Which factors of corporate governance influence the financial sustainability of non-bank financial institutions in Bangladesh? Panel data analysis by the PCSE estimator

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Abstract

In Bangladesh's financial industry, non-bank financial institutions (NBFIs) are essential players in addition to banks. To guarantee the sustainability of this industry, proper corporate governance is required. Corporate governance consists of various factors. The study provides new evidence on which factors of corporate governance influence the financial sustainability of non-bank financial institutions in Bangladesh. The researcher compiled the panel data for the period 2011-2022 from financial disclosures of sampled non-bank organizations. The researcher adopted key panel data techniques. Specifically, the panel corrected standard error (PCSE) estimator was employed to determine the factors influencing the corporate governance of non-bank financial institutions (NBFIs). The researcher assessed the data using the panel least squares, Hausman test, Wooldridge test, as well as the Breusch-Pagan/Cook-Weisberg test. The findings revealed that board independence, board activity intensity, audit committee size, and audit committee activity intensity play a significant role in reshaping corporate governance and achieving the financial sustainability of non-bank financial organizations. On the other hand, board size, board composition, board independence, audit committee independence, and gender variety are not found to be significant factors. Since there isn't much research in this area, the study seems to be highly valuable from an academic standpoint. The study's findings will assist the regulatory bodies in implementing suitable corporate governance in Bangladesh's non-banking financial sector.

1. Introduction

Non-bank financial institutions are financial intermediaries that collect public funds and lend them to satisfy specific financing needs. They are not permitted to take deposits payable by check, draft, etc., or to run current accounts. They are administered by the Bangladesh Bank (the country's central bank), resulting in a risk-based regulatory system. In contrast to commercial banks, NBFIs have a narrow business line. They're allowed to accept term deposits, and some of their products comprise term loans, lease financing, bridge financing, rotating finance, syndicated finance, real estate finance, personal loans, car loans, etc. The majority of NBFIs carry out their trade banking operations through distinct subsidiaries, similar to banks, and their trade banking facilities comprise issue management, underwriting, portfolio management, corporate guidance, etc. Some NBFIs also deliver security brokerage facilities.

Although financial sustainability is crucial for both banks and non-bank financial institutions for risk prevention, fund diversification, and long-term capital management, the latter have historically struggled to achieve it, possibly due to their weak corporate governance, loss of public trust, and inadequate investment

management. Corporate governance plays a crucial role in managing corporate affairs, maintaining clean accounts, adhering to finance regulations, and conducting audits. Unfortunately, public opinions of non-bank financial firms have long been negative due to underperformance in terms of public fraud, low quality, management mismatches, and fund anarchy. These complaints pose a risk to the financial sustainability of NBFIs and require a remedy to mitigate the key concerns and ensure the survival and growth of NBFIs. Corporate governance can ensure the financial sustainability of NBFIs by separating and controlling ownership in such a way that corporate entities become professionally responsible and accountable for managing their functions, policies, and regulations to survive in a competitive environment. Therefore, for NBFIs to achieve their sustainability goals, they must prioritize corporate governance.

According to Cadbury (2000) corporate governance is the key to reshaping a company's policies, functions, controls, and overall management in order to strengthen its foundation and increase services and revenue for long-term financial sustainability. When corporate governance is lacking, it creates an agency problem, which hinders the establishment of professional ethics, culture, and values within a firm and creates a barrier between professional management and ownership. This can impede a company's development and growth potential. A company that maintains ethical and fair governance practices is more disciplined and likely to succeed than a company that fails to do so. This high level of governance is characterized by a focus on improving the company's image among stakeholders, which can increase its market share and generate more profits. Additionally, better governance leads to greater sustainability, which helps organizations reduce operating costs, improve service quality, and ultimately increase profitability. However, Shrivastava and Addas (2014) point out that financial sustainability is impossible to achieve without addressing the underlying agency problem. Corporate governance is crucial for achieving financial sustainability, enhancing public confidence, developing a positive image, ensuring quality, and generating income (Pillai & Al-Malkawi, 2018; Tan, Zhang, Zhu, & Li, 2023). However, while many studies have demonstrated the benefits of effective corporate governance, there are still some gaps in the understanding, particularly with respect to data mining, methods, results, and real-world implementation (Dang, Houanti, Le, & Vu, 2018). This study intends to close these gaps and add to the body of knowledge regarding the elements of corporate governance that affect the long-term financial sustainability of non-bank financial firms in Bangladesh. While there has been various research on corporate governance across various economic sectors, few have focused on non-bank financial institutions, which have struggled with poor governance, leading to a weakened industry. Thus, this research offers a fresh perspective on identifying the root causes of the sector's challenges and proposing solutions for reform and innovation.

