INTERNATIONAL JOURNAL OF ACADEMIC RESEARCH IN ACCOUNTING, FINANCE AND MANAGEMENT SCIENCES

OPEN ACCESS JOURNAL

Vol 14, Issue 4, (2024) E-ISSN: 2225-8329

How Return on Equity Effected by Corporate Governance: The Mediating Role of Loan to Deposit Ratio

Rami Mohammad Bassam Abdel Ra'uof Nairokh, Anwar Allah Pitchay, Muhammad Shabir Shaharudin, Mohammad Abed AL Qader Alshakhanbeh

School of Management, University Sains Malaysia

Email: Rami.bsam@yahoo.com, anwarap@usm.my, shabirsharudin@student.usm.my, Mohammad9261m@hotmail.com

To Link this Article: http://dx.doi.org/10.6007/IJARAFMS/v14-i4/23731 DOI:10.6007/IJARAFMS/v14-i4/23731

Published Online: 11 December 2024

Abstract

This study examines how corporate governance affects the financial performance of GCC banks, focusing on the mediating role of liquidity. Using data from 2014 to 2021 from 55 GCC banks, and analyzed with PLS-SEM, the study investigates the impact of corporate governance metrics—board size, independence, diversity, and meeting frequency—on Return on Equity (ROE), with control variables including total assets and GDP. Findings show no significant impact of board diversity, size, or independence on ROE, while frequent board meetings negatively affect ROE due to increased administrative costs. A significant negative relationship between liquidity and ROE suggests high liquidity can lower equity returns, emphasizing the importance of balancing liquidity management and investment for optimal performance. Liquidity mediates the relationships between board independence and ROE and between board meeting frequency and ROE, shifting initially non-significant results to significant negative impacts. However, it does not mediate the relationships between board diversity, size, and ROE, indicating that liquidity's mediating role depends on specific governance factors.

Keywords: Corporate Governance, Return on Equity, Loan to Deposit Ratio (LDR), Banking.

Introduction

The banking sector's growth has significantly impacted economic stability by acting as a financial intermediary and providing liquidity, yet globalization has increased risks, making corporate governance essential for financial resilience (El-Chaarani et al., 2022; Islami et al., 2020). Effective governance is critical for maintaining investor confidence and preventing financial crises, as seen in past corporate collapses. Consequently, various governance frameworks, like the Sarbanes-Oxley Act in the U.S. and Basel regulations internationally, aim to enhance transparency, stability, and accountability in the sector (Oinio & Itan, 2018). In the

Gulf Cooperation Council (GCC) region, strong governance supports a robust banking sector, attracting global investments despite regional volatility. This study focuses on how governance affects bank performance in the GCC, using liquidity as a mediating factor to enhance investor confidence and economic stability (Adigwe et al., 2016; Gulzar et al., 2021).

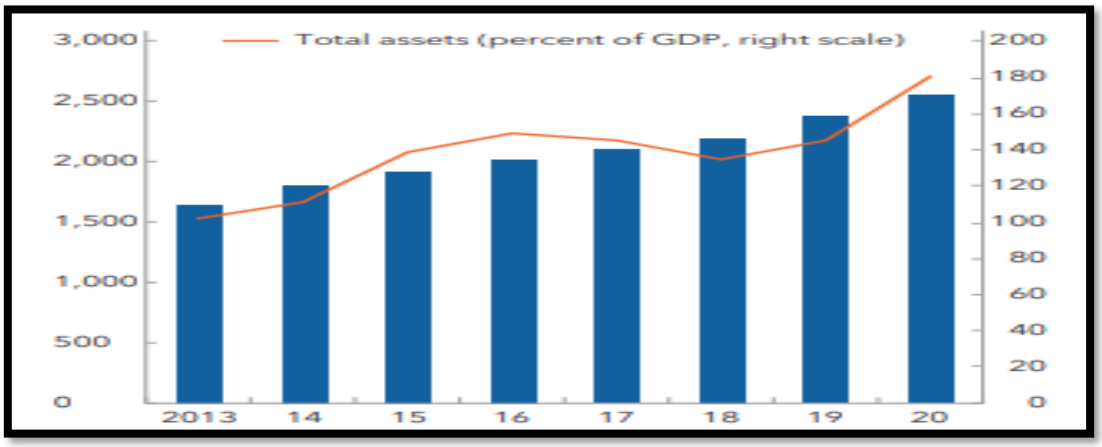

Figure 1 GCC Commercial Bank Assets

The passage addresses the global significance of corporate governance, particularly in the banking sector, following economic crises and failures, including the East Asian financial crisis, which prompted research into governance's role in preventing such issues (Al Karasneh et al., 2006). In the GCC, corporate governance faces challenges like family ownership and board independence, where influence from founders may affect governance structures and minority shareholder interests (Sirmon et al., 2008; Maury, 2006; Leung et al., 2014). Studies have shown poor corporate governance practices can compromise bank stability, with global initiatives like the Basel Committee pushing for improved governance to support economic resilience (Afriyie et al., 2021; Handa, 2018).

Research indicates effective corporate governance aids banks by clarifying objectives, ensuring accountability, and safeguarding depositors (Al-Ahdal et al., 2020; Abdullah et al., 2021; Gulzar et al., 2021). However, limited studies on GCC banks highlight issues like low corporate governance disclosure in UAE banks, with calls for reforms to improve transparency While studies on bank governance in developing regions are sparse, this study examines how corporate governance affects GCC bank performance, using liquidity as a mediating factor (Naushad & Abdul Malik, 2015).

