



# “Corporate Governance and CEO Pay : Evidence from Financial Companies of Bangladesh”

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## Abstract

The purpose of this study is to examine the effect of corporate governance (CG) variables on CEO pay in the listed financial companies in an emerging and developing economy- Bangladesh. The study collected data from 238 annual reports for the year 2014 to 2018 to investigate the effect of CG variables on CEO pay. Ordinary Least Squares (OLS) regression model is used to examine the hypothesized relationship between the variables. The findings showed a significant effect of several CG variables (board size and sponsor ownership) on CEO pay. However, while CEO pay is replaced with its various components (basic pay, incentive bonus, and other allowance) in the regression models, the results demonstrate considerable shift in the factors affecting the CEO pay.

**Key words :** CEO pay, Board characteristics, Ownership structures, Bank, Non-bank financial institutions, Bangladesh.

## 1. Introduction

Corporate boards, as representatives of shareholders, have substantial power to hire, compensate, monitor and discipline CEOs (Agrawal and Nasser, 2019). Previous research has identified various firm-specific factors including financial and market performance (Capezio et al., 2011; Kent et al., 2018; Agrawal and Nasser, 2019),

firm size and risk (Capezio et al., 2011; Kent et al., 2018), corporate governance variables such as board size and independence, and shareholding composition (Firth et al., 2007; Armstrong et al., 2012; Conyon and He, 20212; Schultz et al., 2013; Al-Najjar, 2017; Kent et al., 2018) that can have effect on the extent and structure of CEO pay.

In fact, there exist tons of studies in the CG literature that have examined the determinants of CEO pay. Majority of these studies use natural logarithm of total compensation (Core et al., 1999; Kent et al., 2018; Agrawal and Nasser, 2019, Bin et al., 2020; Patnaik and Sour, 2020; Rehman et al., 2021), cash compensation (Capezio et al., 2011; Agrawal and Nasser, 2019), annual incentive paid in cash, and annual non-incentive cash paid to CEO (Capezio et al., 2011) as the representative of CEO pay. However, the use of components of CEO pays (e.g., basic pay, incentive bonus, and other allowance) as the dependent variables in examining such relationship are not very common in the CEO pay literature. The present study attempts to investigate the impact of several CG variables on the components of CEO pay in the context of a developing economy.

Listed financial companies in Bangladesh have been selected as the research context on several grounds. First, among the listed companies in Bangladesh, only the financial companies (bank and NBF) disclose the amount of remuneration paid to CEO under the heads of basic pay, incentive bonus, and other allowance. Second, majority of the previous studies (e.g., Core et al., 1999; Al-Najjar, 2017; Kent et al., 2018; Agrawal and Nasser, 2019) have been conducted in the context of developed economies, and very little is known in the context of developing and emerging economy (Patnaik and Sour, 2020; Rehman et al., 2021). International Monetary Fund (IMF) declared Bangladesh as an emerging economy in 2008 (IMF, 2008), and recently, the United Nation (UN) Committee for Development Policy officially stated that Bangladesh has fulfilled the criteria for graduation from the Least Developed Country (LDC) category (The Independent, 2018). Accordingly, the use of the context of Bangladesh, which is an emerging and developing economy, is expected to facilitate comparisons with the results of developed economies. Finally, the daily new nation, a daily newspaper in Bangladesh, reported that the CEOs of listed banking companies are being paid exorbitant

salary and allowances which goes against the central bank (Bangladesh Bank) rules (The daily new nation, 2016). This provides additional context for the present study. Accordingly, this study expects to contribute to the extant literature of CEO pay by documenting the effect of several CG variables on the CEO pay as a whole and several of its components using the context of a developing and emerging economy.

The summary of descriptive statistics reveals an increase in CEO pay of 19.12 percent in the banking companies and 21.66 percent in the non-bank financial companies from the year 2014 to 2018. The regression result confirms a significant negative relationship between board size and sponsor and director ownership and CEO pay, whereas the relationship is significant and positive with firm size, leverage and market-to-book ratio.

The remainder of this paper is organized as follows. Section 2 provides the institutional background of Bangladesh. Section 3 presents the literature review and hypothesis development. Section 4 presents the research methods followed by section 5 which presents and discusses the empirical results of the study. Section 6 explains the validity and reliability analysis. Chapter 7 presents conclusion and implications, including the limitations of the study and avenues for further research.

