Corporate governance and firm value: Bangladeshi manufacturing industry perspective

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Abstract

Purpose – The study aims to investigate the influence of corporate governance practices on enhancing firm value in manufacturing industries in Bangladesh.

Design/methodology/approach – The study sample consists of 131 companies from 10 manufacturing industries listed in Dhaka stock exchange (DSE). Using the multiple regression method, the study analyzed 1,193 firm-year observations from 2012 to 2021.

Findings – The outcome reveals that managerial ownership, foreign ownership, ownership concentration, board size, board independence, board diligence and auditor quality have a significant positive influence on firm value. In contrast, audit committee size has no significant influence on firm value.

Originality/value – The practical implications of the current study demonstrated that good corporate governance creates value and must be invigorated for the interest of all stakeholders. Policymakers should formulate specific guidelines regarding firms' ownership structure and audit quality issues.

Keywords Manufacturing industry, Corporate governance, Firm value, OLS

Paper type Research paper

1. Introduction

In recent years, the concept of firm value has drawn the attention of current and previous academics and researchers due to its ability to explain an organization's efficacy and long-term growth over time (Kumar and Sharma, 2017). As in the present corporate world, the main motive of a business organization has changed into wealth maximization from profit maximization, so the primary concern of any business organization is to ensure high firm value, which has a great connection with the investors' investing decisions (Bassey, 2017). Soebiantoro (2007) characterized the firm value as investors' views on the organization's growth, which is usually connected to the organization's share price. Another researcher, Budianti *et al.* (2018), defines firm value as the amount a customer is ready to pay if the firm is sold. Due to several factors, including corporate governance mechanisms, the value of the firms might be influenced. From the developed countries' context, the influence of corporate governance on firm value is a widely debated and well-researched topic. However, in light of recent corporate collapses and scandals, this subject has also been explored in the context of developing countries such as Bangladesh. During the last two decades, as a developing country, Bangladesh witnessed several corporate collapses and scams like Adamjee Jute

Mills Corporation Ltd collapse (2002), the Hallmark scandal (2012), The Share Market Downturns (2010), etc. The failures of companies due to a poor corporate governance system have emphasized the need to enhance and restructure the governance system to enhance the firms' value. Several researchers (Gompers *et al.*, 2003; Kang and Shivdasani, 1995; Bhagat and Black, 2001) claimed that good governance of a company has a significant effect on the outcome of accounting fraud, and companies with a weak governance structure are more likely to commit accounting fraud (Berkman *et al.*, 2009). Firms with weaker governance systems confront more agency issues, and their managers reap more personal rewards, lowering the firm's value (Core *et al.*, 1999). The merits of a Good Corporate Governance system include rising domestic investors' trust in an organization, lower capital costs, easier access to stock markets, and more reliable financing sources. Good corporate governance concentrates on the relationships between business managers, directors, and shareholders to avoid agency conflicts between management and shareholders in balancing their interests and checking corporate scams (Judge *et al.*, 2003).

The corporate research world felt the necessity of studying the influence of corporate governance on firm value during the last two decades. Nevertheless, this subject matter has mainly been examined from the developed country context (Hermalin and Weisbach, 2003; Gompers *et al.*, 2003; Kang and Shivdasani, 1995; Judge *et al.*, 2003; Bauer *et al.*, 2004; Barnhart *et al.*, 1994; Guest, 2008; Bhagat and Bolton, 2008a, b). In developing countries like Bangladesh, empirical investigation on this issue is still in the infant stage, most probably because of inadequate disclosure practices by firms or lack of concentration by scholars. Another remarkable point is that many researchers who have conducted their studies previously have concentrated on financial institutions for selecting their research sample (Baxter *et al.*, 2013; Farrel and Gallagher, 2015; Gatzert and Martin, 2015). However, besides this, a big part of the corporate sector is the manufacturing industry. The manufacturing industry contributes a major portion of GDP in the country's economy, 23.36% in the fiscal year 2021–2022 and 24.45% in the following year. Besides this, Bangladesh is the second largest RMG exporting country globally (Asif, 2017). However, unfortunately, many earlier researchers, such as Fernandes (2008), Nath (2021), Moktadir *et al.* (2019) argued that the manufacturing industry's firm value has gradually decreased. For that reason, over the last decade, many manufacturing firms have dropped out of the market due to their low value, creating social tension and negatively affecting the economy. But, very few researchers focused on this industry to conduct their governance studies.

Considering these limitations, the present study is designed to explore the influence of corporate governance practices on firm value from the perspective of the developing country context, especially in reference to the manufacturing sector of Bangladesh. In doing so, the study enhances several novelties to the present literature. Firstly, a representative sample of Bangladeshi manufacturing companies is selected to design our dataset. Secondly, we do not consider the traditional system of corporate governance measurement in which most of the researchers used only the board structure as the measurement tool of the governance system (Amin and Hamdan, 2018; Ullah *et al.*, 2017; Brick and Chidambaran, 2010; Amaral-Baptista *et al.*, 2011). In our study, we apply a range of corporate governance measures, including ownership structure, board structure, and audit structure, which is significant for examining the robustness of results to discover the inter-relation. The rest of the paper is structured as follows: Section 2 reviews the related theories and conceptual framework, section 3 presents the related literature. In section 4, the methodological aspects of the study are described. Section 5 discusses the empirical results, whereas, in section 6, researchers discuss the findings of the result. In section 7, the policy implications of the study are mentioned. Finally, in the last section, the study gives the concluding remarks and discusses the future research directions.

2. Related theories and conceptual framework of the study

Earlier researchers linked corporate governance theories and firm values from different perspectives. The agency theory (1776) of corporate governance is intimately linked to the firm value of any business. Many researchers have discovered that reducing agency difficulties can significantly increase business value (Dey, 2008; Chen *et al.*, 2012; Bosse and Philips, 2016 etc.). Between 2004, and 2009, Xiao and Zhao (2009) researched Chinese publicly traded companies. The study found that higher excess control rights are related to significantly lower company value when measuring the severity of agency problems by the final controlling shareholders' excess control rights. Xiao and Zhao (2009) did another study in which he looked at the influence of agency costs on firm value in 156 Chinese publicly traded enterprises. The study took place between 2002 and 2007. According to the findings, the agency costs have a negative and significant impact on the value of the studied firms.

Another significant theory related to firm value is the stewardship theory (1991). There is a clear relationship between stewardship theory and company value since the stewardship theory of corporate governance asserts that a steward protects and maximizes shareholders' wealth through firm performance. Stewardship theory, in opposition to agency theory, argues that management and inside directors are most qualified to protect the interests of shareholders in all contexts. Because they have more access to secret information, inside directors better understand corporate matters than independent directors (Donaldson, 1991; Fama and Jensen, 1983). Managers and directors, according to Daily *et al.* (2003), protect shareholders' interests by making sound decisions that improve the performance and value of their companies.

