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RESEARCH ARTICLE

Ownership Structures and Firm Performance: A Correlation and Regression Analysis of Financial Institutions in Bangladesh

Rashed Hossain[1], Provakar Ghose[2], Tahsina Meher Chowdhury[3], Md. Deluar Hossen[4], Md Nazmul Hasan[5], Lisa Mani[6*]

[1]Department of Department of Accounting & Information Systems, University of Dhaka, Dhaka, Bangladesh
[2,5] MS in Business Analytics, University of New Haven, West Haven, United States
[3]Senior Executive Officer, Mercantile Bank Limited, Gulshan Branch; Gulshan Ave, Dhaka, Dhaka, Bangladesh.
[4]Master of Business Administration in Business Analytics (MBA-BAn), International American University, California, United States.
[6]Researcher, Department of Business Administration, Finance and Banking, Shahjalal University of Science and Technology, Sylhet, Bangladesh

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***Corresponding Author**

lisamoni00@gmail.com

ABSTRACT

This paper aims to define the relationship between ownership structures and firm performance. Defining the relation between ownership structures and firm performance in a company has become emerging problem as some researchers shows positive relationship between them while some other researchers shows that there is no correlation between them The analysis has formed five hypotheses that they have tried to validate. The sample selected was annual reports of 324 financial companies listed under DSE (Dhaka Stock Exchange) to test the hypothesis. Five types of ownership structures; Sponsors/Directors, governmental, Institutional, foreign and public ownership have been correlated with the firm performances in this paper. Data was analysed by utilizing the SPSS 24 to determine whether the ownership structures had a significant influence on firm performances. This paper has considered the parameters of ownership structures as independent variables and Performance in terms of Return on Equity (ROE) as dependent variable. The current study tests its hypotheses by using Correlation Analysis and Multiple regressions. Result indicates that institutional ownership; governmental ownership & public ownership is negatively influence to firm performance. It also demonstrates the positive relationships between sponsorship/ director's ownership, foreign ownership & ROE. Results of regression also exhibit that relation between sponsorship/directors ownership, foreign ownership and return on equity is linear but the relation between ROE & institutional ownership, governmental ownership & public ownership is nonlinear. Consequently, the upshot of this study has later implications for the firms and BOD dealing with their ownership structure in future by recognizing how the ownership structure would contribute towards the firm performance as well. This study could provide useful information to researchers in their further studies.

INTRODUCTION

The financial structure is influenced by a firm's standing within its industry. Firms are performing in an ownership structure. In Bangladesh, researchers have conducted different studies on ownership structure, with their hypothesis that a negative relationship should exist between the extent of shareholdings diffuseness and firm performance (Sheehy & Cortez, 2023). It was reasoned out of the conflict of interest between controllers and managers that as ownership diffusion increases, the power of shareholders to supervise management is reduced (Billiet et al., 2023). The decision regarding ownership structure is the most significant one and it comes under financing decision, which is one of the key decisions of managers in an organization. Choice of ownership structure that

would be used by a firm, is merely a financial and marketing problem depending on the risk and return characteristics of the firm and /or its management (Kavadis & Thomsen, 2023).

According to Ryan Conmy and others (2023), the level of safety you desire to protect both the business and also at a personal need in the event that any legal responsibility drops arise. The ownership structures in companies also affect their financial performance to an extent either directly or indirectly (Zahid et al., 2023). Extant literatures have yielded inconsistent findings regarding this issue. Research on corporate governance has been conducted quite extensively in case of developed countries due to the large number of corporate collapses around the world including, US, UK, Australia Germany and Japan but studies on such issue are not adequately perform till date for an emerging economy like Bangladesh (Bhuiyan et al., 2024). Previous studies also produced heterogeneous outcome whether board structure particularly outside director, CEO duality or board size affect firm performance (Kavadis & Thomsen, 2023).

The selection of capital structure represents a critical decision encountered by the management of a firm. Numerous studies address the decision-making process surrounding capital structure; however, the majority of empirical research focuses on large publicly listed companies that typically have various types of securities available for trading (Bhuiyan et al., 2024). The decision regarding capital structure in small firms aligns closely with the conventional textbook scenario that evaluates the options of debt versus equity (Bhuiyan et al., 2023). It is observed that Bangladeshi firms generally limit their decision-making to selecting banks for borrowing, without encountering additional complexities such as the differentiation between private and public debt, or the selection of specific types of securities to issue (Amin et al., 2024).

One important step when creating a new company is to decide the nature of business ownership.
The best ownership structure is depending on different things such as:

a) How many people are owners (ownership?

b) The manner in which the product you will be producing uses.

c) The number of workers you expect to work for you;

Studies by Islam et al. (2024) studied based on board composition and firm performance; focusing also in board composition but also with respect to both board leadership structure and firm performance among Bangladeshi firms are inadequate. However, these researches pooled the overall secondary market and did not mention any comments about a specific industry performance as we have done in International Journal of Economics and Finance (Bhuiyan et al., 2023). Furthermore, these studies have not covered all indicative variables of ownership structure concerning firm's financial performance (Hossain et al., 2024). Other than that, as far concerned been no such studies specifically focused on the impact of ownership structure on firm performance in Bangladesh (Rahman et al., 2024).

