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CORPORATE GOVERNANCE AND CAPITAL STRUCTURE BEHAVIOR: AN EMPIRICAL EVIDENCE FROM AN EMERGING ECONOMY OF BANGLADESH

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ABSTRACT

This study investigates the connection between corporate governance and capital structure. Panel data was gathered from the annual reports of 105 manufacturing businesses listed on the Dhaka stock exchange between 2013 and 2022. The GMM model is used to assess the connection between dependent and independent variables. This study reveals a positive association between AUCS, BS, and capital structure, which is statistically insignificant, with a slight correlation between BM and capital structure, a negligible correlation between CEOREM and capital structure, and FS with TDTA. The results indicate that Bangladeshi enterprises might still adjust and improve their financial status, even though their corporate governance framework is rather outstanding when compared to underdeveloped countries. This study also contributes to knowledge of corporate governance's impact on capital structure management and governance procedures, comparing financial firms in Bangladesh with non-financial firms. It provides data for decision-makers to evaluate the suitability of corporate governance reforms.

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1. INTRODUCTION

The importance of sound corporate governance is increasingly recognized due to potential conflicts of interest among participants in capital structure. Corporate governance is a strategy to enhance shareholder value by addressing agency problems through organizational structure (Ahmed et al., 2019; Gerged and Agwili, 2020; Ullah et al., 2019). Capital structure (CS) seems to have an influence, playing a critical role in determining the financing methods for companies (Haque et al., 2011). Effective corporate governance allows firms to be managed and controlled efficiently, comply with regulatory requirements, protect shareholders' interests, achieve their corporate objectives, and sustain economic growth (Elamer et al., 2020; Granado-Peiró & López-Gracia, 2017; Sheikh; Wang, 2012).

The globalization of business has led to a significant increase in the global discussion about corporate governance (CG). Due to the collapse of significant financial institutions, including Barings Bank in 1995, Enron in 2001, and Royal Ahold in 2003, the significance of corporate governance (CG) procedures in commercial companies has been evident since the early 1990s (Ullah, 2009). As corporate governance (CG) differs among nations and is impacted by economic circumstances, business practices, and educational systems, there is not a single (to the

best knowledge of the researcher), broadly recognized set of CG principles that apply to board structures. Developing and wealthy countries' CG practices differ greatly in a wide range of ways. Because of this, emerging countries need to design their corporate governance models that consider the unique political, cultural, educational, and technical contexts in which they find themselves (Mulili and Wong, 2011). Globally, academics have become more cognizant in recent years of the role that CG research plays in enhancing businesses' competitive edge and profitability.

Bangladeshis are now more conscious of corporate governance than they were a few years ago. Consequently, businesses now have to abide by the CG Rules, which became effective in February 2006 and are a component of the Dhaka Stock Exchange (DSE) listing requirements. According to Sharoar, Zahirul, and Arafat (2009), the majority of investors are prepared to put their money into businesses that adhere to sound corporate governance. According to Ullah (2009), the state of CG practices in Bangladesh is currently inadequate.

The majority of Bangladeshi scholars have concentrated their research on the performance of companies, employee behavior, and profitability. Academic research on the relationship between corporate governance practices and a company's capital structure has not been given much consideration. Most research outcomes in these studies are erratic and depend on a limited set of sample organizations and carefully selected, exceptional corporate governance traits.

As such, the necessity for this study has been created by few researches in this field (Ahmed et al., 2023; Achchuthan et al.,

2013; Haque et al., 2019). Additionally, this study aims to address a gap in the literature by providing insight into the important connections between corporate governance and company capital structure as well as the impact of corporate governance methods on capital structure.

2. REVIEW OF LITERATURE

Corporate governance, according to ROSC, is the framework, role, and process for the upkeep and oversight of organizations. The interactions between the board of directors, shareholders, management, and other stakeholders are all part of corporate governance. A company's external image is improved and its ability to obtain outside funding is expanded by sound corporate governance (Cadbury, 1992). Sanvicente (2013) states that the main objectives of corporate governance are to determine how a company may lower costs that arise from agency disputes and what strategies managers can use to improve the organization's performance.

Numerous studies (Ahmed et al., 2023; Zelalem et al., 2022; Bokpin et al., 2009) undertaken in many other industrialized nations have already examined the impact of corporate governance on a firm's capital structure. An experiential study largely looks at how ownership structure influences a firm's value and how effective governance affects an organization's overall performance, according to a thorough evaluation of the literature (Claessens, 2002) Corporate governance is fundamentally tied to a company's capital structure and financing decisions (Graham and Harvey, 2001; Litov, 2005). According to Liao (2012), Effective governance supports companies in managing their information efficiently, thereby

reducing the overall cost of capital and facilitating swift and sound capital structure decisions. Nonetheless, the goal of the literature review is to have a better understanding of the connection between corporate governance and the capital structure of listed companies on the Dhaka Stock Exchange (DSE) of Bangladesh.