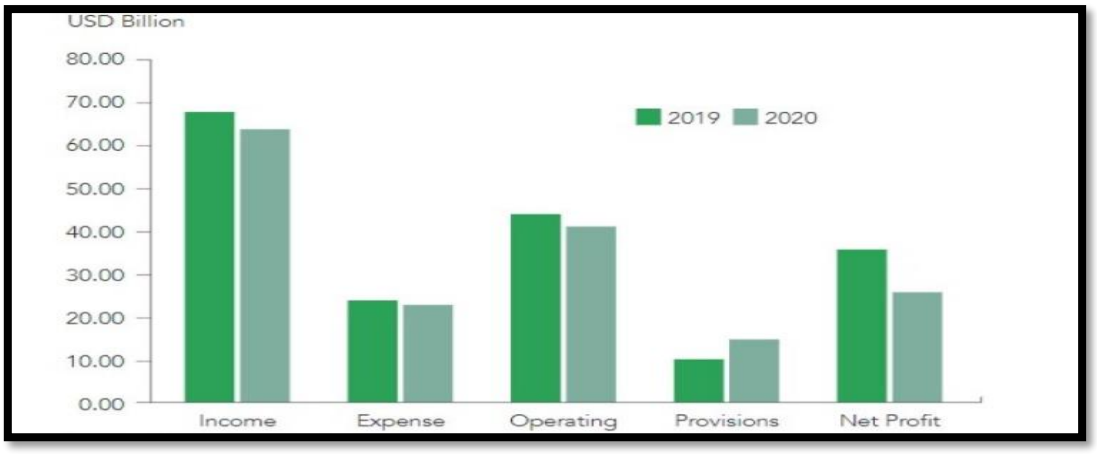

Figure 2 GCC Banks Performance 2019 – 2020

Economic factors such as oil price volatility directly impact the GCC's banking sector, which relies on energy sectors, necessitating governance reforms to stabilize finances (Zeddoun & Bendima, 2022). Despite rising debt and declining returns on equity in GCC banks, research on their financial performance remains limited (Saif-Alyousfi & Mohd, 2018) IMF, 2022.

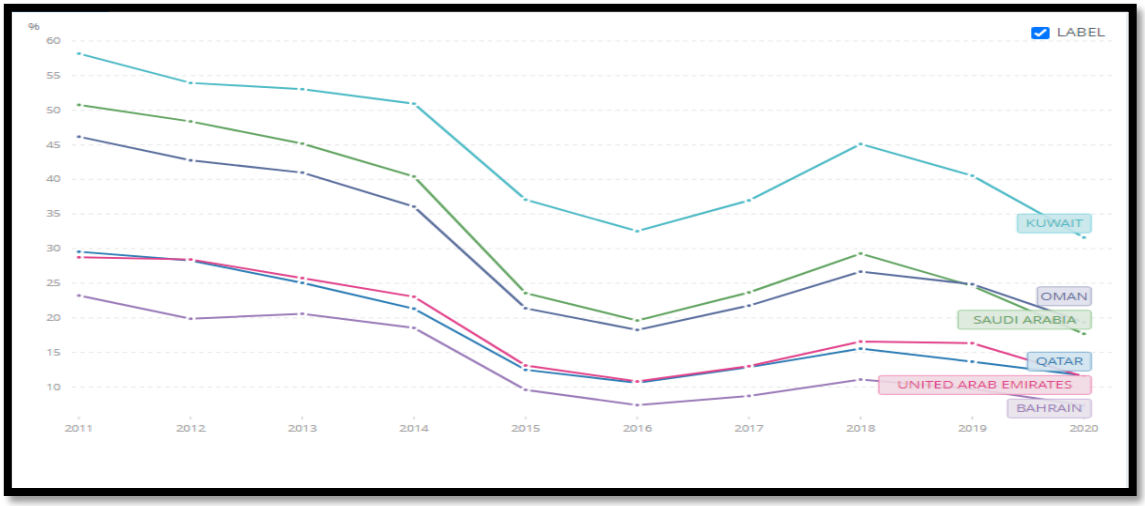

Figure 3 The Revenues of Oil Resources from The Total Gross Domestic Product of the Countries of the Gulf Council

Therefore, this study investigates corporate governance's impact on Return on assets in GCC banks, examining how liquidity mediates this relationship, marking it as one of the few to explore this specific dynamic between governance, ROE, and liquidity in Gulf banks from 2014 to 2021.

Literature Review

This study, based on agency theory, examines the relationship between corporate governance and ROE in the GCC banking sector, focusing on liquidity as a mediating factor from 2014 to 2021. The conceptual framework includes independent variables (board size, board independence, board diversity, and meeting frequency), dependent variables (ROE) and the mediating variable, liquidity. Agency theory introduced by Jensen and Meckling (1976), defines relationships where one person (agent) is hired to act on behalf of another

(principal), creating incentive and information asymmetry issues, especially in uncertain situations (Namazi, 2013). This theory has been used to study behavior across fields, including accounting and family business (Eisenhardt, 1985; Tsai et al., 2006). In practice, conflicts arise as managers (agents) sometimes prioritize personal interests over shareholder (principal) interests, often leading to agency costs, such as excessive spending (Daily et al., 2003; Kaur et al., 2021). Effective strategies, like aligning incentives to improve stock returns, economic value, and liquidity, can help managers focus on shareholder interests, mitigating agency conflicts The figure below shows the conceptual framework:

