO compensation disclosure index.***

***Hypothesis 1a: Ceteris Paribus, there is a positive relationship between ROA and CEO compensation disclosure index.***

***Hypothesis 1b: Ceteris Paribus, there is a positive relationship between Tobin's Q and CEO compensation disclosure index.***

In this study, two types of firm performance (internal firm performance measured by ROA and external firm performance measured by Tobin's Q) are used to show the effect on disclosure quality of CEO compensation.

### Board Composition

#### Board Size

A firm's apex body is the board of directors (BODs) which formulate policies, strategy, monitoring and control the activities of the company. Board size has the capacity to influence the disclosure of CEO compensation. Andjelkovic et al., (2002) study stated that board faces less pressure in the absence of public disclosure of executive compensation. Disclosure of compensation information reduces the information asymmetry between shareholders and boards. Lipton and Lorsch (1992) study finds that small board is more effective than large boards. On the other hand, Coulton et al., (2001) study didn't find any significant association between board size and transparency of

compensation disclosure. In Bangladesh, board size should be minimum five and maximum 20 according to corporate governance guideline 2006 and corporate governance guideline (amendment) 2012. The empirical evidence of board size and disclosure quality is mixed. Thus, I develop the hypothesis as:

***Hypothesis 2a: Ceteris Paribus, there is a positive relationship between board size and CEO compensation disclosure index.***

***Hypothesis 2b: Ceteris Paribus, there is a negative relationship between board size and CEO compensation disclosure index.***

### **Independent Directors**

One of the important mechanisms of corporate governance is the presence of independent directors in the board. Shareholders expect that independent directors will monitor the CEO compensation along with the disclosure of CEO compensation in details to ensure transparency and accountability. Jinghui & Dennis (2008) stated that independent directors show their integrity and neutrality by ensuring higher disclosure of management compensation in the annual report. Malek (2015) study finds that independent directors have the positive but weak relationship with the disclosure of individual director's compensation and the reason might be independent directors are not strong enough to mitigate the family dominance on disclosure of individual compensation. On the other hand, Coulton et al. (2001) study finds that outside directors have no significant association with compensation disclosure index. In Bangladesh, Bangladesh Securities and Exchange Commission (BSEC) give more emphasize on presence of independent directors to ensure better corporate governance and increase the minimum percentage of presence of independent directors from one tenth to one fifth according to corporate governance guideline 2012. Thus, on the basis of above discussion and empirical findings, I develop the hypothesis as:

***Hypothesis 3: Ceteris Paribus, there is a positive relationship between proportion of independent directors and CEO compensation disclosure index.***

### **Female Directors**

Presence of female directors in the board is a part of corporate governance mechanism. Adams and Ferreira (2009) study observed the characteristics of female directors in the board and find that they are efficient in monitoring and regular in board meeting. Smith et al. (2006) study documented that firm performance and image in the market increases when there is presence of female directors in the board. Participation of female directors in the board is also increasing in Bangladesh particularly in Banks. It is assumed that in Bangladesh, female directors are also hard worker, sincere, create value to the firm and have efficient monitoring capacity which leads to higher disclosure of CEO

compensation. Moreover, female directors are appointed by the controlling shareholders and controlling shareholders decide everything according to their own way to maximize their self interest. It is assumed that controlling shareholders disclose compensation information in details to retain the investment and attract new investors. Thus, on the basis of above discussion, I develop my next hypothesis as:

***Hypothesis 4: Ceteris Paribus, there is a positive relationship between proportion of female directors and CEO compensation disclosure index.***

## **Ownership Structures**

### **Institutional Shareholders**

Institutional monitoring is an important mechanism of corporate governance. Institution can also play their monitoring role by disclosing compensation information in more details to ensure transparency and accountability to the stakeholders. Chizema (2008) study finds that disclosure of individual compensation is positively and significantly associated with institutional shareholders. Melis et al. (2015) study reported that institutional investors influence the level of voluntary disclosure. On the other hand, Georgen and Renneboog (2001) and Stapledon (1996) study find that institutional investors are passive investors and institutional monitoring is not an important governance mechanism in UK. In this study, it is assumed that institutional investors play their monitoring role by disclosing compensation information in more details to ensure transparency and accountability and thus develop the hypothesis as:

***Hypothesis 5: Ceteris Paribus, there is a positive relationship between percentage of ownership hold by institution and CEO compensation disclosure index.***

### **Director Ownership**

Directors also have the power to influence the disclosure pattern of management compensation. The supporter of disclosure of compensation information in details argues that shareholders expect from the directors that they will disclose compensation information in more details to ensure transparency and accountability. Melis et al., (2015) study stated that directors are liable to disclosure compensation policies to the shareholders. Jensen and Meckling (1976) stated that directors disclose compensation information to align the interest of managers and shareholders. Malek (2015) study finds that director shareholdings have the significant positive association with the disclosure of individual director's compensation. Malek (2015) also added that executive directors disclose compensation information to retain their executive position and evaluate their performance by the shareholders. On the other hand, Andjelkovic et al., (2002) study stated that directors face less pressure when management compensation information is not available for public inspection. Bebchuk et al., (2002) stated that directors may

secrete their compensation information to the shareholders in absence of close controlling. Coulton et al., (2001) study didn't find any significant association between insider ownership with transparency of compensation disclosure. In listed banks of Bangladesh, most of the directors are sponsor shareholders and sponsor shareholders decide everything according to their own way to maximize the self interest. But the empirical evidence shows the mixed result, thus develop the hypothesis as:

