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Ownership Structure and Its Effect on Credit Risk: Empirical Evidence from the Banking Sector of Bangladesh

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ABSTRACT

A well-functioning banking sector significantly impacts the growth and sustainability of an economy. However, commercial banks' motives to generate more and more profits lead to risk-taking to cope with growth and sustainability. This study examines how ownership structures impact the risk-taking of commercial banks in Bangladesh. To address the impact of ownership structures on bank risk, this study encompasses 32 commercial banks from 2002 to 2020, opting for unbalanced panel data. The study adopts the two-step system generalised methods of moments (GMM), and Two-Stage Least Squares to investigate the empirical analysis. This research shows that ownership structures (INO, GPO, MNO) and ownership concentration negatively impact credit risk in Bangladesh. These results suggest that the chosen ownership models aid in decreasing credit risk and enhancing financial and operational stability. The approaches described in this study will strengthen the banking business by reconsidering the relationship between risk-taking and ownership structure, which has excellent value for bank executives, policymakers, regulators, financial professionals, academia, and society. The practical implications of this study provide stakeholders with valuable insights to make informed, strategic decisions in the banking sector.

1. Introduction

The soundness of the banking business is crucial to the economy's expansion by mobilising the economy's money (Barak & Sharma, 2023). The 2007–2009 global financial crisis and recent political instability disrupted regional confidence and capital flow (Mrad & Mateev, 2020).

This crisis also threatened Bangladesh's banking sector and influenced its risk-taking capacity. As a result, nonperforming loans have increased dramatically, forcing banks to take on increased credit risk. Excessive credit risk hurts the economy by producing financial sector inefficiencies, low growth, and cost inefficiency (Alhassan & Asare, 2016). SARKER, N et al. (2017) examined the influence of ownership structure of commercial banks on credit risk in an emerging nation such as Bangladesh. The Prais-Winsten regression model is utilized on a sample of 32 commercial banks from 2000 to 2014, including 390 observations. The influence of banks' ownership structure on credit risk reveals a nuanced regulation of the banking system. Farooque et al., (2007) demonstrated the association between corporate ownership and performance in Bangladeshi listed enterprises by a simultaneous equations methodology. They demonstrated that ownership did not significantly affect performance.

As a result, in a changing environment, banks' essential task is to properly and efficiently manage all forms of risks to avoid insolvency (Abd Karim et al., 2010). According to Nguyen (2020), the relationship between ownership structure and bank risk-taking behaviour is correlated with the characteristics of individual banks. Ownership concentration is an important factor that influences risk-taking behaviour in banks. Credit risk is a major challenge for fixed-income portfolio managers and regulators (Bougatef et al., 2016), and it can greatly impact profitability (Kaaya& Pastory,2013). However, understanding risk management can improve the banking industry's overall performance. Laeven and Levine (2009) found that diversified owners are more willing to take risks than managers and large shareholders. In addition, Haw et al. (2010) found that banks with highly concentrated ownership have poorer performance, lower cost efficiency, and higher insolvency risk. When shareholders are highly concentrated, managers, who are agents of the owners, tend to engage in excessive risk-taking activities. This can lead to undesirable outcomes

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for the bank. Hence, the researcher feels the necessity of researching the aspects of risk-taking and ownership structures.