The choice of capital structure is essential since it has a direct impact on a company's profitability (Kajanathan, 2012). Velnampy & Aloy Niresh (2012) state that one of the most important components of a company's financial strategy is the effective selection and utilization of capital. According to Colombage (2007), the efficacy of debt is enhanced by the presence of a well-developed capital market, financial intermediaries, corporate governance, and the legal protection provided by a nation. A business organization's financial condition would depend on the resources it owns and the obligations it has to meet. Businesses engage in a variety of activities to turn a profit and create capital for future expansion. For these kinds of operations, finance is seen as the most crucial component (Velnampy, 2006). Conversely, recent regulatory changes in Sri Lanka and corporate governance procedures may influence capital structure decisions for listed manufacturing businesses, with board committees significantly influencing firm capital structure and governance practices affecting 34% of companies (Kajanathan, 2012).

However, data from both industrialized and developing countries are included in the financial literature's research on board size. There are several different conclusions from the research. For instance, Abor (2007) examined the relationship

between capital structure decisions made by Ghanaian listed businesses and corporate governance using multiple regression analysis. The results indicated a positive association between board size and capital structure decisions because a larger board size promotes the adoption of a high-debt policy. A varied board size combines the range of information that is helpful in capital structure decisions, claim Lipton and Lorsch (1992). Consequently, Jaradat (2015) also noted that there is a positive and significant relationship between the capital structure decision and the size of the board. Hart (1995) found an inverse correlation between the choice of capital structure and board size. The larger board size makes decision-making more challenging (Abor and Biekpe, 2007; Uwuigbe, 2014; Adegbile, 2015). Achchuthan et al. (2013) looked into the relationship between the leverage structure of 28 industrial businesses listed on the Colombo Stock Exchange and the size of the board. Larger boards, according to the authors, would allow them to put more pressure on managers to keep their restricted leverage; hence, the outcome also confirms the conclusions of Hewa Wellalage and Locke (2012). Nevertheless, there was no association found in the data between a leverage ratio and board size. The makeup of the board is thought to be a significant and advantageous aspect that affects decisions on capital structure (Abor 2007; Somathilake and Kumara 2015). Adegbile (2015) and Uwuigbe (2014) first look at the relationship between corporate governance traits and capital structure decision-making, from which they infer the negative relationship between board composition and capital structure.

Moreover, eight supervisory board meetings a year are considered to be economically significant (Doan & Nguyen,

2018). Frequent board meetings may indicate that the board is keeping a close eye on the company as a whole (Conger et al., 1998). More frequent meetings mean closer supervision of senior management. As a result, agency expenses may decrease, which will enhance business performance. According to Vafeas (1999), there is a negative correlation between the total number of board meetings and company performance. Nonetheless, a positive and substantial correlation was shown between board meetings and business performance by reducing the influence of firms' leverage (Bashir & Asad, 2018). The aforementioned association is positive and substantial, according to findings by Grove et al. (2011) and Bansal et al. (2023). The empirical literature provided on board meetings relates directly to our study by establishing a link between the frequency and impact of board meetings and corporate financial structure, particularly leverage. Studies like those by Vafeas (1999), Bashir & Asad (2018), and others suggest that more frequent board meetings, which imply closer supervision and potentially lower agency costs, could influence a company's capital structure decisions, including its debt ratios. By exploring how board meeting frequency impacts the total debt-to-assets ratio and the long-term debt-to-assets ratio in Bangladesh, this research will add to the understanding of governance mechanisms' role in shaping financial policies in emerging economies.

Furthermore, Strong corporate governance is often said to include the audit committee, particularly when it comes to enhancing the supervisory board's effectiveness in exercising control over senior management (Detthamrong et al., 2017). Larger audit committees, according to Li et al. (2012), will offer

greater oversight and monitoring, which can aid in finding and solving potential problems with the company's annual report. According to Benjamin and Karrahemi (2013), organizations with larger audit committees have higher free cash flows because they have better monitoring and fewer expenditures. This claim is supported by the pecking order theory. A positive and significant correlation was shown by Li et al. (2012) and Gerged & Agwili (2020) between the size of the audit committee and the disclosure of intellectual capital and corporate performance, respectively. On the other hand, (Ahmed et al., 2019; Detthamrong et al., 2017) have explained a negative and notable relationship between audit committee size and company leverage and performance. The empirical evidence on audit committee size offers valuable insights into corporate governance and capital structure behavior in Bangladesh. Studies suggest that larger audit committees enhance supervisory effectiveness, leading to better financial oversight and reduced agency costs. This is crucial for understanding the impact of audit committee size on debt ratios, as it affects firms' ability to manage financial risks and optimize capital structure. The conflicting findings regarding the relationship between audit committee size and leverage underscore the complexity of this dynamic, highlighting the need for a nuanced analysis within the context of Bangladesh's emerging economy.

