

**EFFECTIVENESS OF CORPORATE GOVERNANCE IN ENHANCING  
FIRM PERFORMANCE: A SECTORAL STUDY FROM THE DHAKA  
STOCK EXCHANGE****Dr. Rafiqur Rahman Chowdhury**

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**Abstract**

Well-managed corporate governance mechanisms play an important role in improving corporate performance. Good corporate governance is fundamental for a firm in different ways; it improves company image, increases shareholders' confidence, and reduces the risk of fraudulent activities. This research aims to investigate the relationship between corporate governance and firm performance in a sample of 58 companies listed on the Dhaka Stock Exchange (DSE) using the data of 2016-2021. For this objective, this study used a number of corporate governance indices, including board size, board independence, members of the audit committee, and board effectiveness. The impact of those indices has been analyzed on the performance indicators of a firm like EPS, ROA and ROE. In this research, firm size and leverage ratio serve as control variables. In addition, the influence of independent factors on dependent variables has been analyzed using multiple linear regression. From the regression, the study found that board independence is a solo factor that is significant on the firm performance and has a positive impact. This research also observed no statistically significant correlation between Board Size

**Keywords:** Corporate Governance (CG), ROA, ROE, EPS, Firm Performance, Board Effectiveness, and Audit Committee on the firms' performance.

**Introduction**

The association between the performance of firms and corporate governance is crucial. Good corporate governance, one of the most often debated topics in international finance, is crucial for the success of both economical and institutional changes (Akbar, 2015). Companies with strong corporate governance, according to Black, Jang, and Kim (2006), outperform than with weak governance. However, the results are not definite. Many authors (Leng, 2004; Xu & Wang, 1999; Brown & Caylor, 2004; Cheema & Din, 1970) found a positive relationship between firm performance and corporate governance in their literature but other researchers (Larcker, Richardson, & Tuna, 2007; Kosnik, 1987) reveals that there is no significant relationship between these facts. Based on research an effective board of directors can greatly minimize agency expenses which also supports another claim that there is a positive relationship between corporate governance and firm performance. A large sample of US corporations (Brown & Caylor, 2004) found a significant association between corporate governance

and the firm's performance, dividend payout, and valuation. Similarly, Lee, Rosenstein, Rangan, and Davidson (1992) noted that the existence of external directors boosts stockholder wealth in management buyouts (Lee et al., 1992). Weisbach (1988) also discovers that when presented with outside directors, Chief Executive Officers are more inclined to step down due to poor firm performance (Weisbach, 1988). Beasley (1996) demonstrates that the existence of outside directors and an audit others, in contrast to this research, have not been successful in demonstrating a powerful association between the aspect of corporate governance and firm performance. In particular, Larcker et al. (2007) found no consistent relations between corporate governance and firm performance, even if they acknowledge that it may be challenging to develop accurate and trustworthy measures of corporate governance (Larcker et al., 2007). In addition, Bhagat and Black (1998) discover no association between the proportion of outside directors and Return on Assets (ROA) or turnover ratio (Bhagat & Black, 1998). According to Yermack (1996), who focuses on another facet of the board of directors, there is a negative link between firm performance and board size (Yermack, 1996). Although the relation of firm performance with corporate governance remains uncertain, it is a standard exercise for businesses to create a board of directors to oversee operations and protect shareholders (Kosnik, 1990). Additionally, corporate economies in developing countries vary regularly from those in more established ones, like the USA and the UK, in terms of dynamics and development. Examples of the organizational arrangements that differ between developed and developing countries include the existence of fundamental legal systems, lower market sizes, corporate ownership, political stability, and the structure of individual economic systems (Gul & Tsui, 2004).

The research conducted on underdeveloped nations has shown contradictory findings. For instance, (Leng, 2004) shows that board independence, ownership concentration, and leverage have a detrimental impact on the performance of Malaysian enterprises. However, they find that board size and the presence of institutional investors positively affect the performance of firms. Using data from Chinese enterprises, Xu and Wang (1999) established a favourable association between corporate governance and firm performance (Xu & Wang, 1999). Bangladesh, another emerging nation, is considered in this research to figure out the correlation between board features and business success. Another fact why Bangladesh, as it varies significantly in terms of institutional structure of the two emerging nations, Malaysia and China. Additionally, Bangladesh, situated in South-East Asia, has distinct natural qualities along with political instability and economical vulnerability. In contrast to others, especially educational attainment, or political allegiance influence board selection, which emphasis is distinct? Now, Bangladesh offers an ideal setting for investigating the correlation of corporate governance with business performance.

