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The Impact of Corporate Governance on the Banking Financial Performance: The Mediating Role of Liquidity

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Abstract

This study investigates the impact of corporate governance on the financial performance of the banking sector in (GCC) countries. The study employs quantitative research design, collecting data from 2014 to 2021 across 55 banks in the GCC region. (PLS-SEM) was utilized to analyse the relationships between corporate governance, liquidity, and financial performance. The study indicates a statistically significant negative relationship between board diversity and financial performance, specifically with (ROA) and (ROE). Regarding board meeting frequency, the study found no significant effect on ROA, however there was a significant negative relationship with ROE. On the other hand, board size does not significantly affect either ROA or ROE. Similarly, the relationship between board independence and both ROA and ROE were found to be non-significant. Furthermore, the study highlights a significant negative relationship between liquidity and both ROA and ROE. For board independence, liquidity partially mediates the relationship with ROA and ROE. For board meeting frequency, liquidity negative and significant with ROA. However, for board diversity, liquidity does not play a significant mediating role between board diversity and ROA or ROE. liquidity partially mediates the relationship between board meeting frequency with ROA, ROE

Keywords: Corporate Governance, Financial Performance, Liquidity, Banking.

Introduction

Corporate Corporate Corporate governance is a widely debated topic in today's business environment, primarily due to significant corporate failures such as those of WorldCom, BCCI, Polly Peck International, and Baring Bank. These incidents have highlighted the need for stronger governance structures, prompting governments and regulatory bodies to establish rigorous governance frameworks to ensure corporate stability and prevent similar failures (Oinio & Itan, 2018). Robust corporate governance is essential for maintaining market discipline and is highly valued by investors and other financial market participants (Ramsay, 2001). In response, many countries have implemented corporate governance reforms, such as the United States' Sarbanes-Oxley Act of 2002, which mandates that organizations adopt professional, accountable, and transparent governance practices to ensure long-term success. Similarly, the UK has introduced the Comprehensive Corporate Governance Code (2003), which serves as a best-practice guide with indirect legislative power through relevant listing rules. In the banking sector, frameworks like Basel I, II, and more recently Basel III, have been widely adopted by developing and emerging countries to enhance their corporate governance standards.A corporate governance system is essentially a framework comprising legal, institutional, and cultural components that are often specific to a country and influence how shareholders (or stakeholders) affect management decisions. The practices employed at the corporate level to address governance issues are referred to as corporate governance procedures (Gulzar et al., 2021). Generally, corporate governance involves the procedures, rules, and policies established by regulatory bodies to manage the day-to-day operations of businesses (Khalifa et al., 2020). Good corporate governance is crucial for the stability of the banking industry.

Corporate governance is carried out by board members who view themselves as the firm’s managers (Donaldson and Davis, 1991). These managerial actions are aimed at enhancing the company’s assets and include strategies such as (1) having large boards to promote diverse viewpoints, (2) appointing independent directors to objectively evaluate management, (3) encouraging ownership by large shareholders, institutions, and foreign investors to reduce agency conflicts, (4) implementing performance-based compensation, (5) involving politically connected shareholders, and (6) maintaining relationships with political management. According to Bushman (2016), disclosure in banking involves making relevant, reliable information on a bank's performance, financial position, business model, governance, and risks available to external stakeholders, such as depositors, investors, borrowers, counterparties, regulators, policymakers, and competitors. However, the design of corporate governance structures varies by country, depending on the nation’s economic, political, and social context (Almatari et al., 2014; Dabor et al., 2015). An essential element of an effective corporate governance framework is the provision for civil or criminal prosecution of individuals engaged in unethical or illegal activities on behalf of the company (Adigwe et al., 2016).

In the GCC (Gulf Cooperation Council) region, the corporate landscape includes "national" family-owned businesses, branches of large international corporations, and various joint ventures between local GCC firms and foreign companies. Unlike the Western (Anglo-Saxon) economic model, where ownership is typically distributed among many shareholders,

corporate ownership in the GCC is predominantly concentrated among families or governments (Martini et al., 2016). The primary goal of any corporate governance system is to enhance both company performance and accountability, thereby attracting the best financial and human resources and preventing business failures (Al-ahdal et al., 2020).

Table 1
Corporate Governance in GCC Countries and the Issuer

Country	Year of introducing CG	Issuing entity
Oman	2002	Capital Market Authority
Saudi Arabia	2006 (amended in 2009)	Capital Market Authority
UAE	2007	Capital Market Authority
Qatar	2009	Capital Market Authority
Bahrain	2010	Central Bank
Kuwait	2013	Capital Market Authority

Gulf Gulf banks are experiencing significant growth and increased balance-sheet activity. These institutions are well-capitalized and generate substantial profits. They play a crucial role in job creation, economic growth, and municipal development. The International Monetary Fund (IMF) has recognized the significance of the banking sector, noting that Gulf banks serve as a key indicator of the health and sustainability of the Gulf financial system (Bebas and Fali, 2020).

On the other hand, gulf banks are essential to the country's economy and control the financial system. Despite Arab country volatility, confidence in the Gulf countries' financial systems is strong due to some qualities that attract global investments. Recently, the sector has been characterized by significant systematic liquidity, as well as general investor and depositor confidence and trust. The protection of depositors' cash is achieved by strong banking secrecy, which is strengthened under the supervision of the central bank, which serves as the regulatory body Dwivedi et al (2021).

Banks are the dominant force within the GCC financial system, which has seen remarkable growth over the past two decades.
Despite the critical role of corporate governance in preventing financial crises, poor governance continues to be a significant issue. Historical economic collapses and scandals, like the East Asian financial crisis, underscore the necessity for improved governance and risk management (Al Karasneh et al., 2006). The Saudi Capital Markets Authority's response to the 2006 stock market crash is an example of efforts to enforce stronger governance (Al-Faryan, 2020). Additionally, institutional ownership has been shown to negatively impact adherence to international standards (Yamani, 2020). Given the pivotal role of banks as economic intermediaries, failures in governance can result in substantial financial crises, emphasizing the importance of solid corporate governance principles (Afriyie et al., 2021; Handa, 2018). The banking sector in GCC countries faces additional challenges, such as oil price volatility, which affects liquidity and financial performance (Zeddoun & Bendima, 2022).

The region's reliance on oil and gas underscores the need for economic diversification to ensure stability (Friederich & Krustins, 2020). Moreover, the banking sector in GCC countries is marked by fragility and poor liquidity management practices, making it more vulnerable to external credit conditions (Saif-Alyousfi & Mohd, 2018). Figure 1 illustrates the rise in Non-Performing Loans (NPL) in GCC banks (source: Country authorities; and IMF staff calculations).

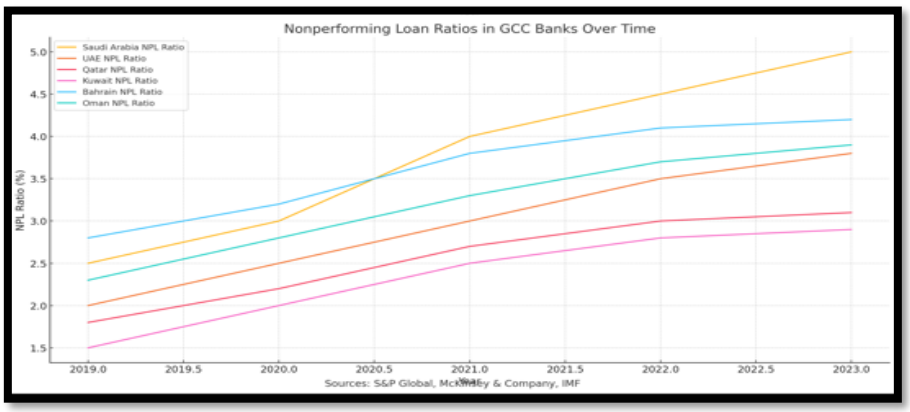

Figure1. Non-Performing Loan (NPL) In GCC Banks

A significant issue in GCC corporate governance is the influence of family ownership on board independence, which can lead to agency problems and the transfer of wealth from minority shareholders to family shareholders (Sirmon et al., 2008; Maury, 2006; Leung, Richardson, & Jaggi, 2014). Institutional ownership has also been found to negatively affect compliance with international standards (Yamani, 2020). Research indicates that effective corporate governance enhances bank performance and stakeholder confidence (Al-ahdal et al., 2020; Abdullah et al., 2021; Gulzar et al., 2021). However, disclosure in financial statements remains inadequate, as shown by studies in the UAE, highlighting a disconnect between theory and practice (Nobanee & Ellili, 2022). This gap calls for regulatory measures to improve transparency and governance. Furthermore, empirical research on the factors driving bank financial performance in GCC countries is limited, with most studies conducted prior to the introduction of the latest corporate governance guidelines in 2014 (Alobaidi et al., 2017; AlSagri et al., 2018; Al Kaabi & Ahmad, 2021). The impact of corporate governance on bank performance, particularly in developing countries, remains underexplored (Basuony et al., 2014). Despite the importance of financial performance, research on GCC banks is scarce, with most studies lacking comprehensive analyses (Zeitun, 2012). This study aims to address this gap by examining the impact of corporate governance on the liquidity of GCC banks from 2014 to 2021, offering insights into how governance practices affect bank liquidity in the rapidly growing economies of the Gulf region.