Apart from all of these variables, the study model incorporates some control variables related to company characteristics that have the potential to impact capital structure. Trade-off theory states that there is a positive association between a firm's size and its debt ratio, with firm size being defined as the natural

logarithm of total assets (Feng et al., 2020). The current ratio, which is calculated by dividing total current assets by total current liabilities, is the second control variable. Detthamrong et al. (2017) discovered a negative relationship between the explanatory variable of businesses' leverage and the control variable of the current ratio. On the other hand, trade-off theory suggests that leverage and liquidity are positively correlated (Neves et al., 2020).

2.1 Research Gap

According to Claessens et al. (2002), inadequate corporate governance not only results in unsatisfactory company performance and risky financing practices, but also fosters macroeconomic crises like the East Asia crisis of 1997. According to Becht et al. (2002), there are several reasons why corporate governance is becoming more and more important. These include the global privatization wave of the previous 20 years, the reform of pension funds and the rise in private savings, the 1980s takeover wave, the deregulation and integration of capital markets, the 1997 East Asia Crisis, and a number of recent corporate scandals in the USA and abroad.

CEO compensation includes a fixed salary, short- and long-term incentives, and non-cash benefits (Bezuidenhout, 2016). Numerous studies (Jensen et al., 1976; Mehran, 1992; Berger et al., 1997) show that there is a positive correlation between CEO salary and company leverage, while Friend and Hasbrouck (1988); Friend & Lang (1988); and Wen et al. (2002) found a negative correlation, possibly due to ownership pressure. Additionally, Research suggests that CEO tenure influences corporate outcomes. Shah et al. (2009) propose that CEO

tenure affects organizational stability. Agency theory suggests CEOs become entrenched over time (Pascal Ndaki et al., 2018). Studies show mixed correlations between CEO tenure and capital structure: positive (Pascal Ndaki et al., 2018), and negative (Wen et al., 2002; Berger et al., 1997). Long CEO tenure may reduce leverage due to entrenchment (Berger et al., 1997).

Even though there is an extensive amount of literature on this topic, additional study is still required, especially in the context of developing markets like Bangladesh. The majority of research has focused on developed economies, despite the fact that there is an extensive body of literature analyzing the connection between corporate governance and capital structure.

While previous studies have looked at corporate governance and capital structure in Bangladesh, they did not specifically focus on the manufacturing sector. Our study could provide valuable insights into the unique dynamics of this crucial industry.

Previous studies have often focused on individual variables like board size or CEO tenure, but our analysis, combining board size, board meetings, CEO remuneration, and Audit committee size offers a more comprehensive picture of board dynamics and their impact on capital structure. Expanding beyond board size, our study could analyze the composition of boards (e.g., independent directors, expertise) and its influence on capital structure decisions. Existing literature didn't explore the relationship between CEO and board characteristics (remuneration, tenure), and their joint impact on capital structure could provide valuable insights. With a 10-year

sample range, our study allows for a more comprehensive understanding of the dynamic relationship between corporate governance and capital structure over time. it delves into how governance practices and their impact on capital structures evolve over time. Although the size of the audit committee is taken into consideration, more research on the composition of the committee and its function in monitoring financial decisions may provide additional insights.

By addressing these potential research gaps, this study contributes valuable insights to the understanding of corporate governance and capital structure in the Bangladeshi manufacturing sector.

3. RESEARCH METHODOLOGY

3.1 Research design

This study investigates and develops a relationship between corporate governance and capital structure. It looks into the way corporate governance elements affect the capital structure of manufacturing firms listed on the DSE from 2013 to 2022. There are 105 manufacturing companies in the sample. The primary source of secondary data for this analysis is the annual reports of the sample firms. The foundation of this research was developed through an analysis of both local and international literature. Panel data are used in this quantitative research project. Panel data has been collected between 2013 and 2022 from the annual reports of 105 manufacturing companies that were listed on the Dhaka stock exchange. We are unable to apply the OLS approach since endogeneity was discovered in our model. Consequently, to evaluate the relationship between

dependent and independent variables, the GMM model is employed.