Four categories comprise the remaining sections of the article. Section two (2) examines corporate governance in Bangladesh, analyzes pertinent literature, and proposes a number of testing hypotheses. The study plan is described in Section three (3). Section 4 presents the empirical results. Finally, section 5 concludes with a summary of the results and a description of conclusions.

**LITERATURE REVIEW**

Bangladesh is one of the most developing countries in this era. So the history of corporate governance is not very old in Bangladesh. About 60 years ago, there were few companies incorporated under the companies act. During the Bangladesh liberation war, many industries and business organizations were abandoned, and the government of Bangladesh took possession of some of these assets by establishing the Bangladesh Chemical Industries Corporation (BCIC) and the Bangladesh Steel and Engineering Corporation (BSEC). After the war, during the 1980s, the government of Bangladesh took the privatization policy and after that, the private sector played a significant role in the economic growth (Bhuiyan, Ullah, & Biswas, 2007). Without any corporate scandals, the stock market of Bangladesh was crushed in 1996 which is remembered worth.

The Bangladesh Bank Order of 1972, The Bank Companies Act of 1991, The Companies Act of 1994, The Securities and Exchange Commission Act of 1993, The Financial Institutions Act of 1993, The Securities and Exchange Ordinance of 1969, and The Bankruptcy Act of 1997 are the corporate legal entities acts currently in Bangladesh (Siddiqui, 2009).

The International Standards on Auditing (ISA) and International Accounting Standards (ISA) were adopted by the Institute of Chartered Accountants of Bangladesh (ICMAB), which are known as the Bangladesh Standards on Auditing (BSA) and Bangladesh Accounting Standards (BAS). The Institute of Chartered Accountants of Bangladesh also published a report in 2003 name Corporate Governance in Bangladesh, considering the corporate governance scenario of Bangladesh that provide recommendations for practising corporate governance in Bangladesh (Bhuiyan et al., 2007).

Governance is derived from the Latin word "gubernare," which means "to steer," and a quote pertinent to this context is "He who governs sits quietly at the stern and is seldom seen to air" (Cadbury, 1993). According to Cadbury (1993), corporate governance is primarily concerned with maintaining a balance between social and economic objectives, as well as communal and individual objectives. The rules of corporate governance will improve the economy by discouraging fraud and mismanagement.

In 1992, Sir Adrian Cadbury produced a report which is the first report on corporate governance, titled "The Financial Aspects of Corporate Governance" and published by "The Committee on the Financial Aspects of Corporate Governance". Corporate governance is defined by the authors as the system by which organizations are directed and managed. Also, explain that the shareholders pick the board of directors and that the auditors will determine if proper corporate governance is in place based on their own evaluations (Cadbury, 1993). The OECD (Organization for Economic Cooperation and Development) has explained corporate governance as a non-governmental organization whose goal is to achieve the shareholder's ideals, rights, and duties. The study of Kosnik (1987) has diverse perspectives on corporate governance where the researcher concentrates on corporate governance's structure, methods, and procedures. This study concluded that the performance of firms in

developing or underdeveloped countries is not totally influenced by corporate governance variables (Kosnik, 1987).

Cheema and Din (1970) made research on the impact of corporate governance and firm performance. In that study, they used three variables and measured the firm performance using return on assets, return on equity, earnings per share, and the ratio of current ratio and book-to-equity ratio. This research showed that there is a positive relationship between firm performance and corporate governance (Cheema & Din, 1970). The study made by Dalton, Daily, Ellstrand, and Johnson (1998) found a significant and positive correlation between board independence and firm performance (Dalton et al., 1998). Larcker et al. (2007) found no consistent relations between corporate governance and firm performance, even though they acknowledge that it may be challenging to develop accurate and trustworthy measures of corporate governance. A large sample of US corporations (Brown & Caylor, 2004) found a significant association between corporate governance and the firm's performance, dividend payout, and valuation. Using data from Chinese enterprises, Xu & Wang (1999) established a favourable association between corporate governance and firm performance. Increasing the firm's value is directly related to good corporate governance, said Klapper and Love (2004). This fact is true in both emerging and established nations (Klapper & Love, 2004).

