Governance Practices and Their Effect on Bank Performance: A Study of Saudi Arabian Banking Sector

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Abstract:

This study investigates the impact of corporate governance mechanisms like board characteristics (size, independence, CEO duality) and audit committee attributes (independence, size, meeting frequency) on the profitability (ROA and ROE) of 12 listed Saudi banks from 2013-2019. Using multivariate regression on 61 bank-year observations, larger board in size is found to exhibit a strong positive correlation with ROA and ROE, suggesting better decision-making and oversight. However, board independence, CEO duality, and audit committee characteristics show no significant links to performance, contradicting theory. The results highlight the importance of optimal board composition, while indicating adherence to certain governance practices may not directly boost profitability in the Saudi banking context.

Keywords: *Corporate governance, Bank performance, Saudi Arabia*

Jel Classification Codes : *G34; G21; O53.*

Résumé:

Cette étude examine l'impact des mécanismes de gouvernance d'entreprise tels que les caractéristiques du conseil d'administration (taille, indépendance, dualité du PDG) et les attributs du comité d'audit (indépendance, taille, fréquence des réunions) sur la rentabilité (ROA et ROE) de 12 banques saoudiennes cotées en bourse de 2013 à 2019. En utilisant une régression multivariée sur 61 observations bancaires-années, la taille du conseil d'administration s'est révélée avoir une association positive robuste avec ROA and ROE, suggérant une meilleure prise de décision et une meilleure surveillance. Cependant, l'indépendance du conseil d'administration, la dualité du PDG et les caractéristiques du comité d'audit ne montrent aucun lien significatif avec la performance, contredisant la théorie. Les résultats soulignent l'importance d'une composition optimale du conseil d'administration, tout en indiquant que le respect de certaines pratiques de gouvernance ne se traduit pas directement par une augmentation de la rentabilité dans le contexte bancaire saoudien.

Mots clés: *La gouvernance d'entreprise, la performance bancaire, l'Arabie Saoudite*

Jel Classification Codes : *G34; G21; O53.*

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I. Introduction

Corporate governance practices within the banking sector have received considerable scrutiny, given the crucial role financial institutions fulfill as intermediaries facilitating capital flows and supporting economic activity (BCBS, 2015, p 3). The 2008 global financial crisis highlighted the systemic risks stemming from governance deficiencies, including inadequate oversight, misaligned incentives, and imprudent risk-taking among major banks (Kirkpatrick, 2009, p 2). Consequently, there is an urgent need to bolster governance mechanisms to ensure managerial decisions are aligned with stakeholder interests, thereby fostering bank performance, preserving public trust, and upholding financial stability.

Corporate governance encompasses the processes, regulations, and structures that dictate a firm's strategic orientation and ensure effective oversight of management (Yuldashov & Wang, 2015, p 1951). Key internal governance mechanisms include the board of directors, which provides strategic supervision and monitors executives, as well as board committees such as audit committees that oversee the integrity of financial reporting and risk management. From an agency theory perspective, robust governance frameworks help reduce conflicts between owners and management, thereby reducing agency costs associated with managerial self-interest and informational disparities (Jensen & Meckling, 1976).

Extensive empirical research has investigated the linkages between the structures of corporate governance-related structures, such as board size and independence, leadership structure, and board committees, and various metrics of bank performance across countries (e.g., Adams & Mehran, 2008; Mamatzakis & Bermpei, 2015). However, findings remain inconclusive, with studies documenting positive, negative, and insignificant relationships, potentially attributable to contextual factors such as regulatory environments and bank characteristics.

In the Saudi Arabian context, a limited number of research (Al-Sahafi et al., 2015; Almoneef & Samontaray, 2019; Habtoor, 2022) have investigated the impact on the performance of domestic banks by the practices of corporate governance. Given this limited research, the current study conducts an empirical examination of various governance mechanisms. Specifically, it investigates attributes of boards and audit committees and their relationship with the profitability of listed Saudi banks during the period 2013-2019. Through this empirical investigation, the study aims to contribute valuable perspectives to the emerging literature in this area. It attempts to reconcile the conflicting findings from prior research, offering implications regarding the role and effectiveness of different governance approaches in driving profitability and value creation for both policymakers and banks operating in Saudi Arabia.

II. Literature review

II.1 Corporate Governance and Its Importance in the Banking Sector

Corporate governance can be defined as a set of processes, regulations, and procedures that outline the direction and control of an organization (Cadbury, 1992, p. 15). It establishes a framework within which an organization is overseen and supervised (Maher and Andersson, 2000, p. 7), aiming to harmonize the motivations of managers with the needs and demands of various stakeholders, including shareholders, creditors, employees, regulatory authorities, consumers, suppliers, and society at large (OECD, 2004, p. 7).

