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WOMEN AT THE TABLE: ASSESSING THE EFFECT OF GENDER DIVERSITY ON FIRM PERFORMANCE

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ABSTRACT

This study aims to assess the relationship between female representation on corporate boards and firm financial performance in the context of Bangladesh's emerging economy. While global research presents mixed findings on board gender diversity effects, empirical evidence from developing countries remains limited, particularly in South Asian contexts where cultural and economic factors may influence governance-performance relationships differently than in developed markets. This study employs panel data collected from published annual reports of 74 companies listed on the Dhaka Stock Exchange (DSE) spanning the period from 2019 to 2022, utilizing both the www.dsebd.org database and individual company websites for data verification. Panel data regression techniques including fixed effect models, random effect models, and Panel Corrected Standard Error (PCSE) models examine gender diversity effects measured through proportion of women directors, binary presence variables, and Blau heterogeneity index on firm performance proxied by return on assets (ROA) and Tobin's Q ratios. The results reveal that female representation on board shows a significant negative relationship with ROA and Tobin's Q, with regression coefficients of -0.02 and -0.40 respectively, indicating deteriorating performance effects as women's board participation increases. Large firms show insignificant relationship between gender diversity and performance metrics, while smaller firms demonstrate significant negative impacts when female family members comprise board positions. The findings of this study suggest that increased female representation in boardrooms may signal negative market perceptions to shareholders in Bangladesh's developing economy context, particularly for smaller firms where family-based appointments are more prevalent.

INTRODUCTION

Corporate boards are pivotal for strategic decision-making and firm oversight; yet female representation on these bodies remains disproportionately low in many emerging economies, despite broader advances in gender equality. Bangladesh, for instance, has achieved notable gains in narrowing gender gaps across education, politics, health, and economic participation over the past decade (See Table 1), but women continue to occupy only 17.16 percent of board seats on average across publicly listed companies. This disparity is stark, given the mounting evidence that diverse boards can enhance organizational resilience, innovation, and stakeholder trust in developed markets (Martínez-García et al., 2021). However, empirical findings on board gender diversity and firm performance remain inconclusive due to methodological heterogeneity and underexplored contextual factors in South Asian settings (Singhania et al., 2022). In this circumstance, the scientific problem addressed in this study is whether female board representation influences firm financial performance in the specific institutional and cultural context of Bangladesh. The purpose of this research is to investigate the relationship between gender diversity on corporate boards and firm performance, proxied by return on assets (ROA) and Tobin's Q, while controlling for firm size and industry effects. This study employs panel data regression techniques on 74 listed firms from 2019 to 2022, isolating the impact of three gender-diversity measures: the proportion of women on the board, the presence of women (a binary variable), and the Blau index of gender heterogeneity.

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Table 1. Global gender gap index-Bangladesh

Index Name	2018		2025	
	Rank	Score	Rank	Score
Global gender gap score	48	0.721	24	0.775
Sub-index 1: Economic participation and opportunity	133	0.441	141	0.457
Sub-index 2: Educational attainment	116	0.95	115	0.960
Sub-index 3: Health and Survival	117	0.969	123	0.960
Sub-index 4: Political Empowerment	5	0.526	3	0.721
Rank out of	**149**		**148**	

Source: Global Gender Gap Report, World Economic Forum

The aim of this research is to determine whether greater female representation on boards has a positive, negative, or neutral correlation with financial outcomes in an emerging economic context. Briefly, Chapter 2 reviews relevant literature and theoretical frameworks; Chapter 3 formulates hypotheses; Chapter 4 details data sources and empirical methodology; Chapter 5 presents the regression and robustness findings; and Chapter 6 concludes with implications for board governance research and directions for future study.