3.2 Variables

In this study, there are eight variables. The independent variables used in this research are bore size, board meetings, CEO remuneration, CEO tenure, and audit committee size. The total debt-to-assets ratio and the long-term debt-to-assets ratio are used as the dependent variables. Firm size and current ratio are used as the control variables. Definitions of these variables are given below:

Table 1. Variables of the Study

Variables	Abbreviation	Measurements	Source
Dependent variables: Total Debt to Assets Ratio	TDTA	Total liabilities divided by total assets	(Sheikh & Wang, 2012)
Long-term Debt to Assets Ratio	LDTA	Long-term liabilities divided by total assets	
Independent variables: Board Size	BS	Natural logarithm of the number of supervisory boards	(Feng et al., 2020)
Board Meetings	BM	Number of meetings held by the board of directors annually	(Bashir & Asad, 2018)
CEO remuneration	CEOREM	Natural logarithm of CEO remuneration	(Crespí-Cladera & Gispert, 2003)
CEO Tenure	CEOT	Number of years that the CEO employed in this position	(Berger et al., 1997)
Audit Committee Size	AUCS	Number of audit committee members	(Li et al., 2012)
Control variables: Firm Size	FS	Natural logarithm of total assets	(Uwuigbe, 2014)

Current Ratio	CR	Ratio of total current assets divided by total current liabilities	(Detthamrong et al., 2017)

According to the table above summary, the research models are:

$TDTA_{it}$= βo+β_1 BS_{it}+β_2 BM_{it}+β_3 CEOREM $_{it}$+β_4 $CEOT_{it}$+β_5 $AUCS_{it}$+β_6 FS_{it}+ β_7 CR_{it}+e_{it}..... I

$LDTA_{it}$= βo+β_1 BS_{it}+β_2 BM_{it}+β_3 CEOREM $_{it}$+β_4 $CEOT_{it}$+β_5 $AUCS_{it}$+β_6 FS_{it}+ β_7 CR_{it}+e_{it} II

Where;

$TDTAit$ is total debt to assets ratio from i at t time, $LDTAit$ is Long-term debt to assets ratio from i at t time, $BSit$ is board size from i at t time, $BMit$ is board meetings from i at t time, CEOREMit is CEO remuneration from i at t time, $CEOTit$ is the number of years that CEO employed to this position from i at t time, $AUCSit$ is the size of the audit committee from i at t time, $FSit$ is a firm size from i at t time, $CRit$ is a current ratio from i at t time, βo is considered to be a constant, β_1–β_5 is coefficients for corresponding the explained variables and eit is error term from i at t time.

3.3 Model Specification

The connection between corporate governance and capital structure can be empirically estimated using a dynamic panel model, which takes into account data digenesis, autocorrelation, heteroscedasticity, and endogeneity issues. A lagged dependent variable is incorporated into the regression in

this project report. A model specification of this kind is necessary. We developed the system GMM (dynamic) model to determine the profitability of the banking industry in the Asian region based on the factors previously mentioned (Arellano & Bond, 1991), which were later improved by (Arellano & Bover, 1995) and (Blundell & Bond, 1998). The System GMM model is used for analysis by a number of authors in our literature review area, including Tan and Floros (2018) and Yao, Haris, and Tariq (2018). The GMM approach offers several benefits. For instance, the dynamic panel can identify time- and cross-sectional fluctuations in the model. Additionally, the approach helps to prevent cross-country regression bias. By using instrumental variables, the approach can produce estimators that are more accurate and exact. In conclusion, this methodology offers benefits, especially for panel data that includes a high volume of cross-sections annually over a short period.

The model is based on the following specifications.

$$Y=\beta_0 + Y_{it-1} + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + eit \quad \text{..... (III)}$$

Y= Explained variable of a firm

X = Explanatory variable of a firm

$\beta 0$= intercept for x variable of a firm

$\beta 1 - \beta 5$= coefficient for the explanatory variable x of firms, representing the nature of the relationship with explains variable y (or parameters)

e_{it}= The error term

The dynamic model of a specific variable can be expressed in:

Model -1: $TDTA_{it}$ = $TDTA_{it}$ = βo+$TDTA_{it-1}$ +$\beta_1(BS)$+$\beta_2(BM)_{it}$+$\beta_3(CEOREM)_{it}$+$\beta_4(CEOT)_{it}$+$\beta_5(AUCS)_{it}$+$\beta_6(FS)_{it}$+ $\beta_7(CR)_{it}$+e_{it} IV

Model -2: $LDTA_{it}$ = βo+$LDTA_{it-1}$ +$\beta_1(BS)$+$\beta_2(BM)_{it}$+$\beta_3(CEOREM)_{it}$+$\beta_4(CEOT)_{it}$+$\beta_5(AUCS)_{it}$+$\beta_6(FS)_{it}$+ $\beta_7(CR)_{it}$+e_{it} V

4. EMPIRICAL ANALYSIS AND FINDINGS

4.1 Unit Root Test (Levin-Lin-Chu)

The null and alternative hypotheses in a unit root test are as follows:

Ho: The series exhibits a unit root, indicating non-stationarity.