Research gaps and area

The research intentions to examine the influence of ownership structures on corporate performance (Chen, 2024). So it would eventually help the various financial & non-financial institutions, as well as support management and provide a solution for the company board of directors to overcome their ownership structure (Molla et al., 2023). Pangestika and others (2024) state that it also provides them information how can they apply such structures in order to reduce the agency costs, improve the relationship in organization within firms and give a light on how ownership structure would affect firm performance as proper understanding of the relations will help the owner to change control rights or take some necessary steps so as to increase its profitability (Bhuiyan et al., 2023). This would prompt researchers to follow this for other deep research (Splitter et al., 2024).

Objectives of the study

This research study aims to investigate the impact of ownership structure on firm performance of listed non-financial companies in Bangladesh from the perspective of agency theory for the period 2023. The main purpose of the study is to test for the effect of ownership structures on firm performances. Other objectives are to:

i. To identify the type of ownership that influences firm performance

ii. To identify and study the effect of sponsors/directors ownership, governmental ownership, institutional ownership, foreign ownership & public ownership on ROE.

iii. To recommend more steps to be taken for better enhancements in ownership and firm performance.

LITERATURE REVIEW

According to Amin and others (2024), several previous studies have investigated the association between ownership structure and firm performance, getting a divergent opinion in regard to the mechanism of how ownership structure influences firm's performance. However, the study revealed that board independence negatively affects bank performance. They also imply that the corporate governance impact ROA to larger extent than it is on ROE & EPS. The study of various Bangladeshi firms found that independent directors have no impact to the firm financial performance in Bangladesh (Islam et al., 2024). Independent directors can have a positive effect on the performance of an enterprise except other variables which were not significant to corporate performance (Shah et al., 2024).

'A positive and significant relationship between board independence and market capitalization is detected by the model while a negative and significant relationship between public ownership and market capitalization is identified (Thuy et al., 2024). Ownership is negatively correlated with business performance. There are two significant policy reverberations from the findings of this study (Bhuiyan et al., 2023). The significance of the results is threefold: (a) they imply that because ownership structures like dominant shareholding, concentrated ownership and foreign ownership do not strongly explain firm performance, policy focus on these institutions is misguided (Wei et al., 2024).

The research indicates that there is no statistically significant relationship between the size of the board of directors and the performance of internal auditors (Behbahaninia, 2024). Consequently, the audit committee must enhance its responsibilities concerning corporate governance by supervising financial reporting and internal control issues (Bhuiyan et al., 2023). Similarly, it has been asserted that there exists "no relation between director independence and performance, whether measured by accounting or stock return measures". The inconsistent findings regarding the relationship between board independence and firm performance could be linked to insufficient methodological approaches or a deficiency in methodological rigor, alongside potential model misspecifications (Handoyo & Anas, 2024). This includes the exclusion of variables that influence firm performance and variations in institutional factors and managerial behaviors within the market. This research seeks to address this limitation by re-examining board independence within the framework of an emerging market (Nanjundaswamy et al., 2024).

THEORETICAL FRAMEWORK

2.1 OWNERSHIP STRUCTURE

According to (Hariyanto et al., 2024), ownership denotes the condition or reality of having exclusive rights and authority over property, which can encompass objects, land or real estate, as well as intellectual property. Proprietorship Ownership in common encompasses a range of rights collectively referred to as title, which can be distinct and possessed by different parties (Mackin, 2024). The decision regarding capital structure holds significant importance as it has a direct impact on a company's profitability.

The ownership structure serves as a significant factor influencing corporate governance, providing valuable insights for policymakers aiming to enhance the corporate governance framework (Wei et al., 2024). In numerous developed countries, the ownership structure tends to be widely dispersed, contrasting with certain developing nations where the absence or ineffectiveness of legal systems in safeguarding investor interests leads to a high concentration of ownership (Behbahaninia, 2024). According to (Nanjundaswamy et al., 2024), the selection and application of capital must be a prime consideration for their long-term financial strategy. Debt is effective if a country has a well-developed capital market, financial intermediaries, corporate governance in place and certain legal protection

for investors. An establishment that is legal consisting of a collective number of people engaged in pursuit for profit (Mackin, 2024).

i) GENERAL PARTNERSHIP

A general partnership is a contract between two or more people to optionally divide among themselves the assets, profits and debts of an unincorporated business (Lidstone, 2017). Partners of this type partners who accept unlimited liability, and their debts may be used to pay for all obligations of the partnership (Bhuiyan et al., 2023). This is because in reality, any partner can be sued equally for the full amount of a partnership's outstanding business debts (Boccabella, 2024). As such the owner carries unlimited liability and there is no limit to this potential liability which can be discharged by seizing the personal assets of an owner in execution (Islam & Bhuiyan, 2022). And, although cash does not flow through the general partnership itself for taxation purposes, partners are each responsible for filing personal income tax returns based on their own takings from their partnerships (Love, 2021). In a partnership, the partners manage the firm and assume responsibility for the partnership's debts and any other obligations. Minimum requirements to operate as the general partnership:

i) a partnership must consist of at least two people;

ii. Each partner is responsible for the liability of their partnership.

iii. Though partnership is best enforced by means of written and signed formal partnership agreements do not consider oral ones to be less legitimate (contract law for business related offerings)