LITERATURE REVIEW

Gender Diversity in the Boardroom

Gender diversity in boardrooms has gathered significant attention in recent years due to its potential implications for organizational effectiveness and governance dynamics. The proportion of women on boards has been widely studied as a key indicator of gender diversity. R. B. Adams and Ferreira (2009) and Carter et al. (2003) demonstrated that higher levels of female representation on boards are linked to improved financial performance, better decision-making processes, and increased stakeholder value. The presence of women on boards was analyzed dichotomously by Carter et al. (2010) to determine the influence on decision-making processes, inclusive discussions, and governance practices. Campbell and Mínguez-Vera (2007) suggest that higher levels of gender heterogeneity, measured through the Blau index, are associated with enhanced firm performance and innovation. Blau index refers to a measure of group heterogeneity or diversity across a specific attribute, such as ethnicity, religion, or occupation (Akram et al., 2020). Blau index is computed as:

$$\text{Blau index} = 1 - \sum_{i=1}^{n} p_i^2 \quad \text{..... (1)}$$

Where p_i^2 refers to the square of the proportion of *n* groups in the board. Only two groups (i.e., male and female) are relevant for this study. The summation of all the squared proportions of relevant groups is subtracted from one to derive the Blau index.

Firm Performance

Firm performance is a central focus of corporate governance research and is often assessed through various financial indicators, including Return on Assets (ROA) and Tobin's Q. Return on Assets (ROA) measures a firm's profitability relative to its total assets, serving as a metric for operational efficiency and financial health. Gompers et al. (2003) found positive associations between board gender diversity and ROA and concluded that firms with higher levels of female representation tend to achieve better financial performance. Tobin's Q assesses a firm's market value relative to its book value. Tobin's Q serves as a proxy for market valuation and investment efficiency. Rose (2007) studied investors' perceptions of corporate governance practices and long-term value creation, demonstrating that gender diversity on the board is associated with higher Tobin's Q ratios.

Empirical Studies and Hypothesis Development

This section reviews empirical studies on board gender diversity and firm performance, and highlights the key findings, methodological variations, and gaps that motivated the current research. Research on the proportion of women directors and firm performance yields mixed outcomes. Erhardt et al. (2003) examined 127 U.S. firms using ROA and ROI measures for the period from 1993 to 1998 and found a positive association between financial performance and the proportion of female board members. Similarly, Lückerath-Rovers (2011) analyzed 99 Dutch companies using OLS regression and reported superior performance in firms with a greater number of women on their boards. Smith et al. (2006) studied 2,500 Danish firms from 1993 to 2001 and observed positive effects of women directors on firm performance. In contrast, Marinova et al. (2015) found no significant relationship between women proportion on the board and firms' performance in Scandinavian and other markets.

Studies on the binary presence of women directors also report divergent findings. Munira (2020) examined 259 firms listed on the DSE across 18 sectors and identified a positive association between women directors and ROA. Sobhan (2021) studied 20 nonbank financial institutions using OLS regression and concluded that female directors significantly enhance ROA.

The Blau heterogeneity index also provides insights into the effects of gender distribution on firm performance. Dwyer et al. (2002) reported positive relationships between Blau index values and firm outcomes. Joecks et al. (2012) argue that performance benefits only emerge when a critical mass of 30 percent women is reached. On the other hand, Darmadi (2010) investigated 354 Indonesian firms using panel regression and found negative relationships between the Blau index and ROA and Tobin's Q.

Contradictory findings across various contexts and methodologies, with differing sample sizes, cultural settings, and control variables, highlight unresolved issues in the literature. Moreover, only a few studies integrate all three measures of gender diversity, such as proportion, presence, and heterogeneity, or focus on emerging economies or South Asian contexts. Thereby, the purpose of this study is to investigate the relationship between three measures of board gender diversity, covering the proportion of women directors, the presence of women directors, and the Blau heterogeneity index, and firm performance measured by ROA and Tobin's Q in the context of an emerging economy. The following are the hypotheses of the study:

H_1: There is a positive relationship between the proportion of women in the boardroom and the firm's performance.
H_2: There is a positive relationship between the presence of women on boardroom and the firm's performance.
H_3: There is a positive relationship between the gender heterogeneity (Blau index) and the firm's performance.