***Hypothesis 6a: Ceteris Paribus, there is a positive relationship between percentage of ownership hold by all directors and CEO compensation disclosure index.***

***Hypothesis 6b: Ceteris Paribus, there is a negative relationship between percentage of ownership hold by all directors and CEO compensation disclosure index.***

### **Foreign Investors**

Foreign investors are habituated in comprehensive disclosure of CEO compensation in their home country and they expect the same scenario in their investing region. Chizema (2008) stated that foreign investors are more conscious about transparency and accountability and create pressure on management to disclose compensation information in details. On the other hand, Malek (2015) study finds that foreign ownership is negatively associated with the disclosure of individual director's compensation but the result is not significant. Chizema also (2008) didn't find any significant relationship between foreign ownership and disclosure of individual executive compensation. In Bangladesh, foreign investors are also increasing over the years in the listed banks and thus develop the hypothesis as:

***Hypothesis 7: Ceteris Paribus, there is a positive relationship between percentage of ownership hold by foreign investors and CEO compensation disclosure index.***

### **External Monitoring**

Debt holders are the external monitors and they also have the capacity to create pressure on management if any activities of management are against the interest of debt holders. Malek (2015) stated that disclosure of individual executive directors' compensation might be influenced by the agency relationship between firms and creditors. But Clarkson et al., (2006) and Malek (2015) study didn't find any significant association of leverage with the disclosure of individual directors and CEO compensation. Malek (2015) stated that management receives excessive compensation instead of paying creditors debt. To disclose compensation information in details, debt holders create pressure on management and impose various restrictions. Malek (2015) study stated that

creditors may limit the extent of financing; impose higher interest rate and new covenants. Since creditors have monitoring capacity and interest about the details disclosure of CEO compensation and thus develop the hypothesis as:

***Hypothesis 8: Ceteris Paribus, there is a positive relationship between leverage and CEO compensation disclosure index.***

### **Firm Size**

Firm size is a significant factor for disclosing compensation information. It is common that large firms disclose compensation information in more details than small firms. Large firms ensure that they are more transparent and accountable and disclose compensation information in details to retain the image of the firm in the competitive market. Empirical studies find that firm size is significantly and positively associated with compensation disclosure (Coulton et al., 2001; Clarkson et al., 2006; Chizema, 2008; Malek, 2015). Coulton et al., (2001) study find that larger firms disclose in details about managerial compensation. Large firms' disclosure is comparatively higher than small firms (Lang and Lundholm, 1996; Coulton et al., 2001). In the listed banks of Bangladesh, I also assumed the positive relationship between firm size and CEO compensation disclosure and thus develop the hypothesis as:

***Hypothesis 9: Ceteris Paribus, there is a positive relationship between firm size and CEO compensation disclosure index.***

### **CEO compensation**

Management compensation reduces the agency conflict between shareholders and managers. But management compensation itself promotes the agency conflict and information asymmetry without quality disclosure of management compensation. Shareholders can't create pressure on management when compensation information is unavailable to them ( Andjelkovic et al., 2002). CEOs who receives high compensation faces public scrutiny (Melis et al., 2015) and firms try to avoid negative publicity when stakeholders find out that executive receives excessive compensation (Malek, 2015). Yokoyama (2010) study reported that firms should disclose compensation information including base pay, stock options, bonuses, retirement benefits and others for each executives along with details decision making process of compensation. Coulton et al. (2001) study find that compensation disclosures are significantly less transparent for CEOs who have relatively high compensation and reversely, firms with relatively low compensation provide relatively more transparent disclosure about CEO compensation. Based on the above empirical studies and discussion, I assume that CEO will try to reduce information asymmetry and agency conflict by disclosing compensation information in more details and thus develop the hypothesis as:

***Hypothesis 10: Ceteris Paribus, there is a positive relationship between CEO compensation and CEO compensation disclosure index.***

### **Audit Quality**

Audit firm ensures the compliance, quality of reporting and disclosure issues. Coulton et al. (2001) study stated that disclosure is more transparent when firm is audited by big five audit firms, because of audit firms' reputation about high quality reporting. Empirical evidence shows the positive relationship between disclosure of individual executive directors' compensation and audit quality (Malek, 2015). Clarkson et al. (2006) study finds that CEO compensation disclosure is positively and significantly associated with auditor quality. Bassett et al. (2007) study also finds that disclosure of compensation in Australia is significantly associated with audit quality. On the other hand, Coulton et al. (2001) study report that audit quality is not associated with disclosure index. Fan and Wong (2002) study find that agency problem can be reduced by recruiting renowned audit firms in the Asian country. In Bangladesh, all the listed banks are audited by external audit firms. Most of the audit firms are affiliated with the BIG 4 audit firms. Thus, on the basis of above discussion I assume that disclosure quality of CEO compensation will be higher when firm is audited by affiliated audit firms under BIG 4 and develop the hypothesis as:

***Hypothesis 11: Ceteris Paribus, there is a positive relationship between audit quality and CEO compensation disclosure index.***

### **Control Variable**

#### **Government Ownership:**

In this study, government ownership is used as the control variable. As a regulator government introduces the disclosure requirement and guideline and ensures transparency and accountability and set the example for other companies. Since government work as a policy maker and regulator in listed banks of Bangladesh, thus, disclosure on CEO compensation disclosure index is examined after controlling the government ownership.

