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RESEARCH PAPER

Nexus between Non-Performing Loans and Bank Profitability: A Case from the Pakistan Conventional Banking Sector

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ABSTRACT

Banks are backbone of a nation's economy and the global banking landscape has undergone an important transformation over the past two decades. A common impact affected consumers as well as sizable firms because of these changes. This study focuses on Pakistan's banking sector when specifically considering conventional banks during (2015-2024). It digs into key financial indicators such as the amount of capital banks hold (capital adequacy) and their overall size. The level of non-performing loans (NPLs) along with their profitability are also analyzed. Good corporate governance's major role is also explored in the research. It is a key element for bank achievement. Some important connections were found via the study analyzing annual reports along with financial statements by using quantitative approach. It turns out that a bank's size and its capital reserves are linked closely to the amount of its bad loans. Furthermore, the strong corporate governance showed something of interest. It increased profitability. The study did also reveal in an interesting way a link that is direct between bank profitability and loans that are bad. In these findings, banking leaders and policymakers can find some valuable perceptions. They highlight that strong governance and effective risk management are what they need so that Pakistan's banking system remains stable and performs well.

KEYWORDS Non-Performing Loans, Bank Profitability, Capital Adequacy, Bank Size, Corporate Governance

Introduction

The banking industry plays a vital role in the global economy. By providing loans to businesses both at home and abroad, banks fuel economic growth (Nguyen, 2024). However, this lending activity naturally comes with credit risk. To keep non-performing loans (NPLs) in check, banks must prioritize strong credit risk management. In fact, NPLs are often at the heart of problems in the banking sector and can even trigger financial crises (Us, 2018). The recent COVID-19 pandemic, for instance, led to a major global economic downturn, making a rise in loan defaults and NPLs almost certain. Research shows that NPLs have been an unpredictable and growing concern since the 2008 financial crisis (Do et al., 2020).

The performance of the country's economy can be significantly affected by a high level of NPL due to the financial instability that can spread to the credit market. NPLs can arguably affect the socio-economic sector much worse than inflation. Even when a country's economy is growing and social indicators look positive, NPLs can quietly cause significant harm (Akhter, 2023). On the flip side, factors like slow economic growth, weak government financial policies, and high inflation can increase a bank's credit risk, threatening the stability of both the bank and the wider economy (Anita et al., 2022).

The increase in non-performing loans (NPLs) is a critical source of credit risk and directly impacts financial institutions, particularly banks. For instance, the 1997 and 2008 Asian financial crises were attributed to insufficient NPLs in the banking system (Anita et al., 2022). An NPL ratio that is too high is often a sign of an impending financial system collapse, as bank lending is restricted, putting the entire economy at risk (Ivanović, 2016). Moreover, rising NPLs reduce a bank's earning assets, increase the cost of managing bank liquid assets, restrict financing of banks, and increase the possibility of bank failure, resulting in increased risk of a country-wide bankruptcy (Anita et al., 2022). Commercial banks that hold large volumes of non-performing loans (NPLs) increase their credit risk exposure, which in turn increases the risk of financial system failure of a country. This is the case even for the most robust economies which suffer increased risk exposure for non-performing loans (Naili & Lahrichi, 2022).

What are the causes of these problematic loans? The main causes are often insufficient loan assessments followed by a complete lack of monitoring once the loan has been dispensed. The inefficient functioning of a bank, a deficient system of laws for the recovery of overdue balances, and lack of effective collection policies are the key contributing factors to the NPL conundrum. In the end, excessive High to unreasonable NPLs are bound to deteriorate the bank's overall credit worthiness (Adhikary, 2006). As highlighted by Kroszner, the presence of NPLs makes a bank capital constrained, meaning NPLs are the reason the economy will have sluggish growth the bank will be further reluctant to issue new loans which will stifle economic activity. Haneef et al 2012 have shown for the case of the banking sector in Pakistan that NPLs and risk management are directly correlated in a negative fashion. In defending the banks, it can therefore be said that they only accrue NPLs by failing to implement their central bank's policies. Isik and Bolat (2016) in their research studying banks in Turkey between the years 2006 and 2012, NPLs were shown to be the most significant in these banks, with other variables such as liquidity, profitability and economic growth playing a supportive part. Their conclusion was that the most significant contributors were deteriorating asset quality coupled with reduced lending, which are the very factors that lead the bank to increase NPLs.