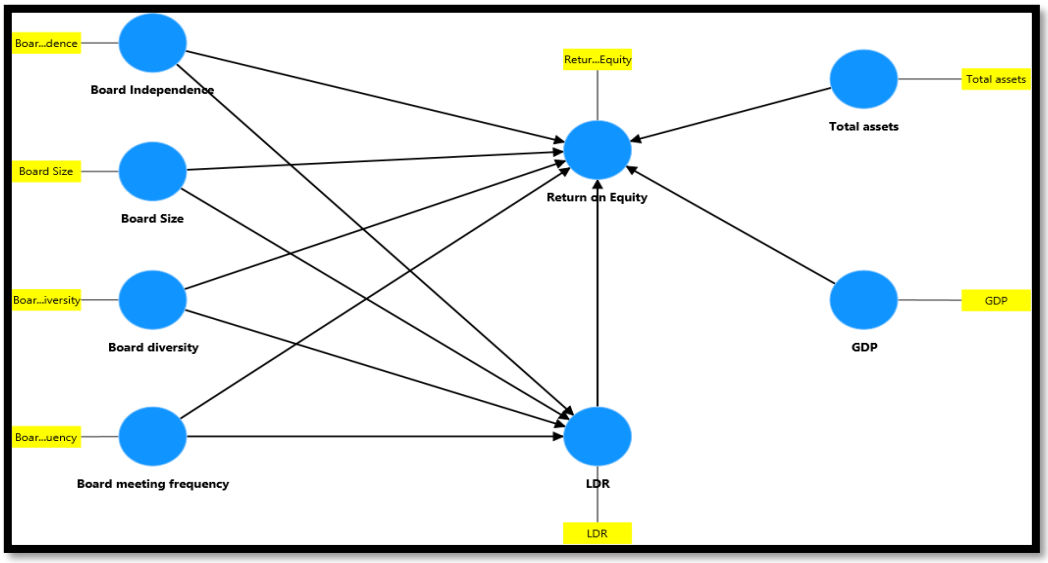

Figure 4 Conceptual Framework

The Relationship between Corporate Governance and Return on Equity

Manzaneque et al. (2016) found that board size negatively impacts the likelihood of financial hardship, suggesting that larger boards can enhance diversity and improve resource access, which is particularly beneficial in highly concentrated ownership environments where major shareholders control the board. However, the study also noted that ownership concentration does not influence financial distress likelihood. Similarly, Pillai and Al-Malkawi (2018) examined the impact of internal corporate governance mechanisms on firm performance within GCC nations, using a dataset of 349 financial and non-financial companies listed on GCC stock exchanges from 2005 to 2012. Their analysis, using a Generalized Least Squares (GLS) approach, found that factors such as government shareholdings, audit types, board size, and corporate social responsibility significantly affect firm performance across most GCC countries.

Chebri, (2023) highlights inconsistencies and inconclusive results in corporate governance research regarding the link between independent directors and firm performance. Focusing on the banking sector in developing countries, specifically Morocco, the study analyzes recent data from six Moroccan banks listed on the Casablanca Stock Exchange from 2009 to 2021. The results show no effect on Return on Equity (ROE), suggesting that appointing independent directors alone does not significantly improve performance. The findings do not substantiate agency and resource dependence theories but instead align with stewardship theory, indicating that board independence may negatively impact performance. Chebri, M., &

Bahoussa (2020) The study aims to investigate the impact of board diversity on the financial performance of banks through a comprehensive analysis of theoretical and empirical literature. It uses a panel dataset of banks listed between 2014 and 2018. It applies various regression models, including ordinary least squares (OLS) and fixed time effects regression, to address the indigeneity issue of the model variables. The findings reveal that gender diversity has a significant negative effect on the financial performance of Moroccan listed banks, as indicated by return on assets and return on equity. Ntim et al. (2011) analysed data from 169 South African listed firms between 2002 to 2007. They found a positive and significant correlation between the frequency of board meetings and firm performance, as measured by Return on Equity (ROE). This finding supports agency theory, suggesting that the boards of these firms effectively utilise their meeting time to monitor and enhance firm performance.

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 Equity.
H2: The Board Independence of a bank positively influences Return on Equity.
H3: The Board Diversity of a bank positively influences Return on Equity.
H4: The Board Meeting Frequency of a bank positively influences Return on Equity.

The Relationship between liquidity and Return on Equity
Karadayi (2023) investigated the impact of interest earnings/total assets ratio, non-interest earnings/total assets ratio, and total loans to total deposits ratio (LDR) on return on average equity (ROE). Using the R-Studio program, a multiple regression analysis was performed for Ziraat Bank, a Turkish public bank, from 2003 to Multiple regression analysis was performed using data from 2003 to 2021, a public bank in Turkey. The results revealed that LDR has a significant and negative impact on ROE, the rate of return on interest has a significant and non-negative impact on ROE, and the non-interest rate of return has a significant and positive impact on ROE. The independent variables in the model explain 55.16% of the variation in ROE. The purpose of this study is to determine the simultaneous and partial effects of LDR, interest income ratio, and noninterest income ratio on ROE, providing valuable insights for future researchers.

Anwar, Marliani, & Gunawan (2016) analyzed the effects of liquidity, profitability, activity, and solvency on the financial performance of Bank Bukopin by examining financial statements from 2011 to 2013. Various ratios were calculated to evaluate the bank's financial health, with results indicating a strong and healthy condition. Profitability was assessed through return on investment (ROI) and return on equity (ROE). Recommendations included careful management of funding sources, enhanced profitability and asset turnover, strategic activities, and improved customer service.

A related study examined liquidity risk management and its influence on financial performance in Saudi Arabia between 2002 and 2019, using ROE as a performance measure. Liquidity risk, measured by the loan-to-deposit and cash-to-deposit ratios, was found to negatively impact Saudi financial institutions' performance. The loan-to-deposit ratio's adverse effect stems from the high costs banks incur to secure funds through borrowing or asset sales, which reduces profits and increases liabilities. Additionally, a high cash-to-deposit

ratio negatively influences performance due to opportunity costs and the expenses associated with deposit interest payments, as noted by Hacini & Dahou (2021).

Based on what has been discussed, the current study seeks to test the following hypothesis:
H5: Liquidity positively influences Return on Equity

The Relationship between Corporate Governance and Liquidity
Sharon et al. (2015), examine the link between corporate governance and the Nigerian financial crisis, mainly driven by inadequate credit risk management. Using secondary data from 19 listed Nigerian banks over the period 2005–2009, the study evaluates corporate governance based on factors such as statutory committees, independence of committees, board size and composition, director duality, and director interests. Credit risk management is measured by the non-performing loan (NPL) ratio, loan loss allowances, and the loan-to-deposit ratio. The analysis, conducted through ordinary least squares (OLS) panel data methods, reveals that banks with robust corporate governance practices demonstrate stronger credit risk management. Hypothesis testing confirms a significant relationship between corporate governance and credit risk metrics. The paper advises bank directors to adhere to corporate governance guidelines to better manage financial system stability.

Sidhu & Kaur (2019) explored the impact of corporate governance (CG) on stock market liquidity within a sample of 500 firms listed on the Bombay Stock Exchange (BSE) from 2013 to 2017. Employing a panel data regression model, the study analyzed stock market liquidity while considering industry, firm size, and individual characteristics. The findings highlight CG's crucial role in enhancing stock market liquidity, providing insights for boards to improve financial disclosure and liquidity. This analysis offers essential perspectives for regulators, educators, and investors, helping inform their decisions on the effects of CG on capital markets. It also serves as a strategic guide for corporate policymakers aiming to implement future CG reforms in the domestic market.