2. Literature Review for Corporate Governance and Hypothesis

Effective corporate governance has become increasingly crucial for NBFIs in Bangladesh to establish and maintain a credible market share. Although these organizations have historically faced stringent corporate governance practices, the importance of strong governance has only grown. This study examines several variables related to corporate governance and their effect on the profitability and financial sustainability of non-bank financial organizations. The variables are described below:

Board Size: A key feature of corporate governance is the size of the board of directors, which can have a substantial influence on the performance of non-bank financial organizations. Board size, along with the competencies of its members, is essential for translating organizational inputs into sustainable outputs. Agustia, Harymawan, and Nowland (2022) noted that businesses with frequent meetings and cooperative board-management meetings typically perform better. Academic researchers have also shown a link between board size and company performance. Board size and firm performance were shown to have a substantial opposite relationship by Chandramohan and Mohan (2018) and Merendino and Melville (2019). However, Marimuthu and Hassan (2018) demonstrated in their research that organizations with more diversity perform better when the size of the board is increased. Yermack (2017) and Cheng (2008) found that a larger board size can create difficulties in coordinating activities and communication, ultimately leading to a decline in profitability. This negative association between board size and profitability is a result of compromised corporate governance, as concluded by O'connell and Cramer (2010) and Rashid, De Zoysa, Lodh, and Rudkin (2010). Previous research has largely focused on the benefits of small board sizes for easy communication, coordination, and decision-making. However, a board size that is neither too large nor too small is ideal for ensuring efficient work and decision-making. In this research, board size is calculated by adding the number of directors on the board.

Hypothesis 1: Board size significantly affects the financial sustainability of Non-bank financial institutions in Bangladesh.

Board Independence: The concept of board independence was first introduced in the Anglo-American context, and the appointment of more outside directors was popularized in the United States in the 1960s, as mentioned by Kesner and Dalton (1986). Hu, Lin, and Tosun (2023) assert that board independence has a favorable connotation with company performance and that board independence improves company success. In accordance with the guidelines set by Kesner and Dalton (1986) Bangladeshi firms began including independent directors by amending their corporate governance codes, with one-tenth of directors being independent becoming a requirement in 2006. However, the board's addition of independent directors has been a topic of debate, with questions raised about whether this change has contributed to the firm's profitability. According to

McCabe and Nowak (2008) independent directors can bring balance to the power dynamic in board meetings. This is particularly important in the context of Bangladesh, where political or family-based firms frequently form boards. Board independence is calculated here by the ratio of the number of total independent directors to the total number of directors on the board.

Hypothesis 2: Board Independence has a favourable relationship with Bangladesh's non-bank financial institutions' ability to maintain their financial stability.

2.1. Board Composition

An optimal board composition is crucial for ensuring managerial effectiveness, effective monitoring, and cost control and can be achieved through the inclusion of board members from different perspectives and expertise. Personal skills, decision-making power, balance of power, and managerial capacity are essential factors that contribute to an effective board's decision-making and ultimately lead to improved profitability. However, previous research on this topic has provided mixed results. According to Archana, Dhiman, Rana, and Srivastava (2022) the board's makeup has a beneficial influence on the performance of the company. According to Carter, Simkins, and Simpson (2003) a board with more outside directors than inside directors is more likely to be financially reliable. Specifically, a board with an upper proportion of inside directors was associated with higher levels of judiciary and lawsuit failures, as noted by Kesner and Johnson (1990). As a result, the board's makeup is a crucial issue that can have a big impact on a company's financial viability. The percentage of non-functional directors overall on the board is characterized in the current study by board construction, which is determined by dividing the total number of inactive directors by the total number of directors.