Literature Review

Agency theory involves a principal hiring an agent to act on their behalf, which can create conflicts if the agent's actions diverge from the principal's interests due to differing objectives (Jensen & Meckling, 1976; Namazi, 2013). Applied across fields, agency theory addresses the principal-agent problem and governance mechanisms, focusing on risk-sharing (Eisenhardt, 1989). Conflicts arise when managers prioritize personal benefits over shareholder interests, reducing firm value (Kaur et al., 2021). Aligning incentives, such as boosting stock returns and liquidity, helps ensure managers act in shareholders' best interests.

Research Framework

This study is grounded in agency theory, and the hypotheses are constructed in line with this theoretical framework. This Figure 2.1 illustrates the relationship between the independent variables (board size, board independence, board diversity, and board meeting frequency), the dependent variables (return on assets (ROA) and return on equity (ROE)), and the mediating variable (liquidity). This study examines the impact of corporate governance on the financial performance of the banking sector in the Arabian Gulf region from 2014 to 2021, specifically focusing on the mediating role of liquidity. The figure below shows the conceptual framework:

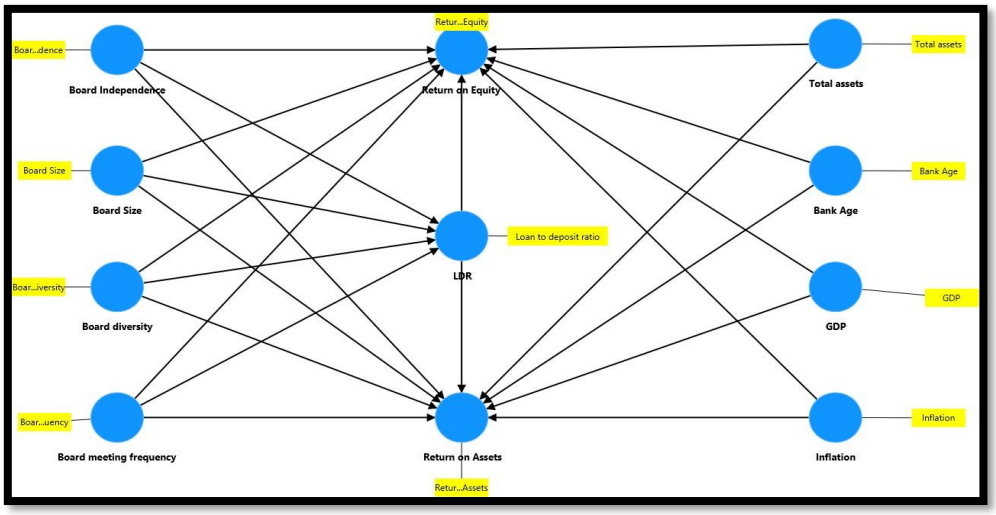

Figure 2 Conceptual Framework

The Relationship between Corporate Governance and Financial Performance

Improving governance can significantly boost firm performance. Jensen and Meckling (1976) found that high financial performance is linked to strong corporate governance, as well-governed firms often operate more profitably and inspire investor confidence.

Andres and Vallelado (2008), used Tobin's Q, ROA, and shareholder returns to measure bank performance, analyzing board size and composition. They found that larger boards offer better oversight, despite coordination challenges, estimating an optimal board size of 19 directors. They also recommend balancing executive and non-executive directors to enhance advisory effectiveness and reduce conflicts of interest.

Alagathurai and Nimalathashan (2013), found mixed relationships between governance factors and performance in banks. Most factors positively impacted ROE in both state and private banks, except for board diversity (BD) and meeting frequency (BMF). In state banks, BD negatively affected ROA, while it positively impacted ROA in private banks, though not significantly.

Based on what has been discussed, the current study seeks to test the following hypothesis:
H1: The Board Size of a bank positively influences Return on Assets.
H2: The Board Size of a bank positively influences Return on Equity.
H3: The Board Independence of a bank positively influences Return on Assets.
H4: The Board Independence of a bank positively influences Return on Equity.

H5: The Board Diversity of a bank positively influences Return on Assets.
H6: The Board Diversity of a bank positively influences Return on Equity.
H7: The Board Meeting Frequency of a bank positively influences Return on Assets.
H8: The Board Meeting Frequency of a bank positively influences Return on Equity.

The Relationship between liquidity and Financial Performance

Firm performance is shaped by internal and external factors. Internal factors, such as corporate governance, firm size, financial leverage, liquidity, management efficiency, and market power, stem from managerial and board decisions and directly impact financial performance. External factors include macroeconomic elements like exchange rate volatility, interest rates, inflation, and political stability (Athanasoglou, Brissimis & Delis, 2005).

Karadayi (2023) examined the effects of the Interest Income/Total Assets ratio, Non-Interest Income/Total Assets ratio, and Loans/Deposits ratio (LDR) on Ziraat Bank's ROE from 2003 to 2021. Results showed LDR had a significant negative effect on ROE, while non-interest income had a positive impact. These variables explained 55.16% of ROE variation. Madhuwanthi and Morawakage (2019) analyzed liquidity risks in banks and found that liquidity gaps and non-performing loans negatively impacted ROA and ROE, while positively affecting the net interest margin (NIM).

Ben Moussa and Boubaker (2020), studied liquidity's impact on Tunisian banks' profitability from 2000 to 2017. They found that (current assets/total assets) and (total loans/total deposits) positively affected ROA but negatively influenced ROE. Current assets/current liabilities showed no significant effect on either ROA or ROE.
Based on what has been discussed, the current study seeks to test the following hypothesis:
H9: Liquidity positively influences Return on Assets.
H10: Liquidity positively influences Return on Equity

The Relationship between Corporate Governance and liquidity

Ratri (2021) examined bank performance by assessing the impact of liquidity and the moderating effects of board size and meeting frequency on conventional banks in Indonesia (2014-2019). Results show that liquidity positively influences performance, though board size and meeting frequency weaken this effect.

Sanyaolu and Innocent (2021), investigated liquidity management and corporate governance in Nigerian banks, finding that previous liquidity positively affects the current year's liquidity. Board size had a negative but insignificant impact on liquidity management, while board independence had a significant negative effect. Gender diversity and bank size had indirect, insignificant effects. The study recommends appointing directors with relevant skills to enhance bank operations.

Sari and Sholikhah (2019), explored corporate governance's effect on liquidity risk disclosure in Indonesian consumer goods companies (2016-2018). Independent commissioners and audit committees positively influenced liquidity risk disclosure, while managerial and institutional ownership did not.

Based on what has been discussed, the current study seeks to test the following hypothesis:
H11: The Board Size of a bank positively influences Liquidity
H12: The Board Independence of a bank positively Liquidity
H13: The Board Diversity of a bank positively influences Liquidity
H14: The Board Meeting Frequency of a bank positively influences Liquidity

The Mediating Role of liquidity on the Relationship between CG and FP
Tahir et al. (2020), explored how liquidity policy in Pakistan's non-financial sector can enhance corporate governance and performance. Using data from 63 firms (2010-2018) and a Seemingly Unrelated Regression (SURE) model, the study found liquidity mediates the link between governance and performance, with a positive impact on return on assets (ROA) and partial mediation on Tobin's Q (TQ). Results suggest that robust liquidity policies improve governance and firm performance, advocating for enhanced disclosure and transparency.