## 2. Institutional background of corporate practices in Bangladesh

Bangladesh Securities and Exchange Commission (BSEC) regulates the corporate governance environment of listed public limited companies in Bangladesh. To perform this responsibility, BSEC has issued and reformed CG codes in 2006, 2012, and 2018 in an attempt to bring transparency in the corporate management. In the CG Codes 2012 and 2018, the BSEC declared that one-fifth of the board members must be from non-shareholders, which seems to be an attempt to ensure the exercise of external CG mechanism (BSEC, 2018). These Codes also require that the positions of CEO and board chairman shall be filled by different individuals (BSEC, 2018). Thus, CG mechanism of Bangladesh contains the elements of both internal and external control systems (Rashid, 2009).

In addition to BSEC, the central bank (Bangladesh Bank) also played crucial role to establish good governance in the financial industry. In this endeavor, Bangladesh Bank (BB) has issued 'Prudential Regulations' for financial institutions from time to time. In 1996, BB has issued 'Prudential Regulations' (BRPD Circular No. 09 dated 17 September 1996) that includes provisions regarding the board composition. The PR also include the provisions for the formation of various committees (e.g., executive committee, audit committee, risk management committee), responsibilities and authorities of the board and its chairman, and the appointment, responsibilities and remuneration of CEO (Bangladesh Bank, 2014). With respect to the remuneration, the PR states that the board shall clearly specify in Bangladeshi Taka (BDT) the basic pay, house rent allowance and other allowances (e.g., utility, provident fund, leave-fare assistance) in the proposal submitted to the BB. Moreover, the CEO shall not get other direct or indirect facilities (e.g., dividend, club expense, commission etc.) other than the incentive bonus which shall not exceed BDT one million per year (Bangladesh Bank, 2014).

Apart from that the uniqueness of the institutional characteristics of Bangladesh deserves special attention in examining the relationship. More specifically, the presence of weak form of market efficiency (Rashid 2020a), the exercise of indirect control over corporate boards in the private sectors wherever required (Muttakin et al., 2015; Rashid, 2018), and the exercise of control by owners on restructuring the board (Rashid, 2020b) can be of particular interest.

### 3. Literature review and hypothesis development

Agency theory views that agency problem may emerge between owners and agents as the management (control) of an entity is entrusted to agents by the financiers (ownership) (Jensen and Meckling, 1976; Shleifer and Vishny, 1997). However, to monitor the activities of agents, owners put their trust on corporate board which seems to have adequate influence on top executives including CEO via controlling their pay structure (Holmstrom and Kaplan, 2003; Agrawal and Nasser, 2019). This view is consistent with the agency theory which contends that corporate boards are diligent and trustworthy

stewards for maintaining the interests of general shareholders (Capezio et al., 2011). In this endeavor, they are expected to alleviate information asymmetry between the principal (owners) and self-serving, risk-averse agent by applying appropriate means of monitoring and rewarding executive performance (Capezio et al., 2011). Accordingly, both the board characteristics and ownership structure can have a considerable influence on the determination of CEO pay structures.

#### Board characteristics

With respect to the effect of board size on CEO pay, previous studies have documented mixed results. For example, Doucouliagos et al. (2007) showed a significant negative relationship between board size and CEO pay in the Australian banking industry. This view is consistent with resource dependency theory which holds that a large board is expected to be equipped with better experience, skills and knowledge (Yeh, 2018; Kao et al., 2018), and therefore can monitor the actions of agents more competently (Mak and Li, 2001). More recently, Patnaik and Sour (2020) also reported reduction in CEO compensation in response to increase in the board size in the Indian manufacturing firms.

However, the opposite view that a large board is supposed to be ineffective monitor of shareholder interest because of poor communication, free riding, and coordination problems (Jensen, 1993) is more apparent in the CG literature (Fama and Jensen, 1983; Jensen, 1993; Yeh, 2018). In many instances, larger board faces the challenge of agreement regarding many key issues due to diversified opinion expressed by board members (Yermack, 1996). The scarcity of time available for the board meeting leads the problem more complicated. These shortcomings, in turn, weaken the governance mechanism of the firm, and capitalizing these loopholes, CEO might be able to extract additional compensation from the firm (Core et al., 1999). In line with this view, several researchers (e.g., Fama and Jensen, 1983; Jensen, 1993) advocated smaller board as more cohesive and productive. Several prior studies (e.g., Core et al., 1999; Croci et al., 2012; Kent et al., 2018; Zhang et al., 2020) also documented results in support of this view in investigating the effect of board size on CEO compensation. For instance, Ozkan (2011) examined the effect of board size on CEO compensation in