Hypothesis 3: Board composition is significantly related to the financial sustainability of Non-bank financial organizations in Bangladesh.

2.2. Gender Diversity

Women are now increasingly represented on business boards across a wide range of nations in modern times. Increasing the number of female board members generally improves performance, reduces administration of earnings, and reduces extreme risk-taking, mostly in nations with higher gender equality, as examined by Belaounia, Tao, and Zhao (2020). Wang, Deng, and Alon (2021) showed in their research that women directors tend to use less internal and debt funding. Diversity on boards is not limited to women alone but includes individuals from different races, ethnicities, and other minority groups. Ruigrok, Peck, and Tacheva (2007) found that this diversity provides opportunities to explore new potentials and prospects and to address the challenges and issues involved in management and legal matters. Previous research has shown that the participation of women and minority groups on corporate boards can have positive impacts on board dynamics. High levels of board diversity, including women and minority groups, are positively related to a firm's profitability, as found by Van der Walt, Ingley, Shergill, and Townsend (2006). Moreover, the participation of women has been linked to increased organizational commitment and a more socially balanced approach to corporate governance. Gender diversity is referred to in this context as the ratio of female board members to all board associates.

Hypothesis-04: Gender diversity is significantly linked with the financial sustainability of Non-bank financial organizations in Bangladesh.

2.3. Board Activity Intensity

Board activity intensity describes how frequently a corporation holds board and shareholder meetings each year, which reflects the dynamics and functions of the board. The relationship between board activity and business performance, though, is still ambiguous. Effective board and shareholder meetings provide a platform for board members to share their opinions and information for timely and valuable decisions and are positively linked to firm performance. Frequent meetings improve organizational policies, strategies, plans, and actions to pursue the vision and goals of the company. Paul (2017) examined whether there is an important, favourable association between ROA and presence at board meetings. On the other hand, a high frequency of meetings may signal lower profitability, as found by Vafeas (1999). The frequency of board meetings held over the course of a year is used here to assess the intensity of board activity.

Hypothesis 5: The intensity of board activity is significantly related to the financial stability of Bangladesh's nonbank financial entities.

2.4. Audit Committee Size

The audit committee and its size are essential factors in monitoring and evaluating financial issues to ensure fairness and prevent corruption. The audit committee's size and the competencies of its members are preconditions for ensuring quality and fair auditing. Audit Committee Size has an adverse and substantial association *with Tobins' Q examined by* Fariha, Hossain, and Ghosh (2022). A small audit committee may not be adequate to manage its activities and meet the challenges, as predicted by accounting and international standards Rahman, Meah, and Chaudhory (2019). To ensure audit quality, the audit committee should be constructed with individuals who have expertise, knowledge, and experience, which have an affirmative influence on the firm's performance, as noted by Musallam (2020). Salehi, Tahervafaei, and Tarighi (2018) found in their research that

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only competent audit committee members can improve the auditing system and monitor and examine the overall operations of the firm. As the audit committee plays a crucial role in maintaining checks and balances over the firm's activities, stakeholders gain a better understanding of the firm's financial affairs. It is a well-known fact that the precise formation of the audit committee can protect firms from any unfair and unethical practices, including mistakes, failures, manipulations, or corrupt activities, whether financial or non-financial.

Hypothesis 6: The extent of the audit committee has a substantial association with the financial stability of Bangladesh's non-bank financial firms.

2.5. Audit Committee Independence

Audit independence is crucial for ensuring that audits are conducted in a manner that is free from any undue influence from top management. This independence serves as the foundation for sound corporate governance practices and promotes the use of professional ethics in carrying out audit responsibilities. Tobin's Q and Stock returns have a significant negative connection with the freedom of the audit committee chairperson examined by Fariha et al. (2022). Aanu, Odianosen, and Foyeke (2014) found an affirmative and significant relationship between the independence of the audit committee and business performance, highlighting the importance of a strong, independent audit committee for achieving optimal financial outcomes and institutional efficiency. Moreover, the expertise of an audit committee is not only indispensable for ensuring the quality of financial reporting but also for preventing any potential earnings management by the firm, as found by Puni and Anlesinya (2020). However, it is significant to remember that the audit committee's independence is essential, as it provides the necessary freedom to perform audit work in accordance with professional ethics and prevents any potential corruption, misappropriation, or financial disclosure issues.