In Bangladesh, the emergence and application of corporate governance guidelines are still in the early stages. As a growing economy, Bangladesh established the rules for corporate governance for the first time in 2006, named "Corporate Governance Code-2006," due to many inside and outside driving forces. Since then, three guidelines have been addressed by the Bangladesh Securities and Exchange Commission (BSEC) to implement modifications that are consistent with worldwide best practices. Later on, in 2012, the guidelines were updated and renamed as "Corporate Governance Code- 2012". Different procedures for reporting governance issues in Bangladeshi companies are outlined in the CG Code of 2006. Nonetheless, it is abundantly evident by the codes released in 2018 and 2012 that noncompliance is strictly prohibited, even in cases where a variation from conformance is justified. Finally, the CG guidelines were updated in 2018, and right now, Bangladeshi companies follow the "Corporate Governance Code-2018" to practice their governance issues.

After reviewing the corporate governance theories, the research focuses on three corporate governance variables, namely, ownership structure, board structure, and audit committee structure of the firm, to explore the influence of corporate governance on firm value. The conceptual framework of the study is shown in Figure 1, which is as follows:
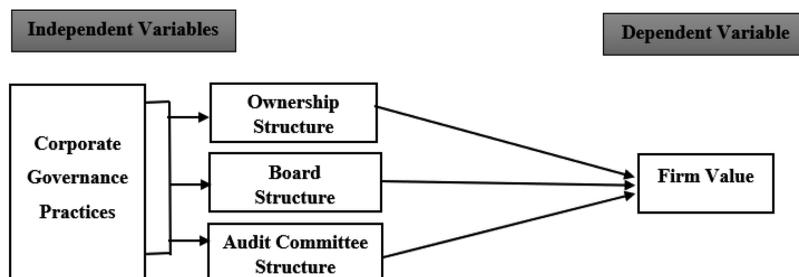
Source(s): Authors' own work

Figure 1.
Conceptual framework
of the study

3. Literature review

3.1 Corporate governance

Brickley and Zimmerman (2010) state that "corporate governance" lacks a universally acknowledged definition. In 1992, para.2.5, the Cadbury Committee defined corporate governance as how businesses are directed and managed. The OECD (2004) defined corporate governance as "the system of norms, practices, and institutions by which organizations are directed, controlled, and controlled by their various stakeholders". Abu-Tapanjeh (2009) defined corporate governance as the "set of rules, principles, or procedures by which it ensures its transparency, accountability, and fairness in operations with all the related stakeholders." Corporate governance was defined by Shleifer and Vishny (1997) as a system that gives shareholders confidence in the security and profitability of their investments. Another researcher, Mitton (2002), viewed corporate governance as a safeguard against the expropriation of minority owners by managers or controlling shareholders.

3.2 Firm value

The concept of firm value can be characterized as the valuation achieved by a commercial entity, reflecting the level of trust and confidence that society has placed in the organization since its establishment (Noerirawan, 2012). Soebiantoro (2007) conducted a study in which they defined company value as the perception held by investors on the growth prospects of an organization, typically reflected in the organization's share price. A positive correlation exists between the share price and the firm's value, whereby an increase in the former leads to an augmentation in the latter. Consequently, these characteristics enhance market confidence and trust in the company. If investors believe that the firm will succeed in the future, this will result in a subsequent rise in the market value of its shares. According to Husnan (2000), company value refers to the monetary value a client is willing to pay in the event of the firm's sale. According to academics, it is asserted that the primary objective of a company entity should be the optimization of shareholders' value, as an increase in shareholders' value ultimately results in the maximization of shareholders' wealth. In their study, Shah and Khalidi (2020) employed the phrase "enterprise value" as a synonym for "firm value." According to the individual's perspective, the concept of company value pertains to the assessment of a corporation's tangible economic worth. A firm's valuation represents the hypothetical price that an investor is prepared to pay to acquire a certain company.

3.3 Corporate governance and firm value

Earlier researchers linked the corporate governance theories and firm value from different perspective. The agency theory (1776) of corporate governance is intimately linked to the firm value of any business. Many researchers have discovered that by reducing agency difficulties by practicing good governance, the firms can significantly increase their value (Dey, 2008; Chen et al., 2012; Bosse and Philips, 2016 etc.). Another significant theory related to firm value is the stewardship theory (1991). There is a clear relationship between stewardship theory and firm value since the stewardship theory of corporate governance asserts that a steward protects and maximizes shareholders' wealth through firm performance. Furthermore, the Resource dependency theory (1978), according to Hillman et al. (2000), highlights the role of directors in providing or gaining key resources for a company through their connections with the outside world, which can enhance firm value. Some of the most related studies in this arena are as follows:

3.3.1 Ownership structure and firm value.　3.3.1.1 Managerial ownership and firm value. Abukosim et al. (2014) studied 32 companies listed on the Indonesia Stock Exchange from 2009 to 2011. The study found a substantial positive relationship between managerial ownership and business value. Some other researchers, including Leung and Horwitz (2010),

Uwuigbe and Olusanmi (2012) and Swamy (2011), found similar research results. Contrary, Anisa and Allam (2018) studied 171 businesses in the Kingdom of Saudi Arabia throughout the years 2013–2014. The study indicated that managerial ownership had no discernible impact on firm value using OLS regression analysis. The research result is supported by many other researchers, namely, Switzer and Tangb (2009), Tsegba and Ezi-Herbert (2011), Liang *et al.* (2012) etc. In addition, some other researchers, like Siala *et al.* (2009) and Noor (2012), did not find any significant relation between these two variables.

> *H1a.* Ceteris paribus, there is statistically significant influence of managerial ownership on the firm value.

3.3.1.2 Foreign ownership and firm value. Research by Ghahroudi (2011) looked at over 3,500 Japanese companies. Data from the year 2006 was gathered. Using binary logistic regression, the study found a favorable connection between foreign ownership and business value. Similar research findings are also derived from some other researchers like, Abukosim *et al.* (2014), Sueyoshi *et al.* (2010), NazliAnum (2010) etc. On the other hand, Shan and McIver (2011) researched 540 companies from non-financial sectors that were listed on the Hong Kong Stock Exchange in China between 2001 and 2005. The study did not discover any statistically significant correlation between foreign ownership and firm value of the studied firms using Ordinary least squares fixed effects methods. So, some debate exists among the researchers regarding the true effect of foreign ownership on firm value.

> *H1b.* Ceteris paribus, there is statistically significant influence of foreign ownership on the firm value.