The banking sector significantly contributes to Pakistan's economy is as an enabler of growth by providing requisite financial services. However as is the case everywhere else, the sector has recently undergone transformation due to the introduction of new technologies (Pratiwi et al. 2023). From the perspective of the 57 banks which operate in the country, there exists a variety of banking types: commercial, Islamic, and specialized (Arby, 2004).

The impact and importance of a bank's corporate governance is a critical facet of its operational and strategic frame and serves as a strong determinant of overall performance (Osei-Baidoo et al., 2023). A bank's financial health is subject to the corporate governance due to the wide-ranging factors such as the board's size, board's level of independence, degree of gender diversity, audit committee configuration, dominance of the CEO, and the ownership structure.

A number of research studies have attempted to determine the factors which relate to bank profitability. Some have analyzed the impact of NPLs on profitability, while others have examined operational costs, capital ratios, and others (Saleh & Winarso, 2021; Syafrizal et al. 2023). Nguyen (2024) specifically suggested examining how corporate governance, along with NPLs, influences bank profitability. This study

aims to build on that work by exploring how a bank's size and capital adequacy affect its NPLs, and in turn, how NPLs and corporate governance impact overall profitability.

Literature Review

Past Researches have mainly focused on understanding how some organizations consistently outperform others in terms of profitability. Organization employs different strategies to enhance their performance, one such strategy stems from stakeholder theory which emphasizes fulfilling stakeholder interests to gain a competitive edge. It suggests that the organizations must meet the needs of stakeholders, whose contributions to the organization add value and ultimately increase profitability (Freeman, 1984).

Corporate governance has become a hot topic among academics and business leaders alike. It's essentially about how a company is directed and controlled, and experts have been digging into how different governance models affect a company's bottom line. They've looked closely at how practices in the boardroom impact key financial health indicators, like return on equity (ROE) and return on assets (ROA). This study pulls together existing research to get a clearer picture of the real relationship between how a company is governed and how well it actually performs.

Agency Theory

Although many theories exist that could help explain this relationship, Agency theory best fits this case. As with other pieces of indisputable science, it is well documented with case studies and anecdotal evidence. Agency theory attempts to explain the possible discord between the owners of a business and the people who run it. This compares the interests of the two parties and how, and why, at times, these interests are capricious to the objectives of the business and its owners, North and South apparently. Many of the attempts to explain the relationship have mapped the performance of a bank to the standards of its corporate governance. Agency theory is one of the theories explaining these variables and has been utilized in the past.

Agency theory explains that each party can sometimes behave in their own interests rather than the interests of the principle by describing the link between an agent and a principle. It suggests that giving one person responsibilities would put the board's independence in jeopardy, may lead to conflict of interest, and hinder the operation of the company (Krause et al., 2014). The theory clarifies that the corporate ownership and management should remain distinct. An individual holding both the ownership and management control will compromise the independence of the board (Filatotchev, 2012). The overlap might give rise to potential conflicts and impede the capacity of board to effectively oversee management. Ultimately this can adversely impact the company resulting in a decrease in a company's performance. In such situations the board may become incapable of ensuring that management decisions are following shareholder objectives (Krause et al., 2014).

Nature of Relationships in Banking

In the banking sector, the relationship between shareholder (stakeholders) and agents (managers) is very crucial because decisions made by managers directly affect the bank's financial outcomes, which, in turn, impact shareholders. Agency Theory in this regard concerns the association between both parties. It helps to clarify how different governance systems, including board structure and quality, can mitigate conflicts and

align the interests of both parties. These dynamics are vital in the banking sector as the highly esteemed decision-making abilities could make or break the organization. The Agency Theory suggests the existence of possible disagreements between the managers and the owners. These disagreements can be understood and mitigated through proper governance mechanisms.