The corporate governance guideline, 2012 was focused on a comparative analysis of the corporate governance of Bangladesh done by Rahman and Khatun (2017). The guideline includes some qualifications, criteria, and statements for independent directors as well as for director reports. This research also discloses some mandatory aspects like the separation of CEO duality and chairman. This study also suggests some rules and regulations such as performance evaluation of independent directors and board, risk identification methods, reporting systems, etc., that should be added to the corporate governance practice of Bangladesh (Rahman & Khatun, 2017). Another study made by Habib (2016) found that the CEO duality, compensation of board members, and female board members have a positive relation with the firm performance. The author also found that board size has a negative impact on firm performance (Habib, 2016). Along with that, another study by Rouf, (2011), found a significant positive relationship between independent directors and CEO duality with firm performance, measured by return on assets and return on equity, although a negative relation is found between the board size and audit committee with firm performance (Rouf, 2011).

Calculating the ideal number of board members is challenging. Based on the agency hypothesis, larger boards may make it harder to reach a consensus on important issues, which can have a negative impact on the organization's performance and efficiency. As a result, smaller boards are preferable (Fama & Jensen, 1983). It is more difficult for the firm to schedule board meetings and for the board to establish an agreement, according to Cheng (2008), therefore boards with fewer members are more efficient and have the ability to make decisions more quickly. The author claims that a larger board will make it simpler for the CEO to exercise dominance inside the board, giving the CEO more say in board decisions (Cheng, 2008). The resource dependency hypothesis

argues that having diverse and experienced professionals on the board leads to better business outcomes. Smaller boards have a positive correlation with business success because of the increased efficiency of communication between members (Guest, 2009). The study Deb, Sarker, and Siddique (2021) found that there has no statistically significant relationship between the board size and the performance of the firm. Eisenberg, Sundgren, and Wells (1998) came to a similar conclusion for a sample of 879 Finnish small private enterprises when they examined the correlation between board size and performance as assessed by return on assets (ROA) while Rouf (2011) found a significant negative relation between them.

The effectiveness of the board's monitoring role is therefore dependent on the board's autonomy, size, and makeup. Most of the research on the topic is empirical and takes the present board's governance structure as a given phenomenon before examining its effect on the performance of businesses (John & Senbet, 1998). The study made by Beasley (1996) determined that the audit committee has a major influence on the firm's performance since it minimizes the business's financial misstatement, and so improves firm performance. Deb et al. (2021) found a negative correlation between the audit committees and return on assets and return on equity. The audit committee has been shown to have a good effect on a firm's performance, according to Klein (1998). Another study made by Rouf (2011) found that there is no significant relationship between the audit committee and the firm performance.

Many efforts to improve corporate governance mainly focus on increasing board independence. This is because boards in publicly traded companies are better equipped to execute their oversight duties, the likelihood of reduction of management collusion so that business resources are protected from being misused (Black et al., 2006). Independent directors, in accordance with agency theory, boost firm performance by providing objective oversight and channeling specialized knowledge toward serving the business's and its shareholders' best interests (Fama & Jensen, 1983). According to research by Duchin, Matsusaka, and Ozbas (2010), a firm's performance improves when the board of directors is not tied to the management of the firm in any way. Independent directors, they said, are better able to safeguard shareholder interests, reduce the impact of agency conflicts, and ensure the most efficient use of the firm's resources since they are not financially tied to management and are thus unbiased. The study was made by Dalton et al. (1998) who found a significant and positive correlation between board independence and firm performance.

However, an investigation by Yermack (1996) and Klein (1998), which contradicts Dalton et al. (1998) claims that a high level of board independence has a negative effect on how well a firm performs. According to Denis and Sarin (1998), if firms significantly increased the share of independent directors, their stock price returns would be above average (Denis & Sarin, 1998). It has also been suggested that increasing the number of independent directors does not lead to better overall business results (Hermalin & Weisbach, 1991). However, Rouf (2011) found significant positive relation of independent directors with firm performance.

The duality of the CEO weakens the board's ability to effective supervision of management and increases the