Hypothesis 7: The financial viability and sustainability are strongly correlated with the audit committee's freedom of non-bank financial organizations in Bangladesh.

2.6. Audit Committee Activity Intensity

Because audit committee meetings are crucial for decision-making and financial disclosure oversight, their frequency is often employed as a metric for evaluating an audit committee's efficacy. According to research by Fariha et al. (2022) a company's performance is unaffected by the number of audit meetings held annually or the presence of non-executive directors. Aanu et al. (2014) found that there is a positive correlation between the frequency of audit committee meetings and corporate profits. However, Rebeiz and Salameh (2006) found that just holding more meetings would not be sufficient to improve an organization's performance; meeting quality is also very important. In fact, a 2010 study by Lam, Liu, and Wong found a negative correlation between the frequency of audit committee meetings and the company's financial success. Research on the correlation between the volume of activity on audit committees and the financial performance of corporations is, however, less common.

Hypothesis 8: Activity of the Audit Committee Intensity has a strong connection with the financial sustainability of non-bank financial institutions.

3. Typical Data and Methods

For a long period, the NBFI has faced several challenges related to its structure, management, policies, and governance, which are the causes of its poor performance. The lack of data and its preservation, however, have limited research on this industry. In this research, a panel of 16 NBFIs was used. To select the sample firms, financial records from the Dhaka Stock Exchange (DSE) and the companies' websites were used. Since the study's aim required non-random sampling, the sample size was chosen to be as large as possible to evaluate the largest number of organizations. The data collection period spanned 12 years, from 2011 to 2022, as prior to this time, data were not consistently saved by competent authorities and reported financial statements had significant flaws. The variables used in this research were based on preceding research and corporate governance theories, and some variables that were not available in the sample companies were omitted. The calculation procedures used in this study were based on financial formulas and previous literature.

3.1. Model Specification

ROE (Financial sustainability) $= B_0 + B_1 BS + B_2 BC + B_3 BAI + B_4 GD + B_5 BI + B_6 ACS + B_7 ACI + B_8 ACAI + e$

3.1.1. Variables

The study presupposed a linear relationship between the outcome variable and predictors, as well as a normal distribution for the residual error term. Table 1 represents the measurement of variables.

Variables measurement.

	Variables	Full names	Explanation
Dependent variables	ROE	Return on equity	ROE is a sustainability statistic that is calculated by dividing net income by the capital of stockholders. Shareholders support the firm when they receive a sufficient return on their investment. In the event that not, we will search for substitute investments (Campbell & Rogers, 2012; Chijoriga, 2000).
Independent variables	BS	Board size	Presents how many directors are on the board.
	BC	Board composition	The percentage of non-functional directors on the board is determined by dividing the total number of non-functional directors by the total number of directors.
	GD	Gender diversity	Presents the Percentage of women on the board
	BAI	Board activity intensity	BAI measures the occurrence of meetings in a year.
	BI	Board independence	The percentage of independent directors on the board compared to all of the other directors.
	ACS	Audit committee size	The full complement of members that the audit committee can choose from
	ACI	Audit committee independence	Involvement of non-executive affiliates on the audit committee.
	ACAI	Audit committee activity intensity	It indicates the number of meetings the audit committee has had.

3.2. Technique/Method

Three distinct panel methods—panel least square, fixed effects, and random effects—were used to construct the panel data. When the data is homogeneous—that is, when every firm is the same—panel least squares is usually employed. Since non-bank financial organisations were included in the study, it is presumed that all of the firms could apply the panel least squares approach and had comparable properties. To find the most reliable results, fixed effects and random effects analyses were then carried out. The Hausman test was used to determine which of the fixed effects and random effects was the best approach for the panel data. This test led to the elimination of the fixed effect method and the eventual adoption of the random effects methodology. A lot of common statistical methods, like multicollinearity tests and descriptive analysis, were used to look at the properties and possible multicollinearity problems of the data before the foundational tests were done. The Wooldridge test to determine autocorrelation and the Breusch-Pagan/Cook-Weisberg test to determine heteroscedasticity were both successful in assisting in the selection of a suitable estimate for the panel data. In the end, the corporate governance components that impacted the sustainability of the financial system of Bangladesh's Non-Bank Financial Institutions (NBFIs) were identified using the panel-corrected standard error (PCSE) approach. This method was very helpful because there were more companies (N) than there was time (T). The tests employed in this research were thought to be sophisticated methods for examining non-bank financial institutions and aided in the formulation of useful policy recommendations.