Kapur and Malik (2022), examined liquidity factors in UAE Islamic banks, recommending that banks integrate governance and risk management strategies to improve liquidity control and financial performance. Findings indicated that liquidity factors positively impact performance, urging UAE banks to adopt policies to mitigate liquidity risks and expand their client base.

Research in Romania (2017), analyzed six board qualities in relation to performance among 55 firms on the Bucharest Stock Exchange, finding no significant link between board characteristics and performance (ROA and TQ), consistent with other studies in developing economies, likely due to transition economy challenges (Wadesango et al., 2020).

Khan and Awan (2012), and Wang (2014), found that independent board members, with no conflicts of interest, reduce management-board collaboration risks, enhancing decision-making integrity and shareholder value (Wadesango & Wadesango, 2016). Based on what has been discussed, the current study seeks to test the following hypothesis:

H15: Liquidity has a mediating role in the relationship between Board Independence and Return on Assets.
H16: Liquidity has a mediating role in the relationship between Board Independence and Return on Equity.
H17: Liquidity has a mediating role in the relationship between Board Size and Return on Assets.
H18: Liquidity has a mediating role in the relationship between Board Size and Return on Equity.
H19: Liquidity has a mediating role in the relationship between Board Diversity and Return on Assets.
H20: Liquidity has a mediating role in the relationship between Board Diversity and Return on Equity.
H21: Liquidity has a mediating role in the relationship between Board Meeting Frequency and Return on Assets.
H22: The liquidity has a mediating role in the relationship between Board Meeting Frequency and Return on Equity.

Methodology

The study analysed data from Saudi Arabia, the United Arab Emirates, Qatar, Bahrain, Oman, and Kuwait, covering the years 2014 to 2021. The sample included 55 banks from both commercial and Islamic banking systems across the Gulf Cooperation Council countries. The selection of the sample adhered to three criteria from previous studies by Aljughaiman & Salama (2019) and Beck et al. (2013): (1) the availability of relevant variables, (2) accessibility of data for banks during the study period through the Central Bank's website, the banks' annual reports, or the country's financial market. The study period spanned 8 years.

Measures of Variables

The variables collected for this study are broadly classified into four categories: independent, dependent, mediating, and control variables. The study aims to explore the relationships among the independent variables (board size, board independence, board diversity, and board meeting frequency), the dependent variables (return on assets (ROA) and return on equity (ROE)), and the mediating variable (liquidity). It investigates the impact of corporate governance on the financial performance of the banking sector in the Arabian Gulf region from 2014 to 2021, with a particular emphasis on the mediating role of liquidity and the influence of control variables such as total assets, GDP, inflation, and bank age.

Corporate Governance

According to previous studies Bawaneh, (2020), Bermpei & Mamatzakis, (2015) and Campbell & Mínguez-Vera, (2008) we measured corporate governance using four separate aspects, ad follow:

Board Independence: Percent of the independent directors in the board.
Board Size: Total number of directors on the board.
Board diversity: The percentage of female in the board to the total Board Size.
Board Meeting Frequency: Total number of the Board Meeting.

Financial Performance

According to previous studies Haider et al., (2015) Asat et al., (2015) Bouba (2011) Ali, (2014), Almajali et al., (2012) and Balouei et al., (2018) we measured financial performance using two separate aspects, ad follow:

Return on Equity: It is a measure of the company's profitability and profitability efficacy. The greater the return on equity, the more proficient the management is at generating income and expansion. This is determined by dividing net income by total equity. This ratio shows the level of efficiency of the use of own capital in generating net income
Return on Equity = Net Profit to Equity

Return on Assets: This ratio indicates the efficacy with which total assets are utilized to generate net income. In addition, return on assets is the preferable metric for determining a company's profitability because it demonstrates how effectively management uses its assets to generate income.
Return on Asset= Net Profit to Total Assets

Measures of Mediator Variables

According to the previous studies Haider et al., (2015) Asat et al., (2015) Bouba, (2011) and Mazreku, & Grima (2019) we measure mediator variables, using one separate aspects, ad follow:

Liquidity: in banks is the inability to fulfil its obligations to depositors or to finance increases in assets as they fall due without incurring intolerable costs or losses. Effective management of liquidity risk ensures the bank's ability to satisfy its obligations on time and reduces the likelihood of an adverse situation arising.
The following formula is used to calculate Liquidity:
LDR = Total loans to Total Deposits.

Control Variables

These variables are primarily utilized in experimental research, where researchers need to control specific factors to ensure the validity of their experiments. The selection of control variables was guided by existing research in the field and the specific objectives of this study. The control variables for this study include the following:

Bank size: Company size, measured as the natural logarithm of total assets, indicates the scope of operations and market influence. Larger firms typically attract more lender interest and have a stronger market presence. This logarithmic measure of size is common in studies on firm dynamics, such as "The Relationship Between Market Power and Firm Size." In banking, a larger asset base allows banks to leverage economies of scale and scope, boosting performance (Alao & Sanyaolu, 2020).

GDP: is a standard metric representing the value added from producing goods and services within a country over a specific period. It reflects total revenue from production or total spending on finished goods and services (excluding imports). This study uses annual GDP changes as a key indicator of economic growth and activity (Baba & Nasieku, 2016).

Bank Age: The company's age is the duration of time it has been in operation since its founding Osunsan et. al (2015).

Inflation: The amount that a collection of products and services have increased in price during a specific time frame, often a year, is measured by inflation. Measured as an annual change in CPI. Athanasoglou et al., (2005) and Baba & Nasieku, (2016)

Results and Discussion

The research model was assessed using Partial Least Squares Structural Equation Modelling (PLS-SEM) with Smart PLS 4.0. The analysis began with evaluating the reliability and validity of the measurement model, followed by examining the structural model to assess path coefficient significance and test mediation and moderation effects. In PLS-SEM, the measurement (outer) model defines the relationships between constructs and indicators, distinguishing between reflective and formative models, each requiring separate analysis as per Hair et al. (2019).

Descriptive Statistics

The descriptive statistics table provides a comprehensive overview of the main variables used in this study, showcasing their fundamental statistical measures, including the count (N), minimum, maximum, mean, and standard deviation. This analysis aids in understanding the distribution and variability of the data across different variables. The results of the descriptive statistics for all variables are shown in Table 2 below:

Table 2
Descriptive Statistics

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
Board Independence	440	0	5	2.3545	1.38877
Board size	440	6	13	9.0091	1.26587
Board diversity	440	0	2	0.4432	0.7341
Board meeting	440	2	9	5.8023	1.42528
ROE	440	-7.5	28.82	11.6144	6.08398
ROA	440	-6.2	21.65	3.9448	5.51294
Liquidity	440	0.6	1.32	0.9246	0.14037
Total assets	440	6.93	20.81	13.0051	2.92596
Bank age	440	1	69	34.7364	16.73003
GDP	440	-8.9	6.8	1.3568	3.36147
Inflation	440	-2.5	4.1	1.332	1.73978
Valid N	440				

The results show that board independence ranges from 0.00 to 5.00, with an average of 2.3545 and a standard deviation of 1.38877, indicating moderate variation. Board size varies between 6 and 13 members, with an average of 9.0091 and a standard deviation of 1.26587, reflecting low variation. Board diversity is low, with values between 0.00 and 2.00, a mean of 0.4432, and a standard deviation of 0.73410. Boards meet 2 to 9 times a year, with an average of 5.8023 meetings and moderate variability (standard deviation 1.42528). ROE values range from -7.50 to 28.82, with a mean of 11.6144 and significant variability (standard deviation 6.08398). ROA ranges from -6.20 to 21.65, with an average of 3.9448 and a standard deviation of 5.51294. Liquidity measures range from 0.60 to 1.32, with a mean of 0.9246 and low variability (standard deviation 0.14037). Total assets vary widely, from 6.93 to 20.81, with a mean of 13.0051 and significant differences (standard deviation 2.92596). Bank age varies from 1 to 69 years, with a mean of 34.7364 and a high standard deviation of 16.73003. GDP growth rates range from -8.90 to 6.80, with an average of 1.3568 and considerable variability (standard deviation 3.36147). Inflation rates range from -2.50 to 4.10, with a mean of 1.3320 and moderate variability (standard deviation 1.73978). Overall, this descriptive analysis provides a foundation for further empirical investigation by highlighting the diversity and distribution of the data.

