

THESIS



Thesis Paper

On

**Relationship between board characteristics and non-performing loan: A
comparative study of Islamic bank and Conventional bank**

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Date of Submission: November 25, 2025

Letter of Transmittal

Date: November 25, 2025

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Subject: Submission of Thesis on “Relationship between Board Characteristics and Non-Performing Loan: A Comparative Study of Islamic Bank and Conventional Bank”.

Dear Sir,

I am submitting my thesis entitled “Relationship between Board Characteristics and Non-Performing Loan: A Comparative Study of Islamic Bank and Conventional Bank” to Daffodil International University for the MBA program with great pleasure. This research got completed under your direction and support, and its goal was to evaluate the effect of board characteristics on non-performing loans in Islamic and conventional banks through the application of different regression methods.

It is with a lot of patience that I have gone through the whole process of writing this thesis. I have also tried to present it in an easy to read and understand way and at the same time its quality to be up to the university standard. I do hope that you will find my work to your satisfaction and I am really grateful for the direction and support you have given during the whole research process. If there is a need for further explanation, I am more than willing to offer it.

Yours Sincerely,



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Student's Declaration

I, Md. Nusrat Al Mujahid Bipul (242-14-053), hereby certify that the thesis entitled “Relationship between Board Characteristics and Non-Performing Loan: A Comparative Study of Islamic Bank and Conventional Bank” is my original work. I declare that this research has been done by me alone and is the result of my efforts to meet the academic standards required by Daffodil International University. The analysis, interpretations, and conclusions made in this thesis are my own and I have made sure that all sources used have been properly cited.

I also state that this thesis will not be applied for any purpose other than the ones indicated by the university or allowed under its academic rules.

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I conclude that the thesis is prepared with authenticity and proper academic effort after the review. He did the entire work alone. I wish him all the best in his academic and professional ventures.



Dr. Md. Azizur Rahman

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Acknowledgment

First, I would like to express my sincere gratitude to Almighty Allah for the successful completion of my thesis, who gave me the ability, patience, and strength. I am heavily grateful for the experiences of learning and academic advice which had been with me throughout the writing of this paper.

I can complete the task thanks to teamwork and help from various people. I am greatly thankful to my supervisor, Dr. Md. Azizur Rahman, Associate Professor and Head of the Department, Business Administration, Faculty of Business & Entrepreneurship, Daffodil International University, who not only provided me with brilliant guidance but also supported me throughout my research. His great influence was very much responsible for the huge expanse and the high quality of the research.

I am very much grateful to the faculty members and the support staff of the Business Administration department who have been very helpful in the academic aspects and have provided me with support all through the MBA program. Their support was crucial to my success in the completion of my research.

I am really grateful to my family who have always been there for me with encouragement, patience, and moral support. The family support has been the strongest motivational factor for me throughout the thesis writing process.

Executive Summary

The research aims to analyze Islamic and conventional banks in Bangladesh by taking the relationship between board characteristics and non-performing loans (NPLs) in the banking sector as the main issue. How board structure, independence, diversity, and competence affect credit risk management is very important to know, because non-performing loans (NPLs) are a major risk factor in the banking sector and they greatly affect the stability of the financial system. The research will assess the possible impacts of certain board characteristics (size, independence, and the presence of politically connected members) on non-performing loans (NPLs) in Bangladesh's two banking types.

The analysis reveals that the governance of the board is very successful in letting the NPLs down. The independent board and the financial expert are shown as having a positive impact by better oversight and, thus, strengthening the practices of monitoring the lending. In Islamic banks, Shariah knowledge and the governance in place also indicate a significant impact on the quality of loans. On the other hand, the larger boards and political connections are seen to have mixed effects on the NPLs, which differ between Islamic and conventional banks because of the different operational frameworks and regulatory requirements. The study, therefore, suggests that the banks in Bangladesh, both Islamic and conventional, can improve their financial and risk management practices by having strong board structures that are able to produce good quality assets and are thus sustainable.

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Abstract

This research aims at investigating the impact of bank governance characteristics on the non-performing loan (NPL) ratios in both Islamic and conventional banks. To do that, the researchers analyzed a panel dataset including 9 Islamic and 20 conventional banks across several years and applied a variety of models like static, pooled OLS, fixed and random effects, and GMM to examine the influence of different aspects such as board size, CEO tenure, board independence, political ties, and financial performance indicators on the quality of loans. The results reveal that in the case of Islamic banks, the characteristics of boards do not have a major impact on NPLs, while the return on equity indicator shows a strong negative association which implies that the financial performance plays a vital role in the reduction of credit risk. On the other hand, in the traditional banks, the size of the board, the period of the CEO, and return on equity are significant predictors of NPLs; thus, effective governance and qualified administration imply lesser credit default. Hausman tests verify the suitability of the models, and robustness checks indicate the different specifications yield the same results. The research emphasizes that the different banking systems' governance structure plays a different role in determining loan performance, hence it provides valuable insights to policymakers, regulators, and bankers to strengthen credit monitoring, lower default risk, and foster financial stability.

Keywords: Non-Performing Loans, Bank Governance, Islamic Banks, Conventional Banks, CEO Tenure, Board Characteristics, GMM, Panel Data.

1. Introduction

In the present interconnected financial world, the growing non-performing loans (NPLs) have turned to be a major indicator of the stability of the banking sector. The high ratios of NPLs not only show the sensitivity of local financial institutions but also lead to a reduction in the confidence of the investors and the capital flow is hindered. The rise in defaults on loans points to the difficulty of the credit risk management, especially in the emerging economies where the financial fragility is worsened by the institutional weaknesses (Beck et al., 2013).

The developed economies usually keep their NPL ratios very low because of the good governance, mature financial systems, and proper risk monitoring. For instance, the tight regulatory control and the good credit assessment in countries like the U.S. and Japan lead to the stability of the loan portfolios and hence allow the banks to manage the credit risk well (Brandão-Marques et al., 2022). These institutional mechanisms help in monitoring the lending practices and thus limiting the defaults on loans and overall increasing the financial stability.

On the contrary, the majority of the emerging economies are still struggling with high NPL ratios due to the lack of proper credit monitoring, weak enforcement of the lending contracts, and poor governance standards. In such markets, the poor quality of institutions usually causes a lack of information between borrowers and lenders, which in turn leads to adverse selection and moral hazard problems (Fuster et al., 2022). The gap in the structure is very harmful to the banking operations and also increases the risk of loan defaults across the system.

The significance of institutional quality has been widely recognized in theory but not with practice, as researchers have mostly directed their attention to the macroeconomic factors or changes in regulations and neglected the micro-level determinants of credit risk, such as board governance and bank-specific management practices. There are studies showing that good corporate governance and board oversight can make all the difference in the performance of loans, as they will more likely result in fewer defaults (Rahman et al., 2023). Nonetheless, the governance mechanisms that different banking systems have in common and their impact on the NPLs are still not well studied.

The present research is an attempt to fill this void by looking into how banks' governance characteristics, including board size, CEO tenure, board independence, and political connections affect the amount of non-performing loans in Islamic and conventional banks. The study aims to achieve a more detailed depiction of the risk of default across the various banking sectors by fusing governance variables specific to the banks with indicators of their financial performance. It is hoped that the results will guide the building of right corporate structures by the policymakers, regulators, and bank managers that will, in turn, lead to better loan quality and reduce the risk of credit being system-wide.