### **3. Selection Process of Sample**

Only 30 banks are listed in the Dhaka Stock Exchange (DSE) and thus, total 236 firm years are considered as sample from the listed banks of Dhaka Stock Exchange (DSE). Corporate governance guideline firstly introduced in 2006 and later revised in 2012 but adequate corporate governance information is not available before 2006. Thus, this study considers the sample from 2006 to 2013. The sample of the listed banks is given in the Table 1.

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

No.	Name of Bank
1	ARAB BANGLADESH BANK
2	AL-ARAFAH ISLAMI BANK
3	BANK ASIA
4	BRAC BANK
5	CITY BANK
6	DHAKA BANK
7	DUTCH-BANGLA BANK
8	EASTERN BANK
9	EXIM BANK
10	FIRST SECURITY ISLAMI BANK
11	ICB ISLAMIC BANK
12	IFIC BANK
13	ISLAMI BANK BANGLADESH
14	JAMUNA BANK
15	MERCANTILE BANK
16	MUTUAL TRUST BANK
17	NATIONAL BANK
18	NCC BANK
19	ONE BANK
20	PREMIER BANK
21	PRIME BANK
22	PUBALI BANK
23	RUPALI BANK
24	SHAHJALAL ISLAMI BANK
25	SOCIAL ISLAMI BANK
26	SOUTHEAST BANK
27	STANDARD BANK
28	TRUST BANK
29	UNITED COMMERCIAL BANK
30	UTTARA BANK

#### 4. Research Method

##### 4.1 Models

In this study, it is observed that the sample size is not equal in each year, and the sample size ranges twenty six to thirty during the study period, and number of observations is

comparatively less in total. Thus, to get the larger sample size and greater variation which reduces the standard error, this study applies the pooled cross sectional method to test the hypothesis. This study also applies the Tobit method as an alternative analysis to test the hypothesis in the additional analysis part. The disclosure quality of CEO compensation is measured through CEO compensation disclosure index which is the dependent variable in the models. Firm performance, corporate governance including board composition and ownership structures, firm characteristics, CEO compensation, audit quality and control variable are used as independent variable to show the effect on disclosure of CEO compensation disclosure index. Disclosure quality of CEO compensation model is described below:

$$\text{CEODINDEX} = \beta_0 + \beta_1 \text{Firm Performance} + \beta_2 \text{Board Composition} + \beta_3 \text{Ownership Structures} + \beta_4 \text{External monitoring} + \beta_5 \text{Firm Characteristic} + \beta_6 \text{CEO compensation} + \beta_7 \text{Audit Quality} + \beta_8 \text{Control variable} + \varepsilon$$

The definition of variables and their expected relationship with CEO compensation disclosure index are given in Table 2.

**Table 2: Definition of Variables**

Variables		Variables Explanation	Predicted Relationship
<b>Disclosure Quality of CEO compensation</b>			
CEO Compensation Disclosure Index	CEODINDEX	CEO compensation disclosure Index	
<b>Performance</b>			
Return on Assets	ROA	Net Profit Before Tax/ Average Total Assets	Positive
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	Positive
<b>Corporate Governance Mechanism</b>			
<b>Board Structure Information</b>			
Board Size	LNBSIZE	Natural Logarithm of Board Size	Positive Negative
Independent Directors	ID	% of Independent directors in a board	Positive
Female Directors	FEDIR	% of Female directors in a board	Positive

<b>Ownership Information</b>			
Institutional Ownership	INT	% of ownership held by Institution	Positive
Director's Ownership	OWNADIR	% of Ownership held by all directors in a board	Positive Negative
Foreign Investors	FINVTR	% of Ownership held by Foreign Investors	Positive
<b>External Monitoring</b>			
Debt Ratio	DEBT2TE	Book value of total debt divided by book value of total equity	Positive
<b>Firm Characteristic</b>			
Firm Size	LNASSET	Natural logarithm of book value of total assets	Positive
<b>CEO Compensation</b>			
CEO Compensation	LNTCEOP	Natural Logarithm of Total CEO Pay	Positive
<b>AUDIT QUALITY</b>			
Audit Quality	AUDQ	1 if firm is audited by affiliated audit firms of BIG 4 otherwise 0.	Positive
<b>Control Variable</b>			
Government Ownership	OWNGOV	Ownership hold by Government	

#### 4.2 Data Sources

The major sources of this empirical analysis are annual report of banks that are available at specific bank websites and website of Dhaka Stock Exchange (DSE). In this study, the data set includes CEO compensation disclosure index, performance measures, corporate governance mechanisms through board composition and ownership structures and external monitoring information and firm characteristic total CEO pay, audit quality and government ownership variables. 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.