Market incentives influence bank risk. Changes in ownership structure can have an impact on risk, which can be found with the help of the discipline of market incentives (Bliss & Flannery, 2002; Flannery, 2001). However, to what extent a firm achieves its goals and maximizes shareholder value is influenced by ownership structures (Bambang & Mukhtaruddin,2015). For the control mechanism to be effective, the ownership structure might be set up to create a strong bond between the shareholders and their agents or managers. Managers are more likely to align their interests with those of the shareholders if they have a direct and controlling stake in the company's stock. Therefore, controlling shareholders will seek private benefits of control, such as extracting corporate resources through transferring assets or profits. This will hurt non-controlling shareholders due to the reduction in firm profits and value directly resulting from this action (Ozili & Uadiale,2017). If the demand of controlling shareholders is to raise their utility rather than maximise profit for all shareholders. In that case, the results will affect controlling shareholders, decreasing profitability for the firm. A hostile connection may have developed between them. Company ownership structure and risk are positively correlated, and the risk associated with banking with the government is lower than with private banks (Al-Khouri, 2012). Until Islamic banks can demonstrate that they perform much better to market dominance, ownership structure does not affect rivalry (Moudud-Ul-Huq et al., 2022). Hence, the researcher feels it necessary to show the impact of ownership structures on bank credit risk in Bangladesh. A bank's main functions are saving and lending money. Credit risk occurs when the bank cannot collect these sums from clients on time. Hence, credit management is essential for banks' profitability, progress, and survival, as well as covering financial crises. Credit risk management significantly influences banks' profitability (Abiola & Olausi, 2014). Besides, bank risk arises from credit allocation, investment in securities, other investment opportunities, financial crises, etc. Management's ability to handle risk predominantly affects bank risk (Cahyaningrum & Atahau, 2020). Hence, banks should focus on how to manage risk and improve financial performance. After the global economic downturn, financial institutions have struggled, but they have tried to improve. To what extent banks can control their risk exposure is crucial to their success. Gursoy and Aydogan (2002) have classified ownership structures as ownership of concentration and diversity of ownership. According to agency theory, when ownership and control are divided, the search for owners' rather than managers' interests becomes more focused (Jensen, 1976). There is a possibility of deriving simultaneous compensation. Al-Khouri (2012) claimed that public banks are safer than private banks and that ownership structure and risk are strongly correlated. This research will consider risk management and agency theory. According to agency theory, division of ownership and control may result in a conflicting environment that causes agency costs (Jensen,1976). SARKER, N et al. (2017) examined Ownership structure and bank credit risk. Farooque et al. (2007) examined ownership structure and corporate performance. Hasan et al. (2023) examined ownership structure and dividend policy. Imam et al. (2007) examined ownership structure and firm performance. Whereas this study identifies a research gap. This study focuses on the "Impact of Ownership Structure on Credit Risk of Banking Sector in Bangladesh". Considering the above issues, the following key research question has been formulated to set the research Objectives: (1) How do ownership structures impact bank credit risk?

The primary goal of this research is to examine the effect of ownership structures on the credit risk of commercial banks in Bangladesh. More specifically, the objectives of the study are as follows:

(1) the impact of institutional ownership on bank credit risk;

(2) the impact of managerial ownership on bank credit risk;

(3) the impact of general public ownership on bank credit risk and;

(4) The impact of concentrated ownership on bank credit risk.

Furthermore, based on the findings, this study will advocate a few policy consequences for the betterment of the world's governments, economists, researchers, and large stakeholders.

2.0 Literature review and hypothesis development

2.1 Theoretical Literature

2.1.1 Agency Theory

The idea of financial and strategic business policy has been dominated by agency theory. Berle and Means (1932) first recognised the agency theory in the context of firms' separation of ownership and control. Agency costs are nothing but the fundamental costs of corporate governance. Agency costs are incurred due to a company's contract connection with its financial providers; these costs can be reduced through proper corporate governance measures (Shleifer & Vishny, 1997). Numerous scholars have used agency theory to establish a strong theoretical framework (Bhatt et al., 2023; Phuong et al., 2020). Agency theory explains the relationship between ownership structure and bank credit risk as a function of aligning interests between owners and managers. Linking agency theory with bank ownership structure and risk can help us understand how different ownership structures affect managerial behaviour and credit risk. This analysis can provide valuable insights into the potential implications for bank risk management.

2.1.2 Bank Risk Management Theory

David H. Pyle of the University of California developed the Bank Risk Management Theory to examine why risk management is necessary. The theory outlines the theoretical foundations of modern bank risk management, focusing on market and credit risks. Many reputed scholars have used risk management theory to establish a strong theoretical framework (Nocco et al., 2022; Pournader et al., 2020). Risk management theory states that credit and market risks directly or indirectly impact a bank's survival. The theory suggests that independent variables such as credit risk indicators should influence or account for dependent variables like bank profitability (Marshal & Onyekachi, 2014). An effective risk management plan can help minimize the impact of potential risks, improve organizational resilience, and increase stakeholder confidence. So, the important task of banks in the changing environment is to manage all kinds of risks efficiently and effectively to perform better.