Ha: The series lacks a unit root, indicating stationarity.

Table 2. Unit Root Test

Variables	Test result	Remark
TDTA	0.0000	Stationary
LDTA	0.0000	Stationary
BS	0.0000	Stationary
BM	0.0000	Stationary
CEOREM	0.0000	Stationary
CEOTEN	0.0000	Stationary

AUCS	0.0127	Stationary
FS	0.0000	Stationary
LQ	0.0000	Stationary
INTR	0.0000	Stationary

A smaller p-value indicates stronger evidence to reject the null hypothesis. Based on the conventional significance level of 0.05, it can be concluded that all variables exhibit stationarity, as their p-values are below 0.05.

4.2 Shaprio-Wilk Test for Normality

The null hypothesis and alternative hypothesis for this test are as follows:

Ho: The data follows a normal distribution.

Ha: The data does not follow a normal distribution.

Table 3. Shaprio-Wilk test

Variable	Observation	W	V	Z	Prob>z
TDTA	1050	0.53670	303.210	14.179	0.00000
LDTA	1050	0.80024	135.737	12.185	0.00000
BS	1050	0.95560	29.273	8.379	0.00000
BM	1050	0.74096	170.797	12.755	0.00000
CEOREM	1050	0.99163	5.520	4.239	0.00001
CEOTEN	1050	0.90068	65.488	10.377	0.00000
AUCS	1050	0.94720	34.812	8.809	0.00000

FS	1050	0.99537	3.051	2.768	0.00282
LQ	1050	0.76403	155.588	12.524	0.00000
INTR	1050	0.89045	72.235	10.620	0.00000

Based On the output, the p values for all the variables are 0.0000 which is less than 0.05. We would reject the null hypothesis and conclude that data is not normally distributed.

4.3 Test of Multicollinearity

Table 4. Multicollinearity test

Variables	VIF	1/VIF
FS	1.30	0.767354
CEOREM	1.16	0.862099
CEOTEN	1.13	0.886199
BM	1.12	0.894625
AUCS	1.11	0.903857
INTR	1.06	0.947168
BS	1.02	0.979277
LQ	1.01	0.987014
Mean VIF	1.11	

The Variance Inflation Factor (VIF) for each variable is less than 5 (actually less than 2), indicating no multicollinearity between the independent variables.

4.4 Test of Heteroskedasticity

The following are the hypotheses for heteroskedasticity tests such as the Breusch-Pagan test or the White test:

Ho: The error variance is constant (Homoscedasticity).

Ha: The error variance is not constant (Heteroskedasticity).

Table 5. Breusch–Pagan Test

	Breusch–Pagan Test		**IM White Test**	
	chi2	Prob > chi2	chi2	Prob > chi2
TDTA	709.23	0.0000	39.75	0.6541
LDTA	139.65	0.0000	251.00	0.0000

Interpreting the given result, the Breusch-Pagan test indicates p-values less than 0.05 for all two variables (TDTA and LDTA), indicating that the null hypothesis of homoscedasticity is rejected and that heteroskedasticity is present in the model for the two variables. On the other hand, the white test indicates p-values less than 0.05 for only LDTA variables, but in the case of TDTA variables, p-values are greater than 0.05, which indicates the error variances are constant.

4.5 Autocorrelation Test

The hypotheses for the Wooldridge test for autocorrelation are as follows:

Ho: There is no first-order autocorrelation.

Ha: There is first-order autocorrelation.

Table 6. Wooldridge test

	F (1, 104)	Prob > F
TDTA	1.791	0.1838
LDTA	27.018	0.0000

Using the Wooldridge test, the p-values for TDTA variables are greater than 0.05. This indicates that the null hypothesis of no first-order autocorrelation for TDTA variables cannot be rejected. According to this test, there is no evidence of first-order autocorrelation in the model's residuals for TDTA variables. However, the p-values for LDTA variables are less than 0.05. This indicates that the null hypothesis of no first-order autocorrelation for TDTA variables can be rejected. According to this test, there is evidence of first-order autocorrelation in the model's residuals for LDTA variables.