## 5. Empirical Results

### 5.1 CEO Compensation Disclosure Index

This study finds that all banks disclose their total CEO compensation information in profit and loss account statement as separate line item and details of total CEO compensation in the notes. Compensation policy and process are presented in the directors' report or corporate governance report or separate statement of compensation of the executives in the annual report. All banks mainly provide cash compensation. There are no use of stock options and grants in any banks. In this study, self-structured CEO compensation disclosure index is prepared following disclosure guideline and requirements. The simple un-weighted method is used to measure the disclosure index and to avoid any kind of subjective judgment error. CEO compensation disclosure index is scored on the basis of information disclosed or not. If the particular information related to CEO compensation is disclosed then scores one otherwise zero. The maximum score is twenty four if disclosed all information and the minimum score is zero if disclosed nothing. Disclosure ranges between zero and one and higher score means higher disclosure. The individual score is converted into percentage form to make it clear that to what percentage banks are disclosing compensation information in details. CEO compensation disclosure index includes total twenty four attributes from the annual report. The element of CEO compensation disclosure index are separate disclosure for CEO compensation, compensation process, pay performance relationship, comparative CEO information, segregated CEO compensation, relative importance on fixed and variable components of CEO compensation, criteria for setting up the salaries for CEO compensation, components of perquisites (perquisites includes house rent, house maintenance, entertainment, utility, allowances, special allowances, leave fare assistance, dearness allowance, medical allowance, security allowance and others), bonus and other benefits (bonus includes festival bonus, performance or incentive bonus), retirement benefits (provident fund and others) and equity or share based payments.

**Table 3 : CEO Compensation Disclosure Index (in percentage form)**

Year	Obs.	Mean	Minimum	Q1	Median	Q3	Maximum	SD
2006	26	19.87179	8.333333	8.333333	20.83333	25	37.5	9.302605
2007	30	21.66667	8.333333	8.333333	20.83333	29.16667	50	12.00654
2008	30	23.19444	8.333333	8.333333	20.83333	29.16667	50	11.71804
2009	30	24.44444	8.333333	16.66667	22.91667	33.33333	50	12.2207
2010	30	25	8.333333	16.66667	25	33.33333	50	12.08606
2011	30	25.41667	8.333333	16.66667	27.08333	33.33333	50	11.64972
2012	30	27.36111	8.333333	16.66667	29.16667	37.5	50	12.83942
2013	30	28.47222	8.333333	16.66667	33.33333	37.5	54.16667	13.13444
<b>Total</b>	<b>236</b>	<b>24.50565</b>	<b>8.333333</b>	<b>12.5</b>	<b>25</b>	<b>33.3333</b>	<b>54.16</b>	<b>12.06598</b>

Table 3 represents the descriptive statistics of CEO compensation disclosure index from 2006 to 2013. CEO compensation disclosure index report that the average CEO compensation disclosure index is 19.87% in 2006 which is the minimum where as maximum is 28.47% in 2013. This indicates that CEO compensation disclosure level increase over the year as expected. The overall average disclosure level is 24.51% and ranges from 8.33% to 54.17% with a standard deviation of 12.07%. This CEO compensation disclosure index shows that lowest record of disclosure is 8.33% and highest record of disclosure is 54.17% by all the listed banks during the period of 2006 to 2013.

The level of CEO compensation disclosure index increased over the years but some banks disclose only compensation information in total without any further break down information. Moreover, there is no change of disclosure of CEO compensation from 2006 to 2013 even in large firms.

## 5.2 Descriptive Statistics

Table 4 represents the descriptive statistics of determinants of disclosure quality of CEO compensation of the sample of listed banks of Bangladesh from 2006 to 2013. Internal firm performance measured by return on assets (ROA) is 2.48% and ranges from 20.52% to 7.78%. External firm performance measured by Tobin's Q is 1.14 and ranges from 0.92 to 5.78. The average size of the board is 13.90 and maximum board size is 27 where as minimum board size is 5. According to corporate governance guideline 2006 and corporate governance guideline (amendment) 2012, the minimum percentage of independent directors is 10% (one tenth or minimum one) and 20% (one fifth) respectively. But the average mean of percentage of independent director is only 7.19 % and ranges from 0 to 50%. The presence of female directors in the board is increasing nowadays and the descriptive summary statistics also shows that mean percentage of female directors in the listed banks of Bangladesh is 11.48% and the maximum is 92.31%.

**Table 4 : Descriptive Statistics of Determinants of Disclosure Quality of CEO Compensation**

	Obs.	Mean	Minimum	Q1	Median	Q3	Maximum	SD
ROA (%)	236	2.477707	-20.52043	1.98769	2.917638	3.605306	7.782377	2.717383
Tobin's Q	236	1.135735	0.9243132	1.028214	1.068794	1.146552	5.779525	0.3422262
BFSIZE	232	13.89655	5	11.5	14	15.5	27	4.255639
ID (%)	232	7.19215	0	0	6.66667	10.55556	50	8.35619
FEDIR (%)	232	11.47504	0	0	9.09091	16.66667	92.30769	11.87215
INT (%)	236	14.26262	0	5.6	13.46	20.425	64.82	11.15091
OWNDIR (%)	236	19.76421	0	8.35	19.23	29.135	57.15	13.64586
FINVTR (%)	236	2.110751	0	0	0	0.24	37.42	6.29819
DEBT2TE	236	12.14761	-16.72824	9.488538	11.34883	13.82555	230.9772	15.21685
Total Asset (in million)	236	97588.41	14302.84	48328.74	81481.92	129086.2	549979.1	71731.33
CEO Pay (in thousands)	236	7788.196	361.08	5280	7836.187	10340.65	21606.09	3534.794
AUDQ	236	0.3547009	0	0	0	1	1	0.4794481
OWNGOV (%)	236	4.457451	0	0	0	0	93.23	17.5029

Institutional investors' average ownership is 14.26% and ranges from 0% to 64.82%. The mean percentage of director ownership is 19.76% and maximum is 57.15%. Ownership hold by foreign investors average percentage is only 2.11% and ranges from 0% to 37.42%.