Corporate Governance

According to Mallin (2007), corporate governance is essential to management and organizations for improved internal system performance, underscoring its complex nature. to observe how corporate governance policies and procedures impact the organization as a whole and how governing practices improve performance, such as the organization's overall behavior and production efficiency. Sound governing rules and regulations have a greater impact on the organization's ability to achieve financial sustainability.

A framework guarantees responsibility, transparency, and decency inside an organization, shielding the interests of investors and different partners. The meaning of corporate governance in the financial area couldn't possibly be more significant, as banks are intrinsically perplexing and work under severe guidelines because of their vital job in the economy (De Haan & Vlahu, 2016). The hypothetical groundwork of corporate governance is fundamentally founded on the organization hypothesis, which features the irreconcilable situation between investors (directors) and administrators (specialists). Governance components are important to moderate organization costs, guaranteeing that administrators act to the greatest advantage of investors. Different systems, similar to the partner hypothesis, expand the idea of governance by stressing the more extensive obligation of enterprises toward all partners, including representatives, clients, and the local area (Freeman, 1984).

The board of directors size is the most essential dimension of corporate governance that significantly affect the performance of a bank (Detthamrong et al., 2017) because it includes the major responsibilities to development of Mission & Vision statement, maintaining effective control and risk management and making policies & strategies for an organization.

The board member ensures that every resource, fund, and assets are utilized to obtain optimal output without their concern. Agency and Resource Dependence theory both explain that a huge number of BS can positively influence the firm performance and also include significant improvements in accounting measures that ultimately improve the market measure of bank performance because board members have diverse knowledge, experience, skills, and certificates (Arora & Sharma, 2016; Farag et al., 2018). Whereas, Stewardship theory concludes that a small board size the firm is more effective than a large board because, a large board causes delays in decision-making, lack of communication, and more free riders. According to stewardship theory, companies benefit more from smaller boards than from bigger ones. According to this viewpoint, bigger boards may result in inefficiencies including poor communication, a delay in decision-making, and a higher chance of free-riding among board members. (Sarkar & Sarkar, 2018; Wallgren & Andersson, 2018) Stewardship theory essentially argues for more nimble and efficient decision-making in corporate governance, which often means having smaller, more streamlined boards.

Research by Sarkar & Sarkar (2018) highlights that men and women bring distinct perspectives, qualifications, and decision-making styles to the table. Agency theory supports the idea that this diversity isn't just for show—it actually enhances board oversight and improves company performance (Athar et al., 2023). Moreover, the inclusion of women on boards has been linked to stronger governance practices and better-rounded decisions, contributing positively to firm success (Brogi & Lagasio, 2022).

Critical mass theory adds another layer, suggesting that the presence of women helps reduce internal agency costs and helps ensure that decisions are both timely and effective—particularly valuable in the banking sector (Athar et al., 2023; Owen & Temesvary, 2018). There's also evidence from Green & Homroy (2018) establishing a direct correlation between female board representation and improved firm performance. Additionally, Adams & Ferreira (2009) argue that female directors are often especially diligent in their monitoring roles, which can be crucial for companies where governance mechanisms are otherwise weaker. All in all, the literature consistently points to the benefits of gender diversity in the boardroom when it comes to effective governance and stronger company outcomes. Whereas, some studies argue that women on board lead to a decrease the firm performance because, as per tokenism theory women have three fears: solitude, assimilation, and not being acknowledged for their contributions so, they can't give their full participation.