Possibility of the CEO's undue influence (Jensen, 1993). The stewardship idea posits that having two CEOs allows more rapid and effective decision-making regarding the dynamism of a firm's external environment (Boyd, 1995). Past research observed a connection between having a CEO who serves in multiple roles and increased firm success. Separating the roles of CEO and chairman does not have an impact on corporate performance, as shown by Omran, Bolbolc, and Fatheldin (2008) although Rouf (2011) found a significantly positive relationship between the CEO duality and firm performance. According to the research by Haniffa and Hudaib (2006), having two CEOs may have a detrimental effect on a firm's performance, while having two independent boards can improve performance significantly. They concluded that the dual nature of the situation is due to loopholes in the law that allowed for lax oversight of businesses' internal control units. The study of Rostami, Rostami, and Kohansal (2016) on the Tehran Stock Exchange, is to identify the effect of corporate governance on stock return and return on assets. For that, they used 469 firms and collect samples as yearly observations for 7 years. They used the least square method to find out the effect. The authors found that there is a significant positive relationship of return on assets with the variable of board independence, ownership concentration, CEO tenure, and CEO duality (Rostami et al., 2016). On the other hand, Kumalasari and Pratikto (2018) made a study to identify the direct effect of good corporate governance on corporate value, good corporate governance on return on assets and return on equity, and the indirect effect of good corporate governance by using return on assets and return on equity. In that study, they found that good corporate governance has a significant positive effect on return on assets, and return on assets has a significant positive effect on corporate value (Kumalasari & Pratikto, 2018).

The study by Brown and Caylor (2008) investigate the dataset from ISS (Institutional Shareholder Service) and Found 51 provisions of corporate governance. In this study, authors select 6 provisions of corporate governance and use a regression model to identify the effect. They found a significantly positive relationship between return on assets and corporate governance provisions (Brown & Caylor, 2008). On the other side, a study by Bhagat and Black (1998) found that there is no significant relationship between the return on assets and outside directors. Another research by Sheikh, Wang, & Khan (2013) investigates the impact of corporate governance on Pakistani firms' performance. The authors used board size, outside directors, Chief Executive Director Duality, ownership concentration, and managerial ownership as influential factors. This study concluded that board size is significantly positive with return on assets, whereas outside directors are negatively related. Moreover, the study also found that leverage is negatively related to the return on assets (Sheikh, Wang, & Khan, 2013). Another study by Deb et al. (2021) found a positive relationship between corporate governance and return on assets.

A study of board characteristics and earnings per share to identify the effects of corporate governance was done by Shittu, Ahmad, and Ishak (2016). For that analysis, they used 6-year period data and used ordinary least square regression. This study found that EPS is significant at 1% level of significance and has a relationship between board size, and sharia board meetings, but found a negative relationship between EPS and sharia board size (Shittu

et al., 2016). However, Deb et al. (2021) study found no statistically significant relationship between board size and the performance of the firm, a negative correlation between the audit committee and return on assets and return on equity, and lastly a positive relation between corporate governance and return on assets. Only a few researchers like Shittu et al. (2016); Sheikh et al. (2013) show the relationship between corporate governance and earnings per share. There is no research in Bangladesh showing the relationship between corporate governance and earnings per share. This study fills the research gap by showing the relationship between corporate governance and earnings per share.

### MATERIALS AND METHODS

#### Variable Description

Many authors use different types of variables to identify the impact of corporate governance on firm performance. Here are a few dependent and independent variables. The dependent variables are: return on assets, return on equity, and earnings per share. The independent variables are board size, board independence, audit committee, and board effectiveness. The following variables used in this study are discussed concisely:

#### Dependent Variables

**Return on Asset:** (ROA) is a ratio used to determine how much net profit may be generated from all assets held and invested by a business (Kumalasari & Pratikto, 2018). It is the ratio comparable with net income to total assets (Ahmed, Sultana, Chowdhury, Akhter, & Alam, 2017; Makhoul, Laili, Basah, & Ramli, 2017). In a study, Andreou, Louca, and Panayides (2014) calculated the return on assets by dividing the total assets by operating profit before depreciation and used the annual data for that calculation (Andreou et al., 2014). The formula is –

$$\text{Return on Assets (ROA)} = \text{Net Income} / \text{Total Assets}$$

**Return on Equity:** (ROE) is the ratio of a firm's net income to its total equity (Kumalasari & Pratikto, 2018). Return on equity is the ratio that is comparable to net income to total equity (Buallay, Hamdan, & Zureigat, 2017; Ahmed et al., 2017). The formula is –

$$\text{Return on Equity (ROE)} = \text{Net Income} / \text{Total Equity}$$

**Earnings Per Share:** (EPS) is the proportion of a firm's net income allocated to every outstanding share of ordinary stock (Jorgensen, Lee, & Rock, 2013). Earnings per share is the ratio that is found to be net income divided by the number of total outstanding shares (Ahmed et al., 2017). The formula is –

$$\text{Earnings per Share (EPS)} = \text{Net Income} / \text{Weighted Average of Shares Outstanding}$$

#### Independent Variables

**Board Size (BS):** It is the total member, represents in number, of executive and non-executive directors on the board (Deb et al., 2017; Samaduzzaman et al., 2015).