The descriptive statistics show that the mean of debt equity ratio is 12.15 with a standard deviation of 15.22. Total asset represents the firm size and average mean of firm size is 97588.41 million with a standard deviation of 71731.33 million and ranges from 14302.84 to 549979.1 million. The descriptive summary statistics report that CEO compensation amount is expressed in thousand and the average CEO compensation amount is Taka 7,788,196 and ranges from Taka 361,080 to Taka 21,606,090. The summary statistics shows that the average mean of audit quality is 35.47% and ranges from 0 to 1. The average percentage of ownership hold by government is 4.46% and maximum is 93.23%.

### 5.3 Correlation Matrix

Table 5 represents the Pearson correlation of all variables. The correlation matrix shows that CEO compensation disclosure index is positively associated with ROA (0.077), board size (0.077), independent directors (0.008), female directors (0.085), institutional investors' (0.023), director ownership (0.244), foreign investors (0.178), firm size (0.167), CEO compensation (0.257) and audit quality (0.308). But Tobin's Q, leverage and government ownership are negatively associated with CEO compensation disclosure index.

**Table 5 : Correlation Matrix**

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1	1													
2	0.077	1												
3	-0.042	-0.131	1											
4	0.077	0.427	-0.146	1										
5	0.008	-0.067	-0.070	-0.286	1									
6	0.085	0.012	-0.117	-0.064	0.034	1								
7	0.023	-0.020	-0.028	0.090	0.029	0.061	1							
8	0.244	-0.132	-0.002	0.366	-0.120	-0.195	-0.025	1						
9	0.178	-0.155	0.044	-0.143	0.046	-0.064	-0.187	-0.083	1					
10	-0.045	0.084	-0.057	-0.060	-0.056	0.027	-0.115	-0.137	0.028	1				
11	0.167	0.228	-0.177	0.278	0.395	0.019	0.036	-0.022	0.151	0.011	1			
12	0.257	0.178	0.009	0.043	0.312	0.177	0.177	0.205	-0.009	-0.208	0.278	1		
13	0.308	0.055	-0.032	-0.123	0.137	0.166	-0.031	0.066	0.170	-0.040	0.144	0.282	1	
14	-0.151	-0.206	-0.001	-0.141	-0.018	-0.135	-0.144	-0.336	-0.083	0.227	0.089	-0.721	-0.184	1

1-CEO Compensation Disclosure Index; 2- ROA(%); 3- Tobin's Q ; 4- BSIZE (Natural Log ) ; 5- ID (%) ; 6- FEDIR (%) ; 7- INT (%) ; 8- OWNDIR (%) ; 9- FINVTR (%) ; 10- DEBT2TE ; 11- TOTAL ASSET ((Natural Log) ; 12- CEO Pay (Natural Log ) ; 13- AUDQ ; 14- OWNGOV(%)

This study also examine the data set to check the multicollinearity issue and find that there is no high correlation with other variables that may create multi co linearity problem and thus this data set avoid the multi co linearity problem.

#### 5.4 Multivariate Analysis

Table 6 represents the result of the determinants of disclosure quality of CEO compensation. Three equations are used to show the regression effect in CEO compensation disclosure index. Internal Firm performance (ROA) is used in equation 1 and external firm performance is used in equation 2 and both internal and external firm performance are combined in equation 3 to show the impact on CEO compensation disclosure index.

In equation 1, the regression result represent a good fit for the model of CEO compensation disclosure index and explained by 23.28% variability in CEO compensation disclosure index. The empirical result finds a strongly a positive relationship between ROA and CEO compensation disclosure index. This result support the hypothesis 1(a) and consistent with the findings of Coulton et al. (2001). This result indicates that CEO compensation disclosure is more transparent when firm performance is high. When firm performance is good, they also try to present themselves they are more accountable to the shareholders and attract new investors by disclosing CEO compensation information in more details.

**Table 6: Regression results of Determinants of Disclosure quality of CEO Compensation**

	<b>Expectation</b>	<b>(1)</b>	<b>(2)</b>	<b>(3)</b>
Constant		-71.6173	-71.6898	-69.98998
		(0.053)	(0.057)	(0.058)
ROA (%)	(+)	0.7767046		0.7684878
		(0.030)		(0.033)
Tobin's Q	(+)		-1.134007	-0.9849483
			(0.200)	(0.260)
LNBSIZE	(+) / (-)	-1.9998	1.08368	-2.091328
		(0.548)	(0.704)	(0.531)
ID (%)	(+)	-0.1327593	-0.1282827	-0.1369776
		(0.209)	(0.242)	(0.196)
FEDIR (%)	(+)	0.1184138	0.0955265	0.1147403
		(0.026)	(0.066)	(0.033)
INT (%)	(+)	0.0712518	0.0563533	0.0702838
		(0.332)	(0.443)	(0.340)
OWNDIR (%)	(+) / (-)	0.3061588	0.2286935	0.3059642
		(0.000)	(0.000)	(0.000)

	<b>Expectation</b>	<b>(1)</b>	<b>(2)</b>	<b>(3)</b>
FINVTR (%)	(+)	0.4697068	0.4778937	0.473146
		(0.000)	(0.000)	(0.000)
DEBT2TE	(+)	-0.0176753	-0.0081048	-0.0185176
		(0.553)	(0.765)	(0.518)
LNASSET	(+)	0.0967661	0.1041105	0.0051974
		(0.946)	(0.945)	(0.997)
LNTCEOP	(+)	5.479594	5.299465	5.61522
		(0.009)	(0.015)	(0.008)
AUDQ	(+)	4.741419	5.049829	4.718854
		(0.008)	(0.005)	(0.008)
OWNGOV (%)		0.2051065	0.1583433	0.2083372
		(0.006)	(0.028)	(0.005)
R <sup>2</sup>		0.2328	0.2232	0.2335
Observations		232	232	232