2.0 Empirical Literature

2.2.1 Relationship between Risk and Ownership Structures

The literature on agency theory (Jensen & Meckling, 1976) sees ownership type as a crucial driver of company risk-taking. Caselli and Figueira (2023) show that bank ownership affects risk-taking and monetary policy transmission by assembling a large panel of Western European banks. Regulations and ownership structure (for example, concentration and foreign ownership) influence the risk-taking behavior of MENA banks (Mateev et al., 2023). They also discovered that the ownership structures of Islamic and conventional banking systems significantly impacted risk-taking behavior. With more power and cash flows, owners can persuade bank managers to take bigger risks because riskier managers earn more (Laeven & Levine, 2009). According to theoretical and empirical research, bank performance and risk-taking behavior have a significant relationship with controlling shareholders (Barry et al., 2011). Banks in Bangladesh have a variety of ownership forms, including foreign ownership, managerial ownership, institutional ownership, government ownership, and others. The literature has yet to demonstrate the extent to which ownership structures influence banking risk-taking behavior in Bangladesh. Our econometric specifications also consider bank-level control variables (size, leverage, capital adequacy ratio) and macroeconomic factors to separate ownership structure's influence on bank risk-taking.

Institutional Ownership and Bank Risk: According to agency theory, monitoring corporate risk-taking is significantly influenced by institutional ownership (Sakawa et al., 2021). Asper to Liu and Yeh (2018), banks with a high concentration of shares owned by financial intermediaries and non-financial enterprises have higher risk fluctuations during takeover years. Because of the consistent performance evaluations and rankings in the business, institutional investors almost always concentrate on the near-term horizon when making investment decisions (Coffee Jr, 1991). Gompers and Metrick (2001) said that institutional ownership can make it less appealing for managers to try to maximize profits. Investors with short-term earnings as their primary focus are tired of waiting (Bushee, 1998). Long-term institutional ownership improves corporate social performance (Neubaum&Zahra,2006). Institutional ownership helps alleviate pressures on management to make short-sighted investment decisions (Bushee, 1998). A strong inverse correlation exists between institutional ownership and a firm's propensity toward taking risks (Naveed et al., 2021). But Ehsan and Javid (2018) observed that when banks have higher institutional ownership, it positively impacts their risk-taking behavior.

Managerial Ownership and Bank Risk: Himaj (2014) revealed that managerial ownership aligns management and shareholder interests, allowing the organization to take prudent risks. The study claims that banks with more directors are safer. Managerial ownership misrepresents depository institution risk metrics, and the relationship between risk-taking and managerial ownership is nonlinear (Chen et al., 1998). Directors' shareholding in enterprises influences their actions and behaviors, particularly within the context of agency theory (Torku & Laryea, 2021). Managerially-owned savings and loans took more risks (Cebenoyan et al., 1995). A greater standard of risk-taking behavior is related to larger proportions of managerial ownership compared to lower proportions (Saunders et al., 1990). Jensen and Ruback (1983) suggested that a higher level of managerial ownership could help alleviate agency concerns. However, managerial ownership affects bank risk-taking differently at different levels. At low and high levels, it's associated with higher risk-taking, but at intermediate levels, it has a negative impact (Ehsan & Javid, 2018). According to Cebenoyan et al. (1999) findings, managerial ownership increases risk-taking that is not lucrative. As per Chun et al. (2011), managerial ownership raises the risk for Japanese banks.

General Public Ownership and Bank Risk: General public shareholders influence bank risk-taking. This style of ownership may be riskier than others due to the higher stakes of broad public ownership and the lack of self-interest and administration alignment (Moudud Ul Huq et al., 2020). When something is possessed by the public as a whole, this form of ownership is referred to as nationalization. According to the findings of the researchers Chau and Gray (2002), the level of ownership held by third parties has a favorable correlation with voluntary disclosures. When the state regulates instead of a local agency, the profit margins of privately owned systems are higher. Profit margins have changed over time, demonstrating a rising rate of car ownership as the number of people who own cars rises (Pashigian, 1976). Lassoued et al. (2016) discovered a positive relationship between GPO and bank risk-taking in MENA countries, while Hammami & Boubaker (2015) discovered the

opposite.