Based on what has been discussed, the current study seeks to test the following hypothesis:
H6: The Board Size of a bank positively influences Liquidity.
H7: The Board Independence of a bank positively Liquidity.
H8: The Board Diversity of a bank positively influences Liquidity.
H9: The Board Meeting Frequency of a bank positively influences Liquidity.

The Mediating Role of Liquidity on the Relationship between CG and ROE
Srairi (2015) explores the link between corporate governance practices and bank performance by creating a Corporate Governance Disclosure Index (CGDI) for 27 Islamic banks in five Gulf Arab countries. The study analyzes banks' annual reports from 2011 to 2013 to construct an index based on six governance mechanisms: board composition, risk management, transparency, audit committee, Shari'ah supervisory board, and investment account holders. Findings show that Islamic banks meet 54% of CGDI criteria, with the Shari'ah supervisory board as the most disclosed feature. Regression analysis suggests a positive link between higher corporate governance disclosure and improved performance (ROA and ROE).Chikudza (2013) examines corporate governance's impact within commercial banks, with a specific focus on agricultural banks. The study finds a positive relationship between audit committees and firm performance. Agricultural banks had audit committees composed

of independent directors responsible for hiring external auditors, overseeing internal audits, and ensuring the implementation of audit findings. These practices aligned with both the Uniform Corporate Governance Code and the Kingsley Corporate Governance Code. The study suggests that in a volatile market environment, companies are more prone to financial law violations, necessitating audit committees to monitor and mitigate associated risks. The report recommends reviewing audit committee structures and encouraging members to carry out their responsibilities diligently.

Based on what has been discussed, the current study seeks to test the following hypothesis:
H10: Liquidity has a mediating role in the relationship between Board Independence and Return on Equity.
H11: Liquidity has a mediating role in the relationship between Board Size and Return on Equity.
H12: Liquidity has a mediating role in the relationship between Board Diversity and Return on Equity.
H13: The liquidity has a mediating role in the relationship between Board Meeting Frequency and Return on Equity.

Methodology

The study examined data from Saudi Arabia, the United Arab Emirates, Qatar, Bahrain, Oman, and Kuwait over the period 2014 to 2021, focusing on 55 banks from both commercial and Islamic banking sectors within the Gulf Cooperation Council (GCC) countries. The sample was selected based on three criteria established in prior studies by Aljughaiman & Salama (2019) and Beck et al. (2013): (1) the availability of relevant variables, (2) accessible bank data throughout the study period via the Central Bank's website, annual bank reports, or the country's financial market, covering a span of 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 equity (ROE), and the mediating variable (liquidity). It investigates the impact of corporate governance on the Return on Equity 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.

Table 1
Measures of Variables

Variables	Description	Abbreviation	Source
	Independent Variables		
Board Independence	Percent of the independent directors to the board.	BI	Afriyie et al, 2021; Gulzar et al., 2021; El-Chaarani et al., 2022; Oinio & Itan, 2018
Board Size	Total number of directors on the board.	BS	
Board diversity	The percentage of female in the board to the total board size.	BD	
Board Meeting Frequency	Total number of the board meeting	BM	
	Dependent Variables		
Return on 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	ROE	Gulzar et al., 2021; El-Chaarani et al., 2022; Oinio & Itan, 2016, Ali, 2014
	Mediator Variable		
Liquidity	Total loans to Total Deposits.	LDR	Gulzar et al., 2021; El-Chaarani et al., 2022; Oinio & Itan, 2018;
	Control variables		
Bank size	Natural Logarithm of total assets of bank	SIZE	Alao & Sanyaolu (2020).
Gross Domestic Product (GDP)	Annual GDP growth rate	GDP	Baba & Nasieku, (2016)

Results and Analysis

The research model was assessed using Partial Least Squares Structural Equation Modelling (PLS-SEM) with Smart PLS 4.0 software. The evaluation began with an analysis of the measurement model's reliability and validity. Next, the structural model was examined to assess path coefficient significance and explore mediation and moderation effects, addressing the hypotheses. In PLS-SEM, the measurement model (or outer model) reflects the connections between constructs and their indicator variables, distinguishing between reflective and formative types. Analyzing these models separately is crucial, applying different conceptual criteria as recommended by Hair et al. (2019).

Descriptive Statistics

The descriptive statistics table offers a detailed summary of the primary variables in this study, highlighting essential statistical metrics such as count (N), minimum, maximum, mean,

and standard deviation. This analysis helps to interpret the distribution and variability of data across the variables. Table 2 below presents the descriptive statistics results for all variables:

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
LDR	440	0.6	1.32	0.9246	0.14037
Total Assets	440	6.93	20.81	13.0051	2.92596
GDP	440	-8.9	6.8	1.3568	3.36147
Valid N	440				

The The descriptive statistics provide an overview of key variables in the study. Board Independence has a moderate average of 2.35 (SD = 1.39) on a 0–5 scale, showing some variability in autonomy. Board Size averages 9.01 members (SD = 1.27), with values between 6 and 13, indicating consistency across banks. Board Diversity is low, with a mean of 0.44 (SD = 0.73) on a 0–2 scale, reflecting limited diversity. Board Meetings average 5.80 annually (SD = 1.43), indicating moderate frequency. ROE averages 11.61% (SD = 6.08), showing performance variability. Liquidity (mean = 0.92, SD = 0.14) and Total Assets (mean = 13.01, SD = 2.93) are relatively stable, while GDP (mean = 1.36, SD = 3.36) indicates broader economic fluctuations..

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	ROE	liquidity	Total Assets	GDP
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			
LDR	0.122	-0.089	-0.024	0.095	-0.19	1		
Total assets	0.099	0.023	0.073	-0.047	-0.119	0.188	1	
GDP	0.062	-0.079	-0.065	0.035	0.005	-0.003	-0.063	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 -0.16 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)

Following the examination of the correlation matrix for all exogenous latent variables, this study conducted a second analysis to evaluate multicollinearity by using variance inflation factors (VIF) and tolerance values. According to the standards set by Hair, Ringle, and Sarstedt (2011), VIF values should be below 5, and tolerance values should be greater than 0.20. The outcomes of the Tolerance and Variance Inflation Factors (VIF) test are presented in Table 4:

Table 4
VIF test

Board Independence	1.05
Board Size	1.075
Board diversity	1.083
Board meeting frequency	1.019
GDP	1.02
LDR	1.074
Total assets	1.057
Board Size	1.075

The table displays the Variance Inflation Factor (VIF) values for various predictors in a PLS-SEM model, evaluating multicollinearity among the independent variables. All VIF values in this table are well below the threshold of 5, suggesting that multicollinearity is not a significant issue in this model. The highest VIF values are found for "Board diversity" at 1.083, "Board size" at 1.075, and "LDR" at 1.074, all comfortably below the critical value of 5. The lowest VIF value is observed for "GDP" at 1.02, showing minimal correlation with other predictors. Overall, all predictors in the model exhibit acceptable VIF values.