In the banking sector, banks have distinct governance needs given their critical role as financial intermediaries facilitating capital flows and enabling economic activity through lending and payment services. The banking system's intricate interconnections with other sectors amplify the systemic risks posed by bank failures (Mamatzakis & Bermpei, 2015, p. 192). Effective corporate governance is particularly crucial for banks due to the need for robust risk management practices to safeguard against excessive risk-taking that could jeopardize financial stability. This need was underscored by the 2008 global financial crisis, which was exacerbated by governance failures such as lax oversight, misaligned incentives, and excessive leverage at major banks (Kirkpatrick, 2009, p. 2).

Governance mechanisms like the board of directors promote objective oversight and strategic guidance aligned with stakeholder interests (Samans & Nelson, 2022, p. 111). Strong internal controls, compliance, and risk management functions are vital for identifying and mitigating emerging threats in banking's complex operating environment (Diya, 2022, p. 255). Transparent disclosures enable market discipline and accountability to shareholders, creditors, and regulators.

Additionally, strong governance helps maintain public trust and confidence, which is vital for banks as they hold public deposits and participate in systemic payment and settlement systems – a lack of trust can trigger destabilizing bank runs, exemplified by the event of Northern Rock in 2007 (Shin, 2009, p. 102). Banks must also adhere to stringent prudential regulatory requirements aimed at promoting sound risk management, operational resilience, and stakeholder protection (Samans & Nelson, 2022, p. 77).

Effective governance, according to the Basel Committee's principles, allocates authorities and responsibilities among a bank's board, executive management, risk management, and control functions. It ensures that the interests of the manager of bank are in harmony with those of stakeholders through proper incentive structures. Robust governance establishes the bank's strategic

objectives, risk appetite, and compensation practices on a solid ethical foundation while fostering a culture of accountability, transparency, fairness, and compliance (BCBS, 2015, p. 3).

The key components of corporate governance, as categorized within the literature, are the internal structures, such as the board, committees of the board, and internal audits, and the external structures, such as external audits, stock markets, and adherence with relevant regulatory framework.

Since the early 2000s, Saudi Arabia has engaged in a purposeful journey to enhance its corporate governance framework (Al-Faryan, 2020, p 26). The foundation of the Capital Market Authority (CMA) in 2004 marked a significant step towards regulating and developing the stock market, with a focus on improving transparency, and investor protection. In 2006, the introduction of the corporate governance guidelines, aligned with OECD principles, set forth clear guidelines for listed companies regarding shareholder rights, board functions, and disclosure requirements (CMA, 2006). Combining these efforts with substantial efforts in areas such as privatization, the liberalization of foreign investment regulations, and the fortification of intellectual property rights protections (KSA-CM, 2003, 2004), highlight Saudi Arabia's commitment to fostering a well-governed and globally competitive corporate sector (Al-Faryan, 2020).

II.2 Previous Research on Corporate Governance and Bank Performance

Numerous studies over the years have investigated the association between the banks performance and the practices of corporate governance across different countries and time periods. Researchers have analyzed various governance factors like board size, the proportion of independent directors, whether the CEO also chairs the board, the existence and composition of board committees, diversity factors such as gender and international representation, ownership structures, and aspects of board operations like meeting frequency.

The research findings on this topic have been diverse and nuanced. Some studies have found that certain governance factors, such as larger board sizes, exhibiting a positive association with profitability metrics like return on assets (ROA), return on equity (ROE), and ratios assessing market valuations (e.g. Adams & Mehran 2008; Belhaj & Mateus 2016; Aktan et al. 2018; Athar et al. 2023). However, other scholars like Sobhy et al. (2017) and Mamatzakis & Bermpei (2015) conclude that larger boards tend to negatively impact performance. Additionally, researchers such as El-Chaarani et al. (2022) and Aris et al. (2019) have found no statistically significant relationship between board size and bank performance indicators.

Similarly, Research on the performance of the bank and the level of board independence presents conflicting results. While El-Chaarani et al. (2022) and

Aris et al. (2019) document a positive correlation, suggesting that independence enhances performance, other studies by Adams and Mehran (2008), Belhaj and Mateus (2016), and Almoneef and Samontaray (2019) fail to establish a significant relationship. Contrastingly, Aktan et al. (2018) revealed that between the independence of board and performance of bank there is an adverse correlation.

The effect of the scenario in which the chief executive also chairs the board (CEO duality) exhibits comparable divergence across studies. Mamatzakis and Bermpei (2015) report a positive correlation, implying that duality improves performance. However, Sobhy et al. (2017) find a negative association. Concurrently, research by Belhaj and Mateus (2016), Aktan et al. (2018), Aris et al. (2019), and Athar et al. (2023) fails to detect a statistically meaningful link between CEO duality and bank performance metrics.