4.6 Descriptive Statistics

Table 7. Descriptive Statistics

Variable	Observations	Mean	Std. Dev.	Min.	Max.
TDTA	1050	0.45225	0.34403	0.00975	8.78013
LDTA	1050	0.13207	0.13549	0.00374	0.72751
BS	1050	0.79627	0.11849	0.25527	0.9897
BM	1050	8.98095	6.1616	3.000	58.00
CEOREM	1050	6.64328	0.56321	5.20109	8.98128
CEOTEN	1050	12.07238	9.62304	1.000	48.00

AUCS	1050	3.77428	0.87628	3.000	9.000
FS	1050	9.70932	0.64350	7.85912	11.65431
LQ	1050	1.84597	1.41951	.012530	9.18584
INTR	1050	0.07742	0.02283	.0504	0.1172

The descriptive findings for the independent (corporate governance) and dependent (capital structure) variables are shown in the table. The overall debt-to-assets ratio has a mean of 0.452 and a standard deviation of 0.344. The lowest and maximum values of the total debt-to-assets ratio are 0.0098 and 8.78, respectively. In contrast, the long-term debt-to-assets ratio has a mean of 0.1321, and a standard deviation of 0.135. The maximum and minimum values of the total long-term debt-to-assets ratio are 0.728 and 0.0037, respectively. Board size ranges from a minimum of 0.255 to a maximum of 0.9897, with mean and standard deviation values of.796 and.118, respectively. The mean values of board meetings and CEO compensation are 8.98 and 6.64, respectively, with standard deviations of 6.16 and 0.563. Board meeting values range from 3.000 to 58.00, while CEO compensation is between 5.20 and 8.98. The CEO tenure has a minimum of 1 and a maximum of 48 years, with a standard deviation of 9.62 and a mean value of 12.07. The size of the audit committee ranges from 3.00 to 9.000, with a mean of 3.77 and a standard deviation of 0.876. The current ratio and firm size have mean values of 1.85 and 9.71, respectively, with standard deviation values of 0.644 and 1.42. The lowest and greatest values of liquidity are 0.013 and 9.19, while the minimum and maximum values for firm size are 7.86 and 11.65. In the end, the interest rate has a minimum of 0.05 and a highest of 0.117, as well as a mean value and standard deviation of 0.077 and 0.023, respectively.

4.7 Test for Endogeneity

Table 8. Durbin-Wu-Hausman test

	TDTA		LDTA	
	Prob > F	**Remarks**	**Prob > F**	**Remarks**
BS	0.0312	Endogenous	0.3973	Exogenous
BM	0.0122	Endogenous	0.0445	Endogenous
CEOREM	0.9062	Exogenous	0.2763	Exogenous
CEOTEN	0.0122	Endogenous	0.0445	Endogenous
AUCS	0.0122	Endogenous	0.0445	Endogenous
FS	0.0122	Endogenous	0.0445	Endogenous
LQ	0.0000	Endogenous	0.0565	Exogenous
INTR	0.0122	Endogenous	0.0445	Endogenous

The Durbin-Wu-Hausman (DWH) test posits an endogeneity hypothesis where;

Ho: assumes the absence of endogeneity.

Ha: suggests the presence of endogeneity.

The results of the endogeneity test show that some variables are endogenous, which means they are linked to the error term, and others are exogenous, which means they are not linked to the error term.

4.8 Correlation Analysis

Table 9. Correlation test

	TDTA	LDTA	BS	BM	CEOREM	CEOTEN	AUCS	FS	LQ	INTR
TDTA	1.0000									
LDTA	0.2313**	1.0000								
BS	0.0665**	-0.0114	1.0000							
BM	0.1154**	0.2298**	-0.0028	1.0000						
CEOREM	0.0318	0.0201	0.0170	0.0394	1.0000					
CEOTEN	-0.0364	0.0041	-0.0334	0.1417**	-0.0636**	1.0000				
AUCS	-0.0087	-0.0244	0.0788**	-0.0719**	0.2098**	-0.1870*	1.0000			
FS	0.1356**	0.1861**	0.1126**	0.2394**	0.3290**	-0.1797**	0.1457**	1.0000		
LQ	-0.2506**	-0.0633**	0.0317	0.0283	-0.0169	0.0074	0.0161	-0.0830**	1.0000	
INTR	-0.0755**	-0.0701**	-0.0469	0.0013	-0.0846*	-0.1122**	-0.1052**	-0.1297**	-0.0125	1.0000

Notes: ** Significant at 5% level; * Significant at 10% level.
Source: Prepared by the authors (2024).

Table 10. Multicollinearity test

Variables	VIF	1/VIF
FS	1.30	0.767354
CEOREM	1.16	0.862099
CEOTEN	1.13	0.886199
BM	1.12	0.894625
AUCS	1.11	0.903857

INTR	1.06	0.947168
BS	1.02	0.979277
LQ	1.01	0.987014
Mean VIF	1.11	

The data were checked for multicollinearity prior to being explained in terms of the Pearson correlation between the variables. According to Abebe Zelalem et al. (2022), The issue of multicollinearity cannot be taken into consideration if the tolerance value is more than 0.1 and the variance inflation factor (VIF) is less than 10. The table shows that this study is not affected by this issue. Gujarati and Porter (2009) further state that when a variable's correlation is more than 0.8, multicollinearity in the data set becomes a problem. Thus, the table showed that multicollinearity is unlikely to be a problem in this work.