Drawing on agency theory, earlier studies suggest that having an independent board positively influences a company's performance (Boyd, 1995). The thinking is that because these boards are independent, they can do a better job of overseeing management (Finkelstein & Mooney, 2003). Research by Brogi & Lagasio (2022) supports this, finding that board independence is linked to better bank performance and lower risk. Similarly, a preliminary study by Osei-Baidoo et al. (2023) showed that an independent board of directors can have a positive effect, ultimately enhancing a bank's performance. Other research has echoed these findings. A study by Liang et al. (2013) revealed a positive connection between board independence and bank efficiency, and Bansal et al. (2023) also found that board independence had a positive impact on bank performance. More recently, Al-Faryan & Alokla (2023) discovered a positive relationship between board independence and the financial performance of insurance firms in Saudi Arabia. However, there is some conflicting evidence. A study by Zahoor et al. (2023) indicated that board independence could actually weaken the positive effects of international corporate social responsibility efforts on a company's performance after entering a new market, suggesting a negative relationship in that specific context.

Bank size and NPLs

Bank size is generally defined how the total size of the bank in terms of overall cash values and market capitalization and employees which shows the bank strength the total capital of the bank (Durguti, 2020). diversification.

H_1: Bank size has a non-significant impact on non-performing loans.

Capital Adequacy and NPLs

Numerous studies, including those by Siddique et al. (2022) and Ghenimi et al. (2017), have demonstrated a significant correlation between CAR and bank risk. However, Louzis et al. (2012) found no correlation between CAR and banks' risk, suggesting that the tiny Greek bank market discourages banks from taking careless risks

and being short-termite due to reputational factors. They contend that in order for regulatory bodies to exercise appropriate supervision over banks' risky loan portfolios, they attempt to adhere to a supervisory policy. Delis et al. (2012) also noted that capital regulation could influence either positively or negatively the bank's risk, considering the bank's features, other regulations, or even the macroeconomic environment.

H_2: Capital Adequacy of a bank has positive influence on non-performing loans.

Corporate Governance and Bank Profitability

The statement emphasizes how important corporate governance is to organizational management and success, which has generated significant scholarly interest in the topic. Corporate governance has a significant impact on internal organization (Mallin, 2007) and also highlights its multifarious character.. So, the following hypothesis proposed;

H_3: Corporate governance has a significant relation with the bank profitability.

Non-performing Loans and Bank Profitability

There are differing views among scholars about the connection between bank profitability and non-performing loans. Some of them demonstrate a favorable influence, while the majority show a negative one. According to Qehaja-Keka et al. (2023) non-performing loans (NPLs) have a detrimental impact on bank profit because they enable banks to inflate loan losses due to distortions brought about by insufficient restrictions. Using a risk-averse approach in an attempt to increase profit has a detrimental impact on bank managers (Kanapiyanova et al., 2023). When banks manage their credit risk more effectively, they make more money and got sustainability in the economy. When NPLs rise, asset quality might decline and banks may become less profitable.

H_4: NPLs have a significant relationship with bank profitability.

Conceptual Framework

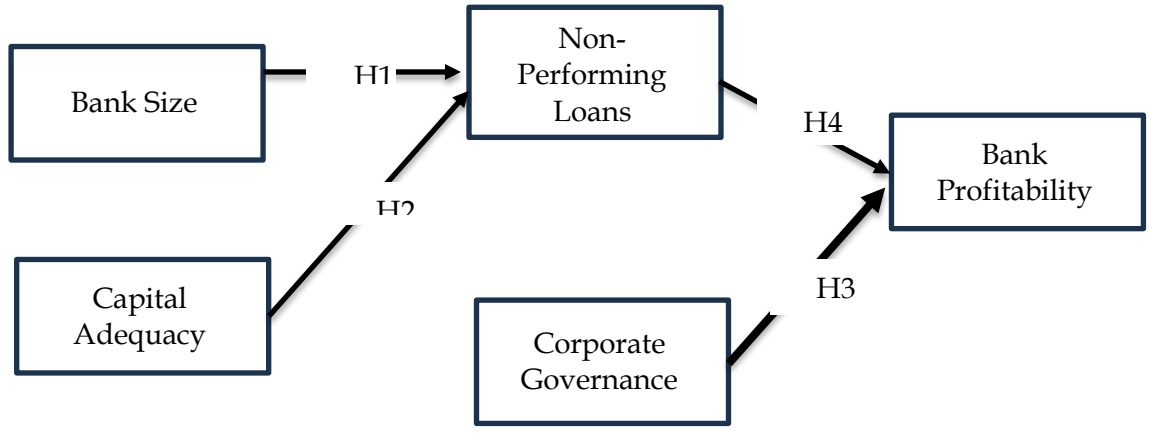

Figure 1: Conceptual Model

Material and Methods

This study utilized a quantitative research design and analyzed secondary data gathered from the financial statements and corporate governance reports of various