While some scholars associate greater gender diversity on boards with enhanced performance, as documented by Belhaj and Mateus (2016), others, such as Athar et al. (2023), do not corroborate this relationship. Conversely, concentrated ownership consistently emerges as a positive determinant of bank performance across multiple studies (Sobhy et al., 2017; El-Chaarani et al., 2022; Athar et al., 2023).

Other governance mechanisms, such as more frequent board meetings, had conflicting relationships, correlating positively with performance in one study (Sobhy et al., 2017) but negatively in another (Aktan et al., 2018). Similarly, the size of audit committee and independence also revealed contradictory negative (Sobhy et al., 2017) and positive (Athar et al., 2023) links.

The empirical evidence also highlights that the impacts of corporate governance on performance can vary based on contextual factors such as geographic regions, regulatory environments, bank types (commercial, investment, etc.), and the specific performance measures examined (Felicio et al., 2013; Mamatzakis & Bermpei, 2015; Belhaj & Mateus, 2016; Sobhy et al., 2017; Aris et al., 2019; El-Chaarani et al., 2022).

Different measures have been employed to gauge bank performance, such as Metrics centered on profitability indicators such as return on equity, net interest spread, return on assets, and earnings per outstanding share, have been utilized as performance indicators by researchers such as Sobhy et al. (2017), and Athar et al. (2023). Additionally, measures derived from market valuations like the Tobin's Q ratio and Stock Price Returns were utilized by Adams and Mehran (2008), and Aktan et al. (2018). Risk measures like Credit Risk were incorporated by El-Chaarani et al. (2022).

Within the Saudi Arabia context, a limited number of studies have been conducted. Al-Sahafi et al. (2015) found that larger board sizes, a higher

proportion of independent directors, and larger banks were significantly associated with improved ROA, ROE, and Tobin's Q ratios, through the analysis of annual reports from 2009 to 2012 for 11 Saudi banks. However, higher ownership concentration and the debt-to-equity ratio negatively impacted performance. Contrary to their expectations, the study revealed that the level of audit committee independence, CEO duality, and the audit committee were not related to the performance of banks.

Almoneef and Samontaray (2019), in their investigation of 48 firm-year observations of Saudi listed banks from 2014 to 2017, found that larger board sizes, more frequent audit committee meetings, and larger bank sizes positively influenced profitability ratios such as ROE and ROA. However, board independence exhibited an unexpected negative association with ROE. Regarding Tobin's Q, the size of bank, board, and the proportion of independent directors demonstrated a positive association, while more board committees and older bank ages negatively impacted valuations. The presence on the audit committee of outside independent members, and total members of directors on the committee, and directors with foreign nationality on the board did not significantly affect bank performance.

In their 2022 research examining board characteristics and bank performance on 12 Saudi banks from 2009 to 2018, Habtoor made several key observations. Board size directly correlated with stronger operational profitability metrics. However, boards with more independent outside directors actually underperformed on accounting-based measures like ROA and ROE, despite positively impacting market valuation ratios. The educational attainment of board members was also influential - those holding bachelor's degrees negatively impacted ROA and ROE, while directors with doctoral degrees improved those metrics, and master's degree holders positively impacted all performance measures examined. From a diversity perspective, only having a non-Saudi CEO boosted ROA and ROE performance. Board technical expertise in IT areas likewise conferred profitability benefits. Finally, boards that exhibited stronger meeting attendance saw improvements specifically in the ROE metric.

In their research examining 47 listed banks and insurance companies over the period 2014 to 2020, Al-Matari et al. (2022) uncovered several board characteristics that exhibited with the performance of bank metrics a significant association. Their results indicated that the level of independence of the board, the size of board, the number of times the committee convenes, and board experience Significantly and positively affect the performance of bank.

In Saudi Arabia, the interconnection between corporate governance and financial outcomes of Bank firms has received some attention through several studies, including Al-Sahafi et al. (2015), Almoneef and Samontaray (2019), Al-

Matari et al. (2022), and Habtoor (2022). However, it is limited, and this study aims to contribute to the existing literature by providing a comprehensive analysis of multiple corporate governance mechanisms and their impact on the performance of Saudi banks during the period 2013-2019.

While the aforementioned studies have examined aspects of this relationship, they have focused on selected governance variables, specific time periods, or included non-banking firms in their samples. For instance, Al-Sahafi et al. (2015) covered 2009 and 2012 data for Saudi banks, Almoneef and Samontaray (2019) investigated 2014-2017, Habtoor (2022) concentrated on 2009-2018, and Al-Matari et al. (2022) included insurance companies along with banks from 2014-2020. In contrast, this study takes a broader approach by simultaneously investigating board-related variables (size, independence, CEO duality) and audit committee attributes (size, presence, meeting frequency) for Saudi banks, providing a more holistic assessment of corporate governance mechanisms during the period 2013-2019.

Additionally, as highlighted in the literature review, the previous studies have reported conflicting findings in Saudi Arabia. This comprehensive study, by investigating multiple governance mechanisms simultaneously and utilizing a focused dataset, has the potential to reconcile some of these contrasting findings and provide clarity on the governance-performance relationships in the Saudi banking sector.