Considering the table, again for the correlation matrix between all of the variables. With values of 0.0665, 0.1154, and 0.1356, respectively, the size of the supervisory board, board meetings, and company size exhibit a positive correlation with capital structure measurement at the 5 percent significance level. With a value of 0.0318, the CEO compensation has a positive but negligible relationship with the debt ratio as well. The size of the audit committee has a negative and negligible connection (value of -0.0087) with the capital structure measurement at the 10% level. The current ratio, which has a value of -0.2506, also has a negative relationship with the capital structure indication at 5% significance level. Additionally, with a score of -0.0364, CEO tenure shows a negative correlation. At a value

of -0.0755, the relationship between the interest rate and a capital structure indicator is, at last, significant and adverse.

4.9 Dynamic Panel Data (Two-Step GMM Approach):

To assess the validity of a GMM model, it is necessary to conduct several tests, including the Hansen test, the Arellano-Bond test, the examination of the upper and lower bound ranges, and the evaluation of Groups versus Instruments.

The conclusive outcome is presented here after the experimentation of various variable combinations.

Table 11. Two-Step GMM test

Variables	TDTA		LDTA	
	Coefficient	**P-Value**	**Coefficient**	**P-Value**
$TDTA_{t-1}$	.0568038	0.730		
$LDTA_{t-1}$			.7395937	0.000***
BS	.5533654	0.118	.0220733	0.494
BM	.0017404	0.857	.0009882	0.667
CEOREM	.0044234	0.925	.0022992	0.861
CEOTEN	-.0004912	0.930	.0015459	0.515
AUCS	.0488342	0.327	.0136569	0.247
FS	.0240231	0.821	-.0078872	0.813
LQ	-.0597988	0.057**	-.0019407	0.385
INTR	.5058693	0.498	-.0493523	0.849
No of obs.	945		945	
Instruments/Groups	66/105		48/105	
AR (1)	.278		0.000***	
AR (2)	.683		.953	
Hansen test	.605		.440	

Note(s): The dynamic panel data regression analysis employing the two-step system generalized

The method of moments is shown in this table (2SGMM). The symbols indicate a statistically significant
Correlation between ***, **, and * at the 1%, 5%, and 10% level.

The table also presents some diagnostics for the model. The number of observations is 945 for each model, and the groups/instruments ratio is 66/105 and 48/105, respectively, indicating a reasonable sample size for the analysis. The AR (1) and AR (2) p-values are shown to check for autocorrelation in the model. In the first model, the AR (1) p-value is greater than 0.001, suggesting the absence of first-order autocorrelation in the errors. However, the AR (2) p-values are relatively high, indicating no evidence of second-order autocorrelation. In the second model, the AR (1) p-value is less than 0.001, suggesting the presence of first-order autocorrelation in the errors. However, the AR (2) p-values are relatively high, indicating no evidence of second-order autocorrelation. Additionally, the Hansen test is conducted to assess the validity of the overidentification restrictions. In all models, the Hansen test's p-values are above 0.05, indicating that the model's over-identification restrictions are not rejected and the model is properly identified.

In model 1, the lagged value of TDTA has a statistically insignificant positive coefficient of.0568038 with a p-value of 0.730, indicating that past TDTA has not had a significant effect on the Current TDTA. This suggests that companies with a higher past TDTA don't affect the current TDTA.

Firstly, the results indicate a positive and statistically insignificant relationship (coefficient of 0.553) between the supervisory board's size and the capital structure (TDTA), as determined by the total debt-to-assets ratio. This result is

consistent with the recommendations of resource dependency theory and agency theory, which maintain that larger boards have a greater capacity for external activity.

The result with a coefficient of 0.00174 illustrates a positive and non-significant association between the annual number of meetings by board and capital structure (TDTA). Assuming a constant value for other potential determinants, a 1% raise in the supervisory board meetings brings about an increase of 0.174% in the total debt-to-assets ratio (TDTA). More clearly, an increase in annual board meetings resulted in an increase in debt financing that was used to increase capital in non-financial listed firms, particularly in Bangladesh.

CEO compensation has a positive correlation with the debt-to-assets ratio but is statistically insignificant. This implies that whether the CEO receives large or low compensation has no impact on the leverage ratio. This result is similar to a study by Wen et al. (2002) who found an insignificant association between CEO compensation and the debt-to-assets ratio. In other words, CEOs may prefer more debt when they have power and a significant number of shares. The positive result is similar to the studies by Berger et al. (1997), Mehran (1992), and Jensen and Meckling (1976).