commercial banks in Pakistan. The researcher used panel data for the regression analysis of data that was secondary in nature. The commercial banks were randomly selected. This implied that bank-level data collection and analysis took place, given that bank size, capital adequacy, non-performing loans, and corporate governance elements were all measurable at the organizational level. In this study, a cross-sectional research approach was used. All data for the variables were gathered from a predetermined ten-year period, from 2015 to 2024. The investigation was conducted with little influence from the researchers because secondary sources had made the data easily accessible. To evaluate the research objectives and hypotheses, this study employed a quantitative, non-contrived, cross-sectional design with secondary data from commercial banks in Pakistan. The profitability of Pakistan's banks, along with their capital adequacy, bank size, non-performing loans, and corporate governance, were all examined in this study using secondary data. The information about these variables was gathered from the annual reports of the chosen commercial banks in Pakistan.

Table 1
Measurements

Variable(s)	Measurements	Reference
Bank Profitability ROA	Net income/total asset	(Boachie, 2023)
Corporate Governance	number of independent commissioners divided by the number of commissioners	(Boachie, 2023)
Nonperforming loans	Nonperforming loan / Total loan	(Nguyen, 2024)
Capital Adequacy Ratio	Total Capital Ratio (Capital Adequacy Ratio)	(Akhter, 2023)
Bank Size	The natural log of total assets	(Boachie, 2023)

Econometric Model

This study focused on the direct impact that several key factors have on a bank's performance. We developed a baseline regression model to explore the straightforward relationships between variables. Specifically, we looked at how bank size, capital adequacy ratio, non-performing loans, and corporate governance directly influence a bank's profitability, which we measured using return on assets (ROA). We also considered how these same factors might directly affect another key performance indicator: earnings per share (EPS).

The econometric model can be expressed as:

$$NPLs_i = \alpha + \beta_1 BS_i + e_i \quad (1)$$
$$NPLs_i = \alpha + \beta_2 CPR_i + e_i \quad (2)$$
$$NPLs_i = \alpha + \beta_1 BS_i + \beta_2 CPR_i + e_i \quad (3)$$
$$BP_i = \alpha + \beta_3 NPLs_i + e_i \quad (4)$$
$$BP_i = \alpha + \beta_4 CG_i + e_i \quad (5)$$
$$BP_i = \alpha + \beta_3 NPLs_i + \beta_4 CG_i + e_i \quad (6)$$

Results and Discussion

The findings contain all of the test results used to ensure normality, linearity, and model specification. The results demonstrate the relevance of the relationship based on the premise. These correlations are examined for numerous concerns to solve, including multicollinearity. However, the results offer an overview of how data-driven relationship analysis takes place, as well as the importance of the link between variables. This section examines the impact of all analytical data. Nonetheless, the findings provide comprehensive insight into the concept.

Table 2
Summary Descriptive statistics

Variable	Observations	Mean	Std. Dev.	Min	Max
Board Size	100	7.143	0.0987	6.9	7.3
Capital Adequacy Ratio	100	16.25	3.1881	10	22.5
Non-performing loans	100	22.075	4.6407	14.2	29.85
Corporate governance	100	1.8072	0.8168	0.63	4.38
Bank profitability (ROA)	100	3.35	0.7124	2	4.8

The initial statistics give us some interesting insights into the banks we studied. When looking at bank size, the numbers were all clustered very closely together, with an average of 7.143 and a very small standard deviation. This tells us that the banks in our sample were all quite similar in size. On the other hand, there was a lot more variety when it came to the Capital Adequacy Ratio. While the average was 16.25%, the numbers ranged from as low as 10% to as high as 22.5%. This shows that different banks had different levels of financial cushion, or capital buffers, set aside.

