

Board Size, Independence, Ownership Structure and Performance: A Dynamic Panel Data Analysis of Banking Sector of Pakistan

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Abstract

This study uses the Difference Generalized Method of Moments (GMM) to examine how corporate governance structures affect the financial performance of Pakistani banks. The study focusses on important aspects of governance, such as ownership concentration, board size, independence, and independence of the audit committee. The results show that the size and independence of the board have a positive and significant impact on the performance of the bank, indicating that improved bank outcomes may be achieved through more robust governance and board monitoring. On the other hand, it has been discovered that audit committee independence significantly and negatively affects performance, maybe as a result of unduly conservative decision-making. Concentrated ownership has a detrimental effect on performance as well, which is evident though it is less significant but suggests that inefficiencies and agency issues may result from concentrated ownership. These findings highlight the significance of well-balanced governance systems and indicate that, in order to enhance bank performance, regulatory frameworks should address ownership concentration and audit committee procedures. Further investigation into these linkages is necessary to improve financial performance and governance standards, especially in developing market environments.

Keywords: Corporate Governance, Bank Performance, Ownership Concentration, Board Size, Generalized Method of Moments, Dynamic Panel Data, Return on Equity

Introduction

The stability and growth of economies are significantly influenced by the performance of banks, particularly in emerging nations such as Pakistan, where the banking industry is essential to financial intermediation and economic advancement (Khan, 2020). Within this framework, corporate governance has become an essential tool for guaranteeing that banks run effectively, responsibly manage risks, and match management's interests with those of shareholders (Shleifer & Vishny, 1997). Securing shareholder interests and improving overall business performance are two major benefits of effective corporate governance systems, which also help to minimize agency issues that result from owner-manager conflicts (Jensen & Meckling, 1976). Because well-governed institutions are better able to manage risks and absorb economic shocks, these governance systems for banks also help to ensure financial stability (Minton, Taillard, & Williamson, 2014).

Understanding how certain corporate governance practices affect bank performance in developing nations has drawn more attention in recent years. Numerous studies have been conducted on important governance elements, including ownership concentration, board size, audit committee independence, and board independence (Boone, Casares Field, Karpoff, & Raheja, 2007). However, the institutional and regulatory contexts of various nations have an impact on these processes' effects, which are frequently context-specific (La Porta, Lopez-de-Silanes, Shleifer, & Vishny, 1998). According to Malik and Makhdoom (2016), the banking industry in Pakistan functions in a distinct environment that is marked by complicated regulations, political engagement, and a high degree of ownership concentration. These considerations underscore the necessity for country-specific research and make it more difficult to apply basic corporate governance concepts.

Although research from throughout the world indicates that corporate governance practices like independent boards and audit committees can improve company performance, there is scant and inconsistent data from Pakistan (Bhagat & Black, 2002). While certain studies (Ashfaq, Younas, & Usman, 2021) report that certain governance mechanisms, like audit committee independence, can have unintended negative consequences on bank performance due to excessive conservatism, others (Khan, 2020) have found a positive relationship between board independence and firm performance. According to Coles, Daniel, and Naveen (2008), larger boards are often linked to greater oversight and decision-making; but, if boards get too big, there is a chance of inefficiency and communication problems (Jensen, 1993). Contrarily, ownership concentration can either increase performance through better monitoring or decrease it due to controlling shareholders' entrenchment (Shleifer & Vishny, 1986).

This study aims to bridge a significant gap in the literature by investigating the link between corporate governance procedures and bank performance in Pakistan, given the diverse findings and the particular circumstances of the country's banking sector. The purpose of this research is to offer solid empirical evidence on the effects of governance arrangements on bank performance using panel data from Pakistani banks and the Generalized Method of Moments (GMM) estimator to

overcome endogeneity problems. The study aims to provide significant insights for policymakers, regulators, and practitioners in developing economies by examining the impact of ownership concentration, board size, audit committee independence, and board independence on the performance of banks in Pakistan.