In a general partnership, each partner is empowered to enter into agreements, contracts or business deals on his own and bind all other partners accordingly (Liu et al., 2022). Unsurprisingly, these actions can create opportunities for disagreements, which is why the partnership agreements that work use conflict resolution mechanisms as part of their general partnerships. Sometimes the partners agree to only make major decisions, with either unanimity or a super majority (Chambers & Warren, 2023). In still another type of structure, partnerships are managed by non-partner appointees just as a corporation has a board of directors. But broad consensus is necessary as well, since when all the partners in an enterprise are liable without limit those who merely have clean hands can find themselves hauling bricks to make restitution for fallen partners' misconduct (Wei et al., 2024).

ii) LIMITED PARTNERSHIP

A limited partnership represents a specific form of partnership that shares similarities with a general partnership (Khanom et al., 2022), with a key distinction: while general partnerships require a minimum of two general partners, limited partnerships must include at least one general partner and one limited partner (Enz & Lambert, 2024). In a manner similar to a general partnership, the actions of a general partner that do not evidently pertain to the routine operations of the limited partnership's business or activities will only obligate the limited partnership if such actions were explicitly sanctioned by all other partners involved (Acheson et al., 2024).

A limited partnership has one or more general partners and one or more limited partners. In the legal structure of an LP, there are general partners and limited partners (investors who have no control over the company and bear only limited liability) (Wei et al., 2024). The concept of ownership is a very complex juristic figure, connected to the origins of Ancient Roman Law. The Romans used the terms dominium (ownership) and possession for these two concepts in their law (Behbahaninia, 2024). Dominium signified unlimited right to a thing, whereas possession connoted purely physical control over it. In their minds, ownership was privileged because to own a thing is greater than having physical control of it (Nanjundaswamy et al., 2024).

TYPES OF OWNERSHIP STRUCTURES

DHAKA STOCK EXCHANGE:

In this paper, five types of ownership structures have been considered as per shown in the financial companies listed under Dhaka Stock Exchange). They are:

i) Contribution of sponsorship/Directors

ii) Institutional ownership

iii) Government ownership

iv) Foreign ownership

v) Public ownership

i) SPONSORS/DIRECTORS& FIRM PERFORMANCE

A limited partnership represents a specific form of partnership that shares similarities with a general partnership, with a key distinction: while general partnerships require a minimum of two general partners, limited partnerships must include at least one general partner and one limited partner (Mackin, 2024). In a manner similar to a general partnership, it is established that an action taken by a general partner, which does not evidently pertain to the routine operations of the limited partnership's business or activities, will only bind the limited partnership if such action has received explicit authorization from all other partners (Lidstone, 2017).

A limited partnership has one or more general partners and one or more limited partners. In the legal structure of an LP, there are general partners (who own and operate the business and are responsible for the LP's liabilities), and limited partners (investors who have no control over the company and bear only limited liability) (Liu et al., 2022). The concept of ownership is a very complex juristic figure, connected to the origins of Ancient Roman Law. The Romans used the terms dominium (ownership) and possession for these two concepts in their law (Mazeh, 2024). Dominium signified unlimited right to a thing, whereas possession connoted purely physical control over it. In their minds, ownership was privileged because to own a thing is greater than having physical control of it (Coburn, 2024).

ii) **INSTITUTIONAL OWNERSHIP AND FIRM PERFORMANCE**

Institutional investors refer to organizations that possess substantial financial resources available for investment purposes (Harasheh et al., 2024). These entities allocate capital on behalf of banks, insurance firms, and pension funds. Consequently, they possess significant fiduciary obligations. Due to these obligations, there is a strong motivation to achieve high performance (Scholtens & Willard, 2024). Thirty-two Secondly, recognizing the implications of the free rider problem, institutional investors are highly motivated to monitor the companies in which they hold significant stakes, particularly when the costs of exit are substantial (Milon et al., 2024). Third, similar to the rationale for corporate ownership, institutional ownership may serve as a mechanism to replace existing underperforming management (Velte, 2024).

Institutional investors conduct thorough examinations of a company and engage in essential due diligence prior to making any investment in securities. Consequently, they are unlikely to invest in companies that exhibit a deficient governance structure (Cheng et al., 2024). Due to the potential inability of poorly governed companies to produce improved returns in the future (Bhuiyan, 2019). Furthermore, when sponsors and other controlling shareholders affect shareholder wealth, institutional shareholders have the capacity to reduce agency costs due to their significant shareholdings, which allow them to oversee managerial actions (Behbahaninia, 2024). Therefore, given that institutional shareholdings enhance the governance structure, we propose that this may positively impact firm performance (Bhuiyan, 2019).

iii) GOVERNMENT OWNERSHIP AND FIRM PERFORMANCE

Regulatory frameworks can be established by governmental entities. The implementation of these regulations has the potential to influence the operations of the firm and may serve as a mechanism for governments to guide a company towards specific objectives (Wei et al., 2024). This may provide governments with a strategic informational advantage, as they possess the authority to require firms to disclose information through regulatory measures. Third, it is important to recognize that profit is not the exclusive aim of government ownership (Behbahaninia, 2024).