**Board Independence (BI):** The proportion of independent non-executive directors on the board indicates the number of independent directors (Fama & Jensen, 1983).

**Audit Committee (AC):** The committee which oversees the firm's financial statements and reporting and the measurement is how many members are in the audit committee (Samaduzzaman, Zaman, & Quazi, 2015).

**Board Effectiveness (BE):** It is the frequency of meetings held by the board of directors that is measured by the number of board meetings held in a year (Makhlouf et al., 2017; Arora & Sharma, 2016).

### Control Variables

**Firm Size (FS):** It is the total assets of the firm, which is measured by the natural logarithm of the total assets (Mwambuli, 2019; Ahmed & Hamdan, 2015).

**Firm Leverage (LEV):** It is the portion of debt in a capital structure which is measured by the Total Debt/Total Assets (Mwambuli, 2019; Ahmed & Hamdan, 2015).

### Hypotheses Development

Deb et al. (2021) found that there has no statistically significant relationship between board size and performance of the firm. On the other hand, Rouf (2011) found negative relation of board size and firm performance. Another study made on Saudia Arabia by Buallay et al. (2017) that used data from 2012 to 2014 for 171 listed companies. In that study, they found that the largest shareholder and independent directors have no significant impact on firm performance. Kosnik (1987) showed that the performance of firms is not totally influenced by corporate governance variables. This finding also support the study made by Rouf (2011). In that study Rouf (2011) found that there is no significant relationship between audit committee and firm performance. In all empirical studies, discussed in review, researchers try to find a relation between a CEO who serves in multiple roles with firm success. They also focus on the separation roles of CEO and chairman that have no impact on corporate performance (Omran et al., 2008). Based on the above discussion, the hypothesis is made:

**H<sub>0</sub> = the corporate governance variables have no impact on the firm's performance**

Fama and Jensen (1983) note that controlling agency expenditures is one of the essential responsibilities of the board of directors (Fama & Jensen, 1983). Dalton (1998) consider that larger board of director has a valuable impact on the firm performance and decision-making. In contrast, Lipton and Lorsch (1992), Beasley (1996), Jensen (1983), believe that small board of director has the greatest impact on decision-making and make meeting efficient and everyone can give their opinion properly which also affect the firm performance. Depending on the above discussion, the hypothesis is made:

**H<sub>1a</sub> = There is a significant relationship between the board size and the firm performance.**

Fama and Jensen (1983) contend that the independence of the board is the most effective internal control tool for observing top-level management. Effective board autonomy has the biggest influence on the success of the firm (Fama & Jensen, 1983). On the contrary, Conyon and Peck (1998) demonstrated that independent directors are outside directors who have less impact on performance. Because they have less inducement to observe the management and to defend the shareholder rights. Based on the following discussion, the hypothesis is made:

**H<sub>1b</sub> = There is a significant correlation exists between the percentage of independent directors and firm performance** The audit committee has a critical role in the performance of a firm's because it reviews the internal operations, recommends the appointment of external auditors, improves the financial statements' integrity, and observes the auditor's independence, and effectiveness helps to achieve the firm goals successfully and proficiently (Subramaniam, Stewart, Ng, & Shulman, 2013). Therefore, based on the following discussion the hypothesis is made:

**H<sub>1c</sub> = There is a significant relationship between the audit committee members and firm performance.**

The effectiveness of the board is determined by the number and frequency of board meetings conducted by the board of directors, as well as their diverse decisions on a variety of issues. According to Lipton and Lorsch (1992), when board members meet regularly, they are better able to address the firm's most pressing concerns and oversee management. Moreover, frequent board meetings generate the costs like travel expenses and director fees and waste managerial time (Arora & Sharma, 2016). Based on the following discussion, the hypothesis is made:

**H<sub>1d</sub> = There is a significant relationship between the board meeting frequency and firm performance.**

### Methodology

Up to 2022, the DSE (Dhaka Stock Exchange) will list 348 companies. The study's population consists of the entire number of listed companies. The sample for this research consists of companies listed on the DSE. For 2016-2021, data is gathered from a sample of 58 businesses across 13 sectors. Financial institutions (banks and non-bank) are excluded because this regulated sector is expected to have essentially distinct accrual and cash flow procedures. Additionally, this study remove companies that have inadequate data to estimate dependent and independent variables. The annual reports of companies are the finest source of information. Therefore, the majority of the study is based on secondary data acquired from the companies' annual reports and websites.