Literature review

Corporate governance and bank performance

Corporate governance plays a crucial role in making sure banks run smoothly and successfully, wisely managing risks and coordinating management and shareholder interests. Many studies have been conducted on the link between corporate governance procedures and bank performance; the findings have varied depending on the governance structure and the situation.

Board Independence

Effective corporate governance is frequently attributed in large part to board independence. According to Fama and Jensen (1983), independent directors are supposed to eliminate agency conflicts, offer objective supervision, and question management choices. The beneficial effect of board independence on company success has typically been confirmed by empirical research. For example, Bhagat and Black (2002) discover that companies with more independent boards perform better in terms of profitability and stock returns. Board independence is seen to boost financial performance in the banking industry by improving supervision and reducing risks (Adams & Ferreira, 2007). However, other research indicates that overly autonomous boards could encounter difficulties as a result of ignorance of industry-specific issues, which could result in less-than-ideal decisions being made (Hubbard & Palia, 1995).

The Independence of the Audit Committee

Monitoring financial reporting and internal controls is a critical function of the audit committee. To provide impartial supervision of the financial reporting and auditing procedures, audit committee independence is meant to be maintained (Beasley, 1996). On the other hand, there is conflicting data about how audit committee independence affects bank success. While some research (Klein, 2002) indicates that independent audit committees improve the quality of financial reporting and lower the risk of financial restatements, other research (Ashfaq et al., 2021) indicates that greater independence may result in unduly conservative financial practices.

Size of Board

The size of the board is another crucial governance component that affects bank performance. Bigger boards are supposed to offer more viewpoints and a greater variety of skills, which might enhance monitoring and decision-making (Yermack, 1996). But the advantages of bigger boards have to be weighed against possible drawbacks including worse decision-making efficacy and coordination issues (Jensen, 1993). A bank's board should have the ideal size to enable it to oversee operations effectively without growing cumbersome (Coles, Daniel, & Naveen, 2008)

Ownership concentration

Ownership concentration is the degree to which a small number of owners, or one shareholder in particular, control a sizable amount of the shares of a company. Elevated ownership concentration has the ability to improve company performance by improving oversight and interest alignment between owners and management (Shleifer & Vishny, 1986). Concentrated ownership, however, can also have the unintended consequence of entrenchment, when dominant shareholders priorities their own goals above those of minority shareholders (La Porta, Lopez-de-Silanes, Shleifer, & Vishny, 1998). The influence of ownership concentration on performance in Pakistani banks, where it is very high, can be intricate and calls for close analysis (Malik & Makhdoom, 2016).

Mechanisms of Governance in Developing Economies

Due to differing regulatory regimes, market structures, and ownership patterns, the link between corporate governance and performance in developing countries such as Pakistan may be different from that in industrialized nations. The efficacy of governance measures may be impacted by regulatory frameworks in emerging countries, which may be less strict (La Porta et al., 1998). Furthermore, in contrast to more established markets, political participation and large levels of ownership concentration can complicate the governance landscape and have distinct effects on performance (Khan, 2020).

Reforms in Corporate Governance

The banking industry in Pakistan has recently undergone corporate governance changes with the goal of increasing accountability and transparency. Increased transparency and reporting standards, as well as stricter guidelines for board independence and audit committee responsibilities, are some of these measures (Siddiqui, 2017). Nonetheless, there is ongoing discussion on the efficacy of these changes in improving bank performance, since conflicting data points to both implementation difficulties and benefits (Ashfaq et al., 2021).

Research shows that while some corporate governance practices such as board independence and size generally lead to better performance, the effects of ownership concentration and audit committee independence might differ. These interactions are made more complex by the unique environment of Pakistan's banking industry, which is marked by difficult regulations and a high degree of ownership concentration. By filling in gaps in the existing research, presenting empirical data on the effects

of corporate governance procedures on bank performance in Pakistan, and giving guidance for practitioners and policymakers, this study seeks to further knowledge of these dynamics.