The average level of Non-Performing Loans (npls) stands at 22.075 billion PKR, with a standard deviation of 4.6407, highlighting a moderate presence of bad loans across the banks, while the values range from 14.2 billion PKR to 29.85 billion PKR, reflecting significant differences in loan performance. Corporate Governance (cg) indicated as the ratio of independent commissioners had a mean of 1.8072 (SD=0.8168). This means banks have some observable variation in their governance practices. The ratios also range from 0.63 to 4.38, indicating that some banks have strong governance while others are considerably behind. Finally, the Return on Assets (roa) was on average 3.35% with a relatively low standard deviation of 0.7124 indicating the banks generally perform in similar ranges of profitability. Overall, these statistics indicate a banking sector with a mix of consistency in bank size and profitability, contrasted by variability in capital adequacy and governance practices, which may impact the overall stability and performance of the sector.

Residual plot

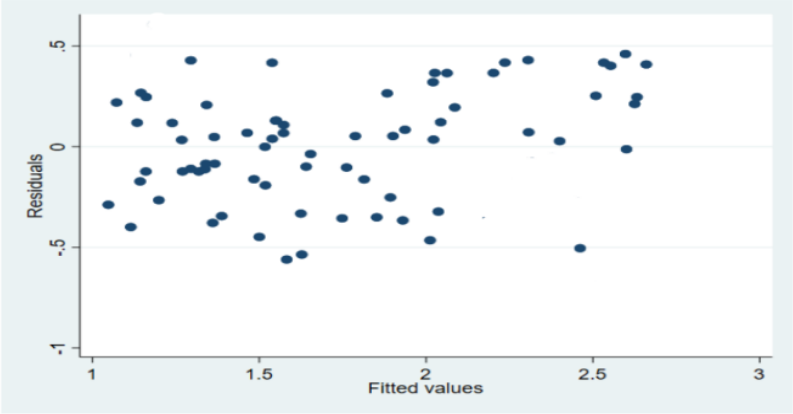

Figure 2 Residual plot for linearity of variables

In the above figure of residual plot, which shows no discernible patterns or curves, the zero line is encircled by a random distribution of residuals. This suggests that the linearity assumption of the regression model is probably met. Additionally, the residuals appear to have a very uniform distribution throughout the fitted value range, indicating the validity of the homoscedasticity assumption (constant variance of errors). Conclusion: Based on the graphic, it seems that the linear model fits the data well.

Normality Test

To check if our data was spread out normally, we used two statistical tests: Skewness and Kurtosis. The basic rule is that if the P-value from these tests is less than 0.05, the data isn't considered normal. If it's greater than 0.05, the data is considered normal. As you can see in Table 4.2, our results confirmed that the data is normally distributed. We know this because the skewness value (0.3410) and the kurtosis value (0.4785) were both less than one, and more importantly, the P-value was well above the 0.05 threshold.

Table 3
Skewness and kurtosis tests

Constructs	F	Pr (Skewness)	Pr (Kurtosis)	adj chi2(2)	Prob>chi2
E	100	0.3410	0.4785	1.25	0.5350

One of the assumptions of the regression model is to test the normality of the residuals. The residuals, or mistakes, of the regression line have a nearly normal distribution. The residuals themselves must be regularly distributed, even if the hypothesis test needs normality to be valid. In actuality, a normal residual is necessary for the t-test to be valid. The data are regularly distributed, based on the Kernel density estimation.

