# CORPORATE GOVERNANCE AND BANKING PERFORMANCE IN THE MIDDLE EAST AND NORTH AFRICA REGION: AN IMPLICATION FOR THE BOARD OF DIRECTORS

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## Abstract

In regions susceptible to external economic shocks, such as the Middle East and North Africa (MENA), corporate governance plays a pivotal role in maintaining financial system resilience. Despite facing significant economic challenges over the past 15 years, including oil price fluctuations and global financial crises, certain MENA states have achieved economic prosperity through effective policies. The United Arab Emirates (UAE), with its stable political and economic environment, stands out as a diverse and growing economy. However, many MENA nations lack adherence to established corporate governance standards. While the 2016 MENA-OECD Ministerial Conference endorsed corporate governance measures, their impact on state-owned enterprises and financial institutions remains under evaluation. This paper investigates the performance and corporate governance practices of UAE and MENA banks, with a focus on determining if UAE banks exhibit superior governance compared to their regional counterparts. Key areas of inquiry include ownership structures, accountability mechanisms, and reporting practices, analyzed through various theoretical lenses. Utilizing static panel regression techniques, the study assesses data from UAE and MENA banks, highlighting the significance of corporate governance in differentiating bank performance. The findings underscore the positive impact of corporate governance on UAE banks' Tobin's Q, contributing to a nuanced understanding of corporate governance dynamics in the MENA region and facilitating informed policy decisions for economic stability.

**Keywords:** Corporate Governance, Bank Performance, Corporate Governance Mechanisms, Tobin's Q, ROA, ROE, MENA and UAE Banks

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## 1. INTRODUCTION

The foundation of companies' establishment, leadership, and control is corporate governance, which crosses countries and industries. This complex notion, based on independence, fairness, openness, accountability, and responsibility, ensures that organizations act ethically and in the best interests of all stakeholders. Good corporate governance principles are constant, but their implementations and effects vary, making understanding these differences vital. We examine corporate governance in the Middle East and North Africa (MENA) area, focusing on the United Arab Emirates (UAE). MENA has seen three major transformations in the previous 15 years: the 1998 oil price decline, the 2008 global financial crisis, and the 2014 oil price drop (Nahar Abdullah, 2006; Abdullah et al., 2015). Some MENA countries have overcome these problems by promoting economic growth via infrastructure, tourism, logistics, and trade policies. The UAE is a MENA leader in economic diversification and development. Due to its political and economic stability, the UAE has fostered continuous growth. Corporate governance policies vary throughout MENA. Some nations easily execute the four MENA-OECD (Organisation for Economic Co-operation and Development) corporate governance theme areas, while others struggle (Adams & Ferreira, 2009; Aguilera et al., 2015). This article compares corporate governance and bank performance. We're watching the UAE to see whether its banks have better corporate governance than MENA banks. Our analysis also examines MENA-specific corporate governance concerns such as ownership patterns, accountability systems, reporting methods, and governance implementation. This essay will clarify the complex dynamics of corporate governance in the financial industry, revealing its impact on performance and resolving governance inequities. We will also consider how good governance affects the region's economic resilience and development beyond particular enterprises. This article emphasizes the importance of corporate governance in local and global settings, from transparency and stakeholder responsibility to risk management.

This study is crucial for gaining a comprehensive understanding of several factors that are essential for conducting research in the field of corporate governance and banking.

The article structure is as follows. Section 2 conducts a comprehensive review of the relevant literature on corporate governance. It discusses the fundamental concepts, principles, and stakeholders involved in corporate governance, emphasizing its role in promoting openness, accountability, and professionalism in business operations. The literature review also delves into the prioritization of shareholder rights, the role of the board of directors (BOD), and the importance of board independence and composition. Section 3 outlines the methodology employed in the research. It explains the research approach, which involves examining corporate governance in the banking industry and its impact on bank performance using descriptive statistics and correlation analysis. The methodology focuses specifically on the UAE banking industry and encompasses a dataset spanning 2016–2020, gathered from secondary data sources such as the Orbis database. Section 4 presents the results of the empirical analysis conducted in the study. It begins by describing the data analysis techniques employed, including descriptive and inferential statistics. Then discusses the findings related to the impact of corporate governance on UAE and MENA bank performance, covering the variables. Section 5 of the paper provides a conclusion and offers recommendations based on the research findings. It summarizes the key findings regarding the relationship between corporate governance and bank performance in the UAE and MENA region. Additionally, it discusses the implications of the research and suggests areas for future study.