This table shows coefficients from the OLS regression of the disclosure quality of CEO compensation which denotes : **CEODINDEX**- CEO compensation Disclosure Index ; **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. **LNTCEOP**- Natural Logarithm of Total CEO Salary; **AUDQ**- 1 if firm is audited by affiliated audit firms of BIG 4 otherwise 0; **OWNGOV**- Ownership hold by Government. 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 does not find any significant evidence to support the hypothesis 2a and 2b and this result is consistent with the study of Coulton et al. (2001). The average size of the board is 14 and board size in the listed banks of Bangladesh is more than UK and US board size. But the result indicates that board size is not a significant explanatory variable to affect CEO compensation disclosure.

The empirical result states that percentage of independent directors is not associated with CEO compensation disclosure index and this result is consistent with Coulton et al. (2001) study. This result can be explained in several ways: First, This result implies that independent directors are not effective enough or they are not playing their monitoring role effectively in disclosing CEO compensation information in more details. Second, independent directors receive only meeting fee in the board meeting which is not

sufficient enough to play their monitoring role in disclosing CEO information in details. Third, most of the banks disclose independent directors will be appointed immediately or appointment in process. As a result, number of independent directors is not sufficient enough to play their monitoring role effectively in the board about disclosure quality of CEO compensation. Fourth, Bogus (1993) study stated that independent directors exist only in the theory but all directors are part of management in the practical world. This finding might also be applicable in the listed banks of Bangladesh. It is observed that independent directors are the insiders of the firm or they are part of the management. Thus, it is difficult to play their monitoring role on behalf of the shareholders interest about CEO compensation disclosure when they are part of management or insiders of the firm.

The empirical result reports a positive and statistically significant relationship between presence of female directors and disclosure quality of CEO compensation at 5% level and this result support the hypothesis 4. This result implies that female directors are appointed by the controlling shareholders and controlling shareholders control the female directors and make decision in the board in a way to maximize their self-interest. Thus, controlling shareholders want to disclose CEO compensation information in more details to attract new investors and retain existing shareholders.

The empirical evidence reports no significant association between CEO compensation disclosure index and institutional investors. The reason might be percentage of institutional investors is only 14.26 % which is not significant enough to play the monitoring role about disclosure quality of CEO compensation. Second, the empirical research conducted on listed banks of Bangladesh, the institutional investors are bank and financial institution itself, and thus institutional investors might not play their monitoring role in the same industry or group. Third, institutional investors are passive investors and institutional monitoring is not an important mechanism of corporate governance and as a result, they are not concerned about CEO compensation and disclosure quality of CEO compensation.

The empirical result shows a positive and statistical association between disclosure quality of CEO compensation and director ownership at 1% level and reject negative hypothesis 6b. This result is consistent with Malek (2015) study. This result implies that directors are more transparent and accountable to the shareholders and disclose in details about CEO compensation. Second, by disclosing more information of CEO compensation, they try to prove that they are working on behalf of the shareholders interest and use it in their performance evaluation to the stakeholders. Third, directors might have some financial or nonfinancial motivation or incentives by disclosing more information about CEO compensation. Fourth, directors are encouraged to disclose CEO compensation in details to retain their managerial position or for reappointment. Fifth,

directors disclose compensation information in more details to defend the level of compensation and any increases of compensation and reduce the agency conflict and information asymmetry between the shareholders and management. Finally, most of the directors are appointed by controlling shareholders and controlling shareholders control everything in a way to maximize self-interest and controlling shareholders emphasize on disclosing more information about CEO compensation to attract new investors and other stakeholders.

This study finds a significant positive relationship between foreign investors and CEO compensation disclosure index and this result support the hypothesis 7. This result implies that foreign investors monitor the disclosure pattern of CEO compensation to ensure transparency and accountability. They demand highly talented person as CEO and want to pay high compensation to the CEO and ensure more disclosure when compensation is also higher. Beside this, foreign investors are habituated about the details disclosure of CEO compensation in their home country and they also expect comprehensive disclosure pattern of CEO compensation in listed banks of Bangladesh. This findings support the statement of Chizema (2008) that foreign investors are familiar about comprehensive disclosure of directors' compensation in their home country. Moreover, firms disclose compensation information in more details to retain the foreign investment and also to attract new investors in the following years.

The empirical result does not find any significant relationship between debt holders and CEO compensation disclosure index. This result is also consistent with Malek (2015). This means that debt holders have weak bargaining power to raise the disclosure quality of CEO compensation. Another reason might be debt holders are more concerned about CEO compensation amount rather than disclosure quality of CEO compensation.

This study finds that firm size is not a significant explanatory variable for disclosure quality of CEO compensation. This means that CEO compensation disclosure is not affected by firm size in the listed banks of Bangladesh. This is the important finding of this study because disclosure of CEO compensation is very poor even in large firms. The reason might be large firms are not concerned about the higher disclosure quality of CEO compensation. Another reason might be large firms reduce the pressure from public by avoiding the disclosure of CEO compensation.