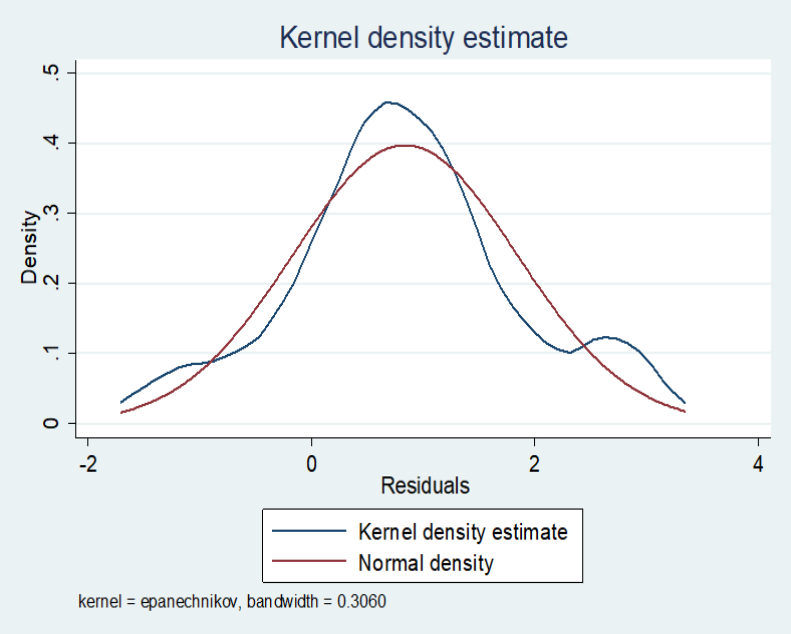

Figure 3 Kernel density estimate test

Multicollinearity

The results from our multicollinearity test, shown in Table 4.3, are good news. They indicate that we don't have any major issues with the variables in our model being too closely related to each other. We use something called a VIF value to check for this. A VIF value tells us if the relationship between variables is so strong that it's distorting our results. Generally, a VIF score under 10 is considered perfectly fine. As you can see in the table, all our variables are well below that threshold. The highest VIF score was for Non-Performing Loans (NPLs) at 4.60, followed by the Capital Adequacy Ratio (CAR) at 3.43, Bank Size (BS) at 3.37, and Return on Assets (ROA) at just 1.98. This confirms that multicollinearity is not a problem in our analysis. The model's mean VIF of 3.26 suggests

that multicollinearity is not a major worry, given all VIF values are much lower than the critical threshold of 5. This is further corroborated by the 1/VIF data, which reveal that CG has the greatest value (0.506), suggesting minimum collinearity. Overall, the test results show that the regression model's exogenous variables are not likely to cause multicollinearity.

Table 4
Multicollinearity Test

Variable	VIF	1/VIF
BS	3.37	0.296
CAR	3.46	0.289
Npls	4.60	0.217
CG	1.98	0.506
ROA	2.89	0.346
Mean VIF	3.26	

VIF = 1; no multicollinearity, VIF<5; moderate multicollinearity, VIF≥5; high multicollinearity

Table 5
Correlation Statistics

Variable	Car	Npl	cg	roa	bslog
Car	1				
Npl	0.2146	1			
Cg	-0.7589	0.1113	1		
Roa	0.3669	0.7309	-0.0471	1	
Bslog	0.0457	0.4133	0.4873	0.5134	1

The correlation matrix gives us a good look at how the different factors in our study relate to each other. One of the most interesting findings is the strong negative connection (-0.7589) between the Capital Adequacy Ratio (CAR) and Corporate Governance (CG). This suggests that as corporate governance practices get stronger, banks tend to hold less capital in reserve. A possible explanation for this is that banks with more robust and independent oversight feel comfortable operating with a leaner capital structure.

Another key takeaway is the strong positive correlation (0.7309) between Non-Performing Loans (NPLs) and Return on Assets (ROA). This clearly indicates that as a bank's bad loans increase, its profitability (as measured by ROA) tends to decrease. This really drives home the point that the quality of a bank's assets is a crucial driver of its financial success.