3.3.1.3 Ownership concentration and firm value. One of the most important variables of the ownership structure of any firm is ownership concentration. The concentration of ownership is regarded as the degree to which its main shareholders own the stock of a corporation (Sanda *et al.*, 2005). Several researchers (Hossain *et al.*, 2021; Wang and Oliver, 2009; Dakhlallh *et al.*, 2019) who have conducted their research earlier depicted a strong positive relationship between ownership concentration and enhancing firm value. On the other side, many other investigations have discovered an inverse association between ownership concentration and firms' value (Hu *et al.*, 2010; Roszaini and Mohammad, 2006; Millet-Reyes and Zhao, 2010). Farooque and Manzoor (2019) looked at 452 firms listed on the Thai Stock Exchange Ltd. The analysis revealed no substantial impact of ownership concentration on firms' value using the GMM technique during the study period 2000–2016.

> *H1c.* Ceteris paribus, there is statistically significant influence of ownership concentration on the firm value.

3.3.2 Board structure and firm value. 3.3.2.1 Board size and firm value. Harford *et al.* (2012) claimed that the size of the board has two conflicting consequences: increased supervision and a more rigorous decision-making process. The impact of board size on firm value is a trade-off between two opposing factors: first, a larger board offers more expertise and linkages to the outside world (that might be useful in gaining access to resources and stakeholders), and second, a large board delays the process of decision-making in any organization. Many of the earlier researchers and scholars like Ahmed Sheikh *et al.* (2013), and Abor and Biekpe (2007), explored the significant positive influence of board size on enhancing the firm value, and some other researchers oppose these findings (Yermack, 1996; Kumar and Singh, 2013). In addition to these findings Topak (2011) conducted a study on 122 companies quoted on the Istanbul Stock Exchange over the period 2004–2009. Performing the F test and Breush and Pagan Langrangian Multiplier tests, he claimed no statistically significant association between board size and firm value.

H2a. Ceteris paribus, there is statistically significant influence of board size on firm value.

3.3.2.2 Board independence and firm value. Another significant ingredient of board structure is the independence of the board. Bekiaris (2021) researched the 04 national banks of Greece from 2008–2018. The study used panel data regression analysis to find that the board's independence highly influences the organization's firm value. Similar results were discovered by some other researchers like Agarwal (2020), Al Farooque *et al.* (2019), Mishra and Kapil (2018), Fauver *et al.* (2017). In opposition, researchers like Bhagat and Black (2001), Hermalin and Weisbach (2017), and Bhatt and Bhattacharya (2015) did not find any significant correlation between board independence and firm value. Furthermore, due to institutional differences or the fact that not all independent directors are truly independent, some other studies have shown that board independence has an infused effect on firm value across countries (Shleifer and Vishny, 1997; Mikkelson *et al.*, 1997; Lefort and Urza, 2008; Kao *et al.*, 2019; Haldar *et al.*, 2018; Tulung and Ramdani, 2018).

H2b. Ceteris paribus, there is statistically significant influence of board independence on firm value.

3.3.2.3 Board diligence and firm value. Directors on the board fulfill their tasks of monitoring and contributing productive resources by actively participating in board meetings. How directors conduct themselves during meetings determines a board's effectiveness. From that point of view, the board's diligence is a noteworthy factor in the board structure of any organization. Lishenga (2015) studied 48 listed firms on the Nairobi Stock Exchange (NSE) from 1998 to 2003. The results of the OLS regression revealed that the association between firm value and board meeting frequency, which gauges board participation, is statistically significant. The study's findings were supported by several earlier researchers (Agarwal, 2020; Al Farooque *et al.*, 2019; Forbes and Milliken, 1999; Iyengar and Zampelli, 2009). On the other hand, Bhatt and Bhattacharya (2015) researched 114 listed IT sector firms in India from 2006–2011. Using the 3SLS estimation technique, the researcher failed to find any relationship between the number of board meetings and firm value. Similar evidence was discovered by Fauver *et al.* (2017), Amaral-Baptista *et al.* (2011), Topak (2011) etc.

H2c. Ceteris paribus, there is statistically significant influence of board diligence on firm value.

3.3.3 Audit committee structure and firm value. 3.3.3.1 Audit committee size and firm value. Hamdan *et al.* (2013) investigated the impact of audit committee size on the value of 106 Jordanian companies listed on the Amman Stock Exchange. According to the findings, the audit committee's features substantially impact the value of Jordanian firms. These findings are consistent with the other researchers, Al-Okaily and Naueihed (2019) and Bouaziz (2012). On the other side, Al-Matari *et al.* (2012) did experiments on 135 Saudi public firms in 2010. They discovered that small audit committees could increase the firm value of the companies analyzed, in Singapore and Malaysia, which is supported by Bradbury *et al.* (2006). Zraiq and Fadzil (2018) conducted another research on 228 Jordanian Firms from 2015 to 2018. Applying OLS regression analysis, the researchers found no significant connection between audit committee size and firm value.

H3a. Ceteris paribus, there is statistically significant influence of audit committee size on firm value.

3.3.3.2 Auditor quality and firm value. Wijaya and Ratnasary (2023) investigated the impact of audit quality on firm value across companies listed on the Indonesian Stock Exchange

between 2013 and 2017. Multiple regression analysis was used in the study, and it was discovered that audit quality positively impacts firm value in manufacturing companies listed on the Indonesian Stock Exchange. Aldamen *et al.* (2012) found similar results after researching 300 US-based companies from 2008 to 2009.

H3b. Ceteris paribus, there is statistically significant influence of auditor quality on firm value.

4. Methodology
The study's data set comprises 131 manufacturing companies under 10 industries enlisted in the Dhaka Stock Exchange of Bangladesh from 2012 to 2021. The study considers 1,193 firm-year observations for conducting the research. The study's sample size is determined using the Yamane (1967) formula. Sample size calculation using the formula of Yamane (1967) is a popular and effective technique when the population size is known to the researcher (Puszczak *et al.*, 2013). Presently, 195 manufacturing companies are enlisted under the DSE. Therefore, using the formula of Yamane (1967), the study's sample size is 131 manufacturing companies. Data were collected from several sources, including the annual reports of the sampled companies. Data concerned with companies' attributes (corporate governance structure, firm value, and firm-level variables) are derived from published annual reports of respective companies, whereas macroeconomic and industry-level data are collected from the World Bank database. The construction of these variables for empirical analysis is given in Table 1.