Correlation Analysis

The table Pearson correlation results for the independent variables. By investigating the results, there is no multicollinearity issue, as none of the Pearson correlation coefficient value exceeds 0.80 between any two variables

Table 3
Correlation

	Board Independence	Board Size	Board Diversity	Board Meeting	ROA	ROE	liquidity	Total Assets	Bank Age	GDP	Inflation
Board Independence	1										
Board Size	0.054	1									
Board diversity	0.135	0.234	1								
Board meeting	-0.032	0.033	0.004	1							
ROE	-0.072	-0.094	-0.16	0.086	1						
ROA	-0.015	-0.018	-0.096	-0.004	0.196	1					
liquidity	0.122	-0.089	-0.024	0.095	-0.097	-0.19	1				
Total assets	0.099	0.023	0.073	-0.047	0.06	-0.119	0.188	1			
Bank Age	-0.054	0.298	0.12	0.008	-0.03	-0.06	-0.177	-0.089	1		
GDP	0.062	-0.079	-0.065	0.035	0.123	0.005	-0.003	-0.063	-0.142	1	
Inflation	-0.198	0.102	-0.055	0	0.101	0.076	-0.037	-0.041	0.033	0.36	1

Multicollinearity increases the standard errors of the coefficients, making them statistically insignificant (Tabachnick & Fidell, 2007). As recommended by Chatterjee, S and Yilmaz (1992), and Peng and Lai (2012), detecting multicollinearity can be carried out using several techniques, namely, a correlation matrix, VIF, and tolerance. The correlation coefficients were found to be in the range of -0.198 to 0.234. According to Hair et al. (2010), a correlation coefficient above 0.90 indicates multicollinearity between exogenous latent constructs. Thus, multicollinearity was not present in the collected data.

Variance Inflation Factors (VIF)

After examining the correlation matrix for all exogenous latent variables, this study proceeded with a second analysis to assess multicollinearity by utilizing variance inflation

factors (VIF) and tolerance values. As per the guidelines by Hair, Ringle, and Sarstedt (2011), the VIF should be below 5, and tolerance values should exceed 0.20. Table 4 displays the results of the Tolerance and Variance Inflation Factors (VIF) test:

Table 4
VIF test

Bank Age	1.16
Board Independence	1.116
Board Size	1.183
Board diversity	1.089
Board meeting frequency	1.02
GDP	1.227
Inflation	1.254
LDR	1.095
Total assets	1.064

The table shows Variance Inflation Factor (VIF) values for predictors in a PLS-SEM model, assessing multicollinearity. All VIF values are below the threshold of 5, indicating no multicollinearity issues. The highest VIFs are for "Inflation" at 1.254, "GDP" at 1.227, and "Board Size" at 1.060, all well within acceptable limits. "Return on Assets" and "Return on Equity" both have VIFs of 1.095, while "Board Meeting Frequency" has the lowest VIF at 1.002, indicating minimal correlation with other predictors. Overall, all VIF values are acceptable.

Path Coefficient Direct relation

Structural model path coefficient analysis, derived from PLS-SEM using Smart PLS 4, provides insights into the direct and indirect relationships between various constructs that influence financial performance measures such as return on assets (ROA) and return on equity (ROE). Figure 4.1 shows Direct relation by Smart PLS 4.

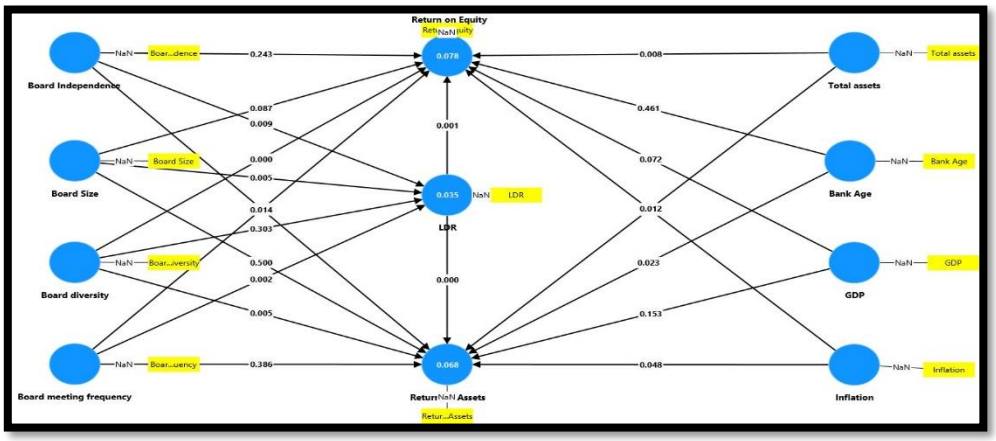

Figure 3 Direct relation

The table below displays the results of the direct relationships involving the independent variable, corporate governance, which is represented by four indicators: the independence of the board of directors, the size of the board of directors, the diversity of the board of directors, and the frequency of board meetings. These indicators are analysed in relation to

the dependent variables, return on assets and return on equity, in addition to the direct relationship between corporate governance and liquidity (LDR):

Table 5
Path Coefficient and t-Value for Direct Relationship

	Standard beta	Standard deviation	T statistics	P values	Significant
Board Size -> Return on Assets	-0.000	0.049	0.001	0.500	Not Significant
Board Size -> Return on Equity	-0.078	0.057	1.358	0.087	Not Significant
Board Independence -> Return on Assets	0.046	0.047	0.989	0.161	Not Significant
Board Independence -> Return on Equity	-0.034	0.048	0.696	0.243	Not Significant
Board diversity -> Return on Assets	-0.087	0.033	2.597	0.005	Significant
Board diversity -> Return on Equity	-0.140	0.042	3.309	0.000	Significant
Board meeting -> Return on Assets	0.015	0.052	0.290	0.386	Not Significant
Board meeting -> Return on Equity	0.102	0.046	2.211	0.014	Significant
Liquidity -> Return on Assets	-0.197	0.059	3.323	0.000	Significant
Liquidity -> Return on Equity	-0.131	0.040	3.281	0.001	Significant
Board Size -> Liquidity	-0.095	0.037	2.600	0.005	Significant
Board Independence -> Liquidity	0.133	0.056	2.381	0.009	Significant
Board diversity -> Liquidity	-0.020	0.040	0.516	0.303	Not Significant
Board meeting -> Liquidity	0.103	0.036	2.874	0.002	Significant
Bank Age -> Return on Assets	-0.101	0.051	1.996	0.023	Significant
Bank Age -> Return on Equity	0.005	0.052	0.098	0.461	Not Significant
GDP -> Return on Assets	-0.059	0.057	1.023	0.153	Not Significant
GDP -> Return on Equity	0.092	0.063	1.459	0.072	Not Significant
Inflation -> Return on Assets	0.094	0.056	1.670	0.048	Significant
Inflation -> Return on Equity	0.061	0.054	1.140	0.127	Not Significant
Total assets -> Return on Assets	-0.088	0.039	2.259	0.012	Significant
Total assets -> Return on Equity	0.113	0.047	2.408	0.008	Significant

The table presented above elucidates the direct relationship between the variables under investigation in this study. It systematically outlines the results of the hypotheses formulated for these variables. Each hypothesis was carefully developed based on the theoretical framework guiding this research, aiming to explore the intricate dynamics between the variables. The table provides a comprehensive overview of the empirical findings, highlighting the statistical significance and implications of each hypothesis tested. Below are the results of those hypotheses:

H1: The size of a bank's board positively influences Return on Assets (ROA).
H2: The size of a bank's board positively influences Return on Equity (ROE).
However, the findings reveal that board size does not significantly impact ROA (coefficient = -0.000, p = 0.500) and exhibits a marginally significant negative relationship with ROE (coefficient = -0.078, p = 0.087).