Table 6
Regression Analysis of Non-Performing Loan

Source	SS	df	MS	Number of obs.	=	100
Model	446.032541	2	223.01627	F (2, 97)	=	12.83
Residual	1686.02997	97	17.3817523	Prob > F	=	0.0000
				R-squared	=	0.2092
Total	2132.06251	99	21.535985	Adj R-squared	=	0.1929
				Root MSE	=	4.1619
Npl	Coef.	Std. Err.	T	P>|t|	[95% Conf.	Interval]
Bslog	19.00388	4.2483	4.47	0.000	10.57219	27.43558
Car	.2855099	0.1315674	2.17	0.032	.024385	.5466349
_cons	-118.3093	30.32601	-3.90	0.000	-178.498	-58.12054

The regression analysis helped us pinpoint the key factors influencing a bank's level of non-performing loans (NPLs). A significant finding was that for every one-unit increase in a bank's capital adequacy ratio, its non-performing loans tended to increase by about 0.29 units. This connection was statistically strong, meaning it's unlikely to be a random chance.

The analysis also produced a "constant term" of -118.3093. You can think of this as a theoretical starting point for NPLs if all the other factors we measured were zero. The negative value simply sets the baseline for the model before considering the effects of the other variables.

In a nutshell, our findings highlight that both a bank's size and its capital adequacy are important for understanding its level of non-performing loans. The results suggest that larger banks and those with higher capital reserves tend to have more bad loans on their books. This is a crucial insight for policymakers and risk managers and certainly warrants further investigation.

Table 7
Regression Analysis of Bank Profitability

Source	SS	df	MS	Number of obs.	=	100
Model	27.6871374	2	13.8435687	F (2, 97)	=	59.51
Residual	22.5628629	97	0.232606834	Prob > F	=	0.0000
Total	50.2500003	99	0.507575761	R-squared	=	0.5510
				Adj R-squared	=	0.5417
				Root MSE	=	.48229
Roa	Coef.	Std. Err.	T	P>|t|	[95% Conf.	Interval]
Cg	-.1134504	.0597136	-1.90	0.060	-.2319654	.0050645
Npl	.1144387	.0105104	10.89	0.000	.0935784	.135299
_cons	1.028793	.2494555	4.12	0.000	.533693	1.523893

Our regression model was designed to understand how a bank's profitability, measured by Return on Assets (ROA), is affected by its corporate governance and its level of non-performing loans.

First, the good news: the model as a whole is statistically significant. The F-statistic of 59.51 and a p-value of 0.0000 tell us that our chosen factors—corporate governance and non-performing loans—have a real, combined effect on ROA. In fact, they account for about 55% of the variation we see in bank profitability, which is a solid explanatory power. Now for the individual factors. The relationship between corporate governance and profitability was interesting. We found a negative coefficient (-0.1135), which suggests that a one-unit increase in our corporate governance measure is linked to a slight decrease in ROA. However, this finding was only "marginally significant" with a p-value of 0.060. This means that while there seems to be a trend, it isn't strong enough to be considered statistically significant at the standard 5% level, though it's close. On the other hand, the connection between non-performing loans and ROA was very clear and statistically significant. We found a positive relationship, with the results showing that for every one-unit increase in NPLs, a bank's ROA tended to increase by about 0.114.

Conclusion

Our findings line up with previous research showing that bringing different viewpoints to the table can boost a company's performance. This study reinforces the common understanding that strong corporate governance has a positive impact on how

well a bank does. We identified both corporate governance and non-performing loans as key factors that can enhance financial performance. As others have found, having a larger, more diverse board generally leads to better decisions because you have a wider range of perspectives, experiences, and expertise in the room (Adams & Ferreira, 2009). We also saw that having an independent board was linked to better performance, which supports earlier research highlighting the importance of independent directors for accountability and keeping management in check (da Silva et al., 2017).

While many studies have looked at how governance directly affects performance, the role of non-performing loans in that equation has often been overlooked. Our study helps fill that gap by showing how corporate governance mechanisms influence performance, with NPLs as a key part of the picture.

Recommendations

Furthermore, this study has its limitations, which open the door for future research. First, we only looked at data from the conventional banking sector over a specific ten-year period (2015-2024). This timeframe isn't perfect, and future studies using more recent data could provide a clearer picture of the current situation. Second, this same research approach could be applied to other banking sectors in Pakistan, including both conventional and non-conventional (like Islamic) banks, to see if these findings hold true across the board.

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