MATERIALS AND METHODS

Sample Data

This study uses cross cross-sectional data set of 74 companies out of 319 listed companies in the Dhaka Stock Exchange (DSE) as a sample. Industry-wise, the random sampling method is used to maintain the same proportion of companies in their corresponding sectors in the Dhaka Stock Exchange (DSE). The cross-sectional data set comprises data from selected companies from 2019 to 2022, accounting for the impact of the pandemic. Due to inconsistent and insufficient data availability, 11 companies were excluded from the analysis. Moreover, the insurance industry was excluded from this study to account for the riskier nature of the business and the inconsistent reporting practices of relevant variables, which differ from those of other companies. Therefore, the final sample data comprise 296 firm-year observations, spanning 74 firms from 2019 to 2022. Data related to ROA, market value, book value, board members, participation of women on the board, and firm asset size are collected from the published annual reports of the respective firms available on their official websites.

Variables

This study uses variables for the regression models, aligning with the empirical studies. ROA and Tobin's Q have been used as a proxy for a firm's performance (Adams et al., 2008). The percentage of women on the board reflects the proportion of female directors on the board. A dichotomous variable is used for understanding the presence of women on the board (Dummy variable 1 means at least one female member on the board, and 0 represents no female member on the board), and the Blau heterogeneity index is used as a proxy for gender heterogeneity on the board (Darmadi, 2010). This study also incorporated some firm-specific control variables into the model, including firm size, board size, firm age, and the number of board meetings held. Since these variables vary significantly from firm to firm, the natural logarithm is used to control for them.

Table 2. Measurement of Variables

Variables	Types of Variables	Measurement Scale
ROA	Dependent	EBIT/ Total Assets
Tobin's Q	Dependent	Market value of firm/Book value of firm
Percentage of Women	Independent	No. of women/ No. of board members
Dummy Variable	Independent	1 for at least one woman in board else 0
Blau Index	Independent	Gender heterogeneity index
Firm Size	Control Variable	Total assets of a firm
Board Size	Control Variable	Numbers of board members
Firm Age	Control Variable	Year of operation
No. of Board Meetings	Independent	No. of board meetings held

Methodology

Descriptive statistics are used to summarize the data set and assess the nature and characteristics of the variables. The pairwise correlation coefficient matrix is used to observe any possible relationships among the variables. This study employed the fixed effects (FE) model and the random effects (RE) model to run the regression models (Bell & Jones, 2014). The pooled OLS method is overlooked in this study, aligning with the results of the Breusch-Pagan LM test (Breusch & Pagan, 1980). The heteroskedasticity and autocorrelation problems have been dealt with by using the Panel Corrected Standard Errors (PCSE) model to run the regression (Zidi & Hamdi, 2024). Moreover, modified Wald test and MLE Random-Effect test are also conducted to determine group-wise heteroskedasticity for the fixed effect (FE) model and the random effect (RE) model, respectively (Baum, 2006).

The serial autocorrelation and cross-sectional dependencies issues were tested by using the Wooldridge test (Drukker, 2003) and the Pesaran test (Pesaran, 2004), respectively. These issues were also resolved in the panel-corrected standard error (PCSE) model by using robust standard errors. The random effect (RE) model is found to be the appropriate model by the Hausman test (Baltagi et al., 2003).

Model Specification

The model can be theoretically specified as a panel data regression model, which explains the extent to which the performance of selected firms listed on the Dhaka Stock Exchange is influenced by the representation of women on their boards. As we have chosen three proxies for gender diversity in the board members, along with some control variables thus our model will theoretically explain how and to what extent women proportion, women's participation, and gender heterogeneity in the board members affect the firm's performance, measured by ROA, accounting-based performance, and Tobin's Q, market-based performance. The model can theoretically be written as:

$Y_{it} = \alpha_o + \beta_{1it}X_{1it} + \beta_{2it}X_{2it} + \beta_{3it}X_{3it} + \beta_{4it}X_{4it} + \beta_{5it}X_{5it} + C_{it} + \mu_{it}$ ……..... (2)

Where, Y_{it} = Measure of the firm's performance
α_o = Intercept coefficient
β = Coefficient of gender diversity and other control variables
X = Measures of gender diversity and other control variables
i & t = 'i' denotes each firm and 't' denotes year
C = Unit-specific error component
μ = Remaining error component

Since this study uses two measures for a firm's performance, ROA and Tobin's Q, while three measures for a firm's boardroom gender diversity, it sums up to six models, which can be rewritten as follows:

$ROA_{it} = \alpha_o + \beta_{1it}\text{PERCENTAGEOFWOMEN}_{it} + \beta_{2it}LNBSIZE_{it} + \beta_{3it}LNASSET_{it} + \beta_{4it}LNAGE_{it} + \beta_{5it} NOOFBOARDMEETING_{it} + C_{it} + \mu_{it}$ ……..... (3)

$ROA_{it} = \alpha_o + \beta_{1it}\text{DUMMY}_{it} + \beta_{2it}LNBSIZE_{it} + \beta_{3it}LNASSET_{it} + \beta_{4it}LNAGE_{it} + \beta_{5it} NOOFBOARDMEETING_{it} + C_{it} + \mu_{it}$ ……..... (4)

$ROA_{it} = \alpha_o + \beta_{1it}\text{ BLAU\_INDEX}_{it} + \beta_{2it}LNBSIZE_{it} + \beta_{3it}LNASSET_{it} + \beta_{4it}LNAGE_{it} + \beta_{5it} NOOFBOARDMEETING_{it} + C_{it} + \mu_{it}$ ……..... (5)

$LNTOBINQ_{it} = \alpha_o + \beta_{1it}\text{PERCENTAGEOFWOMEN}_{it} + \beta_{2it}LNBSIZE_{it} + \beta_{3it}LNASSET_{it} + \beta_{4it}LNAGE_{it} + \beta_{5it} NOOFBOARDMEETING_{it} + C_{it} + \mu_{it}$ ……..... (6)

$LNTOBINQ_{it} = \alpha_o + \beta_{1it}\text{DUMMY}_{it} + \beta_{2it}LNBSIZE_{it} + \beta_{3it}LNASSET_{it} + \beta_{4it}LNAGE_{it} + \beta_{5it} NOOFBOARDMEETING_{it} + C_{it} + \mu_{it}$ ……..... (7)

$LNTOBINQ_{it} = \alpha_o + \beta_{1it}\text{ BLAU\_INDEX}_{it} + \beta_{2it}LNBSIZE_{it} + \beta_{3it}LNASSET_{it} + \beta_{4it}LNAGE_{it} + \beta_{5it} NOOFBOARDMEETING_{it} + C_{it} + \mu_{it}$ ……..... (8)

Where, *ROA* is a measure of the firm's accounting-based performance; *LNTOBINQ* is natural log of the firm's market-based performance; α_o is intercept coefficient; *PERCENTAGEOFWOMEN* is proportion of women on board; *DUMMY* is presence of women on board; *BLAU_INDEX* is a measure of gender heterogeneity; *LNBSIZE* is natural log of the number of board members; *LNASSET* is natural log of total asset of the firm; *LNAGE* is natural log of the firm's age; NOOFBOARDMEETING is number of board meetings held yearly; C_{it} is unit specific error component; μ_{it} is remaining error component. These six models were tested separately for the FE model, the RE model, and the PCSE method.

RESULTS AND DISCUSSIONS

Descriptive Statistics

Table 3 provides a summary of the descriptive statistics for our selected variables, which show that, on average, ROA is 3.76%, with an average number of board members being 8. Some firms have board members as many as 21, while the minimum number of board members is 4. On average, 1 female member holds a position on the board, which shows that Bangladesh has yet not become free from gender discrimination in the workplace. The average proportion of women on the board is 16%. While some firms have 13 females on their boards, some have no female representation on their boards of directors. Firm total assets range from Tk. 0.04 billion to Tk. 998 billion, having a Tobin's Q of 1.32 on average. The average age of the firms is 27 years, and firms hold an average of 11 meetings a year, both of which have a significant effect on the firm's financial performance.