the context of UK non-financial firms and showed a significant positive relationship between the variables. Schultz et al. (2013) also suggested similar results in the Australian context and documented that large boards are less effective at incentivizing CEOs to act in the best interests of the shareholders. Using a large sample of 915 listed firms from 14 countries of Continental Europe, Croci et al. (2012) also reported a significant positive relationship between board size and CEO pay. Conyon and He (2012) and Zhang et al. (2020) also reported similar results in the Chinese listed firms. More recently, Rehman et al. (2021) reported a significant positive association between board size and CEO compensation in the Chinese firms. Accordingly, CEOs are expected to capitalize the loopholes of larger board and enjoy exorbitant compensation. These arguments and findings induced the present study to assume a positive association between board size and CEO pay. Hence, the first hypothesis states that:

**H1. There is a positive relationship between board size and CEO pay.**

Prior literature also revealed diversified results with respect to the effect of board independence on CEO compensation. For instance, Ozkan (2011), Croci et al. (2012) and Bin et al. (2020) documented a significant positive effect of outside/non-executive directors on CEO compensation, suggesting that independent directors are less effective monitors of shareholders interest. More recently, Rehman et al. (2021) reported a significant positive association between board independence and CEO compensation in the Chinese firms. This view is supported by stewardship theory which advocates fewer requirements for outside/independent directors. In contrast, Core et al. (1999) demonstrated that less independent directors are associated with greater CEO compensation. Lambert et al., (1993) and Hallock (1997) also reported negative association between board independence and executive compensation.

As agency theory holds that the agent (management) may accentuate their personal interests over the shareholders' interest (Deegan, 2006), independent directors have the opportunity to play an imperative role in controlling the unexpected behaviors of management. In particular, they can raise their voice in the event of the determination of unjustified CEO pay structure. Moreover, independent directors have

no or fewer conflicts of interest with shareholders (Fama, 1980; Adams et al., 2010), which enhance their capability as effective monitor. More recently, Patnaik and Sour (2020) reported a reduction in CEO compensation in response to increase in the board independence in the Indian manufacturing firms. In the context of Bangladeshi financial companies, a strong presence of independent directors in the corporate boards are expected to play an imperative role to detain CEOs from accumulating ridiculously higher compensation. These arguments and findings of previous studies motivate the present study to assume an inverse relationship between board independence and CEO pay. Hence, the second hypothesis states that:

**H2. There is a negative relationship between board independence and CEO pay.**

### Ownership structure

With respect to the ownership structure variables, several prior studies have examined the effect of institutional shareholding on CEO compensation (Ozkan, 2011; Doucouliagos et al., 2007; Kent et al., 2018; Zhang et al., 2020) and documented mixed results. For example, using the Standard & Poor's ExecuComp database (sample includes 224 of 437 companies); Khan et al. (2005) reported a significant positive relationship between institutional ownership and CEO pay. Kent et al. (2018) documented an insignificant positive relationship between the variables in the context of Australian listed companies. In contrast, Ozkan (2011) reported a significant negative association between the variables in the context of UK non-financial firms. More recently, Patnaik and Sour (2020) and Rehman et al. (2021) reported a reduction in CEO compensation in response to increase in the institutional holdings in the Indian manufacturing firms.

It is well evident that institutional directors, appointed by institutions, have vast experience, deeper understanding of internal and external business environment and professionalism (Edmans, 2009) as compared to their counterparts. Therefore, their presence in the corporate ownership structure is expected to lead an optimum pay structure for the firm's top executive. Additionally, institutional investors usually hold substantial shares for longer periods (Oak and Dalbor, 2008; Edmans, 2009) which empowers them considerably (Colpan and Yoshikawa, 2012) to influence the board in making several critical decisions including the pay structure.