Additional objectives may include the reduction of unemployment, enhancement of tax collection, and the promotion of overall stability within the financial system. Given that profit is not always the primary goal, governmental ownership ensures a long-term perspective (Nanjundaswamy et al., 2024). Fourth, it is important to recognize that the government is not the sole entity with an interest in a firm that is owned by the government (Bhuiyan, 2023). Examining stakeholder theory reveals that various parties may possess an interest in the firm; this theory emphasizes a long-term perspective (Mackin, 2024). In instances of governmental ownership, this may serve to prevent firms from experiencing bankruptcy and subsequently reduce unemployment rates (Akter et al., 2023). Fifth, akin to corporate ownership and institutional ownership, governmental ownership may also serve as a mechanism to replace incumbent management that is underperforming (Lidstone, 2017).

iv) FOREIGN OWNERSHIP AND FIRM PERFORMANCE

The influence of foreign shareholders on corporate governance represents a significant area of inquiry that has been explored in numerous studies (Liu et al., 2022). The measurement of foreign ownership is determined by the ratio of the foreign ownership stake to the total shareholder equity, as indicated by the findings. Furthermore, the impact of foreign ownership on the profitability of banks has been examined (Chambers & Warren, 2023). For example, the presence of significant foreign shareholder ownership in a company may suggest a strong level of confidence from these investors, potentially resulting in an increased valuation of the company. The foundation of agency theory lies in the principal-agent relationship (Acheson et al., 2024).

The differentiation between ownership and management within contemporary corporations establishes the framework for the application of agency theory (Milon, 2014). Contemporary organizations exhibit a structure of ownership that is broadly distributed among shareholders, who typically do not engage in the management of their respective companies (Mazeh, 2024). The resource dependence theory, as articulated and further explored, posits that foreign investors constitute a primary source of capital for companies (Bhuiyan, 2024). Foreign investors have the potential to enhance the company's oversight of managerial decisions within the decision-making framework. They are capable of offering international expertise that elucidates the landscape of foreign investments (Coburn, 2024). This, in turn, contributes to enhancing the performance of the firm. Despite the extensive examination of the relationship between foreign ownership and firm performance in existing literature, the results remain inconclusive. A multitude of studies conducted globally have examined this relationship in both developed and developing nations (Harasheh et al., 2024).

v) PUBLIC OWNERSHIP AND FIRM PERFORMANCE

"Public Shareholders" refers to individuals or entities that hold Ordinary Shares that were sold as part of the Units in the Offering or obtained in the aftermarket (Zaabalawi et al., 2024). This definition also encompasses any Company shareholder who, prior to the Offering, acquires such Ordinary Shares in the aftermarket (Priom et al., 2024). A shareholder may be defined as an individual, corporation, or entity that possesses shares in a particular company (Otaka, 2024). To qualify as a partial owner, an individual must possess at least one share in a company's stock or mutual fund. Shareholders generally obtain declared dividends contingent upon the company's performance and success (Bhuiyan et al., 2023).

A stockholder, also referred to as a shareholder, possesses the right to participate in voting on specific issues pertaining to the company and to be nominated for a position on the board of directors (Ofir, 2024). In the event of a company's liquidation, the distribution of assets occurs following the settlement of creditor claims (Bhuiyan, 2023, 2023). Shareholders may receive a portion of the proceeds from asset sales, contingent upon the fulfillment of creditor obligations (Sutajaya, 2024). In instances where such circumstances occur, the benefit of holding stock is evident in the protection it affords; stockholders are not held responsible for the debts and financial commitments of the company, thereby preventing creditors from enforcing payment from them (Li et al., 2024).

2.2 FIRM PERFORMANCE

Firm performance is an aggregated judgment of how much a firm has followed through on the bases on which it is judged like financial as well as shareholder performance (Wei et al., 2024). Corporate

performance analysis is a type of business analytics which is performed often via corporate performance management and seeks to gauge how a company is doing, and in turn identify ways to improve its processes or methods of operation (Behbahaninia, 2024). The term can be distinguished from standard reporting because it allows decision makers to evaluate strategic aspects of the firm. However, in the last few years, business health has stretched to include much more (Nanjundaswamy et al., 2024). It is a report on how well a company has matched up to their goals and objectives. Corporate organizations, where one wants to measure the overall effects are to analyze financial performance, market performance and shareholder value performance (here one may be interested in Production capacity analysis too) (Mackin, 2024).

With the idea of business sustainability, corporate health has expanded to include an assortment of factors beyond financial considerations, among them social responsibility and reputation, innovation, employee morale and productivity (Lidstone, 2017). Therefore, no matter if it comes to Calculate KPIs like revenue, ROI, ROA, ROE Overhead and operational costs etc. performance is not limited to the specific numbers.

2.3 RETURN ON EQUITY (ROE)

ROE measures financial performance by separating net income over stockholders' equity (Liu et al., 2022). This is because the higher the percentage of ROE, effectively, the more profit it makes selling its goods and services after accounting for all its costs and debt (shareholders equity = assets — liabilities, so ROE is return on net assets). It is basically seen as the performance measure of how managements utilize a companys assets to form profits (Chambers & Warren, 2023). ROE is expressed in terms of percentage and can be calculated for any company so long as both net income and equity are positive numbers. It does this by taking net income, which is calculated after dividends paid to preferred shareholders and interest to lenders but before paying anything out to common shareholders (Acheson et al., 2024).

The following is the ROE equation:

ROE = Net Income / Shareholders’ Equity

The ROE heuristic metric provides a simple tool for assessment. When comparing a company's ROEto the industry's average, this may show what makes the company competitive (Mazeh, 2024). ROE can provide another insight into how effectively the company management is deploying capital. A low and declining ROE over time can suggest a company is not able to generate shareholder value because it does not know how to reinvest its earnings well, such that productivity and hence profitability are slowly decreasing (Akter et al., 2023). Conversely a reducing ROE suggests that management are putting capital to use in unprofitable areas (Coburn, 2024).