H1 Board Size refers to the total number of directors on a company's board, an essential factor in corporate governance that can influence board effectiveness. This study found that board size does not significantly impact Return on Assets (ROA) and is associated with a negative relationship with ROA. Sundgren and Wells (1998) also observed a non-significant negative correlation between board size and ROA in smaller Finnish firms, indicating that board size may influence performance differently across firm types.

Vo & Phan (2013) examined corporate governance in Vietnam and found that larger boards negatively affect firm performance, with ROA as the performance measure. According to agency theory, shareholders (principals) and managers (agents) have different interests: shareholders aim to maximize value, while managers often pursue diversification to reduce employment risks (Jensen, 1986). Directors monitor management to align decisions with shareholder interests (Ross & Jordan, 2008). Research generally supports smaller boards, suggesting that larger boards can hinder communication and reduce the board's ability to oversee management, potentially harming firm performance (Eisenberg, Sundgren, & Wells, 1998; Jensen, 1993; Liang, Xu, & Jiraporn, 2013; O'Connell & Cramer, 2010; Yermack, 1996).

H2 This study assumed that Board size is linked to significantly affect with the return on equity, but it turned out that there is no relationship between them, the same result that appeared in many previous studies to be negative, and this supports the agency theory.

Topal and Dogan (2014) examined board size as a key corporate governance mechanism, analyzing its impact on financial performance in 136 manufacturing firms listed on Borsa Istanbul (BIST) from 2002 to 2012. Their findings show that board size does not significantly impact Return on Equity (ROE). Prior research generally favors smaller boards, suggesting that larger boards can hinder communication, coordination, and oversight, potentially leading to agency issues and negatively affecting firm performance (Eisenberg, Sundgren, & Wells, 1998; Jensen, 1993; Liang, Xu, & Jiraporn, 2013; O'Connell & Cramer, 2010; Yermack, 1996).

H3: The independence of a bank's board positively influences ROA.
H4: The independence of a bank's board positively influences ROE.

The results indicate that the relationship between board independence and ROA (coefficient

= 0.046, p = 0.161) and between board independence and ROE (coefficient = -0.034, p = 0.243) is not significant, suggesting no direct effect on these financial performance indicators.

H3 This indicates that although there is a positive association between board independence and ROA, the relationship is not statistically significant, meaning firms with more independent boards may have higher ROA, but this effect is minimal.

According to Stančić et al. (2014), a study on 74 commercial banks across four Southeast European transition economies found a negative but insignificant relationship between independent boards and bank profitability, measured by ROA.

Mustapha & Musa (2020) investigated board governance and financial performance in Nigerian banks, using board independence, board meetings, and gender as governance indicators, with ROA as the performance measure. Analyzing data from 15 banks listed on the Nigerian Stock Exchange from 2013 to 2015 using a panel data approach, they found the relationship between board independence and ROA was insignificant.

H4 The finding that board independence does not significantly impact Return on Equity (ROE) in banks suggests that independent directors may not directly enhance financial performance. This aligns with stewardship theory, which argues that managers, acting as stewards, prioritize shareholder and organizational interests. In banks, regulatory demands and operational complexities likely make management expertise more influential on ROE than board composition.

Chebri (2023) analyzed six Moroccan banks listed on the Casablanca Stock Exchange from 2009 to 2021, finding no significant effect of independent directors on ROE. This result challenges the agency and resource dependence theories, instead supporting stewardship theory's premise that board independence may not enhance performance.

H5: The diversity of a bank's board positively influences ROA.
H6: The diversity of a bank's board positively influences ROE.

Contrary to expectations, board diversity negatively impacts both ROA (coefficient = -0.087, p = 0.005) and ROE (coefficient = -0.140, p < 0.000), indicating that greater diversity on the board correlates with lower financial performance in these metrics.

H5 This study finds a statistically significant negative relationship between board diversity and Return on Assets (ROA), indicating that increased board diversity correlates with decreased ROA. Past studies (Chan & Heang, 2010; Kochan et al., 2003) suggest that this negative impact may stem from public perceptions associated with female board members or from the low representation of women, limiting their contribution to performance. In a related finding, Ro (2020) noted that perceptions of leadership abilities among Asian American women were affected by discrimination, impacting their confidence in leadership roles. In the GCC, women’s career opportunities may remain restricted unless unconscious biases are actively addressed.

Dobbin and Jung (2010) found that gender-diverse boards often correlate with neutral or negative performance on metrics like ROA and stock returns, which can bias investors against companies with female directors, potentially lowering stock prices.

Agency theory posits that female directors often hold multiple board roles, potentially limiting their monitoring effectiveness and increasing agency issues (Sealy et al., 2008; Falato et al., 2014). Some argue that women and minorities may lack the skills and experience for directorship roles, leading to reduced firm value when they are appointed to boards (Terjesen et al., 2009; Gyapong et al., 2016).

H6 This study identifies a statistically significant negative relationship between board diversity and Return on Equity (ROE), suggesting that increased board diversity is associated with decreased ROE. This finding aligns with agency theory, as noted in prior studies (Sealy et al., 2008; Falato et al., 2014; Faleye et al., 2011; Field et al., 2013). Mirza et al. (2012) examined women's board representation in 395 non-financial companies on the Karachi Stock Exchange from 2004 to 2009, finding a negative correlation between female board presence and financial performance, including ROE. Chebri and Bahoussa (2020) studied board diversity in Moroccan banks from 2014 to 2018, focusing on gender and nationality diversity. Using OLS and fixed-effects regression models, they found that gender diversity negatively impacts financial performance, as measured by ROA and ROE.

H7: The frequency of a bank's board meetings positively influences ROA.
H8: The frequency of a bank's board meetings positively influences ROE.

The analysis shows a significant positive relationship between board meeting frequency and ROE (coefficient = 0.102, p = 0.014), suggesting that more frequent meetings are associated with higher ROE. However, the relationship with ROA is not significant (coefficient = 0.015, p = 0.386).

H7 This study finds that board meeting frequency does not significantly impact Return on Assets (ROA) in banks, a result consistent with prior research. Qadorah and Fadzil (2018) investigated internal corporate governance in Jordanian industrial firms and found a significant positive effect of board independence on ROA, but board meeting frequency had no significant effect. Taluka and Sharma (2022) assessed the impact of board meeting frequency on the performance of Indian public sector banks, suggesting that frequent meetings should enhance monitoring and reduce agency costs per agency theory. However, their findings showed that neither meeting frequency nor other governance factors significantly affected ROA.

H8 Board meeting frequency positively influences Return on Equity (ROE), consistent with previous studies. Elhabi et al. (2000) examined Oman's corporate sector and found that frequent board meetings, mandated under the corporate governance code, significantly improved firm performance, as measured by ROE. Similarly, Ntim and Osei (2011) analyzed South African firms and found a positive link between board meeting frequency and ROE, supporting agency theory's view that effective board oversight enhances performance.

Alshirah and Lutfi (2023) studied Jordanian manufacturing firms from 2017 to 2022, concluding that board meetings positively impact business success. Their findings align with agency theory, suggesting that effective governance, including frequent board meetings, improves performance.

Agency theory highlights the need for monitoring to mitigate conflicts between shareholders and managers, as managers may have more information and act opportunistically (Donnelly & Mulcahy, 2008). Effective oversight reduces conflicts, improves transparency, and boosts financial performance (Hanh et al., 2018; Hussain et al., 2018). Regular board meetings enhance communication, clarify expectations, and provide a platform to discuss strengths and weaknesses, thereby improving firm performance and efficiency (Correia & Lucena, 2020; Elamer et al., 2018; Nguyen et al., 2021).

H9: Liquidity positively influences ROA.
H10: Liquidity positively influences ROE.

The relationship between liquidity, measured by the Loan-to-Deposit Ratio (LDR), and financial performance was examined. The results indicate a significant negative relationship between LDR and both ROA (coefficient = -0.197, p = 0.000) and ROE (coefficient = -0.131, p = 0.001), suggesting that higher LDR is associated with lower returns, thus indicating an inverse relationship between liquidity and financial performance.