By addressing these distinct aspects and building upon the existing body of research, this study aims to make a valuable contribution to the comprehension of the practices of good corporate governance and their influence on the functioning of banks within the Saudi Arabian context.

III. Theoretical framework and hypotheses development

III.1 Theoretical framework

Agency theory can be considered as one of the most frequently used theories in explaining the association between firm profitability and corporate governance practices. It explores the inherent tensions that can arise in modern corporations due to the separation of ownership and control (Jensen & Meckling, 1976). At the core of this theoretical foundation lies a fundamental separation between those who own the company (shareholders/principals) and those who manage its daily operations (executives/agents). This divergence of ownership and control can breed a conflict of interests. Shareholders employ professional managers to run the company efficiently and profitably on their behalf. However, these agents may be tempted to pursue their own personal agenda instead of maximizing shareholder value. After all, they don't bear the full costs or reap the full rewards of their decisions. This moral hazard manifests in two key problems.

First, managers with more inside knowledge about the company's prospects and their own talents/work ethic than shareholders can leverage this informational advantage (adverse selection) to extract excessive compensation, perks, or other private benefits that come at shareholders' expense. Second, with their equity stakes being relatively small, managers may be incentivized to avoid risky value-creating projects that could threaten their positions, salaries, and reputations, rather than taking on reasonable risks that could greatly benefit shareholders (risk aversion) (Jensen & Meckling, 1976). These agency problems impose significant monitoring costs on shareholders who must expend resources, such as independent directors, auditors, etc., to supervise management. Managers also bear bonding costs to credibly signal they won't expropriate wealth, like equity incentives aligning their interests (Darrough & Stoughton, 1986, p. 501).

Agency theory suggests that proper governance, particularly through enhanced board oversight, is imperative to harmonize the interests of owners and debt holders with those of managers (García Martín & Herrero, 1992, p. 1015). By monitoring managers more stringently, boards can restrict risk-taking incentives and limit information asymmetry (Schnatterly et al., 1993, p. 5). Thus, good governance helps mitigate agency problems and reduces associated costs incurred by shareholders.

III.2 Hypotheses development

1. **Board size and bank performance**

From a theoretical standpoint, a larger board of directors can have both advantages and disadvantages. On one hand, a larger board can potentially enhance monitoring and oversight of the company's management, thereby mitigating possible conflicts of interest or misalignment of goals between management and shareholders (Hillman & Dalziel, 2003, p. 384). A larger board brings together a diverse range of expertise, skills, and perspectives, which can contribute to better decision-making and strategic oversight (Pearce & Zahra, 1992, p. 422, 433).

In contrast, the excessively large boards, as proposed by the agency theory, can become inefficient, plagued by communication and coordination challenges, and susceptible to free-rider issues, where individual directors may rely too heavily on others' efforts (John and Senbet, 1998, p. 385). These issues can undermine the board of directors' capacity to effectively supervise and control managers, potentially leading to agency costs and negatively impacting the firm's performance (Mamatzakis & Bermpei, 2015, p. 198). Drawing from the existing research and theoretical foundations, we hypothesize that:

H1: There is a positive relationship between board size and bank performance

2. The independence of the board and bank performance

From the perspective of agency theory, independent directors are better positioned to objectively monitor and evaluate management's decisions and performance, as they are less likely to be influenced by personal or professional relationships with the firm's executives (Mamatzakis & Bermpei, 2015, p. 198). This independent oversight can help harmonize management practices with owners' interests, reducing agency costs associated with managerial opportunism and self-serving behavior (Milad & Bicer, 2020, p. 168). The prior studies and theoretical arguments lead us to propose this hypothesis:

H2: There is a positive relationship between board independence and bank performance

3. CEO duality and bank performance

The situation where the CEO concurrently holds the position of the company board's chairperson, effectively combining the roles of the firm's top executive and the leader of the governing body responsible for overseeing management's actions, is known as CEO duality.

CEO duality, from an agency theory standpoint, is commonly viewed as a concern of corporate governance, It is likely to result in power concentration at high levels in the hands of one individual and reduce the board's effectiveness in supervising management (Lipton & Lorsch, 1992, p. 62; El-Chaarani et al., 2022, p. 5). When the CEO also chairs the board, there is a risk of diminished board independence, reduced checks and balances, and potential conflicts of interest (Milad & Bicer, 2020, p. 170).