Ownership Concentration and Bank Risk: The ownership structure, such as concentration, impacts corporate risk-taking in investment decisions Basheer et al., 2019). Several studies, such as (Barry et al., 2011; Barth et al., 2001; Cornett et al., 2003), have linked ownership concentration to bank performance, but few have examined risk-taking behavior. In all distributions of bank risk, the connection between ownership concentration and risk-taking is negative (Nguyen, 2020). Again, there is a significant negative relationship between family ownership, ownership concentration, and the risk-taking behavior of firms (Naveed et al., 2021; Paligorova & Santos, 2017). In addition, Siddika and Haron (2020) found that the concentration of ownership was found to be inversely related to bank risk. Haque (2019), on the other hand, found a positive relationship between concentrated ownership and bank risk. The concentration of a bank's ownership does not materially affect its success. Loan quality, asset risk, and bankruptcy risk tend to improve as ownership concentration rises (Martínez & Ramírez Gómez, 2011). The negative correlation between high levels of concentrated ownership and bank risk-taking is provided by (Martínez & Ramírez Gómez, 2011). Default risk increases and bank profitability decreases when government institutions have a stake in them (Haque & Shahid, 2016). They conclude that banks with a large portion of managerial to government ownership are riskier, while banks with a higher ratio of government ownership are safer. In a developing country like Bangladesh, SARKER, N. et al. (2017) investigated how commercial banks' ownership structures affected credit risk. From 2000 to 2014, a sample of 32 commercial banks with 390 observations was subjected to the Prais-Winsten regression model. The way that banks' ownership structures affect credit risk demonstrates how the banking system is intricately regulated. Using a simultaneous equations approach, Farooque et al. (2007) showed the relationship between corporate ownership and performance in Bangladeshi listed companies. They proved that performance was not greatly impacted by ownership.

Thus, the study formulated the following hypothesis:

Hypothesis 1 (H1): Ownership structures significantly negatively impact bank risk.

3.0 Methodology

3.1 Data and Variables

The data from Bangladeshi banks has been used for the study, covering 2002 through 2020. It requires 32 banks and 626 observations. The study applies two-step system GMM and 2SLS techniques to analyse this research. The study has developed equation (1) to measure the impact of ownership structure on bank credit risk. We have used credit risk (NPLTL) as the dependent variable in equation (1), following Moudud-Ul-Huq et al. (2022) and Zheng et al. (2017), who used NPLTL as the dependent variable in their studies. This study utilises four variables related to ownership, such as institutional ownership (INO), managerial ownership (MNO), general public ownership (GPO), and ownership concentration (CONC), as independent variables alongside other control and macro variables specific to the bank level. The study uses capital regulation (CAP), leverage (LEV), and bank size (SIZE) as control variables. As macroeconomic variables, we use the growth of gross domestic product (GGDP), and the inflation rate (INFR). To address the potential endogeneity issues, we have used GMM as an instrumental approach and followed the recent studies for alleviating endogeneity (Nassar et al., 2018; Shahveisi et al., 2017; Zheng et al., 2017). The GMM approach, which permits the use of instruments, relies heavily on the accuracy of these instruments to ensure the consistency of their performance (Yao et al., 2018). Later, we also control potential endogeneity by applying another instrumental approach, 2SLS. Table 1 comprehensively describes all variables used in the study.

Table 1: Description of the Variables

Classification	Variables	Description	References
Risk	NPLTL	Ratio of nonperforming loans to total loans	Zheng et al., 2018
Ownership Structure	INO	Institutional ownership	Tjendani et al., 2018
	GPO	General public ownership	Moudud-Ul-Huq et al., 2020
	MNO	Managerial ownership	Pradita & Solikhah, 2017
	CONC	Concentration Ownership	Iannotta et al., 2007
Capital Regulation	CAP	Regulatory capital to risk-weighted assets (CAR)	Zheng et al., 2017
Bank size	SIZE	Natural logarithm of total assets	Bougatef & Mgadmi, 2016
Leverage	LEV	Ratio of total debt to total assets	Chalermchatvichien et al., 2014
Inflation rate	INFR	Annual inflation rate	Chaibi & Ftiti, 2015
Growth in GDP	GGDP	Annual growth in real gross domestic product	Jokipii & Milne, 2008

Source: Author's Compilation Using the Mentioned References.