4.1 Model specifications
The study investigates the influence of corporate governance on the value of the studied firms. The baseline model is expressed as:

4.1.1 Firm value = f (corporate governance). Firstly, the researchers run a panel regression model to explore corporate governance's influence on firm value. To measure the corporate governance practice of firms, the researchers used three variables, namely ownership structure, board structure, and audit committee structure, whereas firm value is measured in terms of two variables, namely, Tobin's Q and Market Value Added (MVA). The measurement of the variables is presented in Table 2. From the baseline, the objective of research is attained by using the following econometric models:

Sectors	Number of listed companies
Engineering	29
Pharmaceuticals and chemicals industries	19
Fuel and power industries	18
Food and allied industries	10
Cement industries	06
Ceramics industries	05
Tannery	03
Textiles	37
Paper and printing	02
Jute	02
Total	*131*
Source(s): Dhaka stock exchange	

Table 1.
Sample size of manufacturing companies in Bangladesh

Variables	Legends	Definition and measure	Hypothesized sign	References
Firm value variables				
Tobin's Q	Tobin's Q	The market value of the shares/face value of the shares		Gul *et al.* (2018), Haryono *et al.* (2016), Jo and Harjoto (2011), Bubbico *et al.* (2012)
Market value added	MVA	Market value of equity – book value of equity		Bubbico *et al.* (2012), Abdullah *et al.* (2018), Haryono *et al.* (2016), Gul *et al.* (2018)
Corporate governance variables				
Managerial ownership	MO	Shares held by CEOs, directors and their immediate family members/number of total outstanding shares	+/−	Nazir (2015), Leung and Horwitz's (2010), Uddin *et al.* (2019), Chen *et al.* (2012)
Foreign ownership	FO	Number of shares owned by foreigners/number of total outstanding shares	+/−	Nazir (2015), Uddin *et al.* (2019), Bourakba and Zerargui (2015)
Ownership concentration	OC	Number of shares owned by major shareholders/number of total outstanding shares	+/−	Leung and Horwitz's (2010), Bayrakdaroglu (2012), Alabdullah *et al.* (2018)
Board size	BS	Sum of directors on the board	+/−	Uddin *et al.* (2019), Nazir (2015), Bourakba and Zerargui (2015), Leung and Horwitz's (2010)
Board independence	BI	Number of total independent directors/total number of directors on board	+/−	Nazir (2015), Uddin *et al.* (2019), Bourakba and Zerargui (2015), Muniandy and Hillier (2015)
Board diligence	BD	Number of directors present in the board meeting/number of total directors	+/−	Nazir (2015), Rizzotti and Greco (2013), Francis *et al.* (2012), Arora and Sharma (2016)
Audit committee size	ACS	Total number of members in the audit committee	+/−	Nazir (2015), Detthamrong *et al.* (2017), Aldamen *et al.* (2012)
Auditor quality	AQ	Dummy variable: score 1 if audit done by big 4 firms otherwise, 0	+/−	Nazir (2015), Detthamrong *et al.* (2017), Aldamen *et al.* (2012)
Firm size	SIZE	Natural logarithm of total assets	+/−	Drakos *et al.* (2016), Hussain *et al.* (2019), Laeven and Levine (2009), Zribi and Boujelbène 2011)
Firm age	AGE	Age of listing in DSE	+/−	Laeven and Levine (2009), Drakos *et al.* (2016), Hussain *et al.* (2019), Khaled *et al.* (2020)
Firm leverage	LEV	Loans/total assets	+/−	Arouri *et al.* (2014), De Jonghe *et al.* (2012), Laeven and Levine (2009), Khaled *et al.* (2020)

Table 2.
Variables' definition and sources

(*continued*)

Variables	Legends	Definition and measure	Hypothesized sign	References
GDP growth rate	GDPG	Annual GDP growth rate	+/−	Chaibi and Ftiti (2015), Hussain *et al.* (2019), Coibion (2012), Herman (2019), Basse and Reddemann (2011)
Inflation rate	INF	Annual inflation rate	+/−	Chaibi and Ftiti (2015), Hussain *et al.* (2019), Coibion (2012), Herman (2019), Basse and Reddemann (2011)
Unemployment rate	UNEP	Unemployment rate	+/−	Chaibi and Ftiti (2015), Hussain *et al.* (2019), Coibion (2012), Herman (2019), Basse and Reddemann (2011)

Source(s): Authors' own work

$$
\begin{aligned}
\text{Tobin's } Q_{it} = &\ \alpha + \beta_1 MO_{it} + \beta_2 FO_{it} + \beta_3 OC_{it} + \beta_4 BS_{it} + \beta_5 BI_{it} + \beta_6 BD_{it} + \beta_7 ACS_{it} + \beta_8 AQ_{it} \\
&+ \beta_9 SIZE_{it} + \beta_{10} AGE_{it} + \beta_{11} LEV_{it} + \beta_{12} SHI_{it} + \beta_{13} GDPG_{it} + \beta_{14} INF_{it} \\
&+ \beta_{15} UNEP_{it} + \varepsilon_{it}
\end{aligned}
\tag{i}
$$

$$
\begin{aligned}
MVA_{it} = &\ \alpha + \beta_1 MO_{it} + \beta_2 FO_{it} + \beta_3 OC_{it} + \beta_4 BS_{it} + \beta_5 BI_{it} + \beta_6 BD_{it} + \beta_7 ACS_{it} + \beta_8 AQ_{it} + \beta_9 SIZE_{it} \\
&+ \beta_{10} AGE_{it} + \beta_{11} LEV_{it} + \beta_{12} SHI_{it} + \beta_{13} GDPG_{it} + \beta_{14} INF_{it} + \beta_{15} UNEP_{it} + \varepsilon_{it}
\end{aligned}
\tag{ii}
$$

where Tobin's Q stands for Tobin's Q, MVA stands for Logarithm of Market Value Added (MVA), MO stands for Managerial Ownership, FO stands for Foreign Ownership, OC stands for Ownership Concentration, BS stands for Board Size, BI stands for Board Independence, BD stands for Board Diligence, ACS stands for Audit Committee Size, AQ stands for Auditor Quality, SIZE stands for firms' size, AGE stands for firms' age, LEV stands for firms' leverage, GDPG stands for GDP growth rate, INF stands for annual inflation rate, UNEP stands for annual inflation rate. β1, β2, etc., are the corresponding coefficient vectors. ε is the idiosyncratic error term. The subscripts i and t range from 1 to N and 1 to T, correspondingly, where N is the number of firms and T is the number of periods in the dataset.