This study finds a positive and statistical relationship between CEO compensation and CEO compensation disclosure index. This result support the hypothesis 10 but opposite of the study of Coulton et al., (2001). Disclosing compensation information in details firms tries to prove that they are more transparent and accountable to the stakeholders.

The empirical result shows that audit quality is significantly positively associated with CEO compensation disclosure index. This result supports the hypothesis 11 and

consistent with the study of Clarkson et al., 2006; Bassett et al., 2007 and Malek, 2015. BIG 4 audit firms make sure whether firms disclosing all the requirements including CEO compensation information. Moreover, management of the banks also become more conscious and discloses information in details because they know that their work and disclosure pattern will be evaluated by the world famous BIG 4 affiliated audit firms. It is also advantages to the banks that when listed banks are audited by BIG 4 affiliated audit firms then it creates the creditworthiness to the general shareholders, investors, regulators and public.

In equation 2, run the regression using external firm performance named as Tobin's Q holding all other factors are constant. The model explains about 22.32% of the variability of CEO compensation disclosure index. This study does not find any significant relationship between Tobin's Q and disclosure quality of CEO compensation. The regression results are almost same in equation 1 and equation 2. The empirical result shows that presence of female directors in the board, director ownership, and ownership hold by foreign investors, CEO compensation and audit quality are positively and significantly associated with CEO compensation disclosure index. But this study does not find any significant association of disclosure quality of CEO compensation with board size, independent directors, institutional ownership, leverage and firm size.

In equation 3, both internal and external firm performance ROA and Tobin's Q are considered in the same equation and the model explains about 23.35% variability of the CEO compensation disclosure index. In equation 3, this study finds that ROA, female directors, ownership hold by directors, ownership hold by foreign investors, CEO compensation and audit quality are positively and significantly associated with disclosure quality of CEO compensation. The findings of the equation 3 are similar like both equation 1 and 2. But this study didn't find any significant relationship of CEO compensation disclosure with Tobin's Q, board size, independent directors, institutional investors, leverage and firm size in equation 3 and this finding is similar in both equations 1 and 2.

## **6. Additional Analysis**

### **6.1 Tobit Regression**

The score of CEO compensation disclosure index is considered alternatively as the dependent variable. In this part, I use the TOBIT regression method instead of ordinary least square (OLS) since the dependent variable is censored. The descriptive statistics and the regression results of CEO compensation disclosure index are described below using the TOBIT regression method:

### 6.1.1 Descriptive Statistics of CEO Compensation Disclosure Index (expressed in score)

Table 7 represents the descriptive statistics of CEO compensation disclosure index in score during the period of 2006 to 2013. The table reports that the average score of CEO compensation disclosure index is 4.77 in 2006 which is minimum score and the maximum score is 6.83 in 2013. This implies that the score of CEO compensation disclosure index increases over the year as expected. The overall mean score of CEO compensation disclosure index is 5.88 and ranges from 2 to 13 with standard deviation 2.90. The lowest record score of CEO compensation disclosure index is 2 and the highest record score is 13 during 2006 to 2013. CEO compensation disclosure index includes 24 items and each item score 1 and thus total maximum score is 24. But the table shows that the average score of CEO compensation disclosure is only 5.88 out of 24.

**Table 7: Descriptive Summary Statistics for CEO Compensation Disclosure Index (Score)**

Year	Obs.	Mean	Minimum	Q1	Median	Q3	Maximum	SD
2006	26	4.769231	2	2	5	6	9	2.232625
2007	30	5.2	2	2	5	7	12	2.88157
2008	30	5.566667	2	3	5	7	12	2.812329
2009	30	5.866667	2	4	5.5	8	12	2.932968
2010	30	6	2	4	6	8	12	2.900654
2011	30	6.1	2	4	6.5	8	12	2.795933
2012	30	6.566667	2	4	7	9	12	3.081461
2013	30	6.833333	2	2	8	9	13	3.152266
<b>Total</b>	<b>236</b>	<b>5.881356</b>	<b>2</b>	<b>3</b>	<b>6</b>	<b>8</b>	<b>13</b>	<b>2.895836</b>

### 6.1.2 Disclosure Quality of CEO Compensation using TOBIT Method

Table 8 represents the regression results of disclosure quality of CEO compensation using the TOBIT method as the dependent variable CEO compensation disclosure index score is censored. The regression result reports that there is no change of result in Table 8 in compare to Table 6 in terms of ROA, Tobin's Q, board size, independent directors, female directors, institutional ownership, director ownership, foreign investors, debt to equity, firm size, CEO compensation, and audit quality. Disclosure quality of CEO compensation is positively and significantly associated with internal firm performance ROA, female directors, director ownership, foreign investors, CEO compensation and audit quality. But the result of the regression doesn't find any significant association of CEO compensation disclosure index with Tobin's Q, board size, independent directors,

institutional ownership, debt to equity and firm size. The results of the regression are exactly the same in TOBIT and OLS method.