### Data Analysis Methods

Four qualities of the board of directors are regarded as fundamental independent variables in corporate governance (Fama & Jensen, 1983). They are (i) directors in the board (BS); (ii) independent directors, which represent board independence (BI); (iii) audit committee (AC); and (iv) board meetings conducted, which represent board effectiveness (BE).

The control variables are leverage and firm size. Several studies (e.g., Ramaswamy, 2001; Frank & Goyal, 2003) Have shown that the size of a firm might affect its success. Fama and French (1995), for instance, indicate that, on average, smaller companies have a lower ROE than bigger ones. As a result, the business size is one of the widely used variables to measure the performance of firms; the natural logarithm of total assets is used to measure firm size. Because leverage affects business performance via debt holders' monitoring actions, it is measured as total liabilities divided by total assets. ROA, EPS, and ROE are seen as dependent variables (Ahmed et al., 2017).

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## Research Article

Multiple regression analysis determines the relationship between explanatory factors and firm performance. In addition, the correlation analysis is performed to determine the relationship between variables. Three sets of regression equations are developed for hypothesis testing which are shown below-

$$EPS_i = a + b_1 BS + b_2 BI + b_3 AC + b_4 BE + b_5 FS + b_6 LEV + \varepsilon \text{ ----- (i)}$$

$$ROA_i = a + b_1 BS + b_2 BI + b_3 AC + b_4 BE + b_5 FS + b_6 LEV + \varepsilon \text{ ----- (ii)}$$

$$ROE_i = a + b_1 BS + b_2 BI + b_3 AC + b_4 BE + b_5 FS + b_6 LEV + \varepsilon \text{ ----- (iii)}$$

Where, EPS, ROA and ROE stand for earning per share, return on asset and return on equity, respectively. BS stands for board size, BI stands for board independence, AC stands for audit committee, BE stands for board effectiveness, FS stands for firm size and LEV stands for firm leverage. In above all three regression models, firm size and firm leverage variables are used as control variables.

## RESULTS AND DISCUSSIONS

### Descriptive Statistics

Table 1 shows descriptive statistics of all the variables. The data for 2016-2021 and select 58 companies from 13 sectors excluding the financial sector.

The mean of directors on the board is 8.21; among them about 2.16 are independent members which is more than the minimum level. The average size of the firms is 22.89, their EPS is 8.34 Taka, their ROA or Return on Assets is 4.01 percent, and their ROE or Return on Equity is 6.50 percent. With an average debt-to-equity ratio of 49 percent, firms in Bangladesh have a substantially elevated risk of default. Except for leverage ratio (LEV) and Members of Audit Committee (AC), the medians of all other variables are below their respective means. This suggests the sample of the variables are skewed. The standard deviations of all variables are acceptable and quite minimal.

Table 1. Descriptive Statistics of all variables for the period 2016-2021

	No. of Obs	Mean	SD	Median	Min	Max
<b>Dependent Variables:</b>						
Earnings per share (EPS)	696	8.34	16.63	2.20	-8.45	98.69
Return on assets (ROA)	696	0.04	0.14	0.03	-0.80	0.54
Return on equity (ROA)	696	0.06	0.54	0.05	-3.42	1.90
<b>Independent Variables:</b>						
Board Size (BS)	696	8.21	2.21	8.00	5.00	16.00
Independent Directors (BI)	696	2.16	0.87	2.00	1.00	5.00
Members of Audit Committee (AC)	696	3.84	0.93	4.00	3.00	7.00
Board Effectiveness (BE)	696	8.91	5.52	7.00	4.00	37.00

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### Control Variables:

Firm Size (FS)	696	22.89	1.69	22.81	18.57	26.06
Leverage (%) (LE)	696	0.49	0.22	0.49	0.04	0.86

Notes: The above table shows the descriptive statistics of the mentioned variables using data from 2016 to 2021. Row shows the name of the variables and the column shows the name of different statistics measures.

### Correlation Matrix

Table 2 shows the correlation among all the variables used in the study. Three dependent variables, EPS, ROA, and ROE, are found to be highly connected. A positive and strong correlation exists between independent directors and earnings per share, which indicates that firms are benefited from having independent directors. Mashayekhi and Bazaz (2008) found the same results. Board Effectiveness has a significant and positive correlation with size of business, but its relation with firm performance is insignificant. There is a positive and strong correlation between business size and performance. Mashayekhi and Bazaz (2008) also found the same results. The purpose of correlation analysis is to determine whether or not multicollinearity exists among independent variables. Such an issue does not present in this Correlation Matrix. Because each correlation between independent variables is below 0.70. According to Fidell et al. (1996), independent variables with correlations over 0.70 should not be included in multiple regression analyses due to multicollinearity.