4. Results

Table 2 presents the characteristics of the data through descriptive statistics, which provide an overview of the data shape. The average return on equity for the sample companies was 10.61%, with a considerable range from the maximum of 45.96% to the minimum of negative 87.11%. The standard deviation was 12.71%, which measures the dispersion of data around the mean. The skewness and kurtosis values are -2.858 and 24.577, respectively. Skewness refers to the degree of asymmetry in the data, and an ideal value is close to zero. Calculations indicate that the data is not optimally symmetrical. Additionally, the data is not evenly distributed. The gender variety of the board of directors' ranges from zero to five members, with an average of more than one female member, indicating that not all companies have female representation on their board of directors. The skewness and kurtosis values for gender diversity were 0.457 and 3.37, respectively, which are acceptable. The level of board independence ranged from zero to four members, with a mean value of 1.90, representing that some boards lack independent directors. The average board composition, or the proportion of non-executive directors on the board, is 42.68%, with a range of 82% to 10%. This indicates a suboptimal board composition. The board activity intensity ranges from a maximum of 24 meetings to a minimum of 4 meetings, with an average of 10.64 meetings, indicating that boards are moderately active. The board has a minimum of 7 members and a maximum of 14 members, with an average of 10.44 members, which suggests that board size is appropriate for all non-bank financial institutions. The overall number of members affects the audit committee's size, which ranges from three to seven, with an average of 4.72 members, indicating that the audit committee size is reasonable.

Table 2. Descriptive statistics.

Variable	ROE	GD	BI	BC	BAI	B_SIZE	ACS	ACI	ACAI
Mean	0.106	1.377	1.909	0.426	10.640	10.446	4.725	0.511	4.582
Median	0.101	1.000	2.000	0.450	10.000	10.000	5.000	0.400	4.000
Maximum	0.460	5.000	4.000	0.820	24.000	14.000	7.000	1.000	9.000
Minimum	-0.871	0.000	0.000	0.100	4.000	7.000	3.000	0.000	2.000
Std. dev.	0.127	1.031	1.007	0.131	4.363	1.404	0.791	0.289	0.961
Skewness	-2.858	0.457	0.014	-0.070	0.657	0.323	-0.592	0.255	1.422
Kurtosis	24.581	3.376	2.774	3.551	3.007	3.239	3.429	2.225	5.777
Jarque-Bera	3633.112	7.145	0.377	2.356	12.608	3.471	11.574	6.278	115.170

The number of non-executive members on the audit committee is an indication of its independence. If there is less than one non-executive member, the committee is considered less independent. The number of meetings the audit committee holds each year determines its activities. In this research, the audit committee had a minimum of two meetings and a maximum of nine sessions, indicating minimal involvement. All skewness and kurtosis readings are within an acceptable range, with skewness between ±3 and kurtosis between ±10. Therefore, the data is normally distributed.

Table 3. Pearson correlation matrix of variables.

Variable	ACAI	ACI	ACS	BS	BAI	BC	BI	GD	ROE
ACAI	1								
ACI	0.132	1							
ACS	-0.128	-0.312	1						
B_SIZE	0.074	-0.073	-0.065	1					
BAI	0.138	-0.140	-0.010	0.193	1				
BC	0.006	-0.345	-0.137	0.201	0.023	1			
BI	0.126	0.313	-0.031	-0.113	0.141	-0.077	1		
GD	0.014	0.339	-0.196	0.010	-0.001	-0.001	0.254	1	
ROE	0.050	0.047	-0.064	-0.038	-0.249	-0.173	-0.261	-0.001	1