Moreover, their active role in the management is expected to trim down agency problem substantially (Shleifer and Vishny, 1997; Colpan and Yoshikawa, 2012). Accordingly, the presence of institutional owners in the firm's capital structure is expected to shield the determination of unfair CEO compensation structure. The arguments presented above and the findings of previous studies motivate to hypothesize a negative association between institutional ownership and CEO compensation. Hence, the third hypothesis of this study states that:

**H3. There is a negative relationship between institutional ownership and CEO pay.**

The findings of extant literature on the relationship between director ownership and CEO pay appear to be inconclusive. For example, Doucouliagos et al. (2007) reported a significant positive relationship between director ownership and CEO pay in the Australian banking industry. In contrast, Mangel and Singh (1993) reported a significant negative relationship between director ownership and CEO pay in the 100 largest US firms. Ozkan (2011) also documented similar relationship in the UK non-financial firms. Kent et al. (2018) also supported this result in the context of Australian listed firms and reported a significant negative association between insider shareholding and CEO pay. The concentration of significant shares in the hands of directors and sponsors allows them to supervise and monitor the actions of top management, which in turn, is expected to contribute to trim down the agency problem (Schnatterly et al., 2008; Colpan and Yoshikawa, 2012) specifically to avert unjustified overpayment to top executive such as CEO. These arguments and findings of previous studies motivate the present study to assume a negative association between sponsor and director ownership and CEO pay. Hence, the fourth hypothesis of this study states that:

**H4. There is a negative relationship between sponsor and director ownership and CEO pay.**

While the effect of institutional and director ownership on CEO pay has been addressed in the extant literature, the effect of foreign ownership on CEO pay has remained unexplored. It is evident that the existence of foreign investors in the capital structure of a firm affects the local investors' perception positively in the capital market (Khanna and Palepu, 2000; Dahlquist and Robertsson, 2001; Douma et al., 2006;

Kao et al., 2018). Foreign investors typically invest huge funds with higher commitment and for longer-term periods (Douma et al., 2006) which assists them to create favorable impact on the perceptions of domestic investors (Rashid, 2020c), and allow them to exert influence on crucial management decision. Moreover, they are expected to take extra care to monitor the firm's activities since they are equipped with less information as compared to local investors (Chen et al., 2009). However, previous studies have demonstrated that foreign investors preferred to invest in companies with high liquidity in the capital market, familiarity, larger in size in terms of assets (Kang and Stulz, 1997), and wider media coverage (Falkenstein, 1996). These firms typically pay larger amounts of compensation to retain the key employees as well as to maintain the firm's reputation in the industry and market. Therefore, their presence in the firm's capital structure is expected to be associated with higher CEO pay structure. Hence, the fifth hypothesis of this study states that:

**H5. There is a positive relationship between foreign ownership and CEO pay.**

## 4. Research design

### 4.1 Sample and data

The initial sample of the study comprises all the financial companies (banking and non-bank financial institutions) listed in the leading stock exchange in Bangladesh- the Dhaka Stock Exchange (DSE). There are 30 listed banking companies and 23 non-bank financial institutions (Dhaka Stock Exchange, 2020) operating in Bangladesh. Since this study covers the periods of 2014 to 2018, accordingly the sample size should be  $[(30+23)*5]$  265 firm-years. However, a primary assessment of the annual report data of few companies reveals their inappropriateness to be included in the sample. This trims down the final sample size from 265 to 238 firm-years. To measure the dependent, independent and control variables, the present study collects necessary data from the annual reports of the sample companies.

### 4.2 Empirical model and variable definitions

The present study estimates the following (OLS) regression model to test the hypotheses formulated above:

$$CEOPAY_{i,t} = \beta_0 + \beta_1 BSIZE_{i,t} + \beta_2 BIND_{i,t} + \beta_3 SPONSOR_{i,t} + \beta_4 INSTOWN_{i,t} + \beta_5 FOREIGN_{i,t} + \beta_6 ROE_{i,t} + \beta_7 MTB_{i,t} + \beta_8 GROWTH_{i,t} + \beta_9 FSIZE_{i,t} + \beta_{10} LEV_{i,t} + \beta_{11} MSHARE_{i,t} + \varepsilon_{i,t}$$

Where CEOPAY stands for yearly gross compensation paid to CEO and is measured in millions of Bangladeshi Taka (BDT). All other variables are defined in Table I.

**Table I: Variable definitions**

Variables	Description
CEOPAY	Gross CEO pay, measured in million Bangladeshi Taka (currency)
BASICPAY	Basic salary (in million Bangladeshi Taka) paid to CEO in a year
BONUS	Incentive bonus (in million Bangladeshi Taka) paid to CEO in a year
OTHERALL	All other allowance (in million Bangladeshi Taka) paid to CEO in a year
BSIZE	Board size, measured as the total number of directors on the board
BIND	Board independence, percentage of independent directors on the board
SPONSOR	Sponsor ownership, percentage of shares owned by sponsor and directors
INSTOWN	Institutional ownership, percentage of shares owned by institutional investors
FOREIGN	Foreign ownership, measured as the percentage of shares owned by foreign investors
ROE	Return on equity, measured as the net profit after tax divided by the shareholders' equity at the annual reporting date
MTB	Market-to-book ratio, measured as the ratio of year-end market value of equity to year-end book value of equity
GROWTH	Firm's growth, measured as percentage change in annual revenue
FSIZE	Firm size, measured by natural logarithm of book value of total assets
LEV	Leverage, measured as ratio of total debt scaled by total assets
MSHARE	Market share, measured as the percentage of total market share held by a particular company in the industry for the respective year