RESEARCH METHODOLOGY

The methodology involved in gathering information and data to inform a business decision (Alam et al., 2022). The methodology may encompass publication research, annual reports of Dhaka Stock Exchange, and various other research sources, while considering both contemporary and historical information (Harasheh et al., 2024). This chapter examines the intricacies of research design, the characteristics of the population and sample size, as well as the various sources of data utilized in the study (Scholtens & Willard, 2024).

Research Design

This refers to a systematic approach or set of procedures utilized for the collection and analysis of data pertaining to the variables outlined in the research problem (Cheng et al., 2024). The data underwent analysis using SPSS (version 24.0), facilitating statistical evaluations and subsequent interpretations of the findings (Bhuiyan, 2017, 2019). Descriptive statistics include correlation, regression, and paired T-test methodologies for hypothesis one (Zaabalawi et al., 2024). The analysis was conducted to determine the relationship between dependent and independent variables, ultimately leading to a well-founded conclusion based on panel data regression analysis (Kabir et al., 2024), accompanied by relevant managerial implications (Li et al., 2024).

Population & sample size

The population of the research is financial & non-financial companies listed under DSE (Dhaka Stock Exchange). Among them ,number of banks are 30,number of cement industries are 7,number of ceramics sectors are 5,number of corporate bond is 1, number of debenture companies are 8, number of engineering companies are 37, number of financial institutions are 23,number of food & allied companies are 17,number of fuel & power industries are 19,number of insurance companies are 47,number of it sectors are 9,jutesectors are 3,number of miscellaneous companies are 13,number of mutual funds are 38,number of paper & printing companies are 3,number of pharmaceuticals & chemicals companies are 31,number of services & real estate companies are 4,number of tannery industries are 6,number of telecommunication are 2,number of textile are 53, number of travel & leisure are 4,number of treasury bond are 221 having total of 581 Companies.

ii) Sample size

This study considers 50 financial companies listed on the Dhaka Stock Exchange (DSE) on December, 2023. Published annual reports of all companies of 2023 were considered for this study. Moreover, directors reports, performance indicators,balance sheet, income statement were used to collect necessary informations.

Data Collection

The company's accounting & financial information, such as, total assets, total liabilities and equities, net sales, net income, operating income and expenses & shareholding percentages etc from these annual reports of 2023 has been gathered (Bhuiyan, 2023, 2024). The rest of the data such as concentrations of ownership, director's report on performances, are all coming from here (Gow et al., 2024). The closing share price market value of the shares was obtained from the DSE website as well from the DSE library resources. Quantitative design is being used in this study. It involves secondary data to evaluate and assess the bank performance through published annual reports of the company (Asutay & Ubaidillah, 2024).

Result Analysis

Data was analyzed through SPSS (version 24.0) for statistical analyses of all data and interpretation on the same. Descriptive statistics: Correlation, regression, paired T-test methods.

Descriptive Statistics

The table 1 provided the descriptive statistics for different variables related to ownership structure and their impact on **Return on Equity (ROE)**. On average, firms in the sample have a return on equity of 10.27%. Half of the firms have an ROE of 9.44% or lower. There is considerable variation in ROE across firms, suggesting diverse performance levels. The distribution of ROE is moderately skewed to the right, meaning there are more firms with higher-than-average ROE values in Table 1. The ROE distribution is slightly more peaked than a normal distribution (kurtosis greater than 3), indicating the presence of a few extreme values. The probability is below 0.05, suggesting that ROE does not follow a normal distribution.

Table 1: Descriptive Analysis on ROE

	ROE	GOVT	SPONSHO...	INSTITUTE	FOREIGN	PUBLIC
Mean	10.27000	2.455714	39.12408	22.83510	1.444082	34.14102
Median	9.440000	0.000000	37.13000	21.10000	0.000000	34.25000
Maximum	27.12000	67.63000	87.00000	70.89000	21.30000	67.91000
Minimum	0.130000	0.000000	0.000000	2.880000	0.000000	5.760000
Std. Dev.	5.789360	12.07016	20.86711	12.67252	4.385672	16.50116
Skewness	0.873041	4.770126	0.260352	1.243781	3.980035	0.092606
Kurtosis	3.604632	24.16648	2.590096	5.824481	18.02924	1.992602
Jarque-Bera	6.971028	1100.533	0.896606	28.92155	590.5332	2.142022
Probability	0.030638	0.000000	0.638711	0.000001	0.000000	0.342662
Sum	503.2300	120.3300	1917.080	1118.920	70.76000	1672.910
Sum Sq. Dev.	1608.801	6993.057	20900.94	7708.447	923.2376	13069.85
Observations	49	49	49	49	49	49

Source: Authors' Work

Public shareholders own about 34.14% of firms' shares on average. The public ownership is balanced around the mean, as shown by a median that is close to the average. Nearly symmetrical, showing little deviation from a normal distribution. The public ownership distribution is likely normal in Jarque-Bera Probability. Government Ownership and Foreign Ownership are highly skewed and non-normally distributed, suggesting that most firms have little to no government or foreign ownership, with a few firms having significant stakes from these groups. Sponsor/Director Ownership and Public Ownership appear to be the more balanced and normally distributed forms of ownership. The Jarque-Bera test results for ROE, Government, Institutional, and Foreign Ownership show that these distributions are not normal, indicating the presence of outliers or extreme values. The relatively high mean and standard deviation for ROE reflect variability in firm performance, which could be influenced by different ownership structures (Hossen, 2024).