The micro- level governance and management factors are linked by the present research to bank level loan performance outcomes and thus, the literature is enriched by the introduction of new forms of mechanisms that can enhance financial stability. The work with a panel dataset of Islamic and conventional banks investigates the mutual effect of governance and financial performance on NPLs thereby providing empirical evidence that supports and enhances the understanding of macroeconomic and institutional analyses.

2. Literature Review

2.1. Theoretical Framework: Governance and Non-Performing Loans

Corporate governance theories are very helpful in explaining the relationship between the characteristics of the board and the non-performing loans (NPLs). According to agency theory, boards are set up to monitor the lending practices of the company and reduce the behavior of the top management that might increase the risk of default (Jensen & Meckling, 2019). Thus, poor loan quality should be directly reduced by stronger governance mechanisms.

On the other hand, stewardship theory takes a different route, which assumes that the managers, once given the power, are responsible and account for their actions. This notion could be true for the case of NPLs, as banks may be willing to accept the long-term performance of the bank through the managers' actions (Donaldson & Davis, 1991). The stewardship view asserts that the executive and the orientation of the executive determine the level of NPLs.

However, resource-dependence theory offers a different sight of explaining the issue, it regards board's power as that of expert, legitimate, and access to external resources. The boards having distinct backgrounds and external networks might have a positive effect on the quality of loans by leading the management towards more accurate risk assessment (Hillman & Dalziel, 2003). In

sum, these theories show that through the three functions of monitoring, stewardship, and providing resources, the NPL ratios vary.

2.2. Board Size: Capacity and Efficiency

The size of the board has been a determinant of bank performance and asset quality for a long time but the arguments still go on. The larger boards are said to be the ones that allow more and better monitoring which in turn helps banks maintain better lending discipline with lower defaults (Pathan & Faff, 2013). And also the number of directors being large lowers the risk of making bad lending decisions by providing more control and balances.

To some extent it may be that big boards are difficulties in coordinating and thus taking longer to come to a critical decision. Alsadeq (2023) has found that with the increase in the size of the board, the monitoring efficiency may decrease leading to the risk of mismanagement in the credit allocation. It is this mismanagement that weakens the loan screening and leads to the occurrence of higher NPLs.

There are studies done in underdeveloped countries which have shown that the relationship between board size and NPLs is not straightforward. In their study, Hunjra et al. (2021) find that both the composition of the board and its number have a significant impact on the level of risk banks are willing to take in Asian emerging markets. It has been established that while the diversity brought in by the boards can lead to better decision-making, very large boards on the other hand cause inefficiency and thus risk of defaults increases. The authors' implication is that the impact of board size on NPLs is a matter of finding the right equilibrium between expertise and decision-making efficiency.

2.3. Board Independence: Oversight and Effectiveness

The independence of the board is considered to be one of the major governance tools that facilitate accountability. It is believed that the presence of independent directors will be their main argument when it comes to management challenges in the lending area and thus less chance of loan defaults (Adams, 2012). As a matter of fact, the outsider presence through independent directors is supposed to be the main contributor to better governance and fewer connected loans.

Nonetheless, the actual performance of independent directors is frequently questioned especially in developing nations. Hunjra et al. (2021) report that the presence of independent non-executive directors is linked with less risk-taking in banks in Asian emerging economies. In such cases, the directors fail to prevent the lenders from engaging in risky behavior, and the result is the constant presence of high NPLs.

Fairly recently, a study from Bangladesh has confirmed that the quality of independence plays a bigger role than the number of independent directors. Akhter (2023) found out that independent directors with professional expertise and minimal conflicts of interest are capable of greatly reducing loan defaults. This implies that the independence of directors must be authentic for the asset quality to be improved.

2.4. CEO Tenure: Experience and Entrenchment

Another key element in determining lending conduct and credit results is the CEO tenure. Hermalin and Weisbach (2001) suggested that banks are supported by moderately tenured CEOs through the utilization of their accumulated knowledge, which in turn, enhances the screening of loans. During the initial phase of their tenure, CEOs usually try to gain trust and apply conservative lending policies which cut non-performing loans (NPLs) down to size.

Nevertheless, a long tenure can lead to the opposite situation, where a CEO stays in power for a long time, becomes outdated, and therefore, his/her actions lead to an increase of NPLs. Research conducted in Bangladesh indicates that the quality of a bank's management, which is partly measured in terms of leaders' tenure, is one of the factors affecting the performance of Islamic and conventional banks (Mahmud & Rahman, 2020). Thus, the negative effect can decline over time as an increase in positive impact comes with the years spent by a CEO in his/her position.

Non-linear interpretation of the issue is supported by empirical research carried out in South Asia. Hossain et al. (2025) found that the banks which are under the management of moderately tenured CEOs have lower NPL ratios, whereas those with very long-tenured executives experience deterioration in the quality of loans. This is suggestive of the fact that the impact of CEO tenure on asset quality is that of an inverted U-shape.

2.5. CEO Duality: Leadership Versus Oversight

CEO duality, the phenomenon where a single person holds both positions of the chief executive and the board chair, is a hotly contested issue in the corporate governance literature. Adams (2012) suggested that duality could lead to consistent leadership which would in turn bring about more unified approaches in loan handling. It can be inferred that this kind of decision-making will be less erratic and more stable in the case of banks thus creating a positive environment for them.

In contrast, CEO duality is often perceived to be the major pillar that weakens and limits the power of the board to supervise the management. The cross-country study by Hunjra et al. (2021) confirmed that CEO duality is one of the governance related factors that tremendously influences banks' risk-taking behavior in the context of weak regulation. The issue of reduced oversight is particularly acute in situations where governance structures are fragile already.

Within the context of Bangladesh, Mahmud and Rahman (2020) utilizing the CAMEL framework reveal that conventional banks having more powerful leadership (possibly signifying duality) yield higher profits but at the same time, bear more risk than Islamic banks that have an additional layer of authority for more control. The overall situation regarding loan defaults could be viewed as quite differently in case of the different types of banks involved.

2.6. Political Connections: Cronyism and Loan Defaults

Governance in banking is greatly impacted by political connections, which are mainly a problem in developing countries. Boubakri et al. (2008) claimed that the presence of politically connected directors leads to the banks' preference towards certain borrowers and bad loans, thus resulting in poor loan repayment and increased NPL. The Forced lending due to political connections blocks the credit that would have gone to the productive sector and destabilizes the whole banking system.

The researcher Akhter (2023) who has been studying the situation in Bangladesh claims that the politically linked directors at the banks board have been helping in the retention of higher NPL ratios through the practice of favoritism and being lenient towards the violations of regulations. This aspect of the political force in the banking sector indicates that the interference through political channels is the cause of the banks, even those equipped with strong boards, losing the governance battle.

The latest data provides even more support to the view that political connections pose a risk to long-term stability. Hunjra et al. (2021) state that among the influences on corporate governance, which include the political factor, the willingness to take risks is positively correlated. The researchers Hossain et al. (2025) in a study of Bangladeshi banks have come to the same conclusion, stating that political connections are still one of the strongest factors in predicting NPLs.

2.7. Comparative Analysis: Islamic vs. Conventional Banks in Bangladesh

The banking industry in Bangladesh consists of both Islamic and conventional banks that follow different operational principles and at the same time affect the loan performance in different ways. Islamic banks follow the Shariah principals and thus do not engage in interest-bearing loans, but instead, they share the risk, while the conventional ones conduct operations entirely based on interest lending with the main objective of making profits. These differences in the structure define the management of credit risk, with the Islamic banks very often taking the more conservative approach of screening and monitoring their clients due to the risk-sharing method. Research indicates that this difference in operational model results in Islamic banks having a lower probability of defaults when compared to the non-Islamic ones (Mahmud & Rahman, 2020). Hence, the banking model type is a key factor that determines NPL outcomes, where Islamic banks are, in fact, the ones that have better quality assets in the Bangladesh scenario.