The study controls for a number of variables in testing the hypothesized relationships. The rationale for including control variables is that previous studies have documented significant effect of several firm-specific variables on CEO compensation. For instance, Zhou (2000) and Ozkan (2007) documented significant positive association between profitability and CEO compensation. The effect of growth in revenue on CEO compensation has also been examined in the previous studies. For example, Kent et al. (2018) reported a significant positive effect of growth on CEO compensation. The effect of firm size (measured by total assets) on CEO pay has also been extensively examined in the extant literature (e.g., Zhou, 2000; Kent et al., 2018). The present study also includes leverage and market share of firm in the industry as control variables to examine their effects on the CEO compensation. The rationale for their inclusion is that the degree of leverage can affect a firm's agency costs (Roll et al., 2009), and high leverage ratio can adversely affect the credit worthiness of firms (Kao et al., 2018), which in turn, may rise the possibility of incurring bankruptcy costs (Myers, 1977). In contrast, acquisition of high market share in the industry is positively taken by the corporate board, which in turn, may affect the CEO compensation positively. This induces to predict a positive sign for firm's market share.

## 5. Findings and discussion

### 5.1 Descriptive statistics

Table II displays summary of descriptive statistics for CEO compensation as a gross figure and each of its components for the years 2014 to 2018. As can be seen in the Table, the mean gross CEO pay of the banking companies increase from BDT 11.56 million (in the year 2014) to BDT 13.77 million (in the year 2018), indicating an increase of 19.12% for the periods.

**Table 2: Descriptive statistics on CEO pay**

	Bank					Non-bank financial institutions				
	2014	2015	2016	2017	2018	2014	2015	2016	2017	2018
Gross CEO pay	11.56*	11.66	12.52	12.93	13.77	7.85	7.54	8.57	8.99	9.55
Basic pay	5.99	6.24	6.87	7.30	7.25	4.67	4.59	5.02	5.90	6.40
Incentive bonus	1.40	1.36	1.83	2.08	1.54	0.87	1.08	1.19	1.51	1.23
Other allowance	3.71	3.88	3.92	3.82	3.90	2.20	2.03	2.29	2.59	2.54*

\*In million Bangladeshi Taka.

Though the mean CEO pay (BDT 7.85 million in the year 2014 and BDT 9.55 million in 2018) in the non-bank financial institutions (NBFI) shows a comparatively lower amount, the rate of change (increase) (21.66% in the NBFI) shows a higher percentage as compared to their counterpart (19.12% in the banking companies). A further analysis shows that majority of the pay comprises basic pay (51.82% to 56.46% in bank and 58.58% to 67.02% in NBFI), whereas only insignificant portion (11.18% to 16.09% in bank and 11.08% to 16.80% in NBFI) consists of incentive bonus. The rest of the portion of CEO compensation comprises other allowances such as house rent allowance and medical allowance.

Table III reports descriptive statistics for all the variables used in the regression models. The mean value of gross CEO pay is BDT 10.98 million with a minimum of BDT 0.83 million and a maximum of BDT 26.10 million. The mean basic pay is 6.28 which represents about 57.19% of gross CEO pay, whereas mean incentive bonus is BDT 1.51 which represents approximately 13.75% of gross CEO compensation.