## 2. LITERATURE REVIEW

### 2.1. Overview of corporate governance

Corporate governance is essential to business and ethical behavior. It includes norms, policies, and processes to guarantee openness, accountability, and professionalism. In corporate governance, internal and external stakeholders shape a company's direction. Internal and external stakeholders exist. First, those immediately engaged in daily business operations; second, owners, supply chain members, creditors, consumers, and communities impacted by the company's goods and services (Akpan & Amran, 2014; Al-Daoud et al., 2016; AlHares et al., 2019). This dual stakeholder categorization emphasizes corporate governance's rising relevance in protecting their interests. Corporate governance concepts prioritize shareholder rights and fairness. This balances the different interests and demands of all stakeholders, not just shareholders. These principles are enforced by the BOD, which oversees and evaluates management. Board independence and composition are essential for monitoring management actions.

Corporate governance emphasizes integrity, ethics, and professionalism via code of conduct formulation and execution. Governance principles and ethical decision-making are essential for corporate sustainability (Müller, 2014). Corporate governance principles emphasize transparency and reliable information, which helps management and directors understand their jobs. Corporate governance requires timely and accurate information transmission to enable informed decision-making at all levels. Corporate governance principles have been linked to financial performance, notably in the banking and financial industries, and managerial efficiency. Different corporate governance theories provide light on the complicated connection between principals and agents. Agency theory, a popular concept, explains shareholder-manager contracts. It recognizes the inherent conflict of interest between these two groups and stresses the necessity for monitoring to guarantee managers' activities benefit shareholders.

In contrast, stewardship theory suggests that principals and agents collaborate and share interests. While agency theory emphasizes economics, stewardship theory emphasizes psychology and sociology and inner impulses and trust. Shareholders' aims and company type determine which theory to use (Nasdaq Dubai, n.d.). Organizational results depend on corporate governance, including internal

and external scrutiny. Stakeholder theory expands governance to include all stakeholders, not just shareholders. Managerial hegemony theory suggests that managers typically make decisions without board involvement. A thorough literature review shows that MENA, and the UAE in particular, have distinct corporate governance difficulties and complications. Ownership, legislation, and corporate governance vary greatly from Western nations (OECD, 2015). Corporate governance characteristics may positively affect bank performance in the Gulf Cooperation Council (GCC), but the region's governance, compliance, and transparency levels provide unique problems.

The landscape of corporate governance in the MENA region, particularly in the GCC nations like the UAE, has garnered increasing attention from researchers due to its dynamic interaction between shareholders, managers, and governance frameworks. As highlighted by Otman (2019), the economic, cultural, and legal variations within MENA necessitate unique approaches to studying corporate governance theories. Moreover, the region's attractiveness to investors, coupled with regulatory changes and rapid economic expansion, underscores the importance of understanding governance practices and their impact on financial performance.

A foundational understanding of corporate governance's significance is illuminated by Mitchell et al. (2023), who assert its profound influence on financial outcomes. Governance constructs extend beyond legal definitions, permeating the economic fabric to shape the trajectory of financial performance. At its core, governance regulates the ownership function, ensuring transparent and accountable stewardship through oversight and enforcement mechanisms. This foundational framework provides the groundwork for mitigating risks and fortifying organizational resilience against disruptions.

Expanding beyond ownership regulation, governance assumes a pivotal role in resource management, as elucidated by Otman (2019). Control over resources becomes paramount, embodying the essence of entrepreneurial endeavors. Governance facilitates efficient resource allocation through strategic decision-making, thereby enhancing organizational performance and competitive advantage. This strategic alignment resonates deeply within managerial roles, underscoring the imperative of translating entrepreneurial vision into actionable strategies for sustainable growth.

Integral to resource management is the orchestration of labor dynamics, a facet emphasized by both Otman (2019) and Mitchell et al. (2023). Governance mechanisms ensure the effective performance of production activities, fostering a conducive environment for productivity and efficiency. By harmonizing labor dynamics, governance serves as a guiding force in driving operational efficacy and sustainable growth within the economic ecosystem.

The literature underscores several factors influencing financial performance in the context of corporate governance. Disclosure procedures, board composition, ownership structure, gender diversity, salary, leverage, business size, and ownership concentration emerge as critical determinants, as identified by various researchers. Understanding the nuanced interplay between these factors and governance practices is essential for elucidating their collective impact on financial outcomes within the MENA and UAE contexts.