Table 2. Correlation Matrix

	BS	BI	AC	BE	FS	LEV	EPS	ROA	ROE
<b>BS</b>	1								
<b>BI</b>	0.6263***	1							
<b>AC</b>	0.3300*	0.1805	1						
<b>BE</b>	0.0647	0.0065	0.0451	1					
<b>FS</b>	0.2709*	-0.1130	0.2390	0.2913*	1				
<b>LEV</b>	0.0058	-0.1110	0.0605	0.2102	0.1857	1			
<b>EPS</b>	0.1761	0.2793*	0.1647	0.1647	0.0239	0.3013*	1		
<b>ROA</b>	0.0970	0.1352	0.2334	-0.0039	0.3943***	0.3943***	0.0379	1	
<b>ROE</b>	0.0734	0.0832	0.2054	0.0126	0.3722*	0.3722*	-0.0919	0.5354***	1
	0.9726***	1							

Notes: Table 2 is the Pearson correlation matrix which describes the correlation among the variables. Here one star (\*) indicates that the correlation is significant at 0.05 level. Two stars (\*\*) indicate that the correlation is significant at 0.01 level. And three stars (\*\*\*) indicate that the correlation is significant at 0.001 level. On the other hand, ROA, ROE, and EPS represent the dependent variables return on assets, return on equity, and earnings per share. Also, BS represents board size, BI represents board independence, BE represents board effectiveness,

AC represents audit committee, FS represents firm size and LEV represents leverage. So these stars \*\*\*, \*\*, and \* indicate significance level at .001, .01, and .05 level based on a two-tailed test.

### Regression Results

In this study, ordinary least square (OLS) regression analysis is used to assess the impact of independent factors on dependent variables. The data range from 2016-2021 of 58 companies from 13 sectors excluding the financial sector is considered.

There are three regression results as the number of dependent variables is three. Table 3 points out the regression result of each three-regression model. The  $R^2$  value indicates that about 23%, 32% and 23% of the variation in EPS, ROA and ROE are explained by the independent variables, respectively, which corresponds to the result of Mashayekhi and Bazaz (2008). All three models on EPS, ROA and ROE are accepted at 5% significance level. The coefficients of board independence has statistically significantly positive relationship with EPS after controlling the effects of firm size and firm leverage. This means that board independence impact on firm performance. However, there is no statistically significant result for board size, audit committee, and board effectiveness. That means no impact of audit committee, board effectiveness and leverage on the firm performance.

Table 3. Regression Result for Firm Performance (EPS, ROA, ROE)

	<b>EPS</b> <b>(T-Stat)</b>	<b>ROA</b> <b>(T-Stat)</b>	<b>ROE</b> <b>(T-Stat)</b>
Intercept	-96.1445** (-3.1406)	-0.9595*** (-3.9501)	-3.4052** (-3.4514)
BS	-1.9384 (-1.4387)	-0.0195 (-1.8204)	-0.0643 (-1.4805)
BI	9.1832** (2.8143)	0.0537* (2.0754)	0.1624 (1.5440)
AC	1.0965 (0.4650)	0.0243 (1.2964)	0.0803 (1.0564)
BE	-0.2954 (-0.7484)	-0.0026 (-0.8448)	-0.0090 (-0.7048)
FS	4.2798** (2.9619)	0.0458*** (3.9908)	0.1567** (3.3655)
LEV	2.2045 (0.2286)	-0.1507 (-1.9703)	-0.3446 (-1.1089)
R2	0.2292	0.3152	0.2271

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Adjusted R <sup>2</sup>	0.1385	0.2346	0.1361
F	2.5269*	3.9120**	2.4969*
No. of Obs	696	696	696

Notes: The above table shows the regression results derived from  $EPS_i = a + b_1 BS + b_2 BI + b_3 AC + b_4 BE + b_5 FS + b_6 LEV + \varepsilon$  (i),  $ROA_i = a + b_1 BS + b_2 BI + b_3 AC + b_4 BE + b_5 FS + b_6 LEV + \varepsilon$  (ii) and  $ROE_i = a + b_1 BS + b_2 BI + b_3 AC + b_4 BE + b_5 FS + b_6 LEV + \varepsilon$  (iii). Here, three star (\*\*\*) , two (\*\*) and one (\*) indicate significance level at .001, .01 and .05 level based on a two tailed test. Columns denote the dependent variables where EPS stands for Earning Per Share, ROA represents Return on Assets; ROE represents Return on Equity. And rows denote the independent and control variables, where, Independent variables are BS is the Board Size; BI is the Board Independence; AC is the Audit Committee; and BE is the Board Effectiveness;. Control variables are FS is the Firm Size; LEV is the Leverage.