Observations made in practice suggest that the interfacing of governance mechanisms varies according to the bank model characteristics of the board. To illustrate, the aspects of size and independence of the boards are acknowledged to a greater extent in the case of the controlling of the non-performing loans (NPLs) in conventional banks, which monitoring of interest-based lending is critical to, whereas Islamic banks depend mainly on the Shariah boards and internal compliance committees to ensure proper financial discipline (Akhter, 2023). Similarly, CEO duality and tenure have diverse influences: the former benefiting the latter of a strong leadership alignment in the case of conventional banks, and of Shariah advisors' involvement in the Islamic banks' emphatic decision-making being the case of the latter. Such a differentiation indicates that governance instruments are not interchangeable across bank models, but rather, they need to be aligned with the operational principles. In short, the relationship between governance and board characteristics varies with the bank type, and this, in turn, directly influences the NPL outcomes in Islamic banks and conventional banks.

Moreover, political connections and following regulations show different effects according to the type of bank. Conventional banks that have boards with political ties run the risk of taking the "bad" policy that eventually leads to non-performing loans (NPL) accumulation due to the excessive ease of credit allocation. In contrast, the Islamic banks' strict compliance with the

religious law helps to diminish the political influence the bank can exert (Hossain et al., 2025). Nonetheless, the systemic governance problems are shared by both banks and the board's capability will always be a determining factor for the quality of loans to be right. To sum up, good governance is the common factor for both types of banks in terms of attaining financial stability yet Islamic banks appear to have less NPLs as a result of their new strategies and compliance systems.

2.8. Research Gap and Rationale

The link between board characteristics and non-performing loans (NPLs) has been the subject of many studies, but there are still many research areas that need to be filled especially when it comes to Bangladesh's dual banking system. The previous studies mainly dealt with the conventional banks, and that is why the Islamic banks that are functioning under Shariah-compliant governance structures have remained quite isolated in terms of the comparative understanding (Akhter, 2023; Hunjra et al., 2021). Therefore, the matter of how board attributes like size, independence, CEO duality, and tenure have different effects on NPLs in the Islamic and conventional banking systems has not been adequately addressed, yet.

In addition to this, the researchers commonly take the governance factors one at a time instead of viewing them as a whole, thus ignoring the synergetic and the interacting influences of the board characteristics on the quality of the assets (Adams, 2012; Hillman & Dalziel, 2003). The bank's category has not received enough attention as a moderator in this relation thus leaving the issue unclear if the same control mechanisms lead to the same results in different banking systems (Mahmud & Rahman, 2020).

Moreover, most of the available studies are based on cross-sectional analysis which cannot demonstrate the changing nature of governance and its long-term effect on loan performance (Hossain et al., 2025). For this reason, the present study intends to fill the above-mentioned gaps through the comparative study of Islamic and conventional banks in Bangladesh, which would lead to a deeper understanding of the impact of board characteristics on non-performing loans in different governance frameworks.

3. Methodology

In this research, a quantitative method is utilized where panel data is applied to investigate the correlation between the features of the board and the non-performing loans (NPLs) in both Islamic and conventional banks in Bangladesh. The data includes the years 2015-2024 for 20 conventional banks and 2015-2023 for 9 Islamic banks (since 2024 Islamic bank annual reports were not available during the data collection).

Panel data is also known as cross-sectional time-series data is appropriate for this study because it captures variations across banks as well as changes over time. This structure allows the model to control for unobserved, time-invariant heterogeneity, significantly reducing omitted variable bias (Hsiao, 2007). Panel data offers greater accuracy compared to a purely cross-sectional or time-series approach because it incorporates both dimensions of information.

In this study, NPL is the predicting (dependent) variable, while BOS, BI, CEOT, CEOD, PCP, SIZE are predictor variables. ROA and ROE serve as control variables.

Variable Descriptions

Non-Performing Loans (NPL): The NPL ratio is defined as a ratio of non-performing loans to total loans. This ratio is considered widely as a signal of credit risk and asset quality in banking (WorldBank, 2024). The presence of non-performing loans at a higher level indicates that not so good monitoring and bad lending practices are in place.

Board Size (BOS): Board size simply means how many directors are there at the bank's board in total. It is argued that board size has an impact on monitoring and risk control (Pathan & Faff, 2013).

Board Independence (BI): BI reflects the ratio of independent directors to the total number of directors in the board. Independent directors are thought to help with proper supervision and to prevent taking unnecessary risks (Adams & Mehran, 2012).

CEO Tenure (CEOT): CEO tenure is indicated by how many years the CEO has been in that position. The longer the CEO is in the position, the better the understanding of the internal structure, however, if the period is too long, it might lead to a situation of management entrenchment (Hermalin & Weisbach, 2001).

CEO Duality (CEOD): This is a binary variable that is 1 if the CEO is also the chair of the board and 0 if otherwise. CEO duality may hinder board's control by pool of power (Adams, 2012).

Politically Connected Board Members (PCP): PCP takes into account the proportion of directors that have a political affiliation among the total number of directors in the board. Political connections may discourage the enforcement of strict credit policies and cause an increase in non-performing loans (Boubakri et al., 2008).

Bank Size (SIZE): The size of a bank is expressed in terms of the natural logarithm of the total assets, which is one of the most common scales used in banking research (Demirgüç-Kunt & Huizinga, 2010).

Control Variables: ROA and ROE: The financial performance of the bank indicated by ROA and ROE is controlled since it might affect loan quality and governance effects (Athanasoglou et al., 2008).

3.1 Data Collection

Data for all variables were obtained solely from secondary sources, above all, the audited annual reports of the selected banks.

- Conventional banks: 2015–2024
- Islamic banks: 2015–2023

NPL ratios, board composition, CEO attributes, political connections, bank size, and profitability indicators were manually extracted so as to maintain consistency across institutions.

Table 1: Variable Table

Variable Name	Acronym	Operational Definition	Data Source	Reference
Non-Performing Loan	NPL	NPL / Total loans (%)	Annual Reports	WorldBank (2024)
Board Size	BOS	Total number of directors	Annual Reports	Pathan and Faff (2013)
Board Independence	BI	% of independent directors	Annual Reports	Adams and Mehran (2012)
CEO Tenure	CEOT	Years served as CEO	Annual Reports	Hermalin and Weisbach (2001)
CEO Duality	CEOD	1 = CEO is also chair; 0 otherwise	Annual Reports	Adams (2012)
Political Connections	PCP	% of politically connected directors	Annual Reports	Boubakri et al. (2008)
Bank Size	SIZE	Log of total assets	Annual Reports	Demirgüç-Kunt and Huizinga (2010)
Return on Assets	ROA	Net income / total assets	Annual Reports	Athanasoglou et al. (2008)
Return on Equity	ROE	Net income / equity	Annual Reports	Athanasoglou et al. (2008)

Note: NPL means Non-Performing Loans, BOS means Board Size, BI means Board Independence, CEOT means CEO Tenure, CEOD means CEO Duality, PCP means Politically Connected Board Members Percentage, SIZE means Bank Size, ROA means Return on Assets, ROE means Return on Equity.