Table 3: Descriptive statistics of variables used in the regression models

Variables	N	Mean	SD	Median	Minimum	Maximum
CEOPAY	238	10.98	4.24	11.15	0.83	26.10
BASICPAY	182	6.28	2.84	6.11	0.49	14.34
BONUS	162	1.51	1.09	1.12	0.24	8.62
OTHERALL	179	3.37	1.98	3.12	0.22	9.41
BFSIZE	238	11.83	3.40	11.00	6.00	20.00
BIND	238	22.02	8.68	20.00	8.00	57.00
SPONSOR	238	42.65	16.09	39.39	3.92	90.42
INSTOWN	238	19.53	12.72	18.77	0.00	88.00
FOREIGN	238	5.26	11.85	0.00	0.00	58.46
ROE	238	9.67	12.34	10.81	-152.55	23.16
MTB	238	1.14	0.83	0.92	-0.45	7.71
GROWTH	238	9.31	16.62	6.97	-44.25	87.64
FSIZE	238	168810	153986	169147	6220	997959
LEV	238	91.75	14.26	91.32	69	196
MSHARE	238	4.20	3.43	3.32	0.05	22.90

With respect to the board characteristics variables, the mean board size displays a figure of 11.83 with a

minimum of 6 to a maximum of 20 directors. This result implies that the board size of listed financial institution in Bangladesh remains within the limits (minimum 5 to maximum 20) prescribed by the CG codes 2018 issued by BSEC (BSEC, 2018). The mean proportion of board independence shows a value of 22.02% with a minimum of 8% to a maximum of 57%. Surprisingly, the minimum proportion of board independence seems to be lower than that prescribed by the CG Codes (20% or one-fifth of the board members must be from independent directors) (BSEC, 2018). A quick check of the input data reveals that there is a listed bank owned by government which appointed several bureaucrats as directors on the board who are, in fact, neither the owners nor the outsiders.

With regard to ownership structure variables, the results demonstrates the dominance of sponsor and director ownership (42.65%), with moderate stakes held by institutions 19.53% and an insignificant portion by foreigners (5.26%). However, the minimum value of institutional and foreign ownership exhibits a nil value which implies that several banks and NBFIs do not have representation from those ownership categories.

Table IV presents Pearson correlation matrix among the variables used in the regression model. Surprisingly, board size and independence do not display significant relationship with CEO pay. However, the nature of relationship is in line with the prediction i.e., board size display positive association whereas board independence shows inverse association.

With respect to ownership structure variables, sponsor and director ownership shows significant negative association with CEO pay which is in line with the prediction of the study. Moreover, institutional ownership shows negative (though insignificant) association and foreign ownership exhibits positive relationships with CEO pay which are also in line with the prediction. Among the firm characteristics variables, ROE, firm size and leverage demonstrate significant positive relationship with CEO pay. Surprisingly, growth in revenue and MTB ratio show (insignificant) negative association with CEO pay which goes against the prediction of the study.

**Table 4: Correlation Matrix**

	CEOPAY	BSIZE	BIND	SPONSOR	INSTOWN	FOREIGN	ROE	MTB	GROWTH	FSIZE	LEV	MSHARE
CEOPAY	1											
BSIZE	.046	1										
BIND	-.049	-.413**	1									
SPONSOR	-.228**	-.078	.058	1								
INSTOWN	-.032	-.062	-.001	-.238**	1							
FOREIGN	.045	-.303**	.058	.232**	.095	1						
ROE	.190**	.049	.006	-.087	.021	.067	1					
MTB	-.038	-.072	.166*	.083	.105	.093	-.077	1				
GROWTH	-.052	-.021	.010	-.012	.070	-.068	.267**	.178**	1			
FSIZE	.482**	.365**	-.060	-.146*	-.187**	-.159*	.217**	-.196**	-.082	1		
LEV	.184**	-.207**	-.134*	.104	-.132*	.437**	-.060	-.262**	-.156*	.034	1	
MSHARE	.088	.006	.094	.110	-.031	.165*	.162*	.282**	.135*	.059	-.161*	1

\*\* Correlation is significant at the 0.01 level (2-tailed).

\* Correlation is significant at the 0.05 level (2-tailed).

Table V presents regression results of board characteristics and ownership structures with CEO pay (as a gross amount as well as basic pay, incentive bonus and other allowance). The coefficient of board size is negative and statistically significant ( $\beta = -4.224$ ,  $p < 0.10$ ), implying that board size and CEO pay is inversely associated which goes against the first hypothesis of the study. This result is also inconsistent with majority of the previous studies (Core et al., 1999; Ozkan, 2007; Kent et al., 2018) which documented a positive effect of board size on CEO pay. However, it may be worth mentioning that the result is not significant at 1% and 5% level of significance. Therefore, the first hypothesis of this study is not confirmed. This result also signifies that larger board can be effective monitoring specifically to defend against the continuation of inappropriate CEO compensation in particular industry.