Table 3. Descriptive Analysis

Variable	Count	Mean	StdDev	Min	Max
ROA	296	0.038	0.052	-0.120	0.280
Board Size	296	8.568	3.606	4.000	21.000
No. of Women	296	1.365	1.768	0.000	13.000
Firm Size (Billion)	296	61.500	135.000	0.040	998.000
Tobin's Q	296	1.329	1.270	0.183	7.706
Firm Age	296	27.081	13.208	5.000	64.000
Percentage of Women	296	0.160	0.162	0.000	0.632
Dummy Variable	296	0.652	0.477	0.000	1.000
Blau Index	296	0.217	0.186	0.000	0.500
No. of Board Meetings	295	11.620	8.180	4.000	58.000

Source: Published annual reports of 74 companies listed in the Dhaka Stock Exchange (DSE)

Correlation Results

Table 4 shows the coefficient correlation matrix illustrating the relationships among all the variables used in this study. Since this study is conducted on a panel dataset, the pairwise correlation coefficient matrix is used to determine the correlations among variables. It has been found that ROA and Tobin's Q are significantly positively correlated, indicating that accounting-based performance has a strong impact on a firm's market-based performance. Moreover, firm performance is significantly negatively related to LNASSET, indicating that large firms incur higher costs, which in turn result in lower profitability. The proportion of women, the Blau index, and the presence of women have positive correlations with each other because they all represent gender diversity on the board.

The proportion of women has a significant negative relationship with LNASSET, which indicates that smaller firms have a higher proportion of women on their boards. Again, LN_BSIZE has a significant positive relationship with LNASSET and Noofboardm~g, which means that large firms have more members on their boards and large boards tend to hold frequent board meetings. Vatcheva et al. (2016) suggest that multicollinearity exists when correlation coefficients exceed 0.80; however, from the correlation matrix, it is observed that none of the independent variables in the six corresponding models exceed this level.

Table 4. Correlation Coefficient Matrix

	ROA	LNTOBBINQ	Percenta~men	Dummy	BLAU_INDEX	LNBSIZE	LNASSET	LNAGE	Noofboardm~g
ROA	1								
LNTOBBINQ	0.45***	1							
Percenta~men	0.0301	0.0442	1						
Dummy	-0.0937	-0.0348	0.72***	1					
BLAU_INDEX	0.0019	0.0403	0.95***	0.85***	1				
LNBSIZE	-0.1341	0.0214	-0.0186	0.1067	-0.0369	1			
LNASSET	-0.24**	-0.25**	-0.23**	-0.0666	-0.20*	0.59***	1		
LNAGE	-0.0589	0.1086	0.1059	0.0572	0.0822	0.1935	0.131	1	
Noofboardm~g	0.0234	0.1121	-0.0545	-0.0608	-0.0799	0.32***	0.51***	0.0519	1

N.B. Asterisk (*),(**), and (***) indicate significance at 10%, 5% and 1% level respectively

Regression Analysis and Discussion

Six regression models were run for each of the three panel data regression methods (FE, RE, PCSE). The dependent variables, ROA and Tobin's Q, were regressed on three different independent variables representing gender diversity and four control variables. The Hausman test has been conducted to determine the appropriate model between FE and RE (See Table 5). It has been found that the random effect (RE) model is appropriate for the regression of ROA, and the fixed effect (FE) model is appropriate for the regression of Tobin's Q on women's representation on the board. To run a more robust and significant regression model, the Panel Corrected Standard Error (PCSE) model was employed, which addressed the heteroskedasticity and autocorrelation issues in the model.