Agency theory suggests that separating the CEO and chairperson roles can enhance board independence, improve oversight, and mitigate agency problems arising from managerial entrenchment and self-serving behavior (Belhaj & Mateus, 2016, p. 588). This separation of roles can promote better alignment between management's actions and shareholders' interests. Drawing from the existing research and theoretical foundations, we hypothesize that:

H3: There is a positive relationship between CEO Duality and bank performance

4. The independence of audit committee and bank performance

The audit committee, with a high level of independence achieved through the appointment of external board members, plays an effective role in controling management practices and maintaining transparency in the annual reports (Xie et al., 2003, p. 314). The advantage that an independent director has for not being closely tied to management makes them less exposed to influence by management, consequently reducing the risk of potential opportunistic behaviors (Mamatzakis & Bermpei, 2015, p. 198).

According to Aburaya (2012, p. 205), the quality of financial reporting

enhances with a higher representation of non-executive members, leading to decreased agency-related costs. This improves the decision-making process and fosters risk management, ultimately leading to better organizational performance. Drawing from existing research and theoretical foundations, we hypothesize that:

H4: There is a positive relationship between Audit Committee Independence and bank performance

5. Audit Committee Size and Bank Performance

According to The Saudi corporate governance code, the composition of an audit committee should be made up of not less than three members in minimum and must not exceed five members. From agency theory perspective, large size audit committee can provide stronger oversight, more efficient supervision, and better control of the actions of managers, which help in reducing agency costs by facilitating effective communication between shareholder and manager, and promoting greater transparency and disclosure (Athar et al., 2023, p. 8). Therefore, audit committee is expected to directly improve firm performance.

A larger audit committee size brings diverse membership, improving the performance of banks by providing additional resources, which makes the monitoring process more effective. Furthermore, larger audit committees tend to consist of individuals with a diverse array of specialized skills and knowledge bases, potentially facilitating more comprehensive oversight and scrutiny of an organization's financial reporting procedure (Hamdan et al., 2013, p. 33; Al-Mamun et al., 2014, p. 903). Based on previous research findings and literature, we propose the first hypothesis:

H5: There is a positive relationship between audit committee size and bank performance

6. Audit Committee meeting frequency and bank performance

The audit committee's capability in supervising management and overseeing financial disclosure processes can be improved by increasing the number of times the committee convenes (Sharma et al., 2009, p. 260).

Arranging meetings regularly ensures that members of the audit committee are well-informed regarding the operations of the bank. This allows them to review financial annual reports and internal controls more thoroughly and engage in meaningful discussions with external auditors and management (Al-Mamun et al., 2014, p. 901).

This active involvement and close oversight can help reduce the information gap, identify potential fraudulent practices, and maintain the transparency of financial disclosure, thus mitigating agency costs (Meah et al., 2021, p. 52; Osevwe-Okoroyibo & Emeka-Nwokeji, 2021, p. 32). Building on the supporting literature, we hypothesize that:

H6: There is a positive relationship between Audit Committee Meeting

Frequency and bank performance

IV. Research methodology

IV.1 Data and sample selection

The data sample consisted of the 12 commercial banks publicly listed on the Saudi Stock Exchange (Tadawul) during the 7-year period from 2013 through 2019. This yielded an initial pool of 84 bank-year observations. However, 23 of these bank-year observations had to be excluded due to incomplete information being available in the published financial reports and disclosures. The final sample size was therefore 61 bank-year observations from the Saudi banking sector. Information on the study variables was manually gathered by the researchers from each bank's annually published reports covering the fiscal years 2013 to 2019.

IV.2 Variables description and measurement

Table 2 outlines the operationalization of the factors utilized in the the study. Through two different metrics - return on assets (ROA), which measures returns generated from total assets, and return on equity (ROE), which captures returns on shareholder equity, the dependent variable (bank performance) was measured. The explanatory variables examined to potentially influence bank performance were related to governance mechanisms like board composition and audit committee qualities. Specifically, data was collected on board size, the ratio of independent directors on the bank board, whether the CEO also served as board chair, the ratio of independent members to total members and the total number of audit committee members, and how frequently the committee convened meetings. To account for potentially confounding effects, the analysis also controlled for factors like each bank's total asset size and number of years in operation.

Table (1): Independent and Control variables measurement

Variable	Measure
Dependent variable	
Return on Assets (ROA)	Net income relative to the bank's total asset base
Return on Equity (ROE)	Net income as a proportion of shareholder equity
Independent variables	
Board Size (Bsz)	Total count of individuals serving on the board
Board Independence (Bi)	The ratio of independent members to total members on the board
CEO duality (CEOd)	Binary: 1 if same person leads board and management, 0 if separated roles
Audit Committee Independence (ACind)	The ratio of independent members to total members on the audit committee
Audit Committee size (ACsiz)	Total number of individuals on the audit committee

Audit Committee meeting frequency (ACmfc)	Frequency of audit committee meetings per annual cycle
Control variables	
Bank size (Bs)	Natural log transformation of the bank's total assets
Bank age (Bage)	Number of years since the bank's founding/establishment