The effect of corporate governance practices on Pakistani banks' financial performance is investigated in this study. The main governance measures that were looked into were ownership concentration, board size, independence, and independence of the audit committee. Numerous studies have examined the connection between these governance factors and bank performance, but the results are still inconsistent, especially in developing nations. In light of this, the study seeks to investigate the following hypothesis:

- (H1): There is positive relationship between board independence and Bank performance.
 (H2): There exist a relationship between audit committee independence and performance of banks.
 (H3): There is positive relationship between board size and Bank performance.
 (H4): There exist a relationship between ownership concentration and bank performance.

Based on agency theory and resource dependency theory, which offer a framework for comprehending how various facets of corporate governance affect financial results in the banking industry, these theories are put forth.

The Agency Theory and Board Independence: It is anticipated that independent directors will efficiently oversee managers, therefore mitigating agency conflicts and guaranteeing that decisions are made with the best interests of shareholders in mind. We thus believe that there is a favorable correlation between board independence and bank success.

Agency Theory and Audit Committee Independence: Although agency theory argues that independence is essential for supervision, an excessive amount of independence might cause the audit committee to become too detached from operational realities, which could result in too cautious decision-making. We thus postulate that there is a negative correlation between performance and audit committee independence.

Board Size (Resource Dependency Theory): Decision-making and business performance are improved by larger boards because they offer access to a wider range of resources and viewpoints. As a result, we predict that board size and performance are positively related.

Agency Theory and Ownership Concentration: When major shareholders exercise excessive power and pursue personal goals that might negatively impact the firm's performance as a whole, this can result in agency difficulties. Thus, we propose that ownership concentration and performance have a negative connection.

Our theoretical framework offers a robust basis for comprehending the ways in which corporate governance procedures impact the performance of banks in Pakistan.

Data and Methods

Panel data from Pakistan's banking industry, spanning 14 years [2009 to 2022], is used in this study to examine the dynamics of corporate governance and how they affect bank performance. The dataset covers a sample of 22 banks that operate in Pakistan and contains both financial and governance-related factors.

Sources of Data

Financial Information: The yearly financial statements of the banks are the source of information on bank performance i.e. Return on Equity (ROE). The State Bank of Pakistan's financial reports and specific bank disclosures are the sources of these data.

Governance Data: Corporate governance reports, bank annual reports, and regulatory filings are the sources of information on corporate governance systems, such as board independence, audit committee independence, board size, and ownership concentration. Information also taken from the balance sheet analysis of State bank of Pakistan.

Sample

The study comprises a sample of 22 banks that have been in operation for the whole duration of the research and for which comprehensive data on governance and performance characteristics are accessible. In order to ensure a representative sample of the Pakistani banking industry, banks are chosen based on factors such as size, market share, and data accessibility.

Methodology

A dynamic panel data model is utilized to examine how corporate governance systems affect bank performance. To take into consideration any endogeneity problems and dynamic effects in the panel data, the Generalized Method of Moments (GMM) estimator is employed.

Model specification

$$ROE_{it} = \beta_0 + \beta_1 BDS_{it} + \beta_2 BI_{it} + \beta_3 OC_{it} + \beta_4 ACI_{it} + \beta_5 AQ_{it} + \beta_6 BS_{it} + \beta_7 CE_{it} + \beta_8 CR_{it} + \beta_9 LR_{it} + \beta_{10} INF_t + \epsilon_{it}$$

Dependent variable

ROE_{it} = Return on Equity of Bank i at time t

Independent variable

BDS_{it} = Board Size of Bank i at time t

BI_{it} = Board Independence of Bank i at time t

OC_{it} = Ownership concentration of Bank i at time t

ACI_{it} = Audit committee independence of Bank i at time t

Controlling variable

AQ_{it} = Asset Quality of Bank i at time t

BS_{it} = Bank Size of Bank i at time t

CE_{it} = Cost Efficiency of Bank i at time t

CR_{it} = Capital Ratio of Bank i at time t

LR_{it} = Leverage of Bank i at time t

INF_t = Inflation at time t

ϵ_{it} = error term

Difference GMM Approximation

Using the Difference GMM estimator, possible endogeneity and autocorrelation problems are resolved. Using lagged values of the dependent and independent variables as instruments, this entails first differencing the model to eliminate fixed effects. Following first-differencing, the model is changed into:

The transformed model

$$\Delta ROE_{it} = \beta_1 \Delta BDS_{it} + \beta_2 \Delta BI_{it} + \beta_3 \Delta OC_{it} + \beta_4 \Delta ACI_{it} + \beta_5 \Delta AQ_{it} + \beta_6 \Delta BS_{it} + \beta_7 \Delta CE_{it} + \beta_8 \Delta CR_{it} + \beta_9 \Delta LR_{it} + \beta_{10} \Delta INF_t + \epsilon_{it}$$

Where Δ represent first difference of the variables

Instrument Choice

To deal with endogeneity, lag values of the independent and dependent variables are employed as tools. In particular:

ROE_{it-1} is used as an instrument for ΔROE_{it}

BDS_{it-1} is used as an instrument for ΔBDS_{it}

BI_{it-1} is used as an instrument for ΔBI_{it}

ACI_{it-1} is used as an instrument for ΔACI_{it}

AQ_{it-1} is used as an instrument for ΔAQ_{it}

OC_{t-1} is used as an instrument for ΔOC_{it}

BS_{t-1} is used as an instrument for ΔBS_{it}

CE_{it-1} is used as an instrument for ΔCE_{it}

CR_{it-1} is used as an instrument for ΔCR_{it}

LR_{it-1} is used as an instrument for ΔLR_{it}

INF_{t-1} is used as an instrument for ΔINF_t

Eviews 12 is used to estimate the model for the Difference GMM. The actions listed below are completed: Model Specification: Use endogenous variables and the lagged dependent variable in the GMM estimate. To Perform the AR(1) and AR(2) tests to look for serial correlation in the error terms, as well as the Hansen J test to evaluate the validity of the instruments.

Data Analysis and results

Descriptive statistics are included in Table 1 for the major research variables, which include indicators of bank performance and corporate governance practices. Finding significant correlations between the variables is essential, and the statistics show that there is a lot of diversity in the variables among the sample banks.

Table 1: Descriptive statistic

	ROE	BDS	BI	OC	ACI	AQ	BS	CE	CR	LR	INF
Mean	3.607445	8.525974	0.339353	0.774506	0.451623	11.70099	26.71582	2.890198	7.672487	7.792951	9.151429
Median	13.50500	8.000000	0.333333	0.824986	0.400000	8.965000	26.82631	2.226000	6.455000	7.400000	9.590000
Maximum	234.7100	13.00000	0.818182	1.000000	1.000000	65.78000	30.88039	51.63000	50.22000	18.36000	19.87000
Minimum	-1474.700	4.000000	0.000000	0.071840	0.000000	0.000000	22.64641	-11.42000	-16.70000	0.210000	2.530000
Std. Dev.	90.12860	1.668634	0.134007	0.210373	0.190105	10.74814	1.381432	3.763802	6.044616	2.660330	4.479836
Skewness	-14.47054	0.639309	0.699823	-1.486696	0.194395	2.464574	-0.287444	7.395963	2.135538	0.700094	0.592586
Kurtosis	236.9373	3.477717	5.178992	5.275369	2.695955	10.16390	3.136375	94.77210	19.44193	4.487985	3.134724
Jarque-Bera	713074.3	23.90950	86.07337	179.9023	3.126220	970.4313	4.480033	110891.8	3703.432	53.57435	18.25908
Probability	0.000000	0.000006	0.000000	0.000000	0.209484	0.000000	0.106457	0.000000	0.000000	0.000000	0.000108
Sum	1111.093	2626.000	104.5208	238.5478	139.1000	3603.905	8228.474	890.1810	2363.126	2400.229	2818.640
Sum Sq. Dev.	2493812.	854.7922	5.513032	13.58684	11.09491	35465.38	585.8651	4349.025	11216.97	2172.749	6161.161
Observations	308	308	308	308	308	308	308	308	308	308	308

Correlation analysis

The early links between the corporate governance structures and bank performance metrics are displayed in the correlation analysis (Table 2). Board independence and ROE show significant connections, indicating a possible beneficial relationship. Ownership concentration has poor relationships with performance indicators, whereas board size and audit committee independence show inconsistent associations with performance.