**Table 8: Regression Results of Disclosure Quality of CEO Compensation using TOBIT**

	Expectation	(1)	(2)	(3)
Constant		-17.54261	-17.5588	-17.1542
		(0.044)	0.048	0.049
ROA	(+)	0.1890733		0.1871103
		(0.025)		(0.027)
Tobin's Q	(+)		-0.2709624	-0.2346384
			(0.190)	(0.251)
LNBSIZE	(+) / (-)	-0.5177747	0.2342244	-0.5395005
		(0.512)	(0.728)	(0.495)
ID (%)	(+)	-0.03161687	-0.03051249	-0.03262228
		(0.202)	(0.236)	(0.188)
FEDIR (%)	(+)	0.02850765	0.02295347	0.02763234
		(0.022)	(0.059)	(0.027)
INT (%)	(+)	0.0170728	0.0134524	0.0168423
		(0.321)	(0.433)	(0.327)
OWNDIR (%)	(+) / (-)	0.0749226	0.0560295	0.0748732
		(0.000)	(0.000)	(0.000)
FINVTR (%)	(+)	0.1131748	0.1151376	0.11399932
		(0.000)	(0.000)	(0.000)
DEBT2TE	(+)	-0.0042445	-0.0019107	-0.0044451
		(0.545)	(0.765)	(0.510)
LNASSET	(+)	0.0499219	0.0514417	0.0280527
		(0.886)	(0.888)	(0.936)
LNTCEOP	(+)	1.299477	1.255375	1.331822
		(0.009)	(0.014)	(0.008)
AUDQ	(+)	1.122344	1.197953	1.117
		(0.008)	(0.005)	(0.008)
OWNGOV		0.0489496	0.037559	0.0497198
		(0.005)	(0.026)	(0.004)
Pseudo R <sup>2</sup>		0.0537	0.0511	0.0539
Observations		232	232	232

This table shows coefficients from the TOBIT regression of the disclosure quality of CEO compensation which denotes : **CEODINDEX**- CEO compensation Disclosure Index ; **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. It is measured by number of independent directors in a board divided by total number of directors; **FEDIR**- Percentage of Female directors in a board. It is computed by the number of female directors divided by total number of directors in the board; **INT**- Percentage of ownership holds by Institution; **OWNDIR**- Percentage of share ownership holds by all directors in a board. It is computed by number of shares owned by directors divided by the number of shares outstanding; **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. **LNTCEOP**- Natural Logarithm of Total CEO Salary ; **AUDQ**- 1 if firm is audited by affiliated audit firms of BIG 4 otherwise 0; **OWNGOV**- Ownership hold by Government. 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.

## 6.2 Other Additional Analysis

This study also conducted some additional analysis as a robust check but due to limited space only the results are discussed rather than regression tables. The regression results find that variation of results with the main analysis in terms of CEO pay only when time dummy is considered but varies in terms of ROA only when serial correlation is considered. This study also finds that variation in terms of CEO pay when both time dummy and serial correlation are considered.

## 7. Conclusion

Management compensation resolve the agency conflict between shareholders and managers but lack of quality disclosure raises the problem of agency problem and information asymmetry. The empirical research tries to find out the disclosure pattern of CEO compensation and determinants of the disclosure quality of CEO compensation in the listed banks of Bangladesh.

The basic findings from this study are summarized below: First, it is said that banking sector is well structured, developed and surrounded by several laws, and thus expect that disclosure quality will be higher. This study finds that disclosure quality of CEO compensation is very poor (24.51%) but increased over the years as expected. Most of banks do not disclose the compensation information in full details due to lack of mandatory disclosure requirement guideline and monitoring from the regulatory authority and thus overall disclosure level is very poor. The empirical result shows that firm size has no association with the disclosure of CEO compensation. Therefore, it is evident that large firms disclose only total compensation without any further information of compensation breakdown, compensation policy and process, perquisites, bonus, retirement and long term benefits. Moreover, it is also observed that there is no change or

improvement of disclosure pattern of CEO compensation of some banks from 2006 to 2013. This implies that the disclosure of CEO compensation in 2013 is same as like 2006 of some banks. Second, the empirical result of the study finds that CEO compensation disclosure is positively associated with firm performance (ROA), director ownership, foreign investors, CEO compensation and audit quality. This means that ROA, director ownership, foreign investors and CEO compensation have the significant positive influence on higher quality disclosure of CEO compensation. Finally, this study doesn't find any significant association of CEO compensation disclosure with board size, female directors, independent directors and institutional ownership. Board size, independent directors, female directors, and institutional investors have no monitoring role on CEO compensation disclosure. These four important instruments of corporate governance indicate that corporate governance mechanisms are very weak and inefficient.

The empirical results of the disclosure quality of CEO compensation should be interest to stakeholders, researchers, regulators and policymakers. This study recommends some suggestions to develop the transparency of CEO compensation disclosure. First, the regulatory authority should establish a comprehensive disclosure guideline including the minimum (mandatory) and voluntary disclosure requirement for all the companies. Second, a separate compensation committee should be established to ensure the transparency and accountability of the compensation and disclosure issues. Third, it is also observed that there is no change or improvement of disclosure pattern of CEO compensation from 2006 to 2013. This implies that the disclosure of CEO compensation in 2013 is same as like 2006. Thus, the regulatory authority and internal compensation committee should more emphasize on disclosure in details. Finally, the regulatory authority should more focus on corporate governance mechanisms and corporate governance mechanisms should be modernized based on the global market demand and board size, female directors, independent directors and institutional investors monitoring role should be effective to raise the disclosure quality of CEO compensation.

The findings and recommendation of this study will enrich the quality of CEO compensation disclosure of the banks and improve the instruments of corporate governance mechanisms which will have the positive impact on the stakeholders. But this study has some limitations such as sample size is small due to lack of data and absence of unique measurement process of index. The researcher can do future research considering comparative analysis of banking and non-banking firms and cross country comparison.

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