Source: elaborated by the authors from previous studies in the field

IV.3 Model specifications and data analysis

The descriptive and multivariate analyses were conducted employing multiple regression techniques commonly utilized by researchers (e.g. Adams & Mehran 2008; Belhaj & Mateus 2016; Athar et al. 2023). Specifically, the ordinary least squares (OLS) estimation method, which analyzes the linear relationship between variables by minimizing residual error, was implemented to examine the link between banks' governance structures and profitability metrics. The following regression models were formulated:

$$ROA = \alpha_0 + \alpha_1(Bsz) + \alpha_2(Bi) + \alpha_3(CEOd) + \alpha_4(ACind) + \alpha_5(ACsiz) + \alpha_6(ACmfc) + \alpha_7(Bs) + \alpha_8(Bage) + \varepsilon \quad (1)$$

$$ROE = \alpha_0 + \alpha_1(Bsz) + \alpha_2(Bi) + \alpha_3(CEOd) + \alpha_4(ACind) + \alpha_5(ACsiz) + \alpha_6(ACmfc) + \alpha_7(Bs) + \alpha_8(Bage) + \varepsilon \quad (2)$$

Where α_0 is an intercept; α_1, α_2, α_3, α_4, α_5, and α_6 are the parameters of the independent variables (Bsz, Bi, CEOd, ACind, ACsiz, and ACmfc); α_7, α_8, are the parameters of the control variables (Bs, Bage); ε denotes the residual error.

As previously stated, the study employed the OLS method to estimate the coefficients of the multiple linear regression model. Therefore, classical OLS assumption tests were imperative, as the study's linear regression model is requisite to satisfy the OLS assumptions to obtain the most efficient estimates.

The study checked for the multicollinearity problem. The findings displayed in Tables 5 and 6 indicate that across all the independent variables, the tolerance value exceeded the threshold of 0.1, while the variance inflation factor (VIF) values remained below the conventional maximum of 5. Consequently, satisfying these tolerance and VIF criteria provided evidence that multicollinearity did not pose a significant issue that could bias or invalidate the regression model estimates.

For autocorrelation issues, the study employed the Durbin-Watson test. The results yielded a Durbin-Watson value of 1.834, which falls within the acceptable range of 1.5 and 2.5. Thus, he test results provided reassurance that autocorrelation among the error terms was not a significant concern for the regression model.

The heteroscedasticity test was conducted utilizing both the Breusch-Pagan and Koenker tests. As evinced in table 2, the significance level of both tests surpassed the conventional 5% threshold, indicating the absence of heteroscedasticity in the regression model.

Table (2): Heteroscedasticity test results

Test	LM	Sig.
Breuch.Pagan	16..542	0.187
Koenker	10.281	0.325

Source: Author's analysis utilizing SPSS software

Grounded on the analysis of the OLS assumption tests' results, it can be concluded that the utilization of the OLS estimation method is appropriate for the study's regression model.

V. Empirical results

V.1 Descriptive statistics

The summary statistics showcasing the key characteristics of the response variables, explanatory variables, and control variables utilized within this research analysis are displayed in Table 1. With respect to the dependent variables, the mean ROA of 1.96% and mean ROE of 14.78% demonstrate a moderately profitable financial performance for the banks included in the sample. However, the substantial standard deviations of 0.79% and 3.25%, respectively, suggest considerable heterogeneity in profitability across the sample.

Examining the corporate governance variables, the average board size of approximately 10 members aligns with prior literature recommending boards that are neither too large nor too small to function effectively (Lipton & Lorsch, 1992, p 63). The mean board independence of 51.1% is consistent with regulatory guidelines and best practices that advocate for a significant presence of independent directors to enhance oversight and objectivity.

The average level of CEO duality across the Saudi banking sector was low at 6.8%, indicating that most Saudi banks separate the roles of CEO and chairman, with the positions held by different individuals.

Regarding audit committee characteristics, the descriptive statistics shed light on several important aspects. As previously mentioned, the high level of independence (average of 89.3%) and frequent meetings (average of 5.21 per year) suggest a commitment to robust monitoring and oversight of financial reporting and internal controls. The standard deviation of 0.1324 for audit committee independence indicates consistent levels of independence across the sample.

Additionally, the size of the audit committee has approximately 4 members in mean, with a standard deviation of around 0.8. The smallest committee consisted of 3 members, while the largest had 5 members. These figures align with regulatory guidelines and best practices that recommend audit committees comprise at least three members, with larger committees potentially enhancing the breadth of expertise and resources dedicated to oversight

responsibilities.

Regarding the control variables, the average bank size is 23.14, with a standard deviation of 1.67, indicating a moderate variation in the size of the sample banks. The mean bank age is 38.29 years, with a standard deviation of 17.54, reflecting a diverse range of bank ages in the sample.