Table 2: Correlation

	ROE	BDS	BI	OC	ACI	AQ	BS	CE	CR	LR	INF
ROE	1.000000	0.061788	0.028304	-0.104167	0.098242	-0.198478	0.089970	-0.045378	0.054428	0.099157	-0.087901
BDS	0.061788	1.000000	-0.104031	-0.116637	0.019450	-0.265914	0.230042	-0.113214	0.034914	-0.055431	-0.049633
BI	0.028304	-0.104031	1.000000	0.142175	0.457691	0.012620	0.133514	0.042749	0.037519	-0.041926	0.137843
OC	-0.104167	-0.116637	0.142175	1.000000	-0.026645	0.177188	-0.252244	0.018250	0.341226	-0.135019	0.024778
ACI	0.098242	0.019450	0.457691	-0.026645	1.000000	-0.114187	0.163184	-0.043440	-0.018211	-0.142885	-0.110606
AQ	-0.198478	-0.265914	0.012620	0.177188	-0.114187	1.000000	-0.210022	0.119301	-0.276766	0.044492	0.097812
BS	0.089970	0.230042	0.133514	-0.252244	0.163184	-0.210022	1.000000	-0.246712	-0.271909	0.127113	0.069587
CE	-0.045378	-0.113214	0.042749	0.018250	-0.043440	0.119301	-0.246712	1.000000	0.080144	-0.046635	0.123445
CR	0.054428	0.034914	0.037519	0.341226	-0.018211	-0.276766	-0.271909	0.080144	1.000000	-0.126459	-0.072375
LR	0.099157	-0.055431	-0.041926	-0.135019	-0.142885	0.044492	0.127113	-0.046635	-0.126459	1.000000	0.029963
INF	-0.087901	-0.049633	0.137843	0.024778	-0.110606	0.097812	0.069587	0.123445	-0.072375	0.029963	1.000000

In Table 3, the Difference GMM estimation results are displayed. Bank performance as determined by ROE serves as the dependent variable in the regression.

Table 3: Estimations of Difference GMM

	BDS	BI	ACI	OC	AQ	BS	CE	LR	CR	INF
Coefficient	7.64***	39.53***	-27.3***	-29.15*	0.15**	-15.04**	0.119	-0.321	0.85***	0.255*
Std. Error	1.12	6.00	2.29	14.65	0.06	6.269	0.423	0.801	0.047	0.12729
t-Statistics	6.79	6.58	-11.91	-1.99	2.30	-2.398	0.280	-0.400	18.07	2.0056
Probability	0.000	0.000	0.000	0.0597	0.031	0.0258	0.781	0.6927	0.000	0.0580

*** Significant at 1%

** Significant at 5%

* Significant at 10%

Table 4: J - Statistics & Serial correlation

Table 4. J - Statistics & Serial Correlation		
J- statistic	Prob(J- statistic)	
15.68547	0.153215	
	AR(1)	AR(2)
m -Statistic	0.570785	0.035202
Probability	0.5681	0.9719

Table 4 shows that the value of J – statistics implies that the instruments are valid, and the well specified model is in terms of its instruments and the P values of AR(1) and AR(2) indicates that there is no first and second order serial correlation. These tests statistics collectively suggests that the GMM model is appropriately specified and the chosen instruments are valid.

Board Independence: It appears that more board independence is linked to improved bank performance based on the positive and statistically significant coefficients for board independence across all performance indicator. This result validates the idea that having independent directors improves governance and monitoring, which improves financial results (Adams & Ferreira, 2007).