Table 5. Hausman Tests for FE vs. RE and Autocorrelation

Model Name	ROA			Tobin's Q		
	H_1	H_2	H_3	H_1	H_2	H_3
Hausman Test [chi²(5)]	4.04	4.40	4.03	24.52	24.08	24.51
	(0.54)	(0.49)	(0.54)	(0.00)	(0.00)	(0.00)
Wooldridge Test (F-stat)	1.86	1.92	1.90	51.50	62.19	52.79
	(0.18)	(0.17)	(0.17)	(0.00)	(0.00)	(0.00)

N.B. Probabilities of chi² and F-statistics are in parentheses

Table 6 and Table 7 show that the F-statistic probability is less than the 5% significance level in all six models, indicating that all six models are statistically significant. The PCSE regression results indicate that all three gender diversity measures have negative impacts on firm performance. Specifically, the proportion of women on boards is significantly and negatively related to ROA at the 5% level and to Tobin's Q at the 1% level, leading to the rejection of H_1. Similarly, the presence of at least one female director exhibits a strong negative association with both performance metrics, ROA and Tobin's Q, at the 1% significance level, in contrast to the findings of Nguyen et al. (2014), leading to the rejection of H_2. Finally, the Blau heterogeneity index also shows significant negative relationships with ROA (at the 1% level) and Tobin's Q (at the 5% level), consistent with the work of He and Huang (2011), which leads to the rejection of H_3.

These negative relationships across all three gender diversity measures suggest that, in Bangladesh's context, female representation on the board signals a lack of professional expertise among directors, especially when women directors are predominantly drawn from founding families or sponsors rather than appointed on merit (Biswas et al., 2021). The scarcity of independent female directors, whose participation is shown elsewhere to enhance firm performance (Ruigrok et al., 2006), further exacerbates these negative perceptions.

Control variables provide additional insights, with board size exhibiting no significant relation with ROA but a positive relationship with Tobin's Q at the 1% level, which suggests that investors prefer larger boards (Darmadi, 2010). Firm age has a negative impact on ROA, yet a positive influence on Tobin's Q at the 1% significance level, which provides evidence that established firms command greater market confidence despite lower accounting returns. The importance of frequent board engagement for strategic decision-making is justified as the number of board meetings correlates positively with both ROA and Tobin's Q at 1% significance. However, larger firms (LNASSET) demonstrate significant negative

performance effects. It highlights that indirect costs from asset growth may outweigh revenue gains, contrary to the findings of Julizaerma and Sori (2012).

Table 6. Regression of ROA on women's representation in the boardroom

Independent Variables	Fixed Effect			Random Effect			PCSE		
	Model 1	*Model 2*	*Model 3*	*Model 1*	*Model 2*	*Model 3*	*Model 1*	*Model 2*	*Model 3*
Percentage of Women	-0.02			-0.02			-0.02		
	(-0.63)			(-0.77)			(-2.53)**		
Dummy		0			-0.01			-0.01	
		(-0.54)			(-1.04)			(-3.96)***	
BLAU_INDEX			-0.01			-0.01			-0.02
			(-0.35)			(-0.66)			(-3.14)***
LNBSIZE	-0.01	-0.01	-0.01	0.00	0.00	0.00	0.00	0.01	0.00
	(-0.64)	(-0.61)	(-0.62)	(0.02)	(0.06)	(0.01)	(1.03)	(1.79)*	(0.99)
LNASSET	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01
	(-1.48)	(-1.48)	(-1.48)	(-2.92)***	(-2.88)***	(-2.89)***	(-9.79)***	(-11.29)***	(-10.4)***
LNAGE	-0.03	-0.03	-0.03	-0.01	-0.01	-0.01	0.00	0.00	0.00
	(-1.30)	(-1.31)	(-1.33)	(-0.85)	(-0.87)	(-0.88)	(-1.08)	(-1.07)	(-1.07)
No. of Board Meetings	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	(0.09)	(0.08)	(0.08)	(1.31)	(1.27)	(1.29)	(6.81)***	(6.64)***	(6.76)***
No. of Observations	295	295	295	295	295	295	295	295	295
R-square	0.05	0.05	0.05	0.08	0.09	0.08	0.09	0.10	0.09
F-statistics / Wald chi²	1.83	1.81	1.78	12.83	13.38	12.67	2314.13	937.27	1778.64
Wald Test χ^2 (Prob.)	0.00	0.00	0.00	0.00	0.00	0.00			
Pesaran's Test (Prob.)	0.92	0.92	0.97	0.53	0.64	0.54			
N.B. Z values and t values are in parentheses, and asterisk (*),(**), and (***) indicate significance at 10%, 5% and 1% level respectively									