5. Empirical results

5.1 Preliminary diagnosis

The study conducted several preliminary diagnoses to ensure the accuracy and robustness of the data. The Jarque–Bera Test (not tabulated) checks the data normality. The test result implies that data are normally distributed and internally consistent. For data stationary, the Fisher's unit root test is used. The Fisher test is a non-parametric test used when a data set contains unbalanced panel data (Maddala and Wu, 1999). The result implies that the null hypothesis is rejected for all the variables, and the alternative hypothesis is not rejected, which means that data in all the variables are stationary and suitable for further testing. The variance inflation factor (VIF) is used to observe the multicollinearity issue. Considering the rule of thumb threshold 10, the VIF values show no multicollinearity issue in the data set

(Table 3). No heteroskedasticity problem in the data set is identified using the Breaush–Pagan test. Furthermore, the result of the Hausman test confirms that there is no endogeneity concern in the estimated model. Finally, the Breusch–Godfrey test is done to test the autocorrelation issue, and the result ensures no such concern in the data set.

5.2 Descriptive statistics

The descriptive statistics of the variables used in the study are shown in Table 3. The explanatory variables used in this study include managerial ownership, foreign ownership, ownership concentration, board size, board independence, board diligence, audit committee size, and auditor quality, whereas the dependent variables were Tobin's Q and market value added (MVA). The study considered firm-level, industry-level, and macroeconomic-level variables. Descriptive statistics detect outlier problems, which may impact the estimated coefficients' accuracy, reliability and bias.

From the descriptive statistics, firm value, measured in terms of Tobin's Q, recorded a mean value of 10.54 with a minimum value of 0 and a maximum value of 49.94. The standard deviation was 13.10. The result shows that the average firm value of manufacturing companies is relatively low and differs in relation to the category of industries. Similar findings were derived for market value added (MVA), where the mean value was 21.59 with minimum and maximum MVA of 15.48 and 26.54, respectively. The summary statistics also reveal that, on average, 41.40% of the ownership of the sampled companies is held by managerial persons, whereas foreigners hold 1.31% of ownership. The average number of the board of directors is 8, with a minimum of 3 and a maximum of 19. On average, 24.20% of board directors are independent of the sampled companies, with minimum and maximum percentages of 0 and 42.85, respectively. Almost 8.98% of boards have diversity in terms of gender variation. Furthermore, the average number of directors in the audit committee is 4,

Variable	Obs	Mean	Std. dev.	Min	Max	VIF
Tobin's Q	1,193	10.535	13.08	0	49.94	–
MVA	1,193	21.593	1.755	15.481	26.546	–
MO	1,193	41.451	21.026	0	90	1.36
FO	1,193	1.261	4.204	0	19.85	1.22
OC	1,193	57.08	19.887	0	99.89	1.52
BS	1,193	7.407	2.374	3	19	1.28
BI	1,193	24.228	8.095	0	42.85	1.13
BD	1,193	8.91	4.954	4	29	1.35
ACS	1,193	3.5	0.712	0	6	1.16
AQ	1,193	0.231	0.422	0	1	1.58
SIZE	1,193	21.917	1.579	17.803	26.609	1.93
AGE	1,193	16.869	12.208	1	46	1.26
LEV	1,193	0.497	0.404	−0.768	6.601	1.10
GDPG	1,193	6.505	1.589	2.376	8.153	2.24
INF	1,193	5.994	0.629	5.514	7.53	1.37
UNEP	1,193	4.52	0.403	4.06	5.3	2.37

Note(s): Tobin's Q stands for Tobin's Q, MVA stands for logarithm of market value added (MVA), MO stands for managerial ownership, FO stands for foreign ownership, OC stands for ownership concentration, BS stands for board size, BI stands for board independence, BD stands for board diligence, ACS stands for audit committee size, AQ stands for auditor quality, SIZE stands for firms' size, AGE stands for firms' age, LEV stands for firms' leverage, GDPG stands for GDP growth rate, INF stands for annual inflation rate, UNEP stands for annual inflation rate

Source(s): Authors' own work

Table 3.
Descriptive statistics

with a minimum of 0 and a maximum of 6 directors. On average, 23% of the sampled companies employ quality auditors measured in terms of six big audit firms. Firms' size recorded a mean of 21.92, indicating that Bangladeshi manufacturing companies have large sizes compared with the minimum and maximum firm sizes of 17.80 and 26.90, respectively. Firms' age recorded a mean of 17 years with minimum and maximum age of 4 and 46 years, respectively. The average leverage ratio of the sampled firm is 48.4%. Regarding macroeconomic variables, the GDP growth rate recorded a mean value of 6.49%, ranging from 1.58% to 8.15% with a standard deviation of 1.59%. The inflation rate recorded an average value of 5.99%, with minimum and maximum rates of 6.33 and 7.53%, respectively. Similarly, the country's unemployment rate has a 4.51% mean value over the period ranging from 0.40 to 5.03%, respectively. The VIF score for the independent variables discloses no multicollinearity problem among the variables.

5.3 Correlation test

The results of the correlation test are shown in Table 4. The researchers used the Pearson correlation coefficient to check the association among the dependent and independent variables. The result depicts that the value of studied firms measured in terms of Tobin's Q is significantly and positively correlated with a number of corporate governance variables, namely, managerial ownership, foreign ownership, ownership concentration, board size, board independence, board diligence, audit committee size and auditor quality. Among the control variables, the firms' size, age, and GDP growth rate have a significant positive association with firm value, whereas the leverage and inflation rate have a significant negative correlation with Tobin's Q. Similar results are found in the case of the Market Value Added (MVA) of the firms.

5.4 Regression result

The study investigates the influence of corporate governance on firm value. Two proxied variables, namely, Tobin's Q and Market Value Added (MVA), are used to measure the firm value of sampled manufacturing companies. For the regression analysis, there reliable estimating strategies were utilized to look for the consistency in the coefficients' signs. They include the pooled ordinary least squares (OLS), fixed-effect, and random-effect regression models. Table 5 shows the result, which estimates the direct effect of corporate governance practices on firms' value measured in terms of Tobin's Q and MVA. From the model there is evidence that firms' value is positively influenced by managerial ownership, which is supported by the study of Morck *et al.* (1988), who argued that when managers' ownership rights in the company are raised, they begin working to grow their wealth, which raises the firm's worth. The ownership concentration also has a positive influence on firm value. This research result is supported by the earlier study conducted by Adika and Osly (2018), who highlighted that a concentrated ownership structure can increase the firm value by reducing the conflict of interest between owners and agents. The regression result reveals a positive influence of foreign ownership on firm value, which is similar to the findings of the study conducted by Adika and Osly (2018), who claimed that foreign-owned organizations are superior to local owned organizations in the case of promoting corporate decisions. This implies that the locally owned firms lose their values due to conflict of interests among the shareholders. Furthermore, firm value is also significantly and positively influenced by the board size, which indicates that firms with large board sizes can enhance their value as different members bring on board a variety of skills. The finding is consistent with the research results of Harford *et al.* (2012), Ahmed Sheikh *et al.* (2013), and Abor and Biekpe (2007). The regression result also signifies that board diligence has a significant positive influence on enhancing firm value, as suggested by Agarwal (2020) and Al Farooque *et al.*