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 return on equity (ROE). Figure 5 shows Direct relation by Smart PLS 4.

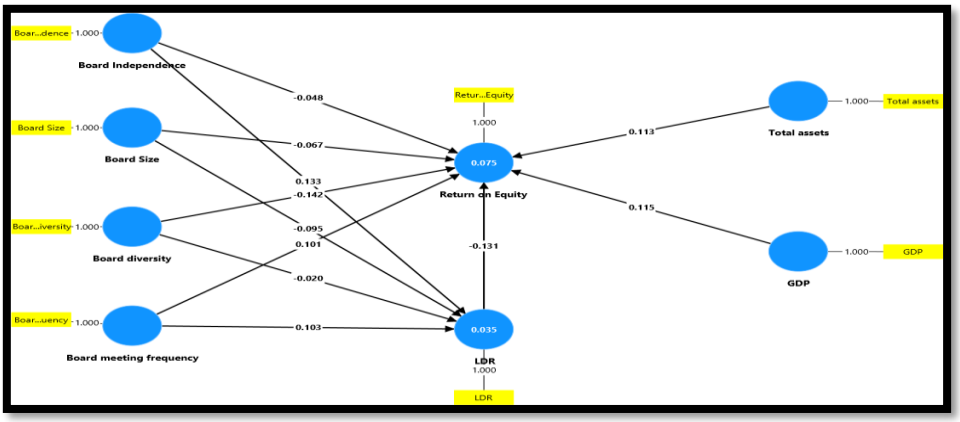

Figure 5 Direct relation

The table below presents the results of the direct relationships involving the independent variable, corporate governance, represented by four indicators: board independence, board size, board diversity, and the frequency of board meetings. These indicators are examined in relation to the dependent variable, return on equity, as well as 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 Independence -> LDR	0.133	0.056	2.381	0.009	Significant
Board Independence -> Return on Equity	-0.048	0.049	0.978	0.164	Not Significant
Board Size -> LDR	-0.095	0.037	2.6	0.005	Significant
Board Size -> Return on Equity	-0.067	0.054	1.246	0.106	Not Significant
Board diversity -> LDR	-0.02	0.04	0.516	0.303	Not Significant
Board diversity -> Return on Equity	-0.142	0.042	3.381	0	Significant
Board meeting frequency -> LDR	0.103	0.036	2.874	0.002	Significant
Board meeting frequency -> Return on Equity	0.101	0.046	2.176	0.015	Significant
GDP -> Return on Equity	0.115	0.057	2.02	0.022	Significant
LDR -> Return on Equity	-0.131	0.04	3.253	0.001	Significant
Total assets -> Return on Equity	0.113	0.047	2.383	0.009	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 Board Size of a bank positively influences Return on Equity.
H2: The Board Independence of a bank positively influences Return on Equity.
H3: The Board Diversity of a bank positively influences Return on Equity.
H4: The Board Meeting Frequency of a bank positively influences Return on Equity.
H5: Liquidity positively influences Return on Equity
H6: The Board Size of a bank positively influences Liquidity
H7: The Board Independence of a bank positively Liquidity
H8: The Board Diversity of a bank positively influences Liquidity
H9: The Board Meeting Frequency of a bank positively influences Liquidity

H1 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.

According to the Topal & Dogan, (2014) The board is a key mechanism of corporate governance in companies. The structure and size of the board and their influence on firm

performance are widely debated topics in corporate governance. This study aims to examine the effect of board size on the financial performance of companies. The sample includes data from 136 firms in the manufacturing sector listed on Borsa Istanbul (BIST) from 2002 to 2012. The findings indicate that board size does not affect return on equity.

Research on board size generally supports smaller boards, arguing that larger boards hinder communication and coordination among directors and reduce their ability to monitor top management, leading to agency problems and negatively impacting firm performance Eisenberg, Sundgren, & Wells, (1998); Jensen, (1993); Liang, Xu, & Jiraporn, (2013); O'Connell & Cramer, (2010) and Yermack, (1996).

H2: The finding that board independence does not have a significant effect on Return on Equity (ROE) in banks implies that the presence of independent directors may not directly impact financial performance. This outcome aligns with prior studies showing similar results and supports stewardship theory, which suggests that managers, acting as stewards, are inclined to serve the best interests of shareholders and the organization. In banks, where regulatory demands and operational complexity play a significant role, the expertise and decisions of management may have a more pronounced effect on ROE than board composition alone. Chebri (2023) notes that corporate governance research presents mixed and inconclusive findings on the relationship between independent directors and firm performance. Focusing on the banking sector in developing countries, specifically Morocco, this study examines data from six Moroccan banks listed on the Casablanca Stock Exchange between 2009 and 2021. The study's findings indicate that board independence does not significantly impact ROE, suggesting that appointing independent directors in isolation may not enhance performance. These results do not strongly support the agency and resource dependence theories but instead align with stewardship theory, indicating that board independence may inversely affect performance.

H3: The findings of this study indicate a statistically significant relationship between board diversity and return on equity. According to the Mirza et al., (2012) This study focuses on the impact of women's board representation on firm performance using a sample of 395 listed non-financial companies on the Karachi Stock Exchange (KSE) in Pakistan from 2004 to 2009. Estimation results show that the proportion of women on the board is correlated with financial performance, such as return on equity.