The coefficients of board independence has a statistically significant relationship with ROA after controlling the effects of firm size and leverage. That means higher board independence has a positive impact on firm performance. On the other hand, the board size, audit committee, board effectiveness and leverage have no significant relationship on firm performance.

Lastly for ROE, only the coefficient of firm size has a statistically significant relationship that means the higher the firm size, the higher the impact of corporate governance on firm performance. And the other variables have statistically no significant relationship with firm performance. The above results are consistent with the findings of (Mashayekhi & Bazaz, 2008; Rashid, 2010; García Martín & Herrero, 2018; Shungu et al., 2014; Brickley & Zimmerman, 2010; Hunjra et al., 2018).

### CONCLUSIONS

This research examines the impact of corporate governance indicators on the performance of firms in the emerging Bangladeshi economy. In addition to EPS, ROA, and ROE as measures of firm success, the study consider board effectiveness, board independence, audit committee membership, and board size as corporate governance indices. Additionally this study consider firm size and leverage ratios as control variables. The research finally indicated that only the independence of the board has a meaningful correlation with the success of the firm. This indicates that there is a correlation between the board's independence and the firm's performance. Regarding board size, board effectiveness, and the audit committee, there is no meaningful influence on the firm's performance, indicating a negative association.

### REFERENCES

Akbar, A. (2015). The role of corporate governance mechanism in optimizing firm performance: A conceptual model for corporate sector of Pakistan. *Journal of Asian Business Strategy*, 5(6), 109-115.

- Andreou, P. C., Louca, C., & Panayides, P. M. (2014). Corporate governance, financial management decisions and firm performance: Evidence from the Maritime Industry. *Transportation Research Part E: Logistics and Transportation Review*, 63, 59-78.
- Arora, A., & Sharma, C. (2016). Corporate governance and firm performance in developing countries: Evidence from India. *Corporate Governance*, 16(2), 420-436.
- Brown, L. D., & Caylor, M. L. (2008). Corporate governance and firm operating performance. *Review of Quantitative Finance and Accounting*, 32(2), 129-144.
- Buallay, A., Hamdan, A., & Zureigat, Q. (2017). Corporate governance and firm performance: Evidence from Saudi Arabia. *Australasian Accounting, Business and Finance Journal*, 11(1), 78-98.
- Cadbury, A. (1993). The report of the Cadbury Committee on the financial aspects of corporate governance: The code of best practice. *Corporate Governance: An International Review*, 1(3), 124-124.
- Cheema, K., & Din, M. (1970, January 01). Impact of corporate governance on performance of firms: A case study of cement industry in Pakistan.
- Cheng, S. (2008). Board size and the variability of corporate performance. *Journal of Financial Economics*, 87(1), 157176.
- Conyon, M. J., & Peck, S. I. (1998). Board size and corporate performance: Evidence from European countries. *The European Journal of Finance*, 4(3), 291-304.
- Dalton, D. R., Daily, C. M., Ellstrand, A. E., & Johnson, J. L. (1998). Meta-analytic reviews of board composition, leadership structure, and financial performance. *Strategic Management Journal*, 19(3), 269-290.
- Deb, D. C., Sarker, A., & Siddique, F. (2021, February 03). Relationship between corporate governance and financial performance of banking industry in Bangladesh.
- Denis, D., & Sarin, A. (1998). Ownership and board structures in publicly traded corporations. *SSRN Electronic Journal*. Duchin, R., Matsusaka, J. G., & Ozbas, O. (2010). When are outside directors effective?. *Journal of Financial Economics*, 96(2), 195-214.
- Eisenberg, T., Sundgren, S., & Wells, M. T. (1998). Larger board size and decreasing firm value in small firms. *Journal of Financial Economics*, 48(1), 35-54.

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Fama, E. F., & French, K. R. (1995). Size and book-to-market factors in earnings and returns. *The Journal of Finance*, 50(1), 131-155.