Table 4.
Pearson correlation matrix

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
(1) Tobin's Q	1.000															
(2) MVA	0.444* (0.000)	1.000														
(3) MO	0.147* (0.000)	0.200* (0.000)	1.000													
(4) FO	0.252* (0.000)	0.366* (0.000)	0.003 (0.917)	1.000												
(5) OC	0.261* (0.000)	0.512* (0.000)	0.311* (0.000)	0.262* (0.000)	1.000											
(6) BS	0.099* (0.001)	0.370* (0.000)	0.093* (0.001)	0.001 (0.976)	0.272* (0.000)	1.000										
(7) BI	0.056* (0.052)	0.081* (0.007)	0.016 (0.572)	0.027 (0.345)	−0.107* (0.000)	−0.224* (0.000)	1.000									
(8) BD	0.072* (0.013)	0.223* (0.000)	0.303* (0.000)	0.174* (0.000)	0.034 (0.241)	0.042 (0.151)	0.012 (0.674)	1.000								
(9) ACS	0.166* (0.000)	0.284* (0.000)	0.124* (0.000)	0.046 (0.112)	0.168* (0.000)	0.194* (0.000)	0.021 (0.473)	0.043 (0.134)	1.000							
(10) AQ	0.273* (0.000)	0.512* (0.000)	0.297* (0.000)	0.108* (0.000)	0.443* (0.000)	0.326* (0.000)	−0.089* (0.002)	−0.009 (0.769)	0.271* (0.000)	1.000						
(11) SIZE	0.040 (0.171)	0.718* (0.000)	0.033 (0.257)	0.267* (0.000)	0.405* (0.000)	0.339* (0.000)	−0.097* (0.001)	0.332* (0.000)	0.245* (0.000)	0.442* (0.000)	1.000					
(12) AGE	0.583* (0.000)	0.015 (0.607)	−0.111* (0.000)	0.154* (0.000)	0.008 (0.780)	0.036 (0.212)	−0.072* (0.013)	−0.134* (0.000)	0.019 (0.514)	0.004 (0.888)	−0.203* (0.000)	1.000				
(13) LEV	−0.062* (0.033)	−0.125* (0.000)	0.008 (0.770)	−0.033 (0.259)	0.050 (0.084)	0.044 (0.127)	−0.109* (0.000)	0.027 (0.350)	0.002 (0.952)	−0.018 (0.538)	−0.096* (0.001)	0.221* (0.000)	1.000			
(14) GDPG	0.013* (0.658)	0.022* (0.453)	0.008* (0.791)	0.021 (0.461)	−0.001 (0.980)	0.000 (0.988)	−0.011 (0.698)	0.032 (0.269)	0.025 (0.392)	0.000 (0.996)	−0.010 (0.738)	−0.030 (0.302)	−0.005 (0.858)	1.000		
(15) INF	−0.012* (0.690)	−0.033* (0.268)	0.049 (0.092)	−0.064* (0.027)	−0.008 (0.784)	0.020 (0.484)	−0.128* (0.000)	0.020 (0.487)	−0.146* (0.000)	0.031 (0.282)	−0.096* (0.001)	−0.061* (0.036)	−0.033 (0.252)	−0.181* (0.000)	1.000	
(16) UNEP	−0.006 (0.837)	0.023 (0.432)	−0.035 (0.226)	0.007 (0.805)	−0.001 (0.964)	0.012 (0.668)	0.126* (0.000)	−0.050 (0.082)	−0.023 (0.433)	−0.037 (0.203)	0.075* (0.009)	0.091* (0.002)	0.062* (0.031)	−0.661* (0.000)	−0.217* (0.000)	1.000

Note(s): ***$p < 0.01$, **$p < 0.05$, *$p < 0.1$
Tobin's Q stands for Tobin's Q, MVA stands for logarithm of market value added (MVA), MO stands for managerial ownership, OC stands for ownership concentration, BS stands for board size, BI stands for board independence, BD stands for board diligence, ACS stands for audit committee size, AQ stands for auditor quality, SIZE stands for firms' size, AGE stands for firms' age, LEV stands for firms' leverage, GDPG stands for GDP growth rate, INF stands for annual inflation rate, UNEP stands for annual inflation rate
Source(s): Authors' own work

	Tobin's Q	MVA
MO	0.042*** (0.007)	0.009*** (0.002)
FO	0.05*** (0.015)	0.03*** (0.011)
OC	0.007** (0.016)	0.006*** (0.002)
BS	0.284** (0.143)	0.079*** (0.021)
BI	0.044** (0.017)	0.01** (0.004)
BD	0.125** (0.058)	0.03*** (0.009)
ACS	0.138 (0.292)	0.049 (0.046)
AQ	0.458*** (0.009)	0.376*** (0.094)
SIZE	0.199** (0.034)	0.476*** (0.043)
AGE	0.541*** (0.054)	0.015*** (0.005)
LEV	−0.081* (0.033)	−0.157* (0.087)
GDPG	0.039*** (0.025)	0.065*** (0.022)
INF	−0.829*** (0.291)	−0.091** (0.045)
UNEP	1.264 (0.616)	0.171 (0.095)
Constant	7.203*** (8.036)	7.543*** (1.095)
No. of observations	1,193	1,193
Chi-square	129.246 (0.000)	400.147 (0.000)
R-squared	44.60%	76.20%

Note(s): Tobin's Q stands for Tobin's Q, MVA stands for logarithm of market value added (MVA), MO stands for managerial ownership, FO stands for foreign ownership, OC stands for ownership concentration, BS stands for board size, BI stands for board independence, BD stands for board diligence, ACS stands for audit committee size, AQ stands for auditor quality, SIZE stands for firms' size, AGE stands for firms' age, LEV stands for firms' leverage, GDPG stands for GDP growth rate, INF stands for annual inflation rate, UNEP stands for annual inflation rate
Source(s): Authors' own work

Table 5.
Pooled regression model

(2019), whereas, contrary to the expectation, the board independence level is negatively correlated with the firm, value possibly as a result of the outside directors' lack of independence. Indian companies' independent directors are sometimes perceived as employed by the management because the management chooses them. Bhagat and Bolton (2008a, b) examined the same for U.S. firms for the period; they found that board independence is negatively correlated with operating performance, which is supported by the other researchers conducted by Souther (2019) and Tulung and Ramdani (2018). Regarding firm-level variables, firm size, and age significantly influence Tobin's Q and Market Value Added (MVA) at a 1% significance level, whereas firm leverage hurts firm value. In the case of macroeconomic variables, the GDP growth rate is significantly and positively correlated with Tobin's Q and MVA, whereas the annual inflation rate and unemployment rate have a negative influence on the firm value of the studied firms.