The results indicate a negative and negligible correlation between the CEO's tenure and the overall debt ratio. This makes it quite apparent that established CEOs should not have any say over choices about capital structure. As a result of their greater pay and attractive incentives, they solidify their position. The negative result is in line with the findings of Berger et al. (1997), who discovered a negative relationship between the CEO's tenure and the overall debt ratio. The size of the audit committee has a positive correlation (coefficient of 0.049) and

is statistically not significant with respect to the overall debt-to-assets ratio. A 1% increase in the audit committee's size results in a 4.9% increase in leverage, assuming that all other variables stay the same. This conclusion implies that directors and managers can be effectively regulated and overseen in a way that directly affects the firm's leverage when the audit committee is large in size. Furthermore, an effective and efficient audit committee may enhance the performance of the company and lower the risk of fraud, conflicts of interest, and agency fees. The size of the audit committee has a favorable and substantial relationship with the performance and intellectual capital disclosure of the firm, according to research by Gerged & Agwili (2020) and Li et al. (2012).

In addition, three commonly known control variables for capital structure were included in the study model's estimation. This conclusion is consistent with the trade-off hypothesis, which suggests that the total debt ratio and company size should both be positive. The capital structure and business size are positively correlated. According to Feng et al. (2020), who also discovered a similar outcome, larger businesses are able to borrow more money due to their greater diversity and stable revenue streams. Thus, their bankruptcy-related expenditures are reduced. The debt-to-assets ratio is significantly impacted negatively by the current ratio, a second control variable. Neves et al. (2020) have explained a similar link by stating that companies with an adequate liquidity ratio can generate considerable cash flows, which can be helpful in meeting short-term commitments.

Under Model 2, the lagged value of LDTA is considered. It has a statistically significant positive coefficient of 0.7396 with a p-value of 0.0000. This indicates that past LDTA has had a

significant positive influence on current LDTA. Companies with a higher past LDTA may experience an increase in their current LDTA. In the second model, the finding shows that the association among the size of the supervisory board, board meetings, CEO remuneration, CEO tenure, and audit committee size is positive with respect to capital structure (LDTA) but also statistically insignificant with a coefficient of 0.022, 00098, 0.0022, 0.0015, and 0.0137, respectively, that is measured by the long-term debt to assets ratio (LDTA). Furthermore, three control variables have been used for estimating the study model, and they are widely recognized for capital structure. Firm size, liquidity, and interest rate are negatively related to the capital structure and are statistically insignificant.

5. CONCLUSION AND RECOMMENDATIONS

This research aimed to examine the impact of corporate governance on the capital structure of Bangladesh. To accomplish the goals of the study, an econometric model was developed to assess the relationship between the dependent and independent variables. A set of information was gathered from the yearly financial statements of 105 manufacturing firms that were traded on the Dhaka Stock Exchange between 2013 and 2022. Descriptive statistics, a correlation matrix, the variance inflation factor (VIF), and a GMM model are utilized to estimate the prior association. The long-term debt-to-assets ratio (LDTA) and the total debt-to-assets ratio (TDTA) determine the dependent variable, capital structure. On the other hand, corporate governance, which is regarded as an independent variable, is represented by five proxies: audit committee size (AUCS), CEO tenure (CEOTEN), CEO

remuneration (CEOREM), board size (BS), and board meetings (BM).

The findings indicate that board size and capital structure have a positive, statistically insignificant association. This result is consistent with the theories of agency and resource reliance, which hold that organizations with larger supervisory boards are better able to obtain money from outside sources, such as borrowing. The findings indicate a slight but favorable correlation between a capital structure indicator and a board meeting. More specifically, increased debt financing from more annual board meetings was used to generate money for non-financial listed companies, particularly in Bangladesh.

Furthermore, capital structure and CEO compensation have a statistically negligible positive association. Whether the CEO is paid well or poorly has no bearing on the capital structure decision. Similarly, as there is statistically little correlation between the CEO tenure and the capital structure, the capital structure is unaffected by the duration of the CEO tenure. Similarly, because the results are statistically insignificant, the size of the audit committee does not affect the capital structure; that is, the capital structure remains constant regardless of the length of the AUCS.

It is clear from the foregoing that Bangladesh's cooperative governance is weaker than that of developing countries with robust systems of governance. Corporate governance in Bangladesh still requires more consideration and work to expand the scope of macro-objectives and sustain economic progress.

In the end, this study has a few limitations. First of all, it only uses secondary data; by combining reported and survey data, primary data can also be used to offer more information and insight that will improve the findings of further research. Second, the study's foundation is non-financial enterprises that have been listed on the Dhaka stock exchange. As a result, in order to validate their conclusions, future research will include data from various organizations and nations. Lastly, even though the corporate governance metrics included in this study are crucial, other proxies—such as CEO duality, ownership concentration, and board composition—may also have a significant influence on capital structure. It is therefore suggested that different corporate governance indicators be the focus of future research.

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