**Table 5: Regression results of corporate governance and CEO pay**

Variables	Predicted sign	(1) CEO PAY		(2) BASIC PAY		(3) BONUS		(4) OTHER ALLOW		VIF
		Coefficient	t-stat	Coefficient	t-stat	Coefficient	t-stat	Coefficient	t-stat	
BSIZE	+	-4.224*	-1.789	-4.599**	-2.597	-0.260	-0.318	1.887	1.467	1.597
BIND	-	-3.013	-0.979	1.019	0.395	-0.783	-0.657	-1.791	-0.915	1.333
SPONSOR	-	-0.050***	-3.203	-0.056***	-4.484	-0.007	-1.056	-0.006	-0.696	1.195
INSTOWN	-	0.007	0.350	-0.007	-0.431	-0.001	-0.213	0.034***	3.016	1.177
FOREIGN	+	0.010	0.407	0.021	1.086	0.001	0.126	-0.003	-0.237	1.611
ROE	+	0.031	1.490	0.090**	2.429	0.057***	3.143	0.090***	3.190	1.225
MTB	+	0.579*	1.840	0.442	1.554	0.245**	2.013	-0.248	-1.197	1.272
GROWTH	+	-0.010	-0.680	0.000	0.010	-0.007	-1.134	0.003	0.332	1.168
FSIZE	+	3.661***	7.606	1.487***	3.795	0.394*	1.917	1.066***	3.714	1.414
LEV	?	5.381**	2.446	3.660**	2.307	0.791	1.061	3.255***	2.835	1.566
MSHARE	+	0.088	1.182	0.098*	1.823	0.011	0.462	-0.015	-0.395	1.216
Constant	?	-6.257	-1.562	0.596	0.196	-1.324	-0.865	-7.657***	-3.474	
Observations		238		180		160		177		
R <sup>2</sup>		0.334		0.306		0.168		0.254		
Adjusted R <sup>2</sup>		0.301		0.261		0.106		0.205		
F		10.242***		6.766***		2.730***		5.150***		
Durbin-Watson		1.937		1.784		1.710		2.265		

\*\*\* Significance at the 1% level.

\*\* Significance at the 5% level.

\* Significance at the 10% level

However, the coefficient of board independence ( $\beta = -3.013$ ,  $p > 0.10$ ) is negative (though not significant statistically) which is in line with the prediction of the study. This result is consistent with Capezio et al. (2011) and Kent et al. (2018) who documented insignificant negative effect of board independence on CEO compensation. This implies that the presence of independent director on the corporate board can be regarded as useful monitor in protecting the shareholders' interest from the detrimental action of agents. However, as the coefficient is not significant statistically, the second hypothesis is not confirmed.

With respect to ownership structure variables, only sponsor and director ownership displays significant negative ( $\beta = -0.050$ ,  $p < 0.01$ ) relationship with CEO pay, which is in line with the fourth hypothesis of the study. Therefore, the fourth hypothesis of the study is confirmed. This finding is also consistent with the findings of Ozkan (2011). It also implies that the strong presence of founder and director in the ownership structure restrain top executives from extracting irrational compensation from the entity. As the coefficients of institutional ( $\beta = 0.007$ ,  $p > 0.10$ ) and foreign ( $\beta = 0.010$ ,  $p > 0.10$ ) ownership are not significant statistically, therefore the third and fifth hypotheses are not confirmed. However, the direction of relationship between foreign ownership and CEO pay is in line with the assumption of the study.

Only MTB ratio is found to be significantly associated ( $\beta = 0.579$ ,  $p < 0.10$ ) with CEO pay among the firm performance variables, implying that market performance has positive effect on CEO pay. Firm size is also significantly and positively associated ( $\beta = 3.661$ ,  $p < 0.01$ ) with CEO pay, signifying that larger firms are, on average, paying higher compensation to their CEOs. Moreover, the same result is also displayed by the regression table for leverage ( $\beta = 5.381$ ,  $p < 0.01$ ), indicating that highly levered firms are, on average, paying higher compensation to their CEOs. The underlying cause of such payment might be associated with the fact that leverage can have favorable effect on the efficiency and performance of financial institutions (Kyereboah-Coleman, 2007; Margaritis and Psillaki, 2010) as they need substantial funds to lend.

Model I of Table V explains significant variations in total CEO pay as the value of Adjusted  $R^2$  of the model is 0.301. The model also fits very well as its F value is positive and significant (10.242,  $p < 0.01$ ).