Table 7. Regression of Tobin's Q on women's representation in the boardroom

Independent Variables	Fixed Effect			Random Effect			PCSE		
	Model 1	*Model 2*	*Model 3*	*Model 1*	*Model 2*	*Model 3*	*Model 1*	*Model 2*	*Model 3*
Percentage of Women	-0.82			-0.62			-0.40		
	(-1.91)*			(-1.96)**			(-4.35)***		
Dummy		-0.14			-0.13			-0.13	
		(-1.57)			(-1.72)			(-2.70)***	
BLAU_INDEX			-0.50			-0.38			-0.22
			(-1.62)			(-1.54)			(-2.18)**
LNBSIZE	-0.14	-0.11	-0.12	0.37	0.38	0.36	0.44	0.45	0.43
	(-0.56)	(-0.45)	(-0.50)	(2.23)**	(2.27)**	(2.19)**	(6.76)***	(6.62)***	(6.58)***
LNASSET	-0.65	-0.65	-0.65	-0.23	-0.22	-0.23	-0.20	-0.20	-0.20
	(-6.13)***	(-6.10)***	(-6.13)***	(-6.05)***	(-5.87)***	(-5.93)***	(-15.31)***	(-16.05)***	(-15.29)***
LNAGE	0.52	0.50	0.51	0.16	0.15	0.15	0.18	0.17	0.17
	(1.56)	(1.50)	(1.54)	(1.30)	(1.16)	(1.20)	(3.45)***	(3.41)***	(3.33)***
No. of Board Meetings	0.01	0.01	0.01	0.02	0.02	0.02	0.03	0.03	0.03
	(1.41)	(1.38)	(1.38)	(3.60)***	(3.49)***	(3.53)***	(10.23)***	(9.94)***	(9.93)***
No. of Observations	295	295	295	295	295	295	295	295	295
R-square	0.08	0.08	0.08	0.19	0.19	0.18	0.21	0.21	0.20
F-statistics / Wald chi²	9.56	9.27	9.31	41.09	40.15	39.42	5599.30	6361.55	5714.81
Wald Test χ^2 (Prob.)	0.00	0.00	0.00	0.00	0.00	0.00			
Pesaran's Test (Prob.)	0.00	0.00	0.00	0.00	0.00	0.00			
N.B. Z values and t values are in parentheses, and asterisk (*),(**), and (***) indicate significance at 10%, 5% and 1% level respectively									

Table 8 reveals that the negative impact of gender diversity is insignificant in large firms but significant at 10% and 5% levels in smaller firms (asset size < BDT 200 billion). Since this study focuses primarily on smaller DSE-listed firms, their pronounced negative outcomes drive the overall model. Together, these results and their interpretations illustrate both empirical outcomes and theoretical implications, providing a comprehensive understanding of the effects of gender diversity on corporate performance in an emerging market setting.