The choice of variables in this research is based on the classic to modern corporate governance and banking risk literature. The characteristics of the board, including board size, independence, and so on, are considered and mainly viewed as crucial factors of managerial control and risk-taking (Adams & Mehran, 2012; Boubakri et al., 2008; Pathan & Faff, 2013). The factors of governance, in this case, are to be considered at least indirectly influences the level of non-performing loans in the banks through the quality of credit decisions. The variable of bank size is included to demonstrate the differences in the structure of the banks; larger banks usually have better ability to diversify and thus possess stronger risk management (Demirgüç-Kunt & Huizinga, 2010). On the other hand, profitability measures like ROA and ROE will be employed to control and determine the governance effect by considering the underlying financial performance (Athanasoglou et al., 2008). All these factors add up to a thorough and consistent framework that not only meets theoretical expectation but also facilitates accurate estimation through the application of panel-data methods

Moreover, employing such variables substantiates the aim of not only measuring the discrepancies between Islamic and conventional banks through cross-section but also of detecting the time flow of governance effects. As NPLs have dynamic nature and are subject to previous credit decisions,

the chosen variables fit the model very well to hold up institutional inertia, governance stability, and macro-level regulatory changes. Thus, the validity of the analysis is fortified by this method as the confounding of estimated relationships through excluded factors or bank-specific characteristics that are persistent over time is avoided. The way of variable selection is, therefore, a significant contribution to the robustness of the study and at the same time consistent with the established empirical practices in banking governance research.

3.2 MODEL

Static Panel Model

The static panel model assumes that the dependent variable (NPL) is affected solely by the current values of the predictor variables and does not consider any previous values. Static models are generally preferred when researchers want to see the immediate effects of the independent variables while still controlling for the differences among banks that are not observed by using fixed or random effects (Baltagi & Baltagi, 2008; Wooldridge, 2002).

Static Model Equation:

$$y = a + b(x_1) + \epsilon \dots \dots \dots (1)$$

Where, Y= NPL, x₁= PCP, E=error term

$$NPL = a + b(PCP) + \epsilon \dots \dots \dots (1a)$$

$$NPL = a + b_1(PCP) + b_2(BOS) + b_3(CEOT) + b_4(CEOD) + b_5(BI) + b_6(SIZE) + b_7(ROA) + b_8(ROE) + \epsilon \dots \dots \dots (2)$$

Fixed Effects (FE) Model

The Fixed Effects model controls for time-invariant characteristics of banks (e.g., governance culture, ownership history) that may bias estimates.

The general Fixed Effects model is:

$$Y_{it} = \beta_1 X_{it} + \alpha_i + u_{it} \dots \dots \dots (3)$$

Where:

- α_i = unobserved, bank-specific intercept
- Y_{it} = NPL of bank i at time t
- X_{it} = vector of predictors

$-\beta_1$ = coefficient for that predictor variable,

$-u_{it}$ = error term

Expanded FE formulation:

$$Y_{it} = \beta_0 + \beta_1 X_{1,it} \dots + \beta_k X_{k,it} + y_2 E_2 + y_n E_n + u_{it} \dots \dots \dots (4)$$

Applying the FE model to the present study:

$$NPL_{it} = \beta_0 + \beta_1 BOS_{it} + \beta_2 BI_{it} + \beta_3 CEOT_{it} + \beta_4 CEOD_{it} + \beta_5 PCP_{it} + \beta_6 SIZE_{it} + \beta_7 ROA_{it} \\ + \beta_8 ROE_{it} + y_2 E_2 + y_n E_n + u_{it}$$

Since entity dummies are binary variables, the model includes n–1 bank-specific fixed effects.

Random Effects (RE) Model

The Random Effects model assumes that unobserved heterogeneity (α_i) is uncorrelated with the predictors. The RE model is specified as:

$$Y_{it} = \beta X_{it} + \alpha + u_{it} + \epsilon_{it} \dots \dots \dots (5)$$

Where:

- α = random bank-specific effect
- ϵ_{it} = idiosyncratic error

RE is more efficient than FE when its assumptions hold. The Hausman test is used to determine whether FE or RE is more appropriate.

Dynamic Panel Model

Since NPLs exhibit persistence over time, a dynamic specification accounts for the influence of past loan quality on current levels (Anderson & Hsiao, 1982; Blundell & Bond, 1998).

Dynamic Model Equation:

$$NPL_{it} = \alpha + \beta_1 NPL_{i,t-1} + \beta_2 BOS_{it} + \beta_3 BI_{it} + \beta_4 CEOT_{it} + \beta_5 CEOD_{it} + \beta_6 PCP_{it} + \beta_7 SIZE_{it} \\ + \beta_8 ROA_{it} + \beta_9 ROE_{it} + \epsilon \dots \dots \dots (6)$$

For the estimation of the system, the two-step system-GMM system GMM (Arellano & Bover, 1995; Blundell & Bond, 1998), will be used.

- Short time periods
- Potential endogeneity in board variables
- Dynamic relationships
- Bank-level heterogeneity

Diagnostic tests used include:

- Arellano–Bond test for serial correlation
- Hansen J-test for instrument validity

4. Results

4.1 Descriptive Statistics

To present the dataset at first and to point out the essential differences between the conventional and Islamic banks, the descriptive statistics for all the variables during the research period are presented in Table 2(a) and Table 2(b). These overviews set the patterns in board characteristics, financial indicators, and loan quality which are the basis for the subsequent correlation and regression analyses.

For Islamic banks, the descriptive results portray a rather stable credit-risk environment. The average NPL ratio is 4.18% with moderate variation, thus indicating consistently good loan quality under the Shariah-compliant financing system. The size of the board is relatively large (Mean = 15.64), which is a reflection of the involvement of both conventional boards and Shariah supervisory bodies. The proportion of independent directors on the board is low (Mean = 0.18), which is in line with the governance patterns of many Islamic institutions in developing markets. The profitability measures (ROA and ROE) present a positive but inconsistent performance, which is affected by the asset-backed and risk-sharing features of Islamic banking.

Conversely, the statistics of conventional banks reveal much larger variations in all respects. The average NPL (Non-Performing Loan) ratio for these banks is quite remarkable since it accounts for 6.56% of the whole and among the variations there are so many that one could infer that the banks have indeed higher cases of bad credit. The average size of the board is smaller (Mean = 12.03), while the mean number of political connections is greater (Mean = 0.25). This situation also confirms the earlier findings that politically influenced governance is more prevalent in conventional banks than in the other category. The profitability measurements have wide swings with both loss and profit recorded, which is an indication of interest-based banking being quite dependent on economic cycles and loan-portfolio quality.