Table 3 presents the Pearson correlation matrix. The findings showed that audit committee freedom and activity were positively correlated, while an adverse association exists between audit committee size and its activity. Additionally, board size is positively correlated with audit committee activity, as is board activity. The study also exposed affirmative correlations between board composition and audit committee activity, gender diversity and audit committee activity, as well as the audit committee and return on equity (ROE). The size of the audit committee and its independence, however, are negatively correlated. The results exposed a negative connotation between board size and audit committee freedom. Additionally, Board activity and the freedom of the audit committee are negatively correlated, and a similar trend is observed between board structure and audit committee freedom. Nonetheless, it is found that there is a positive relationship between board independence and audit committee freedom, as well as between gender diversity and audit committee independence. The outcomes also indicate a positive link between returns on equity and the freedom of the audit committee. Furthermore, board size and audit committee size show a negative association, while board activity intensity has a bad association with audit committee extent. Finally, it has been established that the size of the audit committee has a negative correlation with the independence and composition of the board. The study found that audit committee size is adversely connected with both gender diversity and return on equity. Board activity and board size exhibit a positive correlation, while board composition and board size share a similar relationship. An adverse connotation is observed between board size and board independence, but an affirmative one between gender diversity and board size. Returns on equity and board size display a negative correlation, whereas board composition and board activity show a positive association. The results indicate an affirmative link between freedom of the board and board activity intensity, but a negative one between gender diversity and board activity intensity. Return on equity has a negative association with board activity intensity. Board independence, gender diversity, and return on equity all exhibited an adverse association with board composition. The research identifies a positive correlation between gender diversity and board independence but an undesirable one between return on equity and freedom of the board. Lastly, there is an adverse correlation between gender variety and return on equity.

4.1. Test of Multicollinearity
4.1.1. Variance Inflation Factor (VIF)
Table 4 presents the Variance Inflation Factor (VIF). Reliant and autonomous variables are expected to be correlated; however, a strong correlation between two independent variables can be problematic. When the predictors are correlated, the variance inflation factor (VIF) is used to measure how much a projected regression

factor's variance increases. A VIF of 5 to 10 indicates a significant degree of correlation, which may affect the results.

Table 4. Variance inflation factor (VIF).

Variable	VIF
BS	1.85
BC	2.30
GD	1.16
BAI	2.25
BI	1.31
ACS	1.92
ACI	1.65
ACAI	1.24
Mean VIF	1.71

All VIF values in the data set are smaller than the recommended threshold of 5, which indicates that there are no issues with multicollinearity.

Table 5. Operational results of the panel least squares.

Variable	Panel least squares			
	Co-efficient	Std. error	T-statistic	P-value
Constant	0.331	0.115	2.855	0.005
GD	0.007	0.009	0.786	0.433
BI	-0.033	0.009	-3.377	0.001
BC	-0.210	0.078	-2.696	0.007
BAI	-0.006	0.002	-0.037	0.202
B_SIZE	0.001	0.006	0.025	0.979
ACS	-0.014	0.012	-1.169	0.243
ACI	-0.017	0.040	-0.439	0.660
ACAI	0.014	0.009	1.499	0.135
R-square	0.173			
Adjusted R-squared.	0.133			
S.E. of regression	0.118			
F-statistic	4.355			
Prob(F-statistic)	0.001			
Durbin-Watson stat	1.630			

Table 5 presents the operational consequences obtained using the panel least squares method, which discloses the connotation between corporate governance and the financial sustainability of NBFIs. Gender diversity, board size, and audit committee activity intensity have an affirmative association with the financial sustainability of non-bank financial organizations in Bangladesh, which is insignificant. Freedom of the board and board composition have substantial negative connotations for financial sustainability. While board activity intensity, Audit committee extent, and freedom of the audit committee have an irrelevant negative link with the financial sustainability of nonbank financial institutions in Bangladesh. The adjusted R-squared value of 13.36% indicates that the dependent variable (ROE) is reflecting only 13.36% of the explanatory variables.

4.2. Hausman Test

Following the use of several panel tests, including panel least square, fixed effects, and random effects models, the Hausman test was used to assign the most accurate method. Based on the consequences of this test, the random effects approach was selected as the most suitable technique for the given data set.

Table 6. Operational result of Hausman test.