3.1 Econometric model

By following (Moudud-Ul-Huq et al., 2022) in this study, we have developed the following equation to specify the empirical models of the study:

$$RISK_{i,t} = \beta_0 + \beta_1 RISK_{i,t-1} + \beta_2 RISK_{i,t} + \sum_{m=3}^{5} \beta_m CV_{i,m,t} + \sum_{p=6}^{7} \beta_p MV_{i,p,t} + \in_{i,t} \quad (1)$$

Here, the i subscript signifies the cross-sectional dimension across banks, and t represents the time dimension. At the same time, the lag value of the dependent variable is denoted by t-1. In equation (1), risk is denoted as credit risk measured by non-performing loans to total loans (NPLTL) and used as a dependent variable. Here, OWS denotes the bank ownership structures. β_2 is the coefficient of INO, MNO, GPO, and CONC. In this study, we consider the following ownership structure indicators: institutional ownership (INO), managerial ownership (MNO), general public ownership (GPO), and the concentration of ownership (CONC). We use ownership structure variables as the main independent variables in equation (1). CV and subscript m indicate the bank control variables such as capital, size, and leverage. MV and subscript p indicate the country's macroeconomic variables, i.e., GGDP and Inflation rate (INFR). β is used as an estimator parameter for equation (1), and β is used as an error term.

4.0 Results and analysis

4.1 Result of the Descriptive Statistics

Table 2 shows the statistics that describe each of the factors that were taken into account. The average value of the risk (NPLTL) is 0.0785. It lends credence to the notion that the condition of the risk market in these countries is relatively average. The mean values of INO, MNO, GPO, and CONC are 19.62, 41.54, 38.30, and 23.48, respectively. Based on the descriptive tests conducted, it was found that the mean of MNO for the banks in Bangladesh during the study period was 41.54 per cent, which is the highest among all ownership structures. This suggests that MNO is the dominant structure in Bangladesh. The second most dominant structure is the individual GPO, followed by MNO.

Table 2: Descriptive Statistics of the variables

Variables	N	Minimum	Maximum	Mean	Std. Deviation
NPLTL	626	0.002	0.45	0.078	0.080
INO	626	0.03	88.00	19.626	9.997
MNO	626	3.43	96.00	41.540	18.589
GPO	626	3.85	95.77	38.304	18.328
CONC	626	0.25	88.94	23.486	14.550
CAP	626	0.01	0.99	0.093	0.1003
SIZE	626	8.37	14.85	11.555	1.132
LEV	626	0.05	1.13	0.911	0.1304
GGDP	626	3.83	7.06	5.864	0.726
INFR	626	3.26	8.16	5.928	1.281

Table 3 Multicollinearity test (Pairwise correlation)

Variables	ICE	HCE	SCE	RCE	NPLTL	INO	MNO	GPO	CONC	CAP	SIZE	LEV	GGDP	INFR
NPLTL	.205**	.130**	.232**	.130**	1									
INO	.043	.033	.074*	.005	-.060	1								
MNO	-.164**	-.208**	-.157**	-.099*	.010	-.087*	1							
GPO	.106**	.176**	.014	.182**	-.040	-.248**	-.563**	1						
CONC	-.027	.006	-.027	-.030	-.196**	.067	-.144**	-.006	1					
CAP	.084*	.079*	.087*	.045	.027	.015	-.049	-.040	.047	1				
SIZE	.032	.027	.044	.043	.060	.120**	-.115**	-.210**	.537**	.139**	1			
LEV	.015	.017	.036	-.021	.000	-.080*	.040	-.014	-.058	.065	-.020	1		
GGDP	-.003	.001	-.004	.042	-.273**	.043	-.076	.005	.211**	.052	.336**	-.044	1	
INFR	.023	.039	-.007	.032	-.280**	.004	-.119**	.014	.126**	.133**	.339**	.039	.436**	1
**. Correlation is significant at the 0.01 level (2-tailed).														