Audit Committee Independence: According to the negative and significant coefficients, there is a negative correlation between more audit committee independence and inferior performance. This finding implies that although the goal of independent audit committees is to enhance financial reporting and control, they may also result in unduly conservative behaviors that have a detrimental effect on performance (Ashfaq et al., 2021).

Board Size: It appears that larger boards are linked to higher performance, as seen by the positive and substantial association found between board size and performance metrics. This result supports the idea that larger boards offer more diversified experience and superior supervision; nonetheless, the ideal size should strike a compromise between efficacy and efficiency (Yermack, 1996).

Ownership Concentration: While concentrated ownership may have certain monitoring benefits, its effect on performance is not statistically significant, according to the negative but negligible link shown between ownership concentration and bank

performance. This could be because of the deeply ingrained interests of major shareholders or because of the unique features of the banking industry in Pakistan (Shleifer & Vishny, 1986).

The report offers insightful information on how corporate governance practices impact Pakistani banks' operational performance. Ownership concentration has negative but less significant effect on performance, audit committee independence has a negative effect, and board independence and size have a good impact. These findings emphasize how crucial it is to take into account the unique governance dynamics and contextual elements present in the banking industry in Pakistan when assessing governance methods and the performance consequences associated with them.

Conclusion

This study provides useful information on the link between corporate governance procedures and bank performance in Pakistan's banking industry. The favorable and substantial influence of board independence and board size implies that governance arrangements with diverse, larger boards contribute to stronger decision-making and higher overall bank performance. In contrast, the negative association between audit committee independence and performance indicates possible inefficiencies in highly independent audit committees, perhaps leading to cautious or sluggish decision-making procedures that impair bank outcomes. Additionally, the conclusion that ownership concentration negatively influences performance, albeit at the 10% significance level, shows that concentrated ownership might bring agency concerns because major shareholders may prioritize their own interests over the bank's overall success. This underlines the need for stronger legal frameworks to balance the interests of major shareholders and promote corporate governance procedures. Future study should further investigate the intricacies of these linkages, including the impact of regulatory settings and cultural variables in influencing the efficacy of governance systems in emerging countries.

Recommendation

The study's conclusions lead to the following suggestions, which are meant to strengthen Pakistan's corporate governance framework and boost bank performance:

Banks ought to place a stronger priority on keeping a larger percentage of independent directors on their boards. Since board independence and performance are positively correlated, it is possible for independent directors to enhance strategic decision-making and supervision. Regulators ought to support policies that promote independence by establishing standards for minimal independence for board members.

Banks should carefully structure their boards to encompass a varied range of viewpoints and skill sets, given the favorable effect that a bigger board size has on performance. The ideal board size maintains efficient decision-making procedures and sufficient representation of various points of view. In order to prevent inefficiencies brought on by too big or tiny boards, regulators may also offer recommendations for the appropriate range of board members.

An excessively independent audit committee may impede the ability to make wise decisions, as seen by the negative correlation found between audit committee independence and performance. Banks should assess the composition and function of their audit committees to make sure that efficiency is not jeopardized while maintaining independence. Committee members could benefit from training programs that teach them how to strike a balance between independence and useful decision-making.

Large shareholders' disproportionate control is linked negatively to performance; hence banks and regulators should create structures to avoid it. Policies that encourage minority shareholders to participate in governance procedures may be able to lessen conflicts of interest and agency issues. In order to prevent big shareholders from having an undue effect on choices that might negatively impact the bank's long-term success, regulatory control is also required.

In order to bring Pakistani corporate governance standards into line with international best practices, regulators should keep improving them, especially those that deal with ownership concentration. Better governance frameworks might guarantee more responsible and transparent decision-making processes while balancing the interests of major shareholders.

Future Research directions:

To get a deeper understanding of how contextual factors, such market circumstances, regulatory settings, and cultural influences, impact bank performance in developing nations, future research should investigate the interactions between governance structures and these variables.

The long-term effects of governance on performance, in particular the changing role of ownership concentration in dynamic regulatory and economic environments, require more study.

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