Test summary	Chi-sq. statistic	Chi-sq. d.f	Prob.
Cross-section random	12.132	11	0.145

Table 6 shows the operational findings of the Hasuman test. The results indicate a Chi-square value of 12.132, while the degree of freedom is 11. The p-value for the test is 0.145, which is higher than the 5 percent significance level. Consequently, the null hypothesis is accepted for the random effects approach.

Table 7. Operational results of random effects model.

Variable	Random effects model			
	Co-efficient	Std. error	T-statistic	P-value
Constant	0.293	0.118	1.475	0.214
GD	0.010	0.009	1.025	0.306
BI	-0.032	0.010	-3.252	0.001
BC	-0.180	0.079	-1.276	0.124
BAI	-0.005	0.002	-0.313	0.221
B_SIZE	0.001	0.007	0.136	0.892
ACS	-0.014	0.013	-1.118	0.265
ACI	-0.021	0.043	-0.514	0.607
ACAI	0.014	0.009	1.541	0.125
R-square.	0.131			
Adjusted R-squared.	0.089			
S.E. of regression	0.115			
F-statistic	3.126			
Prob(F-statistic)	0.002			
Durbin-Watson stat	1.694			

The operational findings for the random effects model on the relationship between corporate governance and non-bank organization's financial sustainability are presented in Table 7. With the exception of board independence, no other independent variable is found to have an impact on the dependent variable that is as substantial. Additionally, due to the panel data's relatively low R-squared (13.03%) and Adjusted R-squared values (8.91%), it suggests that heteroscedasticity and autocorrelation problems may be present.

4.3. Test of Autocorrelation

Table 8 exhibits the test of Autocorrelation. Autocorrelation in panel data reduces the efficiency of the results. Therefore, it is essential to examine the presence of autocorrelation in the study data. The study assumes the null hypothesis that there is no autocorrelation.

Table 8. Wooldridge test for autocorrelation in panel data.

Test summary	F-statistic	D.f	P-value
F-statistic	2.826	15	0.000

However, evidence from the test of autocorrelation is significant at 1 percent, indicating that the null hypothesis can be rejected. Hence, the model has issues with autocorrelation.

4.4. Test of Heteroscekedasticity

When error term variance differs between observations, this is known as heteroscekedasticity. The OLS estimator loses efficiency when there are variable errors, even though it is still unbiased. Heteroskedasticity is a common issue in panel data analysis. In the inquiry, homoscedasticity—the hypothesis that the error variance is constant across all observations—is applied. The homoskedasticity hypothesis is assessed using the Breusch-Pagan/Cook-Weisberg test.

Table 9. Breusch-pagan/Cook-Weisberg test for heteroscedasticity.

Test summary	Chi-square	P-value
Chi-square	64.70	0.000

The test results in Table 9 show that the data reject the null hypothesis. As a result, the heteroscedasticity issue with the data set exists. According to the study, there is both autocorrelation and heteroscedasticity in the panel data. Beck and Katz (1995) recommended the use of FGLS or PCSE in a statistical setting with first-order autocorrelation and heteroscedasticity. Panel-Corrected Standard Errors (PCSE), a version of the full GLS-parks estimator, was proposed by them. Depending on the sample size and duration, estimators like panel corrected standard error (PCSE) or feasible generalised least square (FGLS) may be utilised for practical research (Moundigbaye, Rea, & Reed, 2017). To determine the optimal estimator for efficiency, researchers should take into account the size of the panel dataset (N and T). PCSE is more efficient than FGLS if the number of companies (N) is greater than the time period (T). The PCSE estimator is utilised in this study because there are 16 companies and 12 years in total.

Table 10. Estimated result of panel corrected standard error (PCSE).