4.3 Impacts of Ownership Structures on Credit Risk

Table 4 displays the effect of ownership structures on credit risk. The findings of the GMM methods are presented in column 2, and column 3 shows the robustness results (2SLS) in Table 4. The lag value of a dependent variable is positively linked with the dependent variable, which means that the preceding year's results impact the current year's credit risk. Column 2 of Table 4 reveals that INO significantly negatively impacts credit risk (NPLTL). A one-percentage-point increase in INO lowers credit risk by 0.1 per cent and improves institutional ownership in developing nations like Bangladesh. The result is similar to (Naveed et al., 2021) and inconsistent with the findings of (Ehsan and Javed, 2018). Robustness findings show similar findings to the main results in column 3. Similarly, Table 4 reveals that the relationship between credit risk and GPO is statistically significant and that GPO negatively impacts credit risk. Where the coefficient is -0.030 and the t value is -2.028. A one-percentage-point rise in GPO reduces credit risk by 0.03 per cent. 2SLS (robustness) findings are similar to the main results in column 3. Again, column 2 of Table 4 reveals that MNO and CONC significantly negatively affect bank credit risk. The findings indicate

that increasing MNO and CONC by one percentage point in emerging countries like Bangladesh reduces credit risk by 0.12 per cent and 1.7 per cent, respectively. The result of managerial ownership with credit risk is similar to (Ehsan & Javed, 2018; Mourouzidou et al., 2019) and inconsistent with the finding of (Mujtaba et al., 2021). 2SLS findings are similar to the main results in column 3. The study's hypothesis, 1 (H1), states that ownership structures significantly negatively impact bank risk-taking in Bangladesh. Hence, hypothesis 1 (H1) is acceptable for all the selected ownership structures. In a developing country like Bangladesh, SARKER, N. et al. (2017) investigated how commercial banks' ownership structures affected credit risk. From 2000 to 2014, a sample of 32 commercial banks with 390 observations was subjected to the Prais-Winsten regression model. The way that banks' ownership structures affect credit risk demonstrates how the banking system is intricately regulated. They showed a similar result to this study.

As shown in Table 4, column 2, capital adequacy ratio and credit risk have a substantial and positive association. This reveals that more capital may increase credit risk in Bangladeshi banks. The same result is found in the robustness check in column 3. In column 2, size significantly positively impacts bank credit risk. As per the results, larger banks tend to take on more credit risk, which is supported by research findings (Zheng et al., 2017; Stern & Feldman,2004). Again, it means that larger bank accounts increase the danger. Robustness findings (column 3) are similar to the main results in column 2. However, the study's findings reveal that leverage significantly reduces credit risk in Bangladesh. Column 2 shows that GGDP has an insignificant positive impact on credit risk in Bangladesh. This result is similar to the findings of (Castro,2013; Zheng & Moudud Ul-Huq, 2017), but opposite to the findings of (Ghenimi et al., 2017; Laeven & Levine,2009). However, the robustness findings (column 3) are similar to the main results in column 2. Furthermore, the study result suggests that bank credit risk decreases in Bangladesh during high inflation. Because the relevant t-values are -1.87 and the coefficient is negative - 0.022), this suggests a negative correlation between inflation and NPLTL in developing nations like Bangladesh. Robustness finding (column 3) is similar to the main results in column 2. This result is similar to (Zheng & Moudud Ul-Huq, 2017) and in contrast to (Ghenimi et al., 2017). During times of inflation, debtors can repay their debts promptly, while banks may experience losses due to the decreasing value of money over time (Zheng & Moudud Ul-Huq, 2017).