Table 2 (a) Descriptive Statistics for Islamic Bank

Islamic Bank										
Stats	NPL	BOS	SIZE	LNBS	BI	CEOT	CEOD	PCP	ROA	ROE
N	81	81	81	81	81	81	81	81	81	81
Mean	4.18	15.64	15.64	5.57	0.18	3.41	0.00	0.19	1.63	11.34
SD	1.78	3.86	3.86	0.49	0.08	2.26	0.00	0.13	8.60	4.05
Min	0.00	8.00	8	3.51	0.00	1.00	0.00	0.00	0.02	4.51
p50	4.22	16.00	16	5.54	0.17	3.00	0.00	0.15	0.61	10.27
Max	8.44	25.00	25	6.82	0.42	10.00	0.00	0.50	78.00	26.50
Skewness	-0.06	0.15	0.15	-0.90	0.40	1.14	.	0.66	8.81	1.71
Kurtosis	3.40	2.11	2.11	6.94	3.52	3.84	.	2.43	78.76	6.76

Table 2 (b) Descriptive Statistics for Conventional Bank

Conventional Bank										
Stats	NPL	BOS	SIZE	LNBS	BI	CEOT	CEOD	PCP	ROA	ROE
N	197	197	197	197	197	197	197	197	197	192
Mean	6.56	12.03	357133.3	5.52	0.22	4.03	0.00	0.25	0.83	10.52
SD	7.26	4.00	146540.2	0.17	0.12	3.11	0.00	0.19	0.55	11.31
Min	2.08	5.00	131006.5	5.12	0.00	1.00	0.00	0.00	-4.54	-131.14
p50	4.99	12.00	329720.8	5.52	0.18	3.00	0.00	0.20	0.83	11.02
Max	67.14	20.00	981203	5.99	0.70	17.00	0.00	0.82	2.44	26.10
Skewness	5.61	0.21	1.266375	0.10	1.80	1.60	.	1.35	-4.40	-10.30
Kurtosis	39.72	2.26	5.334518	2.80	6.90	5.85	.	4.57	46.15	129.79

In short, the basic figures reveal a strong differentiation not only in structure but also in performance between Islamic and conventional banks. Conventional banks are characterized by larger NPLs, instability in governance due to strong political influence, and a wide range of performance measures. These differences serve as a rationale for the use of more sophisticated econometric models in the next sections to analyze the effect of board characteristics on NPL ratios in varying banking systems.

4.2 Correlation Analysis

The correlation matrices related to Islamic and conventional banks are shown in Table 3(a) and Table 3(b) respectively as the basis for the investigation of the main connections between board characteristics, performance indicators and non-performing loans. This is the first step in estimating the relationships between variables without using the multivariate technique.

Table 3 (a) Correlation Table for Islamic Bank

	Islamic Bank								
	BOS	SIZE	LNBS	BI	CEOT	PCP	ROA	ROE	NPL
BOS	1.000								
SIZE	-0.206	1.000							
	0.065								
LNBS	-0.216	0.728	1.000						
	0.053	0.000							
BI	-0.349	0.166	0.311	1.000					
	0.001	0.139	0.005						
CEOT	-0.237	0.193	0.175	0.388	1.000				
	0.033	0.085	0.118	0.000					
PCP	-0.337	0.152	0.220	0.599	0.457	1.000			
	0.002	0.175	0.049	0.000	0.000				
ROA	0.275	-0.068	-0.080	-0.079	0.126	-0.099	1.000		
	0.013	0.548	0.479	0.481	0.264	0.378			
ROE	0.031	0.156	0.157	-0.105	-0.044	-0.124	0.167	1.000	
	0.787	0.165	0.163	0.353	0.696	0.269	0.135		
NPL	-0.045	-0.224	-0.005	0.060	0.035	0.015	-0.096	-0.444	1.000
	0.692	0.044	0.966	0.592	0.757	0.897	0.392	0.000	

For Islamic banks, the correlations reveal that most board variables have very weak relationships with NPLs which means that quality of loans in Islamic banking is less and less affected by the structure of the board. Board size (BOS) and board independence (BI) correlation with NPLs is almost negligible which implies that the governance mechanisms of Islamic banks—especially the surveillance function of Shariah supervisory boards—might be a reason that traditional governance indicators have less influence on credit outcomes. One of the most significant results is the strong negative correlation between ROE and NPL ($r = -0.444$, $p < 0.01$), which indicates a significant relationship where higher returns to equity are coupled with lower defaults on loans. Political connections (PCP) have a small positive correlation with BI and CEOT, which means the more politically connected an Islamic bank is the more likely it is to have a seasoned management team and a powerful board, although this connection does not result in a significant increase in NPLs. The overall correlation pattern for Islamic banks points to a governance environment that is relatively stable and less affected by politics.

Table 3 (b) Correlation Table for Conventional Bank

Conventional Bank									
	BOS	SIZE	LNBS	BI	CEOT	PCP	ROA	ROE	NPL
BOS	1.000								
SIZE	-0.093	1.000							
	0.196								
LNBS	-0.100	0.965	1.000						
	0.161	0.000							
BI	-0.427	0.213	0.193	1.000					
	0.000	0.003	0.007						
CEOT	-0.186	0.120	0.112	0.167	1.000				
	0.009	0.094	0.117	0.019					
PCP	-0.236	-0.129	-0.106	0.229	-0.047	1.000			
	0.001	0.072	0.137	0.001	0.512				
ROA	0.078	-0.113	-0.158	0.050	0.231	-0.108	1.000		
	0.278	0.114	0.026	0.490	0.001	0.133			
ROE	0.079	-0.039	-0.072	-0.058	0.170	0.007	0.860	1.000	
	0.279	0.591	0.319	0.425	0.018	0.927	0.000		
NPL	-0.289	0.075	0.102	0.109	-0.163	0.080	-0.651	-0.718	1.000
	0.000	0.297	0.154	0.127	0.022	0.265	0.000	0.000	

The correlation outcomes for conventional banks, conversely, imply stronger and more logical connections. The independence of the board (BI) is negatively and significantly related to board size ($r = -0.427$, $p < 0.01$), thereby accentuating the conflict between the enlargement of the board and the supervision from the independent. Political connections (PCP) have a positive correlation with BI but also a negative correlation with the size of the board, thus indicating that boards with political influences may have a smaller number of members but also have a higher degree of formal independence. Furthermore, the indicators of profitability (ROA and ROE) reveal very strong and statistically significant negative correlations with NPLs ($r = -0.651$ and -0.718 , respectively; $p < 0.01$), thus pointing out that a higher rate of default is very much associated with a weaker financial performance in conventional banks. The size of the board has a moderate negative correlation with NPLs ($r = -0.289$, $p < 0.01$), leading to the inference that large boards might make monitoring more effective and thus reduce the risk of bad loans. In contrast to Islamic banks, the CEO's tenure has a small yet significant negative correlation with NPLs ($r = -0.163$, $p < 0.05$), indicating that

seasoned CEOs might aid in the proper loan management in lending institutions that rely on interest.

When considered together, the patterns of correlation reveal significant structural differences between the two banking systems. The Islamic banking system demonstrates the existence of weaker and more or less stable variable associations which are the result of its uniform governance system and Islamic credit practices. The conventional banks, however, show the presence of stronger and more diverse correlations which are revealing the high variability in the quality of governance and the existence of a more indirect link between board traits, political influence, financial performance, and NPLs. These results call for further regression and panel-model analysis.

4.3 Regression Analysis

The regression models were separately estimated for Islamic and conventional banks to assess the impact of board characteristics on non-performing loans (NPLs). The results for both the static model and pooled OLS specifications are presented in Table 4(a) and Table 4(b). These models enable us to check the systematic association of governance attributes and financial performance indicators with loan default behavior in two banking systems.

In the case of Islamic banks, the NPLs results show that most of the governance variables have no statistically significant influence. The coefficients for the politically connected board members (PCP) are negative but insignificant for all models (e.g., -0.560 in the static model), which indicates that the political connection's impact on loan performance in Shariah-compliant institutions is limited. Board size (BOS) and board independence (BI) display weak and no significant relationships, with the coefficients in the pooled OLS specifications being nearly zero. CEO tenure (CEOT) has a slight positive effect in the static model (0.124 , $p < 0.10$), which suggests that more extended serving CEOs may be related to higher NPLs, but this effect reduces when financial performance variables are added. Among financial indicators, return on equity (ROE) has the strongest and most significant negative relation with NPLs (-0.164 , $p < 0.01$), meaning that the better the performance of an Islamic bank, the lower the loan defaults. Return on assets (ROA) and bank size (SIZE) continue to be insignificant. The full model's R-squared is 0.214 , which implies that the model has limited explanatory power. This power reflects the effect of internal risk-sharing arrangements and Shariah governance that are not measured by conventional board characteristics.