Variable	Panel corrected standard error (PCSE)			
	Co-efficient	**Std. error**	**z-statistic**	**p-value**
Constant	0.266	0.089	2.904	0.003
GD	0.011	0.008	1.288	0.200
BI	0.030	0.008	3.474	0.001
BC	-0.197	0.069	-0.871	0.344
BAI	0.006	0.002	3.051	0.002
BS	-0.021	0.022	-0.012	0.213
ACS	0.008	0.011	3.741	0.001
ACI	0.001	0.035	0.021	0.981
ACAI	0.014	0.009	2.701	0.001
R-square.	0.713			
Adjusted R-squared.	0.627			
S.E. of regression	0.123			
F-statistic	4.214			
Prob(F-statistic)	0.010			
Durbin-Watson stat	2.091			

The link between a number of explanatory variables and the ROE (financial sustainability of NBFIs) is shown in Table 10. The findings show a positive correlation, though not a statistically significant one, between the size of the board and the financial sustainability of non-bank financial organisations. Thus, the analysis did not support hypothesis-01, which proposed a large positive correlation between board size and financial sustainability. Hypothesis 02 supports the finding that there is a positive and significant association between board independence and financial sustainability. Research by Zahra and Pearce (1989) and Pearce and Zahra (1991) has demonstrated that board independence can have a major effect on board meetings and profitability, especially when it comes to NBFIs in Bangladesh. This explains why adding additional independent directors to the board can increase its effectiveness and increase the value that shareholders have in the company. The hypothesis-03 is not supported by the percentage of non-functional directors on the board, as indicated by the makeup of the board, which significantly negatively impacts the financial sustainability of NBFIs. Women may benefit the organisation on the board by contributing creative ideas and strong communication skills, especially when handling tactical concerns during board meetings. Previous research indicates that having more female board members can lead to better decision-making and increased profitability in some nations (Huang & Kisgen, 2003).

This study's findings about gender diversity's favourable but negligible impact on financial sustainability refute hypothesis #4. The level of board activity has a strong and positive correlation with NBFIs' ability to maintain their financial stability. This suggests that the firm's performance can improve if board meetings feature more debates and supervision on various concerns. It also supports hypothesis-05. Because of the increased operating expenses, a more involved board with more frequent meetings was linked to decreased profitability (Vafeas, 1999). The size of the audit committee positively and significantly affects the long-term financial viability of NBFIs in Bangladesh. This lends credence to theory 06. Firms with larger audit committees are expected to devote more resources to monitoring the accounting and financial recording processes, as the size of the committee serves as an assertion tool to support fairness. It has been discovered that the audit committee's independence influences the financial sustainability of NBFIs in a favourable but small way. This does not provide credence to hypothesis-07. Therefore, the independent directors' membership on the audit committee won't have a material impact on either the auditing activities or the firm's financial viability. The financial sustainability of nonbank financial institutions is positively and significantly correlated with the frequency of audit committee meetings and the level of audit committee activity. This lends credence to theory 08. Because audit committees are typically seen as serving the interests of the public and shareholders, regular meetings serve to further reinforce the organization's stance on transparency and its use of the committee to promote shareholder value. The corrected R-squared value indicates that 62.71 percent of financial sustainability can be explained by all independent factors.

5. Concluding Remarks

The goal of the study is to pinpoint the corporate governance elements that affect NBFIs' ability to maintain their financial stability. When eight parameters were used to evaluate the impact of corporate governance on financial sustainability, the empirical evidence produced a variety of conclusions. Gender diversity as a part of corporate governance was not strongly linked to the financial stability of non-bank financial institutions (NBFIs) (Van der Walt et al., 2006) which goes against earlier research that suggested a female-led board could improve the workforce and the way the board works . Board independence, board activity intensity, audit committee size, and audit committee activity intensity were found to have a significant positive impact on financial sustainability

when measuring the factors affecting the financial sustainability of NBFIs. These findings are consistent with those of Vafeas (1999) and Rashid et al. (2010). The size of the audit committee, the board of directors' size, the audit committee's independence, and the audit committee's activities were all shown to have no discernible effects on the financial sustainability of NBFIs. Analogous results have also been reported by other investigations, including Rahman et al. (2019) and Aanu et al. (2014). However, this study delivers remarkable mixed results that will act as a benchmark for policymakers in Bangladesh's NBFIs when compared to earlier pertinent studies. While this research has provided some insight into the importance of corporate governance for non-bank financial institutions (NBFIs) in Bangladesh, more investigation is necessary to fully explore some of the conclusions this study raised, given the mixed results. Furthermore, further investigation is needed to determine how the various corporate governance frameworks affect the operations of NBFIs in Bangladesh.

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