Chebri & Bahoussa, (2020) The purpose of this paper is to explore the impact of board diversity on the financial performance of banks. This study, based on an in-depth analysis of theoretical and empirical literature, aims to explore the impact of gender diversity and nationality diversity on the financial performance of Moroccan banks. To this end, this study uses a panel data set of all Moroccan banks listed on the stock exchange between 2014 and 2018. The model is estimated using the ordinary least squares (OLS) regression equation, a fixed time effects regression model, and then a fixed time three-stage least squares (3SLS) regression analysis to better understand the endogeneity problem of the model variables. The results show that gender diversity has a significant impact on the financial performance of Moroccan listed banks, measured by return on assets (ROA) and return on equity (ROE).

H4 The board meeting frequency of a bank positively influences Return on Equity. That is, the result is consistent with the hypothesis and with previous studies. Elhabi et al (2000) This study explores the connection between the frequency of board meetings and firm performance within Oman's corporate sector. Analysing data from a decade's worth of records for all listed non-financial firms on the Muscat Securities Market, the research aims to determine if the mandated frequent board meetings under Oman's corporate governance code improve firm performance. To address potential endogeneity issues and ensure result validity, the study uses robust regression and two-stage linear regression (2SLS). The findings show a positive and statistically significant relationship between the frequency of board meetings and firm performance, as measured by accounting-based metrics like Return on Equity (ROE). Similarly, Ntim and Osei (2011), analysed data from 169 South African listed firms between 2002 and 2007 and found that the frequency of board meetings is positively and significantly related to firm performance, as measured by Return on Equity (ROE). This finding aligns with agency theory, suggesting that the boards of these firms effectively use their meeting time to monitor and improve firm performance.

Past study Alshirah & Lutfi (2023), The aim of this article is to determine if specific board characteristics influence the financial performance, as measured by ROE, of Jordanian manufacturing companies. The study uses a regression model on a sample of 56 firms listed on the Amman Stock Exchange for the fiscal years 2017-2022. The regression results show that board meetings positively and significantly impact business success. This research offers a comparative analysis of how board qualities affect the performance of listed manufacturing firms from a multi-theoretical perspective. Additionally, the study addresses corporate governance issues, including the frequency of board meetings and the financial expertise of board members. After validating the research hypotheses, the study concludes that all the examined board characteristics have a positive and significant relationship with business success, aligning with agency theory.

According to Agency theory, the division between ownership and control creates information asymmetry, as managers possess more information than shareholders. Moreover, managers might manipulate information in ways that are not in the shareholders' best interests Donnelly and Mulcahy (2008). Agency theory states that when a principal (shareholder) and an agent (manager) are separate, conflicts arise, such as information asymmetry and the agents' opportunistic behaviour. Therefore, it is essential to closely monitor the agent's actions to reduce conflicts, align the goals of the principal and agent, and maximize shareholder wealth. Agency theory also suggests that effective corporate governance oversight mitigates agency conflicts, enhances firm transparency, and boosts financial performance (Hanh et al., 2018; and Hussain et al., 2018).

H5 The result indicating a significant relationship between liquidity and return on equity (ROE). According to the Madushanka & Jathurika (2018) The primary objective of companies is to increase shareholder wealth. To achieve this, both liquidity and profitability play essential roles. Effective liquidity management, in particular, significantly influences a firm's growth and profitability. Maintaining optimal liquidity is crucial, as insufficient liquidity can disrupt a firm's smooth operations, while excess liquidity can hinder the pursuit of higher profits. Accordingly, this study aims to examine the relationship between liquidity and profitability. The analysis is based on data from 15 manufacturing companies listed on the Colombo Stock

Exchange over a five-year period from 2012 to 2016. The study employs correlation and regression analysis, as well as descriptive statistics, and reveals that liquidity ratios (specifically the Quick Ratio) are positively and significantly associated with firm profitability among listed manufacturing companies in Sri Lanka. Overall, this research offers a recommendation for Sri Lankan manufacturing companies to focus on liquidity ratios due to their significant impact on profitability. Additionally, these companies should develop new strategies for effective liquidity management, as the current ratio values indicate a need for improved asset liquidity management.

H6: The relationship between board size and LDR is significant same past studeis , Ratri, I. N. (2021). The performance of banks is the most important and interesting thing because it plays a vital role in the economy of a country. The purpose of this study is to determine the effect of liquidity on bank performance and the moderating effect of size and board meetings. The tests in this study use multiple linear regression for traditional banks listed on the Indonesian Stock Exchange from 2014 to 2019. The results of this study show that the number of board meetings weakens the positive effect of liquidity on bank performance.

H7: The findings indicate a strong positive correlation between board independence and liquidity (LDR), suggesting that greater independence on the board aligns with increased liquidity. This relationship implies that as the independence of a company's board strengthens, liquidity also rises, possibly due to improved oversight and decreased influence from internal pressures. Abbassi & Mehmood (2021) conducted a study examining the impact of ownership structure and board characteristics on stock market liquidity within non-financial firms across South Asian countries, including Pakistan, Sri Lanka, Bangladesh, and India. Data spanning 2011–2020 was sourced from DataStream, analyzed through a fixed effects model, and supported by the generalized method of moments (GMM) to reinforce the reliability of the findings. Results show a significant positive influence of board independence on liquidity.

Independent boards typically consist of directors with no affiliations to the bank's management or major shareholders (Musleh Alsartawi, 2019). According to agency theory, independent directors can provide unbiased views and challenge management's decisions, ensuring liquidity-related choices are made in the bank's and its stakeholders' best interests. This approach helps safeguard the bank's financial stability and promotes a balanced distribution of liquidity resources among stakeholders, including depositors, shareholders, and creditors (Fama & Jensen, 1983). Additionally, Moussa's research highlights the positive effect of board independence on a bank's creditworthiness and its role in fostering liquidity creation by building financial reserves. Independent directors play a crucial role in enhancing the advisory capabilities of bank management, contributing to customer base expansion and encouraging liquidity creation (Díaz & Huang, 2017; Safiullah et al., 2020).

H8: The analysis shows no significant association between board diversity and liquidity (LDR). While board diversity is often highlighted as a key element of effective corporate governance, potentially impacting various operational and financial aspects, this study specifically examines its influence on liquidity in the banking sector. The findings indicate that board diversity does not significantly impact a bank's ability to manage loans and deposits.