Table 4 (a) Regression for Islamic Bank

Islamic Bank			
		Static Model	Pooled OLS
	(1)	(1)	(1)
VARIABLES	Non Performing Loan	Non Performing Loan	Non Performing Loan
Politically Connected Board Members Percentage	-0.560	-1.454	-1.337
	(1.946)	(2.022)	(2.124)
Board Size		-0.0492	0.00514
		(0.0657)	(0.0819)
CEO Tenure		0.124*	0.0691
		(0.0745)	(0.0904)
Board Independent		1.308	1.854
		(2.346)	(2.437)
Return On Asset			0.00580
			(0.00759)
Return On Equity			-0.164***
			(0.0475)
Bank Size			-1.56e-07
			(1.98e-07)
Constant	4.290***	4.578***	5.750***
	(0.636)	(1.413)	(1.784)
Observations	81	81	81
Number of Bank	9	9	9
r2	0.0002	0.0038	0.2142
Standard errors in parentheses			
*** p<0.01, ** p<0.05, * p<0.1			

On the one hand, conventional banks exhibit more pronounced and stable correlations between the features of the board and NPLs. In both the static model and pooled OLS, board size is significantly negative (-0.561 , $p < 0.01$), which indicates that boards with more members exercise better control and hence reduce the risk of loans being written off. The static model shows that CEO tenure is also negatively and significantly affecting the quality of the loan portfolio (-0.538 , $p < 0.01$), pointing to the fact that seasoned leadership is the reason for better loan portfolio quality. In the static model, board independence (BI) is positively and significantly related to NPLs (13.52 , $p < 0.05$) but it loses significance in pooled OLS, which indicates sensitivity to model specification. Political connections are still treated as statistically unimportant, nonetheless, the coefficients change across different models, which illustrates the complex nature of political influence. The financial performance measures, particularly ROE, have been indicating a very strong negative relationship with NPLs (-0.410 , $p < 0.01$), which suggests that monitoring credit risk is very much dependent on the bank's profitability. The R-squared value of the complete model is 0.579 , which indicates that the factors considered in the model represent a significant portion of the changes in loan defaults.

Table 4 (b) Regression for Conventional Bank

Conventional Bank			
	Static Model		Pooled OLS
	(1)	(1)	(1)
VARIABLES	Non Performing Loan	Non Performing Loan	Non Performing Loan
Politically Connected Board Members Percentage	4.028	-0.898	0.0332
	(4.174)	(4.103)	(2.237)
Board Size		-0.561***	-0.543***
		(0.2080)	(0.175)
CEO Tenure		-0.538***	-0.285
		(0.1860)	(0.188)
Board Independent		13.52**	-0.986
		(6.246)	(4.535)
Return On Asset			-0.110
			(1.781)
Return On Equity			-0.410***
			(0.0757)
Bank Size			3.55e-06
			(3.54e-06)
Constant	5.559***	12.65***	17.70***
	(1.389)	(3.685)	(3.292)
Observations	197	197	197
Number of Bank	20	20	20
r ²	0.0064	0.1066	0.5793
Standard errors in parentheses			
*** p<0.01, ** p<0.05, * p<0.1			

In conclusion, the results of the regression point out the striking difference that exists between the two types of banking systems. Classical board characteristics play a very minor role only in the case of Islamic banks, which could be attributed to the Shariah governance and risk-sharing mechanisms. The opposite is true for conventional banks, where board size and CEO tenure, along with financial performance, are highlighted as the most influential factors of loan quality. The results of this research are a call for different governance measures for banks and also a ground for future panel-model and dynamic analysis.

4.4 Random Effect vs Fixed Effect

On the characteristics of the board, the main one's impact on non-performing loans (NPLs) were analyzed differently for Islamic and conventional banks by estimating the panel models using both Fixed Effects (FE) and Random Effects (RE) separately. The results that are presented in Tables 5(a) and 5(b) give a clear view of the way that governance attributes and financial performance

indicators interact with the default behavior of loans over time while the bank's unobserved heterogeneity is accounted for.

Specifically, the estimates for Islamic banks show that a good deal of the governance variables are still statistically non-significant when it comes to explaining NPLs. Political connection of board members (PCP), in both RE (−1.337) and FE (−1.510) models, presents a negative but non-significant effect. Also, board size (BOS), board independence (BI), and CEO tenure (CEOT) exhibit weak and non-significant coefficients that indicate limited influence of conventional board characteristics on the credit risk in Sharia-compliant institutions. With regard to financial variables, return on equity (ROE) consistently shows a strong and significant negative relation with NPLs in both RE (−0.164, $p < 0.01$) and FE (−0.156, $p < 0.01$) models, thus, confirming that lower loan defaults are linked to better-performing Islamic banks. Return on assets (ROA) and bank size (SIZE) are not significant at all. The R-squared values for RE and FE models are 0.214 and 0.141, respectively; this reflects only a modest explanatory capability and it suggests that internal risk-sharing mechanisms and Shariah governance are the main factors that profoundly affect the NPLs situation.

The estimates from the panel for conventional banks point out more evident connections between the attributes of governance and NPLs. Board size is always negative and significant in both RE (−0.543, $p < 0.01$) and FE (−0.597, $p < 0.05$) models, which means that bigger boards help to monitor and thus reduce the risk associated with credit. The effect of CEO's tenure is also negative and significant in both RE (−0.285, $p < 0.05$) and FE (−0.422, $p < 0.05$) specifications, implying that the leadership with more years is less likely to have loans written off. Board independence (BI) is a bit unclear as the results are contradictory, it is non-significant in RE but it is significant in FE, so the results depend on the choice of the model. Politically connected board members are of no statistical relevance in both models, though the coefficients slightly change from positive to negative, which indicates the subtle effects of political influence. When it comes to financial variables, ROE (with negative correlations of RE: −0.410, FE: −0.441 and $p < 0.01$) is the variable that consistently has the strongest negative effect on NPLs, while bank size becomes important in the FE model (7.03×10^{-6} , $p < 0.05$), which means that NPLs may be slightly more for the larger banks. R-squared values are 0.579 for RE and 0.494 for FE, hence it can be said that the combined governance and financial performance indicators account for a large portion of the variances in NPLs.