Normality Test

The histogram displays the distribution of the residuals from the regression model that likely explores the relationship between ownership structure and firm performance in figure 1. This test assesses whether the residuals follow a normal distribution. The Jarque-Bera statistic of 8.88 and a p-value of 0.01176 suggest that the residuals are **not normally distributed** at the 5% significance level (since p < 0.05) in figure 1.

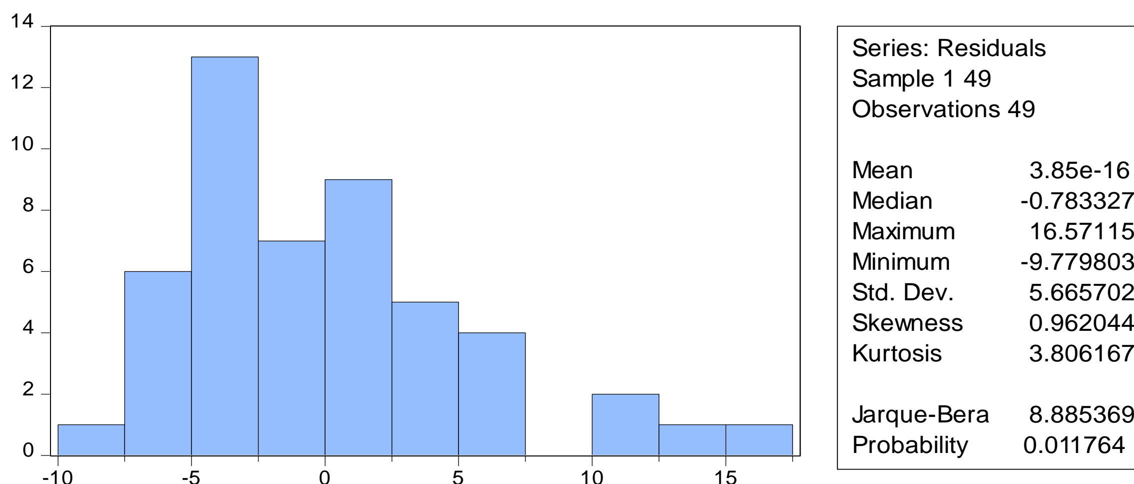

Figure 1: Normality Test
Source: Author's Work

Since the residuals are not perfectly normal, this could imply that the model used to assess the relationship between ownership structures and firm performance may need adjustments figure 1. The non-normality of residuals could affect the validity of standard hypothesis tests (e.g., t-tests for regression coefficients).

LM TEST

The table 2 Breusch-Godfrey Serial Correlation LM Test, which is used to check for the presence of serial correlation (autocorrelation) in the residuals of a regression model.

Table 2: Breusch-Godfrey Serial Correlation LM Test

Breusch-Godfrey Serial Correlation LM Test:
Null hypothesis: No serial correlation at up to 2 lags

F-statistic	0.251571	Prob. F(2,42)	0.7787
Obs*R-squared	0.580049	Prob. Chi-Square(2)	0.7482

Source; Author's Contribution

NB: As F-test if greater than 5% so there is no serial auto correlation.

The F-Statistic is calculated as 0.251571, serving as the test statistic for the Breusch-Godfrey test. Probability F (2,42) = 0.7787: The value presented here corresponds to the p-value associated with the F-statistic. The p-value exceeding 0.05 suggests that we do not reject the null hypothesis. The analysis indicates an absence of serial correlation in the residuals when examined up to 2 lags. The observed R-squared value is 0.580049, representing an alternative test statistic derived from the Chi-Square distribution. The probability associated with the Chi-Square statistic, with 2 degrees of freedom, is 0.7482. In a manner akin to the F-statistic, the p-value in question is also considerably greater than 0.05, thereby reinforcing the conclusion that there is no significant serial correlation present in the residuals.

Heteroskedasticity

As F-test is greater than 5% it means there is no heteroscedasticity problem. The Breusch-Pagan-Godfrey test serves as a method for assessing the presence of heteroscedasticity within a dataset. The null hypothesis is a fundamental concept in statistical testing, serving as a statement that there is no effect or no difference in the context of the study being conducted. It provides a baseline against which alternative hypotheses can be tested and evaluated. The null hypothesis posits that the residuals exhibit homoscedasticity, indicating that their variance remains constant across all levels of the independent variables, specifically ownership structures.

Table 3: Heteroscedasticity Test

Heteroskedasticity Test: Breusch-Pagan-Godfrey
Null hypothesis: Homoskedasticity

F-statistic	0.244381	Prob. F(4,44)	0.9115
Obs*R-squared	1.064948	Prob. Chi-Square(4)	0.8998
Scaled explained SS	1.204829	Prob. Chi-Square(4)	0.8773

Source: Author Work

The F-statistic is calculated to be 0.244381. The F-statistic serves as a tool for assessing the presence of heteroscedasticity. Probability F(4,44) = 0.9115: The p-value corresponding to the F-statistic is presented here. The p-value, being significantly greater than 0.05, suggests that we do not reject the null hypothesis. Consequently, the model does not exhibit any notable heteroscedasticity. Obs*R-squared (1.064948) represents a test statistic derived from the Chi-Square distribution in table 3.