Model 2 of Table V uses basic pay as the dependent variable. The results are identical for majority of the variables as depicted in Model 1 with few exceptions. ROE is positively and significantly associated with basic pay whereas MTB shows the identical relationship with total CEO pay. Moreover, the extent of market share shows a significant positive association with basic pay whereas the association was not significant with total CEO pay.

Model 3 uses bonus component of CEO pay as dependent variable. Interestingly, the results show significant positive associations of bonus only with ROE and MTB and a weak significant association with firm size. However, all other variables including the board characteristics and ownership structure variables failed to display any significant association with bonus. This result signifies that the extent of bonus depends on both accounting and market based firm performance.

In Model 4, other allowance is used as the dependent variable. In this model, institutional ownership, firm size, ROE and leverage are positively and significantly related with other allowance. All other variables failed to exhibit significant association with other allowance. The second, third and fourth models also explain significant variations (Adjusted  $R^2$  are 0.261, 0.106, and 0.205 respectively) and fit very well ( $F= 6.766, 2.730, 5.150$  respectively,  $p < 0.01$  in all cases).

## 6. Validity and reliability analyses

OLS is considered to be an optimal estimator provided that the classical linear regression assumptions are met (Berry, 1993; Krueger and Lewis-Beck, 2008). The six accustomed assumptions of OLS regressions are linearity, normality, homoscedasticity, multicollinearity, independence of residuals, and undue influence (Berry, 1993; Schumacker et al., 2002). As the present study uses OLS regression model to test the hypotheses, the study further tests for each of the assumptions of OLS regression and finds that these assumptions are met by the results of the study.

The relationship between the dependent variable and majority of the independent variables is fairly linear (1). The VIF of all the models presented in Table V confirms the non-existence of multicollinearity since all the critical values (VIF) are below ten (10) (Greene, 2008; Field, 2009). Moreover, the values of Durbin-Watson statistic for all the models are between 1 and

3 which indicates that the values of the residuals are independent.

The study also finds non-existence of the problem heteroscedasticity. In other words, the results show the absence of obvious signs of funneling, indicating that the assumption of homoscedasticity is satisfied. The result also finds that the Cook's distance values for all observations are substantially below 1 which signifies the non-existence of significant outliers.

## 7. Conclusion, implications, and future research

The aim of this study was to examine the effect of CG variables on CEO compensation (as a gross figure as well as its components) in the context of listed financial companies in Bangladesh. The results demonstrated significant effect of several board characteristics and ownership structure variables on CEO pay. For example, the regression results displayed significant negative effect of board size on CEO pay which signifies the effectiveness of larger board in monitoring inappropriate extraction of compensation by top executives from company's treasury. Moreover, the results also confirmed a significant negative effect of sponsor and director ownership on CEO compensation which indicates that substantial stakes held by sponsors and directors can be regarded as effective monitor of top executive compensation.


The results of the study appear to have theoretical, policy, and managerial implications. From theoretical perspective, this study confirmed the tenet of resource dependency theory (between larger board and CEO pay) and agency theory (director ownership and CEO pay). From practitioner/managerial perspective, the results can be used to shape or reshape the capital structure and/or board structure to avoid irrational overpayment of CEO compensation. From policy perspective, regulators such as BSEC may get useful insights from these findings, specifically to take necessary initiatives to reinforce the role of independent directors on the corporate board in maintaining the interest of shareholders at large. Moreover, CG codes may be revised in the near future to ensure the active role of board in mitigating undue overpayment to top executives. International donors and financial institutions such as World Bank and International Monetary Fund may use the findings to suggest the

respective wing of the Government of Bangladesh to take necessary initiatives to mitigate undue under- or overpayment to the top executives.

The results of the study must be interpreted in the light of several limitations. First, the study focused only on listed financial companies. The picture of non-listed financial companies and companies operating in non-financial industries may be different. Accordingly, further research may be conducted to learn about the picture of non-financial industries. Second, the study does not deal with the problem of endogeneity. The effect of CEO pay on firm performance has been evidenced in several previous studies. However, since the firm performance variables have been included in the models as control variables, therefore the effect of such variables on the fundamental dependent variable (CEO compensation) is expected to be immaterial. Finally, the reliability of the results depend on the accuracy of the annual report data since the study collects all the necessary data from the annual reports of listed financial institutions.

Despite these limitations, the present study expects to enrich the extant literature of CG specifically by presenting the effects of board characteristics and ownership structures variables on CEO compensation (and its components) using the context of an emerging and developing economy.

## Note

**I.** The detailed results in support of each of the assumptions of OLS regression will be available from the author upon request via email. 

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