All underlying presumptions regarding the distribution of the model's data variables were examined for normality before the regression results for the fixed- and random-effect models were provided. To determine whether the fixed effect or the random effect is more appropriate, the study used the Hausman test. From Table 6, a $\chi 2$ statistic from the Hausman

	Coef
Chi-square test value	92.582
p-value	0
Source(s): Authors' own work	

Table 6.
Hausman (1978)
specification test

test is significant, indicating that the fixed effect estimation is preferred to the random effect. The fixed estimation is more favorable under both the Breusch–Pagan and Hausman tests. The regression results of both fixed and random effects models are portrayed in Table 7 as follows:

Several preliminary diagnoses were made to ensure the models' consistency, reliability, and effectiveness. First, by looking at the descriptive statistics table, outliers were checked for, but none were found. Second, it demonstrated that all the variables are normally distributed around their means using the Jarque–Bera test. Finally, multicollinearity was also tested using the VIF test. There was no proof of multicollinearity. In addition to Tobin's Q and

	(1) Tobin's Q (fixed effect)	(2) Tobin's Q (random effect)	(3) MVA (fixed effect)	(4) MVA (random effect)
MO	0.017**	0.042**	0.004	0.009***
	(0.018)	(0.017)	(0.003)	(0.002)
FO	0.134*	0.05	0.009	0.03***
	(0.08)	(0.075)	(0.013)	(0.011)
OC	0.013	0.007***	0.013	0.006***
	(0.017)	(0.003)	(0.003)	(0.002)
BS	0.312**	0.284**	0.061**	0.079***
	(0.153)	(0.143)	(0.025)	(0.021)
BI	0.033	0.044**	0.01**	0.01**
	(0.029)	(0.028)	(0.005)	(0.004)
BD	0.124**	0.125**	0.024**	0.03***
	(0.06)	(0.058)	(0.01)	(0.009)
ACS	0.237	0.138	0.056	0.049
	(0.295)	(0.292)	(0.048)	(0.046)
AQ	0.418	0.458***	0.151	0.376***
	(0.621)	(0.009)	(0.1)	(0.094)
SIZE	0.218	0.199***	−0.036	0.476***
	(0.443)	(0.034)	(0.08)	(0.043)
AGE	0.048	0.541***	0.005	0.015***
	(0.138)	(0.054)	(0.023)	(0.005)
LEV	−0.246	−0.081*	−0.083	−0.157*
	(0.542)	(0.342)	(0.093)	(0.087)
GDPG	0.301**	0.039	0.09***	0.065***
	(0.148)	(0.135)	(0.025)	(0.022)
INF	−0.194	−0.829***	−0.024	0.091**
	(0.375)	(0.291)	(0.061)	(0.045)
UNEP	1.223	1.264	0.398	0.171
	(0.873)	(0.616)	(0.147)	(0.095)
_cons	−4.651	−7.203	19.226***	7.543***
	(10.148)	(8.036)	(1.794)	(1.095)
Observations	1,193	1,193	1,193	1,193
R-squared	0.295	0.390	0.531	0.646

Note(s): Standard errors are in parentheses
***p < 0.01, **p < 0.05, *p < 0.1
Tobin's Q stands for Tobin's Q, MVA stands for logarithm of market value added (MVA), MO stands for managerial ownership, FO stands for foreign ownership, OC stands for ownership concentration, BS stands for board size, BI stands for board independence, BD stands for board diligence, ACS stands for audit committee size, AQ stands for auditor quality, SIZE stands for firms' size, AGE stands for firms' age, LEV stands for firms' leverage, GDPG stands for GDP growth rate, INF stands for annual inflation rate, UNEP stands for annual inflation rate
Source(s): Authors' own work

Table 7.
Fixed-effect and random-effect models using Tobin's Q and MVA as dependent variables

MVA, another dependent variable, namely the Book ratio (MTB), was used to check the robustness of the analysis. Table 8 shows that the MTB results are also similar to the others.

6. Discussion
We find a positive effect of managerial ownership on the firm value. The result implies that firms with high managerial ownership possess more value than firms with lower managerial ownership. The agency theory supports the finding that managerial ownership effectively minimizes agency costs and enhances firm value (Abdullah, 2018). The result is consistent with Al Farooque *et al.* (2019), Bhagat and Bolton (2008a, b), Abukosim *et al.* (2014), etc. We also find positive effects of foreign ownership and ownership concentration on firm value. It depicts that foreign ownership grows in an organization, leading to increased monitoring of managers and controlling shareholders, decreasing agency costs. The result is supported by Abukosim *et al.* (2014), Al Manaseer *et al.* (2012), NazliAnum (2010) etc. Furthermore, large shareholders are more likely to take collective action against the executives than the scattered shareholders, leading to increased firm value. The finding is in the line of Siala *et al.* (2009), Kapopoulos and Lazaretou (2007), Karaca and Ekşi (2012), etc. Actually, in the Corporate Governance Code (CGC) 2018 cited by Bala (2018), through which Bangladeshi companies practice their corporate governance, there are no specific guidelines regarding the firms' ownership structures. Therefore, it is one kind of voluntary practice from the country's context. Regarding the board structure, the board size, independence, and diligence also significantly affect the firm's value. In line with previous studies (Dalton *et al.*, 1999; Pearce and Zahra, 1992), boards formed of individuals with diverse backgrounds can use their intellectual capacity and knowledge to make decisions that will increase the company's value.