The probability associated with the Chi-Square statistic, with 4 degrees of freedom, is 0.8998. The p-value obtained from the Chi-Square test is significantly greater than 0.05, thereby reinforcing the conclusion that heteroscedasticity is not present. Scaled explanation of SS (1.204829): The analysis reveals another test statistic, with its associated p-value (0.8773) suggesting a lack of evidence for heteroscedasticity in table 3.

Ramsey Reset Test

This test is a diagnostic tool used in econometrics to check for model specification errors, specifically whether non-linear combinations of the independent variables have been omitted from a regression model. This helps identify if the linear model chosen adequately represents the underlying relationship between the dependent and independent variables in table 4.

Table 4: Ramsey reset Test

Ramsey RESET Test
Equation: UNTITLED
Omitted Variables: Squares of fitted values
Specification: ROE GOVT SPONSHORSHIP__DIRECTOR INSTITUTE FOREIGN PUBLIC

	Value	df	Probability
t-statistic	1.318206	43	0.1944
F-statistic	1.737668	(1, 43)	0.1944
Likelihood ratio	1.941170	1	0.1635

Correlation Analysis

Correlation analysis serves as a statistical method aimed at quantifying and elucidating the strength and directionality of the linear association between two variables. The correlation coefficient, commonly represented as r, spans a range from -1 to 1 in table 5, where:

r = 1 indicates a perfect positive correlation, where an increase in one variable corresponds to a perfectly linear increase in the other variable.

r = -1: This indicates a perfect negative correlation, where an increase in one variable corresponds to a decrease in the other in a perfectly linear manner.

r = 0: Indicates the absence of a linear correlation, suggesting no relationship exists between the variables.

Table 5: Correlation analysis

	ROE	GOVT	SPONSHO...	INSTITUTE	FOREIGN	PUBLIC
ROE	1	0.10526290...	0.06236481...	-0.1434086...	-0.1356901...	-0.0096643...
GOVT	0.10526290...	1	-0.3876106...	-0.0380067...	-0.0527740...	-0.1980921...
SPONSHO...	0.06236481...	-0.3876106...	1	-0.4837723...	-0.2266142...	-0.5493018...
INSTITUTE	-0.1434086...	-0.0380067...	-0.4837723...	1	0.19018058...	-0.1789513...
FOREIGN	-0.1356901...	-0.0527740...	-0.2266142...	0.19018058...	1	-0.0866582...
PUBLIC	-0.0096643...	-0.1980921...	-0.5493018...	-0.1789513...	-0.0866582...	1

Source: Author Work

There is a positive correlation between ROE and Govt, ROE and sponsorship. And negative correlation between ROE and institution, ROE and foreign, ROE and public Ownership in table 5.

Regression Analysis

The table 6 provided to represent the output of a regression analysis where the dependent variable is **Return on Equity (ROE)**, and various ownership types are used as independent variables in table 6. Government ownership has a positive and significant effect on ROE, with a probability value of 0.027, suggesting that the impact is statistically significant at the 5% level. Sponsor/Director ownership also has a positive and highly significant effect on ROE in table 6.

Table 6: Regression Analysis

Dependent Variable: ROE
Method: Least Squares
Date: 11/12/19 Time: 15:03
Sample: 1 49
Included observations: 49

Variable	Coefficient	Std. Error	t-Statistic	Prob.
GOVT	0.162639	0.071075	2.288282	0.0270
SPONSHORSHIP__DIRECTOR	0.119390	0.028065	4.254037	0.0001
INSTITUTE	0.063044	0.055087	1.144459	0.2586
FOREIGN	-0.025156	0.199578	-0.126046	0.9003
PUBLIC	0.111194	0.036698	3.030002	0.0041

R-squared	0.042263	Mean dependent var	10.27000
Adjusted R-squared	-0.044804	S.D. dependent var	5.789360
S.E. of regression	5.917633	Akaike info criterion	6.490201
Sum squared resid	1540.809	Schwarz criterion	6.683244
Log likelihood	-154.0099	Hannan-Quinn criter.	6.563441
Durbin-Watson stat	1.920145		

The very low probability value (0.0001) shows a strong statistical significance. Institutional ownership shows a positive effect on ROE but is not statistically significant (probability value of

0.2586). Foreign ownership has a negative effect on ROE, but this relationship is not statistically significant with a very high probability value (0.9003). Public ownership has a positive and statistically significant effect on ROE at the 1% level (probability of 0.0041). This indicates that only about 4.2% of the variance in ROE is explained by the independent variables (ownership types). This negative adjusted R-squared suggests that, when adjusted for the number of variables, the model does not fit the data well. The Durbin-Watson statistic, which checks for autocorrelation, is close to 2, indicating little to no autocorrelation in the residuals in table 6.

FINDINGS AND RECOMMENDATIONS

Findings

1. There is a positive correlation between ROE and Govt, ROE and sponsorship and negative correlation between ROE and institution, ROE and foreign, ROE and public Ownership.

2. These ownership types positively influence firm performance, meaning that firms with higher levels of sponsorship/director and foreign ownership tend to perform better financially (higher ROE).

3. The study found that the relationships between ROE and both sponsorship/director ownership and foreign ownership are linear, suggesting a direct, proportional relationship.

4. Positive correlations were observed between ROE and sponsorship, and ROE and government ownership. Negative correlations were found between ROE and institutional ownership, foreign ownership, and public ownership.