- *Corporate governance disclosure and compliance*: Abdul Basith et al. (2020) examined corporate governance transparency and compliance across listed conventional and Islamic banks in Qatar, the UAE, and Saudi Arabia. Conventional banks (CBs) had greater compliance than interest-free banks (IFBs) (Mollah et al., 2017). This study highlights the importance of corporate governance compliance by helping banks identify current disclosure procedures and identify ways to improve compliance.
- *Corporate governance in GCC and UAE*: The existence of conventional and Islamic banks, which have helped ensure regional financial stability, has raised questions about corporate governance in the GCC banking industry, notably in the UAE. However, Dalwai et al. (2015) highlight the lack of study on CBs and IFBs in the area and call for further research. Nasdaq-listed UAE firms follow the United Kingdom-style corporate governance (Mertzanis et al., 2019). The UAE requires corporate governance to promote good management and protect stakeholders, notably shareholders.
- *Corporate governance mechanisms*: Company performance is affected by corporate governance processes such as board composition, independence, ownership structure, and concentration (Kyere & Ausloos, 2021). Independent directors and a well-balanced board improve financial success. Ownership concentration may also encourage risk-taking and managerial supervision. Omran et al. (2008) found no significant effect of ownership concentration on company performance in a group of Arab countries, although the United Kingdom found otherwise. This shows that ownership concentration affects marketplaces and regions differently.
- *Board size and firm performance*: Research on board size is controversial in corporate governance. Although the BOD oversees management decisions and mitigates conflicts of interest, there is no agreement on board makeup and effectiveness (Khatib et al., 2021). Many independent directors may hurt firm performance, according to certain research. The research suggests smaller boards may improve decision-making efficiency.
- *Gender diversity on corporate boards*: Age, gender, nationality, experience, and education on corporate boards are vital for business development and agency problem resolution. Modern firms prioritize board gender diversity (Puni & Anlesinya 2019). Research shows that women on boards improve decision-making, risk management, and stakeholder interests.
- *Board meetings, remuneration, and leverage*: Board effectiveness and corporate board relevance depend on meeting frequency. Remuneration committees design pay rules and match them with shareholders' interests (Qiu et al., 2016). Agency theory and business success are linked to leverage, a company's debt ratio.
- *Firm size and ownership concentration*: Governance strength depends on company size. Larger organizations may have more agency difficulties and require strong governance. In contrast, ownership concentration in MENA may affect governance structure, lowering agency costs and performance (Khalifa et al., 2020).

• *Corporate governance and financial performance*: The realm of corporate governance stands as a pivotal determinant of organizational success, intricately intertwined with financial performance. As expounded by Mitchell et al. (2023), the symbiotic relationship between governance practices and financial outcomes unveils a paradigm shift in organizational dynamics, catalyzing a culture of responsible stewardship and driving sustained value creation. Agency theory serves as a cornerstone in elucidating the link between corporate governance and financial success. Within this framework, governance mechanisms act as a buffer against agency conflicts, aligning the interests of stakeholders and managerial agents to optimize organizational performance. Through the establishment of transparent reporting structures, robust accountability mechanisms, and strategic oversight, governance frameworks mitigate principal-agent frictions, fostering a conducive environment for value creation and shareholder wealth maximization. However, the influence of corporate governance transcends theoretical constructs, extending into practical manifestations shaped by company size and ownership structures. Larger corporations often navigate complex governance landscapes, characterized by diversified ownership structures and intricate decision-making processes. In contrast, smaller entities may exhibit more centralized governance frameworks, characterized by closer alignment between ownership and management interests. Understanding the interplay between company size and ownership structure is paramount in tailoring governance practices to organizational dynamics, ensuring optimal performance and resilience in the face of market uncertainties. At the heart of effective governance lies a trifecta of principles: transparency, accountability, and strategic foresight. By fostering a culture of transparency, organizations cultivate trust among stakeholders, enhancing investor confidence and mitigating informational asymmetries. Concurrently, robust accountability mechanisms hold decision-makers accountable for their actions, instilling discipline and promoting ethical conduct throughout the organizational hierarchy. Strategic foresight complements these principles, empowering governance bodies to anticipate and adapt to evolving market dynamics, thereby positioning organizations at the forefront of industry innovation and disruption. The integration of governance principles within corporate frameworks heralds a transformative shift in organizational ethos, propelling financial performance to new heights of excellence and sustainability. Through meticulous oversight, judicious resource allocation, and harmonized labor dynamics, governance mechanisms pave the path towards enduring prosperity, positioning organizations as vanguards of innovation and resilience in the global marketplace.

The symbiotic relationship between corporate governance and financial performance underscores the strategic imperative of governance excellence in driving sustained value creation and competitive advantage. By embracing the principles of transparency, accountability, and strategic foresight, organizations can unlock their full potential, navigating the complexities of the modern business landscape with confidence and conviction.