Table 5 (a) Random Effect vs Fixed Effect for Islamic Bank

Islamic Bank		
	Random	Fixed
	(1)	(1)
VARIABLES	Non Performing Loan	Non Performing Loan
Politically Connected Board Members Percentage	-1.337	-1.510
	(1.759)	(2.041)
Board Size	0.00514	0.0620
	(0.0588)	(0.0781)
CEO Tenure	0.0691	0.0758
	(0.0847)	(0.0754)
Board Independent	1.854	2.541
	(2.513)	(2.250)
Return On Asset	0.00580	0.0130
	(0.0194)	(0.0165)
Return On Equity	-0.164***	-0.156***
	(0.0414)	(0.0398)
Bank Size	-1.56e-07	6.05e-08
	(1.95e-07)	(1.81e-07)
Constant	5.750***	4.509***
	(1.220)	(1.327)
Observations	81	81
Number of Bank	9	9
r2	0.2142	0.1409
Standard errors in parentheses		
*** p<0.01, ** p<0.05, * p<0.1		

Table 5 (b) Random Effect vs Fixed Effect for Conventional Bank

Conventional Bank		
	Random	Fixed
	(1)	(1)
VARIABLES	Non Performing Loan	Non Performing Loan
Politically Connected Board Members Percentage	0.0332	-0.752
	(2.599)	(5.433)
Board Size	-0.543***	-0.597**
	(0.126)	(0.250)
CEO Tenure	-0.285**	-0.422**
	(0.134)	(0.176)
Board Independent	-0.986	9.070
	(4.157)	(6.897)
Return On Asset	-0.110	2.207
	(1.432)	(1.618)
Return On Equity	-0.410***	-0.441***
	(0.0658)	(0.0687)
Bank Size	3.55e-06	7.03e-06**
	(2.77e-06)	(3.11e-06)
Constant	17.70***	13.95***
	(2.537)	(4.373)
Observations	192	192
Number of Bank	20	20
r2	0.5793	0.4943
Standard errors in parentheses		
*** p<0.01, ** p<0.05, * p<0.1		

All in all, the findings from the FE and RE methods emphasize the difference between Islamic and conventional banks. In the case of Islamic banks, the usual board traits of the bank attribute only a small portion to the loan quality, thus indicating the importance of Shariah governance and internal risk-sharing systems. In contrast, the size of the board, CEO tenure, and the financial performance are the crucial factors determining the non-performing loans in the conventional banks, which shows a closer link between the formal governance mechanisms and the credit risk outcomes. These results highlight the necessity of different governance strategies based on the type of bank and provide a starting point for conducting dynamic panel analyses that take into account the persistence of NPL over time.

4.5 Hausman Test

The Hausman test was employed for determining which panel model specification, either Fixed Effects (FE) or Random Effects (RE), was the most suitable for Islamic and conventional banks. The test checks if the discrepancies in coefficients of the FE and RE models are systematic. The null hypothesis (H_0) declares the model of RE as consistent and efficient, while the alternative hypothesis (H_1) chooses FE.

In the case of Islamic banks (Table 6(a)), the Hausman test is centered around the coefficient of politically connected board members (PCP). The chi-square value is 0.07, and the p-value is 0.7980, which means the differences between the FE and RE estimations are not of a statistically significant nature. The Random Effects model is thus considered suitable for Islamic banks, for RE offers efficient estimators that are not systematically biased as compared to FE.

Table 6 (a) Hausman Test for Islamic Bank

```
. hausman fixed random
```

	Coefficients		(b-B) Difference	sqrt(diag(V_b-V_B)) Std. err.
	(b) fixed	(B) random		
PCP	-.8192579	-.5601255	-.2591324	1.012513

b = Consistent under H_0 and H_a ; obtained from **xtreg**.
B = Inconsistent under H_a , efficient under H_0 ; obtained from **xtreg**.

Test of H_0 : Difference in coefficients not systematic

```
chi2(1) = (b-B)'[(V_b-V_B)^(-1)](b-B)
        = 0.07
Prob > chi2 = 0.7980
```

Table 6 (b) Hausman Test for Conventional Bank

```
. hausman fixed random
```

	Coefficients		(b-B) Difference	sqrt(diag(V_b-V_B)) Std. err.
	(b) fixed	(B) random		
PCP	6.924172	4.028051	2.896121	5.782192

b = Consistent under H_0 and H_a ; obtained from **xtreg**.
B = Inconsistent under H_a , efficient under H_0 ; obtained from **xtreg**.

Test of H_0 : Difference in coefficients not systematic

```
chi2(1) = (b-B)'[(V_b-V_B)^(-1)](b-B)
        = 0.25
Prob > chi2 = 0.6165
```

The Hausman test scrutinizes PCP likewise for conventional banks as well (Table 6(b)). In this case, the chi-square statistic amounts to 0.25, and the p-value is 0.6165, demonstrating once more that there are no significant differences between the FE and RE coefficients. This indicates that the Random Effects model is appropriate for estimating the parameter of the conventional banks as well, as it gives the same solution to the problem of consistency and efficiency of the parameter estimates.

The Hausman test results overall suggest that the Random Effects specification can be applied confidently to both Islamic and conventional banks in this study. The results corroborate the earlier RE regression findings and, thus, provide a reliable method for further dynamic panel analysis using System GMM.

4.6 Dynamic Panel (System GMM)

A System GMM method was applied to both Islamic and conventional banks in order to handle the dynamic nature of non-performing loans (NPLs) and the potential endogeneity in board characteristics. The GMM estimates shown in Tables 7(a) and 7(b) are made under the previously mentioned considerations of NPLs' persistence, unobserved heterogeneity, and the possible reverse causation of governance and credit risk. The Hansen test results indicate the instruments are valid, with p-values almost equal to 1 for Islamic banks and between 0.73 and 0.995 for conventional ones, and so no over-identification is observed.

Regarding Islamic banks, the lagged NPL coefficient in one model is positive and statistically significant (0.635, $p < 0.01$), which means that defaults on the loans are persistent over time. The CEO tenure shows the opposite impact and it is significant, that is, the leader with substantial experience enhances the credit quality (-0.217 , $p < 0.05$). The board size variable also has a negative and significant coefficient in one specification (-0.334 , $p < 0.01$), meaning that more members on the board lead to better monitoring. Directors with political connections and board independence are mostly insignificant, indicating that the conventional governance structures have little effect on NPLs in Shariah-compliant banks. Financial ratios like ROA, ROE and bank size do not always indicate significance which is considered as a sign that the internal risk-sharing methods and Shariah governance have a more important role in the NPL movements in Islamic banks than the external factors.

The findings of GMM for conventional banks reveal that Non-Performing Loans (NPLs) have a strong tendency to persist, with the coefficients of lagged NPL being statistically significant in all the specifications (0.884–1.353, $p < 0.01$). In two models, board independence is associated with NPLs positively and significantly (36.86–45.62, $p < 0.05$), which could denote that the independent directors in conventional banks are more of the negative quality of credit rather than through the proactive way of preventing it. It is commonly the case that governance variables like board size, CEO tenure, and political connections are insignificant in the GMM context, thus suggesting that the effects of these variables are primarily through dynamic adjustments in NPLs. The influence of financial indicators like ROA, ROE, and bank size remains largely non-significant, implying that previous NPL performance is the primary determinant of the present loan quality.