Table (3): Summary of Descriptive Statistics

Variables	NObs	Mean	Standard deviation	Min	Max
Dependent variables					
ROA	61	0.0196	0.0079	0.004	0.035
ROE	61	0.1478	0.0325	0.053	0.268
Independent variables					
Bsz	61	9.788	0.7429	7	11
Bi	61	0.511	0.2245	0.25	1
CEOd	61	0.068	0.2488	0	1
ACind	61	0.893	0.1324	0.67	1
ACsiz	61	3.927	0.8124	3	5
ACmfc	61	5.214	1.2669	4	9
Control variables					
Bs	61	**18.916**	**0.5302**	**16.92**	**21.83**
Bage	61	**42.374**	**18.3495**	**12**	**92**

Source: Author's analysis utilizing SPSS software

V.2 Correlation results

The correlation analysis results displayed in Table 4 indicate the relationships between board characteristics, audit committee characteristics, and control variables. Among the board characteristics examined, companies with a larger number of board members exhibited a positive and statistically significant correlation with ROA and ROE at the 5% significance level. This finding suggests that organizations with more extensive boards tended to achieve higher profitability levels, as measured by ROA and ROE. However, the analysis did not reveal any statistically significant correlations between board independence, CEO duality, and the performance metrics under consideration ($p > 0.05$).

Similarly, attributes associated with the audit committee, such as the extent of independence within its composition, the number of individuals serving on the committee, and the frequency with which the committee convenes; do not demonstrate a statistically significant association with the profitability metrics for the banks examined ($p > 0.05$).

Regarding the control variables, bank size emerges as a factor with a strong significant positive correlation with both ROA and ROE ($p < 0.01$), suggesting a potential performance advantage for larger banking institutions within the sample.

Table (4): Correlation results

	ROA	ROE	Bsize	Bind	CEOd	ACind	ACsiz	ACmfc	Bsize	Bage
ROA	1									
ROE	0.508**	1								
Bsz	0.369*	0.308*	1							
Bi	0.131	-0.104	0.095	1						
CEOd	-0.110	0.489	0.122	0.048	1					
ACind	0.183	0.242	0.057	0.261**	0.013	1				
ACsiz	0.104	0.186	0.282*	0.004	0.175	-0.190	1			
ACmfc	-0.130	0.093	0.083	0.049	0.104	-0.172	-0.064	1		
Bs	0.414**	0.384**	0.302*	0.180	0.119	0.058	0.242	0.077	1	
Bage	0.205	0.142	0.107	-0.056	0.063	0.008	-0.130	0.104	0.325*	1

* Significant at 5% (1-tailed). ** Significant at 1% (1-tailed).

Source: Author's analysis utilizing SPSS software

V.3 Regression results

OLS regression techniques were utilized to investigate the potential connections between profitability metrics and various aspects related to governance practices. The regression analyses yielded notable findings, which were displayed in the tabulated output labelled as Table 4 pertaining to the ROA model, and Table 5 corresponding to the ROE model.

Both regression models for ROA and ROE exhibited statistical significance, as indicated by the F-statistics of 17.004 ($p = 0.000$) and 11.938 ($p = 0.000$), respectively. These results suggest that the collective explanatory power of the independent variables and control variables is significant in explaining bank performance.

The adjusted R-squared values of 0.564 for the ROA model and 0.469 for the ROE model indicate that approximately 56.4% and 46.9% of the variance in ROA and ROE, respectively, can be explained by the specified regressors. This suggests a moderate to strong level of explanatory power in the regression models.

The empirical findings reveal a positive association, statistically significant between the number of directors on the board and the profitability indicators. The relationship exhibits higher statistical significance for ROA ($p < 0.01$) compared to ROE ($p < 0.05$). This suggests that while both profitability metrics demonstrate a positive link with larger board sizes, the association appears more pronounced in the case of ROA versus ROE based on the lower p-value obtained for ROA. However, this finding suggests that larger boards tend to enhance profitability in the Saudi Arabian banking sector, regardless of the profitability measure employed. This finding corresponds with the viewpoint of agency theory, which contends that larger boards can provide a more diverse pool

of expertise, resources, and connections, potentially contributing to improved decision-making and strategic oversight. The findings align with the previous work by researchers such as Aktan et al. (2018), whose research also revealed significant link between banks with more directors serving on their boards and elevated financial performance levels

However, board independence and CEO duality exhibit no significant association with either ROA (board independence: p = 0.161; CEO duality: p = 0.396) or ROE (board independence: p = 0.094; CEO duality: p = 0.576), contrary to expectations. Consequently, the second and third hypotheses are rejected. These results align with the study by Belhaj and Mateus (2016) who also documented insignificant correlation.