H9: The analysis found a significant negative relationship between Liquidity (LDR) and Return on Assets (ROA), indicating that higher LDR values correlate with lower ROA. This suggests that as the loan-to-deposit ratio rises, firm performance (measured by ROA) declines, aligning with prior research.

Sunaryo (2020) studied the impact of LDR on ROA in Southeast Asian commercial banks (2012–2018), finding that LDR negatively and significantly affects ROA. Similarly, Dadepo and Afolabi (2020) examined liquidity management in ten manufacturing firms, finding that the current ratio negatively impacts ROA, supporting the trade-off theory, which posits a balance between the costs and benefits of liquidity.

The trade-off theory, as noted by Frank and Goyal (2005), suggests that firms should balance liquidity to minimize costs and optimize benefits. A high loan-to-deposit ratio increases risks, as banks depend more on loans—which are riskier than liquid assets like government bonds—as primary revenue sources, heightening the likelihood of default. This finding supports the theory that financial institutions should carefully manage their liquidity to balance profitability and risk.

H10: The finding of a negative and significant relationship between liquidity and Return on Equity (ROE) suggests that higher liquidity levels correspond with lower ROE. This may be because maintaining high liquidity often requires holding cash or liquid assets, which yield lower returns than more productive, higher-yield investments. While high liquidity cushions against financial distress and enhances the ability to meet obligations, it can also lead to underutilized resources, thereby impacting profitability and reducing ROE. This result aligns

with the trade-off theory (Frank & Goyal, 2005), which emphasizes balancing liquidity and investment to optimize firm performance.

Karadayi (2023) used multiple regression analysis on Ziraat Bank data (2003–2021), finding a significant negative effect of the loan-to-deposit ratio (LDR) on ROE. Similarly, Sapkota (2020) examined 9 Nepalese banks (2008/09–2017/18) and found that liquidity, measured by total loans to deposits, negatively impacted ROE, reinforcing the view that excessive liquidity may hinder profitability.

H11: The size of a bank's board positively influences liquidity.

The significant negative relationship between board size and the Loan-to-Deposit Ratio (LDR) (coefficient = -0.095, p = 0.005) indicates that larger boards are associated with lower LDR values, suggesting that increased board size may enhance liquidity management. This finding aligns with previous studies, such as Delis & Pasiouras (2009), who found a negative relationship between board size and liquidity levels in banks across 10 OECD countries (2000–2006).

Similarly, Ratri (2021), examined traditional banks on the Indonesian Stock Exchange (2014–2019) and found that board meetings moderated the impact of liquidity on bank performance. This result supports agency theory, as discussed in studies by Eisenberg, Sundgren, & Wells (1998), Jensen (1993), Liang, Xu, & Jiraporn (2013), O'Connell & Cramer (2010), and Yermack (1996), suggesting that larger boards may improve oversight, reducing agency conflicts and leading to more prudent liquidity management.

H12: The independence of a bank's board positively influences liquidity.

The findings indicate a significant positive relationship between board independence and the Loan-to-Deposit Ratio (LDR) (coefficient = 0.133, p = 0.009), suggesting that higher board independence is associated with increased liquidity. This implies that independent boards, likely due to their enhanced oversight and reduced internal pressures, promote greater liquidity management.

Abbassi & Mehmood (2021) examined ownership structure and board characteristics in South Asian non-financial firms and found a significant positive effect of board independence on liquidity. Musleh Alsartawi (2019) explains that independent directors, who are not connected to management or major shareholders, provide impartial oversight in line with agency theory. This independence allows directors to prioritize liquidity decisions that benefit the bank's stakeholders, including depositors, shareholders, and creditors, thereby supporting financial stability (Fama & Jensen, 1983). Further, Moussa's research shows that board independence enhances advisory capacity, creditworthiness, and liquidity creation in banks, as observed by Díaz & Huang (2017) and Safiullah et al. (2020).

H13: The diversity of a bank's board positively influences liquidity.

The analysis shows no significant relationship between board diversity and the Loan-to-Deposit Ratio (LDR) (coefficient = -0.020, p = 0.303), suggesting that board diversity does not

influence liquidity management in banks. This finding implies that having diverse board members does not impact the bank's capacity to balance loans and deposits. Sanyaolu & Innocent (2021) examined Nigerian banks, finding that gender diversity had an indirect, insignificant effect on liquidity, measured by LDR. Awino (2015) also studied listed companies on the Nairobi Stock Exchange and found a positive but insignificant relationship between board gender diversity and liquidity. These results indicate that while board diversity contributes to broader governance discussions, it may not directly influence liquidity management.

H14: The frequency of a bank's board meetings positively influences liquidity.

The analysis reveals a significant positive relationship between board meeting frequency and the Loan-to-Deposit Ratio (LDR) (coefficient = 0.103, p = 0.002), indicating that banks with more frequent board meetings tend to have higher LDR values. This finding suggests that regular board meetings enhance oversight and strategic decision-making, positively impacting liquidity management. Mousa & Pirzada (2023) found that frequent board meetings enhance liquidity creation in GCC banks, supported by Vafeas (1999), who emphasized the importance of regular meetings for effective governance and decision-making. Karkowska & Acedański (2020) highlighted that board meetings allow directors to review critical liquidity metrics and market conditions, facilitating informed decisions on bank strategies. Gupta and Mahakud (2021) noted that board meetings encourage collaboration and open discussions among directors and management, leading to better decision-making. Safiullah et al. (2020) further emphasized that these meetings foster an environment for innovation and optimized liquidity management in banks.

Path Coefficient Indirect relation

To evaluate mediation in path models, it's crucial to examine both the direct and indirect relationships between latent variables through a mediator. In our model, we specifically assess the mediation effects by analyzing how a mediator, the Liquidity Loan-to-Deposit Ratio (LDR), influences these relationships. The study examines the direct effects of independent variables—such as board independence, board diversity, board meeting frequency, and board size—on the dependent variables, Return on Assets (ROA) and Return on Equity (ROE), as well as on LDR. Additionally, it looks at the direct effects of LDR on ROA and ROE. Figure 4 illustrates the indirect relationships using Smart PLS 4.

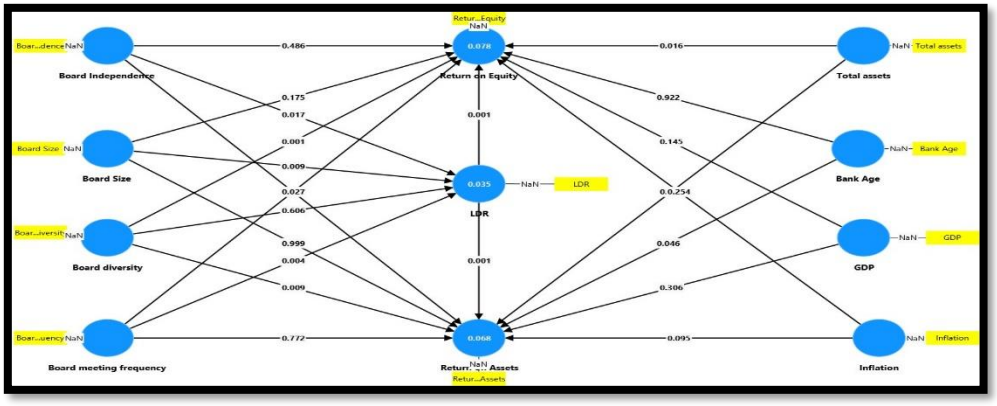

Figure 4 shows Indirect relation

The indirect effects mediated by LDR were analyzed to determine its role in the relationship between independent and dependent variables. Using bootstrapping for robust estimates, the analysis highlighted how LDR influences the dynamics between governance characteristics and financial performance. The findings emphasize the importance of mediating variables in understanding financial performance determinants. Table 6 presents the results of the indirect relationships.