Awino (2015) suggests that the board of directors plays a crucial role in shaping a company's strategic direction, ultimately influencing its financial performance. This study's aim is to investigate the relationship between liquidity and board structure among companies listed on the NSE. Conducted as a census survey, the study collected secondary data from company annual reports and utilized regression analysis to assess the relationship between liquidity and board structure. Results reveal a positive, albeit statistically insignificant, relationship between the proportion of women on the board and the liquidity of listed companies.

H9: The analysis reveals a significant positive correlation between board meeting frequency and liquidity (LDR). Frequent board meetings are a critical component of corporate governance, as they can improve oversight and decision-making. This study investigates how board meeting frequency influences the loan-to-deposit ratio (LDR) in the banking sector, with findings indicating that banks with more frequent board meetings tend to exhibit higher loan-to-deposit ratios, reflecting enhanced oversight and more strategic decisions regarding loan and deposit management.

Mousa & Pirzada (2023) explore the impact of board governance attributes on liquidity creation in the GCC banking sector and assess how government ownership moderates the relationship between board governance characteristics and bank liquidity creation. Using data from 68 listed GCC banks from 2010 to 2021, analyzed through the feasible generalized least squares (FGLS) regression method, their findings confirm that frequent board meetings positively influence bank liquidity creation.Vafeas (1999) highlights that the annual frequency of board meetings is a pivotal factor in board effectiveness, significantly impacting governance and decision-making processes, including those related to liquidity creation.

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 Equity (ROE), as well as on LDR. Additionally, it looks at the direct effects of LDR on ROE. Figure 5 illustrates the indirect relationships using Smart PLS 4.

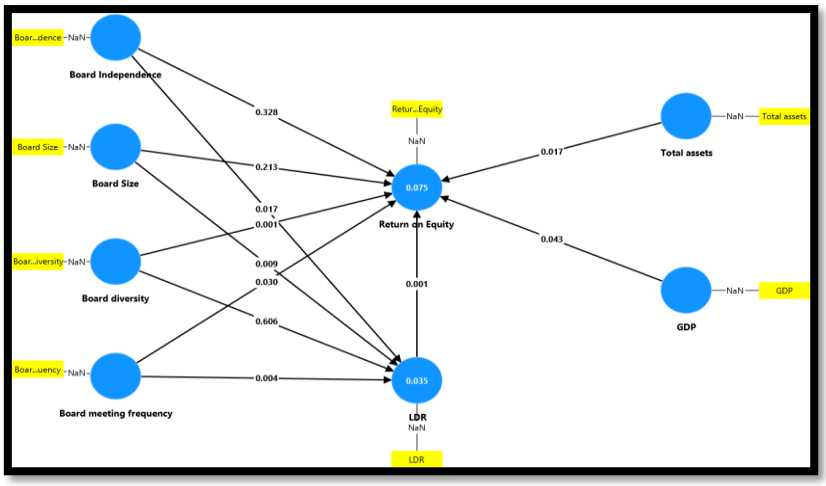

Figure 5 shows Indirect relation

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 -> LDR -> Return on Equity	-0.017	0.009	2.019	0.044	Significant
Board Size -> LDR -> Return on Equity	0.012	0.007	1.854	0.064	Not Significant
Board diversity -> LDR -> Return on Equity	0.003	0.006	0.446	0.656	Not Significant
Board meeting frequency -> LDR -> Return on Equity	-0.013	0.007	2.056	0.04	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 Equity (ROE).

H10: Liquidity has a mediating role in the relationship between Board Independence and Return on Equity.
H11: Liquidity has a mediating role in the relationship between Board Size and Return on Equity.
H12: Liquidity has a mediating role in the relationship between Board Diversity and Return on Equity.
H13: The liquidity has a mediating role in the relationship between Board Meeting Frequency and Return on Equity.

H10: Liquidity mediates the relationship between Board Independence and Return on Equity. The negative coefficient (-0.017) and significant p-value (0.044) suggest a significant negative indirect relationship, with higher board independence negatively impacting ROE via LDR.

The impact of board independence on return on equity (ROE) is negative but statistically insignificant. However, board independence positively and significantly influences liquidity, which then has a negative and significant effect on ROE. When examining the effect of board independence on ROE through liquidity as a mediator, the relationship turns negative and significant, as observed in previous studies by Chebri (2023), Karadayi (2023), and Sapkota (2020). These findings suggest a partial mediation effect: the direct link between board independence and ROE is initially insignificant, but liquidity influences this relationship, rendering it negative and significant when considered. Thus, liquidity partially mediates the relationship between board independence and ROE, shifting an initially non-significant relationship to a negative and significant one when liquidity's impact is included.

H11: Liquidity does not mediate the relationship between board size and return on equity (ROE). The non-significant coefficient (0.012) and p-value (0.064) indicate no meaningful indirect effect of board size on ROE through liquidity. The direct impact of board size on ROE is negative and insignificant, aligning with findings from previous studies such as Topal & Dogan (2014). Additionally, while board size negatively and significantly affects liquidity, and liquidity in turn has a negative and significant impact on ROE, the relationship between board size and ROE becomes positive and insignificant when liquidity is introduced as a mediator.

There is no full mediation effect because the initial relationship between board size and ROE was not significant. Similarly, there is no partial mediation effect, as the primary link between board size and ROE lacked significance, meaning liquidity does not alter or mediate this relationship. Consequently, liquidity does not act as a mediator between board size and ROE, as the initial non-significant relationship implies that liquidity cannot substantively influence this connection.

H12: Liquidity does not mediate the relationship between board diversity and return on equity (ROE). The non-significant coefficient (0.003) and p-value (0.656) indicate no substantial indirect effect of board diversity on ROE through liquidity (LDR). According to Baron and Kenny's (1986) mediation steps, board diversity shows a negative and significant impact on ROE, while its impact on liquidity is negative but not significant. Liquidity, in turn, negatively and significantly influences ROE. When examining the effect of board diversity on ROE through liquidity, the relationship shifts to positive but remains insignificant. Studies by Mirza et al. (2012) and Chebri & Bahoussa (2020) support this outcome.

The findings suggest no full mediation effect, as the direct relationship between board diversity and ROE was significant from the outset. Additionally, there is no partial mediation, as the link between board diversity and liquidity was not significant, meaning liquidity does not mediate this relationship. Therefore, liquidity plays no mediating role between board diversity and ROE. Although board diversity initially shows a negative and significant relationship with ROE, liquidity does not significantly impact this context, rendering it an ineffective mediator.