Table 8. Individual Regression of Small Firms and Large Firms

Independent Variables	Small Firms						Large Firms					
	ROA			Tobin's Q			ROA			Tobin's Q		
	Model 1	*Model 2*	*Model 3*	*Model 1*	*Model 2*	*Model 3*	*Model 1*	*Model 2*	*Model 3*	*Model 1*	*Model 2*	*Model 3*
Percenta~men	-0.02			-0.60			-0.01			0.19		
	(-0.74)			(-2.40)**			(-1.51)			-0.24		
Dummy		-0.01			-0.16			-0.00			0.09	
		(-1.65)*			(-1.86)*			(-1.09)			-0.50	
BLAU_INDEX			-0.01			-0.36			-0.01			0.30
			(-0.79)			(-1.67)*			(-1.43)			-0.52
LNBSIZE	0.01	0.01	0.01	0.49	0.49	0.46	-0.01	-0.01	-0.01	0.08	0.08	0.12
	-0.72	-0.94	-0.69	(3.80)***	(3.74)***	(3.60)***	(-2.03)**	(-1.65)*	(-1.96)**	-0.27	-0.29	-0.40
LNASSET	-0.01	-0.01	-0.01	-0.23	-0.21	-0.22	0.00	0.00	0.00	0.05	0.07	0.03
	(-3.35)***	(-3.52)***	(-3.38)***	(-7.91)***	(-7.71)***	(-7.67)***	-0.85	-0.38	-0.78	-0.19	-0.29	-0.12
LNAGE	0.00	0.00	0.00	0.26	0.23	0.24	-0.01	-0.01	-0.01	-0.15	-0.15	-0.10
	-0.17	-0.11	-0.16	(3.30)***	(2.98)***	(3.11)***	(-2.94)***	(-2.73)***	(-2.88)***	(-0.48)	(-0.6)	(-0.31)
Noofboardm~g	0.00	0.00	0.00	0.04	0.03	0.03	0.00	0.00	0.00	0.01	0.01	0.01
	(4.08)***	(3.84)***	(4.03)***	(5.65)***	(5.21)***	(5.44)***	(1.73)*	-1.46	(1.71)*	-0.56	-0.50	-0.39
No. of Observations	261	261	261	261	261	261	34	34	34	34	34	34
R-square	0.08	0.09	0.08	0.24	0.24	0.24	0.40	0.38	0.39	0.03	0.04	0.04
F-statistics/Wald chi²	4.60	5.07	4.61	16.45	15.86	15.69	3.72	3.38	3.65	0.18	0.22	0.23

N.B. Z values and t values are in parentheses, and asterisk (*),(**), and (***) indicate significance at 10%, 5% and 1% level respectively

CONCLUSIONS

The purpose of this study was to investigate the impact of gender diversity in corporate boardrooms on firm financial performance in Bangladesh. Panel regression results demonstrate that all three diversity measures (proportion of women directors, presence of women, and the Blau heterogeneity index) are significantly negatively related to both ROA and Tobin's Q. The study indicates that increased female board representation corresponds with deteriorated firm performance in this emerging market context. This research makes a unique contribution to the literature by simultaneously analyzing multiple measures of gender diversity and controlling for firm size, board size, firm age, and meeting frequency within a developing-economy framework. It offers empirical evidence that, contrary to findings in many developed markets, gender diversity may signal shareholder concerns about director qualifications when women are predominantly appointed through familial or ownership ties rather than on merit.

Theoretical implications of this study underscore the importance of integrating cultural and governance factors when assessing the relationship between diversity and performance. Managerially, firms and policymakers should consider merit-based board appointments, emphasizing professional expertise and independence over inheritance-based placements, to harness the potential benefits of board diversity. Additionally, findings suggest that expanding board size and increasing meeting frequency might improve performance through broader deliberation and oversight.

Limitations of this study include its focus on a four-year period (2019–2022) and exclusion of other diversity dimensions, such as ethnic, educational, and experiential, due to scope constraints. The reliance on publicly reported annual data may also overlook qualitative aspects of director contributions. Future research should extend the temporal scope and incorporate additional board composition variables, such as director independence, tenure, and educational background, to provide a more comprehensive portrait of the effects of diversity. Comparative analyses across South Asian markets and qualitative examinations of board nomination processes would further elucidate the contextual mechanisms driving the gender diversity and firm performance.

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