Table 4: Impacts of Ownership Structures on Credit Risk

Dependent Variable: Risk		
Variables	GMM	Robustness: 2SLS
NPLTL (t-1)	0.057*** (5.601)	0.184***(6.032)
INO	-0.001***(-4.921)	-0.001***(-4.092)
MNO	-0.0012**(-2.061)	-0.014**(-2.045)
GPO	-0.030**(-2.028)	-0.010***(-2.926)
CONC	-0.017***(-4.915)	-0.003***(-4.528)
CAP	0.071*(1.884)	0.031**(2.026)
LEV	-0.053***(-2.747)	-0.027***(-2.827)
SIZE	0.075**(2.035)	0.163***(2.892)
GGDP	0.015(0.472)	0.205(0.841)
INFR	-0.022*(-1.87)	-0.027*(-1.942)
C (Constant)	0.041(1.044)	0.073(1.057)
Hansen test	0.832	-
Sargan test	-	0.763
AR (1)	0.002	0.003
AR (2)	0.272	0.316
Instrument rank	13.000	4.000

Note: The data in the table are the results of the two-step system GMM analysis, with the non-performing loans to total loans (NPLTL). The Hansen's J test standard demonstrates that the instrument may be trusted for this investigation.AR (1) and AR (2) are first and second-order autocorrelation. In parentheses ( ) contain t values. While ***, **, and * indicate the corresponding significance level at 1%, 5%, and 10%, respectively.

5.0 Discussion and Comparison of the Results

The study aims to measure the impact of ownership structures on the credit risk of commercial banks in Bangladesh. The study findings show that credit risk and INO have a negative and statistically significant association. This finding is similar to (SARKER, N. et al., 2017; Shehzad et al., 2010; Iannotta et al., 2007) but dissimilar to (Dennis & Strickland, 2002; Xu & Malkiel, 2003). Again, the results also demonstrate that credit risk is negatively associated with GPO, MNO, and CONC. These results are consistent with (Jabouri, Naili, et al. 2023; Liu, Brahma, et al. 2020), who found that concentrated ownership decreases banks' credit risk. As per agency theory, ownership concentration can lead to conflicts of interest between controlling and minority shareholders, intensifying agency problems (Al-Hares et al., 2018). Obtaining an accurate outcome from the process of financial reporting provides shareholders with the apparent ability to monitor the work and performance of managers or agents in a practical setting, making it possible for them to reduce earnings management. This regulation was implemented to prevent banks from taking on excessive risk during the crisis. The main shareholders in banks with highly concentrated ownership have a strong motivation to keep a tight eye on management's actions. This guarantees that their choices are in line with the bank's best interests. Lending procedures, risk management guidelines, and general strategic decision-making are all closely examined by monitoring (Noman et al., 2015).

As a result of this vigilant oversight, banks tend to adopt a more conservative approach to credit risk management. Evidence shows that controlling owners may prioritize their interests, potentially increasing banks' riskiness (Shleifer & Vishny, 1986). We undertake 2SLS regressions to confirm our findings and find the results stable and qualitatively similar under both approaches.

6.0 Conclusions

The prime goal of this study is to discover how different ownership structures impact credit risk in the banks of Bangladesh. The study used a two-step system, Generalized Methods of Moments (GMM), for analysis, but a two-stage least squares (2SLS) estimator was used for the robustness test. The data from Bangladeshi banks were used for the study, covering 32 banks during 2002-2020. This research demonstrates a negative connection between ownership structures (INO, GPO, MNO) and credit risk. Moreover, ownership concentration also negatively affects credit risk in Bangladesh. The results of this research have important implications for banking sector policy in Bangladesh. Policymakers should encourage diverse and balanced ownership structures, as (INO), (GPO), and (MNO) ownership models are shown to reduce credit risk. Regulators may consider setting guidelines or incentives for maintaining optimal ownership diversity to stabilize risk-taking behavior in banks. Ownership concentration should be monitored closely, as excessive concentration can elevate credit risk and threaten financial resilience. Bangladesh Bank could integrate ownership-related risk indicators into its supervisory and stress-testing frameworks. Reforms that promote transparency in ownership structures can further enhance governance and accountability. The findings also suggest that ownership design can be a strategic tool in mitigating systemic banking risks. Financial institutions may use this insight to reassess internal policies on shareholder control and board composition. Academia and training institutes should include ownership-risk dynamics in banking and finance curricula. Ultimately, adopting these insights can improve the long-term sustainability and trust in Bangladesh's banking sector. This is particularly relevant in light of the nation's ambition to serve as a financial hub for diversified finance in Bangladesh. The study will benefit the corporate and academic sectors, and future researchers might use it as a source of inspiration and direction.

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