Similarly, none of the attributes pertaining to the audit committee demonstrated statistically significant associations with the profitability indicators. Specifically, the p-values failed to meet standard significance thresholds for audit committee independence (p=0.526 for ROA, p=0.126 for ROE), committee size (p=0.393 for ROA, p=0.081 for ROE), and frequency of committee meetings (p=0.162 for ROA, p=0.543 for ROE)

This finding contradicts the agency theory argument and fails to support the fourth, fifth, and sixth hypotheses. Nevertheless, these results are consistent with the observations of Al-Sahafi et al. (2015) and Al-Matari et al. (2022), suggesting that the independence and diligence of audit committees may not necessarily translate into improved profitability in the Saudi Arabian banking sector.

With respect to the control variables, banks with a greater number of board members demonstrated a positive and statistically significant correlation with profitability metrics ROA and ROE, each with statistical significance at the 1% level. This finding suggests that larger banks tended to achieve higher levels of profitability performance. This finding aligns with the study conducted by Sobhy et al. (2017). However, bank age did not exhibit a statistically meaningful association with either ROA (p = 0.175) or ROE (p = 0.557). This lack of significance suggests profitability levels in the Saudi Arabian banking industry are comparable across younger and older institutions, irrespective of the specific profitability metric utilized. This result aligns with the findings of Almoneef and Samontaray (2019).

Table (5): Regression results for ROA

	Unstandardized Coefficients		T	Sig.	Collinearity	
	B	Standard Error			Tolerance	VIF
Intercept	-0.061	0.061	-2.871	0.465		
Bsz	0.026	0.005	3.761	0.000	0.355	2.817
Bi	0.080	0.057	1.413	0.161	0.790	1.266
CEOd	-0.020	0.024	-0.854	0.396	0.947	1.056

ACind	0.023	0.036	0.636	0.526	0.795	1.258
ACsiz	0.034	0.038	0.858	0.393	0.819	1.221
ACmfc	-0.062	0.033	-1.907	0.162	0.729	1.371
Bs	0.040	0.009	3.444	0.000	0.340	2.941
Bage	0.073	0.053	1.368	0.175	0.766	1.305
Adj. R-Squared	0.564					
F-value	17.004					
Sig.	0.000					

Source: Author's analysis utilizing SPSS software

Table (6): Regression results for ROE

	Unstandardized Coefficients		T	Sig.	Collinearity	
	B	Standard Error			Tolerance	VIF
Intercept	-0.125	0.082	-1.531	0.129		
Bsz	0.013	0.004	3.251	0.027	0.355	2.817
Bi	0.128	0.076	1.693	0.094	0.790	1.266
CEOd	-0.018	0.032	-0.561	0.576	0.947	1.056
ACind	0.073	0.048	1.545	0.126	0.795	1.258
ACsiz	0.091	0.051	1.766	0.081	0.819	1.221
ACmfc	-0.026	0.043	0.610	0.543	0.729	1.371
Bs	0.055	0.012	1.544	0.000	0.340	2.941
Bage	0.042	0.071	0.590	0.557	0.766	1.305
Adj. R-Squared	0.469					
F-value	11.938					
Sig.	0.000					

Source: Author's analysis utilizing SPSS software

VI. Conclusion

In the realm of corporate governance, the oversight mechanisms employed by financial institutions, particularly banks, have garnered significant scholarly attention due to their pivotal role in aligning managerial actions with stakeholder interests, fostering sustainable performance, and ensuring financial stability. The study at hand contributes valuable empirical evidence that enriches the ongoing discourse on the nexus between corporate governance structures and financial performance in the banking sector of Saudi Arabia from 2013 to 2019.

The findings highlight a strong positive the size of the board and key profitability indicators such as ROA and ROE. This suggests that larger boards may have benefited from diverse expertise and resources, potentially enhancing strategic decision-making and oversight, leading to improved financial performance. However, other board characteristics, such as independence and leadership structure, do not show statistically significant relationships with bank profitability.

Interestingly, the study reveals that audit committee attributes such as the total number of members, how frequently the committee convened, and the proportion of outside independent members, did not demonstrate a statistically meaningful association with profitability of Saudi banks during the period under

review. While theory suggests that robust and independent audit committees can enhance financial reporting integrity and mitigate agency costs, the findings indicate that contextual factors or interactions with other governance mechanisms may moderate their effect on profitability.

From a practical perspective, the positive relationship between the number of individuals serving on bank governing bodies and profitability indicators emphasizes the importance of constructing optimal board for Saudi banks. Building a diverse and appropriately sized board could enhance strategic oversight, risk management, and decision-making frameworks, thus promoting improved financial performance and value creation. However, the lack of significant relationships for other governance variables suggests that adhering to recommended best practices alone may not guarantee profitability gains. Banks may need to tailor their governance approaches to align with their unique organizational dynamics, risk profiles, and strategic goals.

It is essential to acknowledge the study's limitations, including the focused sample size and the potential influence of unobserved factors or endogeneity concerns. Future research could explore additional governance dimensions, such as board processes, risk governance frameworks, and the interaction between governance mechanisms and bank-specific characteristics like ownership structures, business models, and risk appetites.

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