Table 7 (a) GMM Results for Islamic Bank

Islamic Bank			
	GMM	GMM	GMM
	(1)	(1)	(1)
VARIABLES	Non Performing Loan	Non Performing Loan	Non Performing Loan
Non Performing Loan	0.635*** (0.216)	0.00141 (0.0638)	-1.860 (3.068)
Politically Connected Board Members Percentage	0.627 (2.152)	-17.65*** (6.387)	-6.255 (25.95)
Board Size		-0.334*** (0.0300)	-3.089 (5.886)
CEO Tenure		-0.217** (0.0849)	0.302 (0.862)
Board Independent		13.30 (9.703)	9.819 (34.83)
Return On Asset			0.267 (0.526)
Return On Equity			0.435 (1.187)
Bank Size			-9.57e-07 (2.24e-06)
Constant	1.512 (1.303)	11.15	54.33 (79.47)
Observations	72	72	72
Number of Bank	9	9	9
Number of Instruments	21	24	27
Hansen test	0.99	1.00	1.00
Standard errors in parentheses			
*** p<0.01, ** p<0.05, * p<0.1			

Table 7 (b) GMM Results for Conventional Bank

Conventional Bank			
	GMM	GMM	GMM
	(1)	(1)	(1)
VARIABLES	Non Performing Loan	Non Performing Loan	Non Performing Loan
Non Performing Loan	1.353***	1.334***	0.884***
	(0.411)	(0.375)	(0.269)
Politically Connected Board Members Percentage	-26.32	-16.89	11.18
	(16.58)	(17.13)	(11.44)
Board Size		-0.0114	0.0593
		(0.562)	(0.378)
CEO Tenure		0.0767	-0.0231
		(0.446)	(0.214)
Board Independent		45.62**	36.86**
		(18.31)	(16.07)
Return On Asset			4.662
			(10.66)
Return On Equity			-0.360
			(0.387)
Bank Size			5.21e-06
			(5.20e-06)
Constant	5.204	-7.187	-12.40
	(5.232)	(7.222)	(12.12)
Observations	176	176	172
Number of Bank	20	20	20
Number of Instruments	26	29	32
Hansen test	0.80	0.73	0.995
Standard errors in parentheses			
*** p<0.01, ** p<0.05, * p<0.1			

Overall, the results obtained through System GMM underscore the major contrast between Islamic and conventional banks. In the case of Islamic banks, the duration of the CEO's tenure and the number of board members both significantly impact non-performing loans, whereas in conventional banks, the governance measures that are usually considered such as political ties and independence only account for a small impact. Non-performing loans in the case of conventional

banks are mainly influenced by their persistence and the independence of the board shows some impact reactively, while the influence of other governance and financial variables is notably less. The results thus point out the necessity of taking into account dynamic relationships and model-specific mechanisms when assessing the impact of board characteristics on credit risk in diverging banking systems.

5. Discussion

The results of regression and dynamic panel analyses indicate that different patterns in board characteristics and non-performing loans (NPLs) are evident in the case of Islamic banks and conventional banks in Bangladesh. To begin with, the Islamic banks' main governance characteristics related to non-performing loans (NPLs) are the CEO's long term and board size. The reason behind this link is that the banks' supervision and the NPLs will be slightly lower, although the impact will not be that large (Hermalin & Weisbach, 2001; Pathan & Faff, 2013). On the other hand, the others such as board independence, connections with politics, etc. do not show any significant impact which means that the traditional board metrics have less influence where the internal risk-sharing mechanisms along with the supervision of the Shariah board are the key aspects (Akhter, 2023; Mahmud & Rahman, 2020).

The situation of conventional banks is different because the impact is stronger. Board size and CEO tenure have a significant negative correlation to NPLs which is a clear sign that the banks with bigger and more experienced boards have better monitoring and credit risk management (Hermalin & Weisbach, 2001; Pathan & Faff, 2013). Independent boards give a positive response in some cases that might indicate their battenning down the hatches governance of where the independent directors react to the situation of bad loan quality instead of the prevention of defaults by raising their guard proactively (Adams, 2012; Hunjra et al., 2021). Political connections do not consistently affect the results but at least they point out the prevailing impact of favoritism in the credit allocation process and loan defaults in the case of conventional banking (Akhter, 2023; Boubakri et al., 2008).

Dynamic analysis through the System GMM method shows that non-performing loans (NPLs) remain over time in both banking types. For conventional banks, previous non-performing loans (NPLs) are extremely vital, implying that the current default risk estimation is largely dependent on the past credit behavior, while in the case of Islamic banks, the reliability is still there but less pronounced. This points to the limitations of the lending attributes in connection with the Islamic risk-sharing schemes (Hossain et al., 2025; Mahmud & Rahman, 2020).

In short, the results suggest that governance systems are not only different among the banking systems but also interact differently with each other. The Islamic banks have internal and Shariah oversight that prevent the orthodox board characteristics from having a direct influence, whereas the corporate governance in conventional banks is characterized by board size and CEO experience, which critically reduce credit risk. This rather confirms the previously mentioned theoretical frameworks, including agency theory that points at monitoring to counteract opportunistic lending and stewardship theory that underlines the importance of leading with experience for asset quality (Donaldson & Davis, 1991; Jensen & Meckling, 2019). Resource-dependence theory additionally accounts for the fact that boards with mixed backgrounds and

outside savants can lead conventional banks towards more judicious lending decisions, while Islamic banks depend more on the Shariah boards for the guidance on resources (Hillman & Dalziel, 2003).

To summarize this study, it has been shown that good governance is paramount in the management of NPLs but its effect varies according to the banking model. While Islamic banks are in a favorable position due to the support of structural and religious compliance mechanisms, conventional banks are more dependent on the attributes of the traditional board and managerial experience. The implications of these findings are that governance reforms should be bank-specific, particularly the emphasis on Shariah compliance structures in Islamic institutions and the need for monitoring of the board and accountability of the leadership in conventional banks.

6. Conclusion

This research investigates the link between board characteristics and non-performing loans (NPLs) in Islamic and conventional banks in Bangladesh for the years 2015-2024. The application of static, fixed-effects, random-effects, and dynamic panel (System GMM) models has led to the conclusion that board and managerial characteristics affect loan quality in different ways depending on the banking system. In the case of Islamic banks, NPLs are moderately influenced by CEO tenure and board size, while other governance factors, such as board independence and political connections, remain largely unnoticeable. On the other hand, conventional banks present stronger and more stable relations: larger board size, longer CEO tenure, and financial performance indicators significantly reduce NPLs, thus emphasizing the roles of monitoring, experience, and profitability in credit risk management.

The results underscore the unique role of governance mechanisms. The Shariah-compliant risk-sharing practices of Islamic banks and their internal supervision reduce the impact of the typical board attributes on the performance of loans. In contrast, the situation is different for conventional banks where board size, CEO tenure, and monitoring—the usual governance methods—are vital to reducing credit risk, thus showing that the quality of loans is directly influenced by governance structures.

This study fills several research gaps. Previous studies mainly paid attention to conventional banks, giving limited understanding of the Islamic banks that follow Shariah-compliant governance. The temporal dimension of governance attributes affecting the NPLs has also been a less explored area. The use of panel and GMM methods enables this study to take into account both the persistence of loan performance and the long-term influence of board characteristics. The moderating effect of bank type is also emphasized, showing that the effects of governance mechanisms differ depending on the type of banking model.

The implications of the results are significant. Banks must customize governance changes according to their operating model: Islamic banks can concentrate on the internal risk-sharing measures and supervisory frameworks, while conventional banks need to improve board monitoring, diversify expertise, and have an experienced CEO for leadership. Regulators could think about issuing bank-type-specific governance rules to enhance credit discipline and minimize the risk of system collapse through better governance.

This study, while contributing to the existing knowledge, has certain limitations. One of the limitations is the accessibility of the data that only allowed observing the Islamic banks' operations as far as 2023. Moreover, the methods of measuring political connections and board independence are restricted to attributes that are publicly disclosed. A future line of inquiry could combine various qualitative methods of assessing Shariah board effectiveness, CEO decision-making processes, and informal credit networks. In addition, comparative analyses of dual banking systems across countries may yield more profound insights into the interaction of governance with the institutional and regulatory contexts in which they operate.

In summary, the findings of this research show that board characteristics have a considerable impact on NPLs, yet the banking model decides both the size and the nature of the influence. The adoption of governance structures specific to Islamic and conventional banks would not only improve the quality of loans but also eventually lead to possible financial stability and sustainable credit markets in developing countries.

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