Table 6
Testing the Mediating Effect

	Original sample	Standard deviation	T statistics	P values	Significant
Board Independence -> Liquidity -> Return on Assets	-0.026	0.011	2.288	0.022	Significant
Board Independence -> Liquidity -> Return on Equity	-0.017	0.009	2.009	0.045	Significant
Board Size -> Liquidity -> Return on Assets	0.019	0.011	1.768	0.077	Not Significant
Board Size -> Liquidity -> Return on Equity	0.012	0.007	1.883	0.060	Not Significant
Board diversity -> Liquidity -> Return on Assets	0.004	0.009	0.429	0.668	Not Significant
Board diversity -> Liquidity -> Return on Equity	0.003	0.006	0.447	0.655	Not Significant
Board meeting frequency -> Liquidity -> Return on Assets	-0.020	0.010	2.004	0.045	Significant
Board meeting frequency -> Liquidity -> Return on Equity	-0.013	0.007	2.058	0.040	Significant

The table presents the analysis of indirect relationships in a PLS-SEM framework, focusing on the mediating role of the Loan-to-Deposit Ratio (LDR) between various board characteristics and financial performance metrics, specifically Return on Assets (ROA) and Return on Equity (ROE).

H15: Liquidity mediates the relationship between Board Independence and Return on Assets. The negative coefficient (-0.026) and significant p-value (0.022) indicate a significant negative indirect relationship, where increased board independence leads to lower ROA through reduced LDR. Using Baron and Kenny's (1986) steps, it appears that the impact of board independence on return on assets is positive but not significant according to numerous previous studies such as Stančić & all (2014) and Mustapha & Musa (2020). At the same time, board independence has a positive and significant impact on liquidity according to the results of many previous studies Abbassi & Mehmood (2021), Musleh Alsartawi, (2019), Fama & Jensen, 1983) and (Díaz & Huang, 2017; Safiullah et al., 2020) which in turn negatively and significantly affects return on assets. However, when considering the impact of board independence on return on assets through the mediator liquidity, the relationship becomes negative and significant. There is a partial mediation effect because the initial relationship between board independence and return on assets was not significant, but the mediator liquidity affects this relationship and makes it negative and significant when considered. Therefore, there is a partial mediating effect of liquidity between board independence and return on assets. The relationship between board independence and return on assets is

initially not significant, but when the impact of the mediator (liquidity) is considered, the relationship becomes negative and significant.

H16: Liquidity mediates the relationship between Board Independence and Return on Equity. The negative coefficient (-0.017) and significant p-value (0.045) suggest a significant negative indirect relationship, with higher board independence negatively impacting ROE via LDR.The impact of board independence on return on equity is negative but not significant. At the same time, board independence has a positive and significant impact on liquidity, which in turn negatively and significantly affects return on equity. When considering the impact of board independence on return on equity through the mediator (liquidity), the relationship becomes negative and significant according to the past study Chebri, M. (2023) Karadayi, N. (2023) and Sapkota, M. P. (2020).Based on these results, we can conclude that there is a partial mediation effect because the initial relationship between board independence and return on equity was not significant, but the mediator (liquidity) affects this relationship and makes it negative and significant when taken into account. Therefore, there is a partial mediation effect of liquidity between board independence and return on equity. The relationship between board independence and return on equity is initially not significant, but when the impact of the mediator (liquidity) is considered, the relationship becomes negative and significant.

H17: Liquidity mediates the relationship between Board Size and Return on Assets. The positive coefficient (0.019) with a marginally significant p-value (0.077) suggests a near-significant positive indirect relationship, indicating that larger board sizes may lead to higher ROA through increased LDR, though not conventionally significant.

Based on the analysis of the data provided in the table using Baron and Kenny's (1986) steps, it appears that the impact of board size on return on assets is negative and not significant according to numerous previous studies such as Sundgren and Wells (1998) and Vo, D., & Phan, T. (2013). At the same time, board size has a negative and significant impact on liquidity according to the results of many previous studies Delis& Pasiouras (2009) and Ratri, I. N. (2021). which in turn has a negative and significant impact on the return on assets. However, when considering the impact of board size on return on assets through the mediator (liquidity), the relationship becomes positive and not significant. There is no full mediation effect because the relationship between board size and return on assets was not significant in the first place. There is no partial mediation effect because the initial relationship between board size and return on assets was not significant. Therefore, there is no mediating effect of liquidity between board size and return on assets, since the relationship between board size and return on assets was not significant from the beginning, and thus, the mediator cannot play an important role in this relationship.

H18: Liquidity mediates the relationship between Board Size and Return on Equity. The positive coefficient (0.012) and a p-value of 0.060 indicate a marginally significant positive indirect relationship, implying that larger board sizes might positively impact ROE through increased LDR, although not conventionally significant.

The impact of board size on return on equity is negative and not significant were consistent with previous studies such as Topal, Y., & Dogan, M. (2014). At the same time, board size has a negative and significant impact on liquidity, which in turn has a negative and significant

impact on return on equity. However, when considering the impact of board size on return on equity through the mediator (liquidity), the relationship becomes positive and not significant. There is no full mediation effect because the relationship between board size and return on equity was not significant in the first place. There is no partial mediation effect because the initial relationship between board size and return on equity was not significant. Therefore, there is no mediating effect of liquidity between board size and return on equity, since the relationship between board size and return on equity was not significant from the beginning, and thus, the mediator cannot play an important role in this relationship.

H19: Liquidity mediates the relationship between Board Diversity and Return on Assets. The non-significant coefficient (0.004) and p-value (0.668) indicate no indirect relationship between board diversity and ROA through LDR. Using Baron and Kenny's (1986) steps, it appears that board diversity has a negative and significant impact on return on assets. At the same time, board diversity has a negative and not significant impact on liquidity, which in turn negatively and significantly affects the return on assets. When considering the impact of board diversity on return on assets through the mediator liquidity, the relationship becomes positive and not significant according to the past study about the relation between variable Chan & Heang, (2010); Kochan et al., (2003), Ro, (2020) and Dobbin and Jung (2010). Based on these results, we can conclude the following: there is no full mediation effect because the relationship between board diversity and return on assets was significant initially. Similarly, there is no partial mediation effect because the relationship between board diversity and liquidity was not significant, meaning that liquidity does not play a mediating role in this relationship. Therefore, there is no mediating effect of liquidity between board diversity and return on assets. The relationship between board diversity and return on assets is negative and significant initially, but the impact of liquidity is not significant in this context, and thus, the mediator (liquidity) cannot play an important role in this relationship.

H20: Liquidity mediates the relationship between Board Diversity and Return on Equity. Similarly, the non-significant coefficient (0.003) and p-value (0.655) suggest no meaningful indirect relationship between board diversity and ROE through LDR. Based on the analysis of the data provided in the table using Baron and Kenny's (1986) steps, it appears that board diversity has a negative and significant impact on return on equity. At the same time, board diversity has a negative and not significant impact on liquidity, which in turn negatively and significantly affects return on equity. When considering the impact of board diversity on return on equity through the mediator liquidity, the relationship becomes positive and not significant. previous studies such as Mirza et al., (2012) and Chebri, M., & Bahoussa, A. (2020).

Based on these results, we can conclude the following: there is no full mediation effect because the relationship between board diversity and return on equity was significant initially. Similarly, there is no partial mediation effect because the relationship between board diversity and liquidity was not significant, meaning that liquidity does not play a mediating role in this relationship. Therefore, there is no mediating effect of liquidity between board diversity and return on equity. The relationship between board diversity and return on equity is negative and significant initially, but the impact of liquidity is not significant in this context, and thus, the mediator (liquidity) cannot play an important role in this relationship.

H21: Liquidity mediates the relationship between Board Meeting Frequency and Return on Assets. The negative coefficient (-0.020) and significant p-value (0.045) indicate a significant negative indirect relationship, suggesting that more frequent board meetings lead to lower ROA via reduced LDR. Board meeting frequency has a positive but not significant impact on the return on assets. At the same time, board meeting frequency has a positive and significant impact on liquidity, which in turn negatively and significantly affects the return on assets. When considering the impact of board meeting frequency on return on assets through the mediator liquidity, the relationship becomes negative and significant.