	Tobin's Q	MVA	MTB
MO	0.042*** (0.007)	0.009*** (0.002)	0.013*** (0.004)
FO	0.05*** (0.015)	0.03*** (0.011)	0.04*** (0.014)
OC	0.007** (0.016)	0.006*** (0.002)	0.008*** (0.004)
BS	0.284** (0.143)	0.079*** (0.021)	0.072** (0.017)
BI	0.044** (0.017)	0.01** (0.004)	0.043** (0.019)
BD	0.125** (0.058)	0.03*** (0.009)	0.143** (0.012)
ACS	0.138 (0.292)	0.049 (0.046)	0.143 (0.045)
AQ	0.458*** (0.009)	0.376*** (0.094)	0.231*** (0.004)
SIZE	0.199** (0.034)	0.476*** (0.043)	0.153** (0.032)
AGE	0.541*** (0.054)	0.015*** (0.005)	0.015*** (0.003)
LEV	−0.081* (0.033)	−0.157* (0.087)	−0.167** (0.032)
GDPG	0.039*** (0.025)	0.065*** (0.022)	0.013*** (0.002)
INF	−0.829*** (0.291)	−0.091** (0.045)	−0.071** (0.034)
UNEP	1.264 (0.616)	0.171 (0.095)	0.142 (0.435)
Constant	7.203*** (8.036)	7.543*** (1.095)	7.345*** (3.056)
No. of observations	1,193	1,193	1,193
Chi-square	129.246 (0.000)	400.147 (0.000)	156.21 (0.000)
R-squared	44.60%	76.20%	59.31%

Note(s): Tobin's Q stands for Tobin's Q, MVA stands for logarithm of market value added (MVA), MO stands for managerial ownership, FO stands for foreign ownership, OC stands for ownership concentration, BS stands for board size, BI stands for board independence, BD stands for board diligence, ACS stands for audit committee size, AQ stands for auditor quality, SIZE stands for firms' size, AGE stands for firms' age, LEV stands for firms' leverage, GDPG stands for GDP growth rate, INF stands for annual inflation rate, UNEP stands for annual inflation rate and MTB stands for market to book ratio
Source(s): Authors' own work

Table 8.
Robustness check

The agency theory states that a board of several outsiders may independently supervise and direct executives who can serve the interests of the shareholders. Furthermore, board diligence measured in terms of the number of board meetings held can also enhance firm value by ensuring effective monitoring systems and internal control. We find that board independence has a negative effect on the firm value. The agency theory also supports the positive effect of board independence on firm value, which argues that a board consisting of many outside members is independent and may independently supervise and guide managers who can advance the interests of the shareholders (Brickley and Zimmerman, 2010). Because these boards are considered independent, separating roles may help them perform their oversight duties more successfully (Finkelstein and Mooney, 2003). As a result, according to agency theory (Boyd, 1995), board independence has a positive effect on a company's value. The finding is consistent with the findings of Bekiaris (2021), Agarwal (2020), Al Farooque *et al.* (2019), Mishra and Kapil (2018), Fauver *et al.* (2017), Rosenstein and Whyatt (1990), Donaldson and Davis (1991), etc. In case of the board structure the Bangladeshi companies comply, the guidelines stated in Corporate Governance Code (CGC) 2018. The number of members in a board, independent directors and board diligence all are the followed by the companies strictly as these are the mandatory practices. The empirical findings of the study shown in section 5.2 reveal that earlier. The analysis also reveals that auditor quality has significant positive effects on the value of the firms. Swamy (2011), Bauer *et al.* (2010), and Kyereboah-Coleman (2008) argued that the larger audit committees are notably far better for uncovering financial fraud. The result of audit quality is consistent with the earlier researchers, namely, Chi *et al.* (2015), Chalaki *et al.* (2012), DeAngelo (1981), Elewa and El-Haddad (2019), etc. We do not find any significant impact of audit committee size on the firm value of the studied companies. In the study, we assume that the companies that perform their external audit through Big Four audit firms ensure audit quality and vice versa, following the earlier research of Lee and Lee (2013), and Wijaya (2020). However, there is no specific guideline regarding the audit quality or conducting of external audits by large audit firms in the CGC 2018. However, our findings signify that the companies that perform their external audit by large audit firms have higher firm value than the others, which is also evidenced by the earlier researchers, namely, Lee and Lee (2013), Wijaya (2020), etc.

When looking at the control variables, firm size, age, and GDP growth rate, all had a positive and statistically significant impact on the value of the companies in the study. This demonstrates that large companies are the preferred investment option for investors due to the security and stability they provide. This result agrees with those of other studies by researchers such as Nursetya and Nur Hidayati (2020), Setiadharma and Machali (2017), Al Farooque *et al.* (2019), Kao *et al.* (2018), etc. According to research by Arif *et al.* (2015), a higher firm value may result from better governance practices implemented by older companies. According to the findings of earlier studies such as Stinchcombe (1965), Jovanivic (1982), etc., age is one of the attributes of greatest significance that can greatly influence business profitability and value. The GDP growth rate was found to affect the value of businesses favorably. A company's market value is affected by its ability to borrow money, pay dividends, expand, and invest in long-term assets, all of which are impacted by GDP (Wamugo and Omagwa, 2020). On the contrary, the leverage and inflation rate negatively affect the firm value.

7. Policy implications
The study has several policy implications for policymakers and practitioners. These research findings have implications not only for investors but also for managers, policymakers, researchers, and those in developing nations. The findings of this study support the idea that manufacturing companies can expect to perform better and attain more firm value if they

adhere to excellent corporate governance principles. It suggests, theoretically, that effective corporate governance processes result in lower agency costs, which lead to increased firm value. As our research result and many of the earlier empirical studies found significant positive effects of managerial ownership, foreign ownership, and ownership concentration on increasing companies' firm value therefore, the policymakers are recommended to develop specific guidelines regarding the ownership structure in the firms as there is no specific guideline regarding the issue in CGC- 2018. The policymakers should also address the issue of audit quality discussed in earlier to formulate particular guideline in absence of particular phenomena. Furthermore, to develop the corporate governance practices in Bangladesh, different voluntary practices such as, gender diversity, age diversity, qualification diversity, expertise diversity, ethnic diversity as well as board diversity may be encouraged in addition to practicing mandatory guidelines.

8. Conclusion and avenues for future research

There are several studies on the connection between corporate governance and firm value, particularly in developed countries. Nonetheless, there is a glaring gap in Bangladeshi academic research on this topic, particularly in the manufacturing sector. Because of recent corporate failures and scandals in Bangladesh, this study sought to fill that vacuum in the body of knowledge. With the aid of the available literature, various corporate governance factors, such as ownership structure, board structure, audit committee structure, etc., are discovered, and their effects on firm value are determined through this study. The study's findings highlighted that good governance practices significantly influence enhancing the value of the studied firms.

We acknowledge some limitations of this work. First, the study's research findings were limited to Bangladeshi manufacturing companies, and although the study covers a significant number of DSE-listed companies, future researchers might consider the non-manufacturing firms. Second, the study relies on secondary data to understand the corporate governance practice of the firms. Prospective future researchers might consider surveys in addition to secondary data that collect qualitative data and go deeper into the issue of CG (and how it relates to firm value). The researchers suggest to apply mixed method in future research by considering qualitative data in addition to quantitative data through using survey or FGD from CG practitioners because sometimes the qualitative data is more effective in understanding a situation under a particular phenomenon. Third, the study investigated the individual effect of corporate governance factors on firm value. There is scope to conduct future research investigating the multiple effects of corporate governance factors and individual effects. Finally, testing the reverse causality is important for policy development and decision-making.

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