Recommendations

From this study, institutional ownership, governmental ownership &public ownership has negative impact on corporate performance (Thuy et al., 2024). Foreign ownership & sponsors positively correlates with Return of the firm that shows that if the foreign & sponsor contribution is increased, the return of the firm will also increase at (Bhuiyan et al., 2024). It is a matter of hope that many foreign countries are being interested to invest in Bangladesh which will maximize companies' profitability (Bhuiyan & Akter, 2024). As a means to strengthen performance along with other developed countries, private owners, directors, shareholders should increase their presence in investment (Boshnak, 2024).

According to (Johnson & Schulterbrandt, 2024) state that maintaining optimal public partnerships is advisable, as it facilitates the board's ability to make swift decisions and execute activities effectively (Rahman et al., 2024). Additionally, it is given that an increase in shareholders correlates with a rise in agency issues between shareholders and managers (Kristanti et al., 2024). This study indicates that the number of partnerships should be at an optimal level (Tanha et al., 2024). Instead of prioritizing numerical values, the primary focus should be on their efficiency and effectiveness (Berntsson Svensson & Torkar, 2024). Furthermore, financial institutions ought to establish their own benchmarks for return on equity, tailored to their specific objectives (Guberaj et al., 2024).

Implications

Conceptual

The research supports the notion that ownership structures should not be treated as a secondary factor but as a critical driver of firm performance (Bhuiyan et al., 2024). It contributes to the theoretical framework around how different types of shareholders (sponsors, foreign investors, government) impact corporate governance and financial results. he studies highlights the **nonlinear nature** of the relationship between certain ownership types (e.g., institutional, governmental) \ and performance, indicating that traditional linear models may not fully capture the complexity of ownership effects on performance (Bhuiyan et al., 2024). This opens up further research into how nonlinearity shapes governance and financial outcomes.

Practical

The study suggests that firms can improve financial outcomes by increasing sponsor and foreign ownership while being cautious about high levels of institutional, governmental, or public ownership,

which could impede performance (Bhuiyan, 2017). Corporate boards and policymakers can use these findings to make informed decisions about ownership governance. For instance, the results suggest the need for policy reforms that promote efficient governance structures, particularly in firms with significant institutional or public ownership (Uddin et al., 2024). Financial institutions should establish their own performance benchmarks, tailored to their ownership structures. This allows for more precise measurement of success and a better understanding of how various types of shareholders affect institutional performance (Bhuiyan et al., 2024).

CONCLUSION

According to (Das et al., 2024) state that the research aspires at examining the impact of ownership structures on performance of 324 financial institutions of Bangladesh and results reveal that institutional ownership, governmental ownership & public ownership has negative impact on firm performance. This study has examined the relationship between ownership structure and firm performance within the framework of Bangladesh (Das et al., 2024). The analysis uncovers the pattern of ownership mix and concentration in relation to sponsorship in Bangladesh, examines the relationship between ownership structure and firm performance, and assesses the impact of ownership structure on the firm's return on equity (ROE) (Khan et al., 2024). The findings of this study indicate that, within the context of Bangladeshi financial firms, there exists a negative relationship between performance and sponsor ownership (Alam et al., 2024). Conversely, the other dimensions exhibit a positive relationship; however, the results, with the exception of public holding, are deemed insignificant. The relationship between firm performance and foreign holding is consistently positive across all equations analyzed (Nguyen et al., 2024).

Foreign holdings are on the rise in firms that exhibit strong governance practices. These effective governance measures contribute to the overall improvement of the firm, benefiting all stakeholders involved (Med Bechir & Jouirou, 2024). However, our findings indicate a negative correlation between institutional holding and ownership. The relationship between concentration and firm performance is evident. The findings remain consistent when both concentration indicators and ownership mix are incorporated into the regression analyses (Hashmi et al., 2024). The findings exhibit a significant degree of alignment with the conclusions drawn (Bhuiyan et al., 2023). Comparative studies indicate that in developing countries, there is a growing concentration of ownership and control rights among financial and nonfinancial institutions (Giordino et al., 2024). This trend appears to be influenced by the advantages associated with ownership concentration, which serves as a direct indicator of corporate control, along with various other contributing factors (Yao et al., 2024).

Initially, it is proposed that the unobserved heterogeneity carries significant implications for econometric models, particularly in estimating the impact of shareholding patterns on firm performance (Harasheh et al., 2024). Secondly, it is proposed that there may be indigeneity of ownership in transition economies. It is possible that institutional owners have the ability to acquire shares in higher-performing firms while allowing poorly performing ones to remain under public ownership (Acheson et al., 2024).

Limitations of the study

This study has some limitations. During the study, the researcher had to face some obstacles while doing this report (Sam et al., 2024). This study only takes 324 financial firms of total 581 financial & non-financial firms listed under DSE. Given the limited timeframe of three months to finalize the report, it proved nearly unfeasible to comprehensively assess the performance of all firms (Crapanzano et al., 2024). Furthermore, the availability of various types of information was limited, which hindered the ability to adequately access and summarize certain companies. Moreover, it was quite difficult to find adequate information about some companies as their websites were broken &inaccessible (Magboul et al., 2024). Also, my limited experience was an obstacle of this study.

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Conflict of Interest

There is no conflict of interest to publish this article. No funding has been received to conduct in this research.

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