H13: Liquidity mediates the relationship between board meeting frequency and return on equity (ROE). The negative coefficient (-0.013) and significant p-value (0.040) indicate a significant negative indirect effect, suggesting that increased board meeting frequency indirectly lowers ROE through its impact on liquidity (LDR). Using Baron and Kenny's (1986) mediation approach, it appears that board meeting frequency has a direct negative and significant impact on ROE. Simultaneously, board meeting frequency positively and significantly affects liquidity, which, in turn, negatively and significantly influences ROE. Thus, when considering the effect of board meeting frequency on ROE through liquidity as a mediator, the relationship remains negative and significant.

Previous research supports this finding, with various studies using liquidity as a mediating variable between corporate governance and financial performance. For example, Tahir et al. (2020) examined the mediating role of liquidity in the link between governance and performance in Pakistan's non-financial sector, especially during a liquidity crisis. This study, based on agency and liquidity theories, analyzed data from 63 firms from 2010 to 2018, applying the Seemingly Unrelated Regression (SURE) model. Results confirmed that liquidity mediates the relationship between governance and performance, demonstrating that governance positively affects performance, with liquidity acting as a bridge. For robustness, Tahir et al(2020). used two performance metrics: return on assets (ROA) and Tobin's q (TQ), with ROA showing full mediation and TQ showing partial mediation, underscoring liquidity's vital role in enhancing governance mechanisms and firm performance. These findings highlight the value of adopting transparent and robust liquidity policies to strengthen corporate governance and improve overall firm performance.

Coefficient of Determination R2

The coefficient of determination, R^2, quantifies the proportion of variance in the dependent variable (DV) that can be predicted from the independent variable (IV) (Hair et al., 2014). It assesses the model's ability to replicate observed results by measuring the share of total variance explained. R^2 values closer to 1 indicate greater prediction accuracy. There is no universally recommended R^2 value, as it depends on the research field and model complexity (Hair et al., 2014). However, Cohen (1988) suggested general guidelines where an R^2 of 0.02 indicates a weak effect, 0.13 is moderate, and 0.26 is substantial.

Table 7
Coefficient of Determination R2

LDR	0.035	0.026
Return on Equity	0.075	0.060

The table provides R-square and adjusted R-square values for the financial metrics: Liquidity (LDR) 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) and ROE (0.075) being below the moderate threshold, it is noteworthy that they surpass the weak threshold of 0.02.

Predictive Relevance (Q2)

According to Chin (1998), predictive relevance, denoted as Q^2, assesses the model's ability to accurately reconstruct observed values through its parameter estimates. A Q^2 value greater than zero indicates that the independent variables have predictive relevance (Hair et al., 2014) for sustainability disclosure. To obtain cross-validated redundancy measures for sustainability disclosure, Smart PLS 4.0 recommends using the suggested threshold value.

Table 8
Pls predict Ly Sem Q2

	Q^2predict	RMSE	MAE
LDR	0.018	1.229	0.600
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 and ROE. Q^2predict values above zero indicate predictive relevance, with LDR at 0.018, ROE at 0.022. RMSE values, which measure prediction accuracy, are 1.229 for LDR and 0.997 for ROE, indicating ROE has the highest accuracy. MAE values, reflecting average absolute errors, are 0.600 for LDR 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 Return on Equity, 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 Return on Equity with the study being reinforced by four control variables: total assets and GDP.

The findings reveal a statistically not significant relationship between board diversity and ROE. In terms of board meeting frequency, the study found a significant 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 ROE, implying that merely increasing board members does not enhance financial outcomes and may cause inefficiencies. Similarly, board independence showed no significant impact on ROE, suggesting that independent directors alone do not drive better financial performance.

The study also highlights a significant negative relationship between liquidity 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 ROE, changing initially non-significant relationships to significantly negative ones. Similarly, liquidity partially mediates the relationship between board meeting frequency and ROE, making an initially non-significant relationship negative and significant. However, liquidity does not significantly mediate the relationship between board diversity and 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. Liquidity does not mediate the relationship between board size and return on equity (ROE).

Significance of The Study

Theoretical

The study's importance stems from its focus on bank financial performance, as banks play a critical role in economic development by offering essential services and adapting to rapid economic changes. It uniquely integrates agency theory, highlighting the principal-agent relationship and challenges like information asymmetry and incentive misalignment. The study also emphasizes corporate governance.

Practical

The practical importance of this study, which emerges from its results, will help bank owners and managers understand the relationship between GC, LDR, and ROE. As a result, this study will be very useful to all parties, whether they are investors, individuals, government agencies, owners, or all stakeholders, as it addresses the mechanism of applying governance in the Gulf Cooperation Council countries, noting that this study can help in increasing commitment or in implementing Governance for non-compliant companies or banks after the results of the study appear.

Where It is going to be useful for the stakeholders in making appropriate decisions through the results that will emerge from this study; in addition, liquidity and its impact on ROE will be identified, especially for the banking sector, which constitutes the main sector for countries, especially the GCC countries; this study aims to help investors and stakeholders understand the various risks companies face and how they should be managed and controlled. This enables them to evaluate companies and make informed decisions about their investments. It helps define the responsibility of the Board of Directors, as the Board Responsibilities for supervising the company's affairs and management activities. Must be aware of and support the ongoing successful performance of the company. Part of its responsibility is to recruit and appoint a CEO. It must act in the interest of the company and its investors.

Recommendations

Future studies should consider including banks from a broader array of countries and regions to improve the generalizability of the findings and explore how diverse economic and regulatory environments affect the relationships analyzed. This would offer a comparative view and help pinpoint region-specific factors that influence the dynamics between corporate governance, liquidity, and financial performance.

While this study used secondary data, future research could benefit from incorporating primary data collection methods, such as surveys and interviews. This approach would offer deeper insights into the perceptions and practices related to corporate governance and liquidity management within banks, thereby enriching the analysis and understanding of these variables.

Additionally, future research should expand the range of variables and consider alternative measures for corporate governance, liquidity, and financial performance to more comprehensively capture the complexity of these constructs. For instance, assessing the effects of regulatory shifts, technological advancements, and market competition on bank performance could yield a more nuanced understanding of the factors involved.

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