According to the results of many previous studies Mousa & Pirzada (2023), Similarly, Karkowska and Acedański (2020), Gupta and Mahakud (2021) and Safiullah et al. (2020) Based on these results, we can conclude that there is a partial mediation effect because the initial relationship between board meeting frequency and return on assets was not significant, but the mediator (liquidity) affects this relationship and makes it negative and significant when considered. Therefore, there is a partial mediation effect of liquidity between board meeting frequency and return on assets. previous studies such as Elhabi, et al (2000), Ntim and Osei (2011) and Alshirah & Lutfi (2023). The relationship between board meeting frequency and return on assets is initially not significant, but when the impact of the mediator (liquidity) is considered, the relationship becomes negative and significant.

H22: Liquidity mediates the relationship between Board Meeting Frequency and Return on Equity. The negative coefficient (-0.013) and significant p-value (0.040) suggest a significant negative indirect relationship, indicating that more frequent board meetings negatively impact ROE through LDR.using Baron and Kenny's (1986) steps, it appears that board meeting frequency has a negative and significant impact on return on equity. At the same time, board meeting frequency has a positive and significant impact on liquidity, which in turn negatively and significantly affects return on equity. When considering the impact of board meeting frequency on return on equity through the mediator liquidity, the relationship remains negative and significant. Referring to previous studies, it was found that some studies have used liquidity as a mediating variable between governance and financial performance, indicating that liquidity affects the relationship between governance and financial performance based on numerous studies that have been cited.

Tahir & etc. all (2020) Drawing on the theoretical foundations of agency theory and liquidity theory, this study aims to demonstrate how managers can leverage liquidity policy to enhance the performance of Pakistan's non-financial sector in the context of corporate governance. Amidst Pakistan's ongoing severe liquidity crisis, this research explores the mediating role of liquidity in the relationship between corporate governance and performance. The analysis utilizes data from 63 firms spanning 2010 to 2018, excluding 17 outliers, and employs the Seemingly Unrelated Regression (SURE) model and Stata test. The findings confirm that liquidity mediates the relationship between corporate governance and performance, and also reveal that corporate governance positively impacts performance. Moreover, the study identifies a significant positive correlation between liquidity and performance. For robustness, two performance metrics are used: return on assets (ROA) and Tobin’s q (TQ), with ROA indicating full mediation and TQ indicating partial mediation. The study underscores the importance of liquidity policy in enhancing corporate governance mechanisms, thereby

improving firm performance. Overall, these results advocate for improved disclosure, transparency, and auditing solutions to add value to firms.

Coefficient of Determination R2

The coefficient of determination, R2, is a number that represents the proportion of variance in the endogenous construct or dependent variable (DV) that can be predicted from the exogenous construct, the independent variable (IV) Hair et al., (2014). It measures how well the model reproduces the observed results, based on the proportion of the total variance that results. R2 values closer to 1 mean higher prediction accuracy. There is no recommended R2 value as it is based on the research discipline and model complexity Hair et al., (2014). However, Cohen (1988) proposed that the coefficient of determination R2 of 0.02 is weak, 0.13 is moderate, and 0.26 is significant.

Table 7
Coefficient of Determination R2

	R-square	R-square adjusted
LDR	0.035	0.026
Return on Assets	0.068	0.049
Return on Equity	0.078	0.058

The table provides R-square and adjusted R-square values for the financial metrics: Liquidity (LDR), Return on Assets (ROA), and Return on Equity (ROE). According to Cohen (1988), an R-square value of 0.02 is considered weak, 0.13 is moderate, and 0.26 is significant. Despite the R-square values for LDR (0.035), ROA (0.068), and ROE (0.078) being below the moderate threshold, it is noteworthy that they surpass the weak threshold of 0.02.

Predictive Relevance (Q2)

Chin (1998) stated that the predictive relevance, Q2, measures how well observed values are reconstructed by the model and its parameter estimates. A Q2 value greater than "0" signifies that the independent variables possess predictive relevance (Hair et al., 2014) for sustainability disclosure. To acquire cross-validated redundancy measures for sustainability disclosure, Smart PLS 4.0 suggests using the recommended value.

Table 8
Pls predict Ly Sem Q2

	Q^2predict	RMSE	MAE
LDR	0.018	1.229	0.600
Return on Assets	-0.002	1.007	0.778
Return on Equity	0.022	0.997	0.759

The table presents predictive quality metrics for PLS-SEM using Q^2predict, RMSE, and MAE for three financial metrics: LDR, ROA, and ROE. Q^2predict values above zero indicate predictive relevance, with LDR at 0.018, ROE at 0.022, and ROA at -0.002. RMSE values, which measure prediction accuracy, are 1.229 for LDR, 1.007 for ROA, and 0.997 for ROE, indicating ROE has

the highest accuracy. MAE values, reflecting average absolute errors, are 0.600 for LDR, 0.778 for ROA, and 0.759 for ROE.

Conclusion

This study explores the influence of corporate governance on the financial performance of banks in the Gulf Cooperation Council (GCC) countries, highlighting the mediating role of liquidity. Considering the critical role of banks in economic growth and the increased vulnerabilities post-global financial crisis, the research emphasizes the necessity for strong corporate governance to maintain stability and performance. The study adopts a quantitative approach, gathering data from 2014 to 2021 across 55 banks in the GCC region, and employs Partial Least Squares Structural Equation Modeling (PLS-SEM) to examine the relationships between corporate governance, liquidity, and financial performance, grounded in agency theory. Key corporate governance metrics such as board size, board independence, board diversity, and board meeting frequency were analysed for their impact on financial performance indicators like return on assets (ROA) and return on equity (ROE), with the study being reinforced by four control variables: total assets, bank age, GDP, and inflation.

The findings reveal a statistically significant negative relationship between board diversity and financial performance, specifically ROA and ROE. This suggests that increased diversity may pose coordination and decision-making challenges, thereby hampering financial performance. In terms of board meeting frequency, the study found no significant effect on ROA but a significant negative impact on ROE, indicating that frequent meetings may increase administrative costs and reduce strategic focus, adversely affecting equity returns. Additionally, the results show that board size does not significantly influence either ROA or ROE, implying that merely increasing board members does not enhance financial outcomes and may cause inefficiencies. Similarly, board independence showed no significant impact on ROA or ROE, suggesting that independent directors alone do not drive better financial performance.

The study also highlights a significant negative relationship between liquidity and both ROA and ROE. This indicates that while higher liquidity levels are generally seen as beneficial for financial stability, they may result in lower returns on assets and equity, underscoring the need to balance liquidity management with investment opportunities for optimal financial performance and shareholder value maximization. Using Baron and Kenny's (1986) methodology, the study found that liquidity significantly mediates certain relationships. For board independence, liquidity partially mediates its relationship with ROA and ROE, changing initially non-significant relationships to significantly negative ones. Similarly, liquidity partially mediates the relationship between board meeting frequency and ROA, making an initially non-significant relationship negative and significant. However, liquidity does not significantly mediate the relationship between board diversity and ROA or ROE, as the significance of these relationships remains unchanged. Thus, the mediating role of liquidity varies depending on the specific corporate governance aspect and context examined.

Recommendations

Broader Geographic Scope

Future studies should include banks from a wider range of countries and regions to enhance the generalizability of the findings and understand the impact of different economic and regulatory environments on the relationships examined. This would provide a comparative perspective and help identify region-specific factors influencing the dynamics between corporate governance, liquidity, and financial performance.

Incorporating Primary Data

While this study relied on secondary data, future research could benefit from incorporating primary data collection methods such as surveys and interviews. This approach can provide deeper insights into the perceptions and practices of corporate governance and liquidity management within banks, thereby enriching the analysis and understanding of the variables under study.

Exploring Additional Variables and Measures

Future research should consider a broader set of variables and alternative measures for corporate governance, liquidity, and financial performance to capture the complexity of these constructs more comprehensively. For example, examining the impact of regulatory changes, technological advancements, and market competition on bank performance could provide a more nuanced understanding of the factors at play.

Comparative Studies Between Different Banking Sectors

Comparative studies between different banking sectors, such as conventional versus Islamic banks, or between banks of different sizes and ownership structures, can offer valuable insights into how contextual factors influence the effectiveness of corporate governance practices. Such studies could also explore the specific challenges and opportunities faced by different types of banks in managing liquidity and achieving financial performance.

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