## 2.2. Challenges in corporate governance

Agency theory emphasizes various obstacles, including expanding into new markets and evaluating risk tolerance. These issues represent the complicated relationship between agents, shareholders, and corporate governance. This literature study emphasizes corporate governance policies and their effects on financial performance in MENA, particularly in the UAE. Corporate governance is complex and research results vary, indicating the need for greater study and analysis (Qurashi, 2017). This literature review prepares for this research, which examines corporate governance, its effects on banking sector financial performance, and the particular governance difficulties in the MENA area and UAE. In this quickly changing economic climate, stakeholders want openness, responsibility, and accountability, thus understanding the governance landscape is crucial (Kerr, 2019). This study tries to better understand governance processes, stakeholders' interests, and financial performance in UAE and MENA banking.

The hypotheses of the study are formulated as follows:

*H1: Corporate governance factors have a significant impact on Tobin's Q (TBQ).*

*H2: Corporate governance factors influence return on equity (ROE).*

*H3: Corporate governance factors affect the return on total assets (ROTA).*

In conclusion, the literature review illuminates the evolving landscape of corporate governance in MENA and the UAE, emphasizing its profound implications for financial performance. By synthesizing insights from scholarly research, this review provides a comprehensive understanding of the dynamic interaction between governance mechanisms and organizational outcomes, paving the way for future research endeavors in this critical domain.

## 3. RESEARCH METHODOLOGY

This section details the complex technique used for this study, giving a foundation for Sections 4 and 5, explains the research aims to help create the design and model, the factors carefully chosen from an exhaustive literature assessment on corporate governance and financial performance in the banking industry. This research examines corporate governance in the banking industry and its influence on bank performance using descriptive statistics and correlation analysis. We focus on the UAE banking industry and investigate 141 banks in 12 MENA nations. This massive dataset spans 2016–2020.

Secondary data sources, such as the Orbis database for accounting and financial variables, are used to gather data. This dataset provides a complete business governance and financial performance analysis. The dataset includes all commercial banks in MENA, allowing for rigorous comparisons with UAE institutions. Importantly, banks without adequate financial and non-financial corporate governance data were carefully filtered and omitted from our sampling dataset. Our study uses manually gathered data from these banks' annual reports to better understand corporate governance processes. Annual reports are important primary sources because they convey corporate governance factors accurately and reliably. These yearly reports came from the businesses' websites.

Orbis firm-level data on business size and capital structure enriches the dataset. The gross domestic product (*GDP*) estimates of each nation in our analysis are also used in our research. These macroeconomic statistics are from reliable sources including the World Bank and International Monetary Fund (IMF). This research focuses on corporate governance fundamentals, which include board structure, ownership concentration (*B_OWN*), meetings (*B_MEET*), and remuneration (*B_REM*). Control variables like capital structure (*LEV*), bank size (*SIZE*), and *GDP* allow us to systematically examine the effect of our independent factors on the dependent variable. Control variables assure the integrity and fairness of our findings by maintaining consistency throughout testing. Our thorough and well-considered approach will help us understand how corporate governance factors impact bank performance, with a focus on the UAE banking industry and the MENA region.

Sahoo et al. (2022) conducted a similar comprehensive study on firm performance, focusing on key performance measures such as return on assets (*ROA*), return on capital employed (*ROCE*), and return on net worth (*RONW*). These metrics serve as crucial indicators of a company's financial health and operational efficiency. Additionally, the study examined the impact of ownership structure, including domestic and foreign promoters, institutional ownership, and non-institutional shareholdings, on firm performance. Furthermore, the researchers analyzed several control variables such as firm size, firm age, leverage, and sales growth to account for external factors influencing firm performance. The findings shed light on the intricate relationship between corporate governance, ownership structure, and control variables, providing valuable insights for understanding and enhancing firm performance in the contemporary business landscape.

### 3.1. Firm's performance models

To test the hypotheses, multivariate regression analysis has been conducted with an empirical model. Fixed effects regressions and two-stage least squares regressions were performed on these variables. The benefit of using fixed-effect models is that they may reduce the bias caused by missing and unobservable variables. The following are the equations for the fixed effects regressions:

*Tobin's Q (TBQ) model*

$$TBQ_{it} = \alpha_0 + \beta_1 CG + \beta_2 LEV_{it} + \beta_3 SIZE_{it} + \beta_4 GDP_{it} + \varepsilon_{it} \quad (1)$$

*Return on equity (ROE) model*

$$ROE_{it} = \alpha_0 + \beta_1 CG + \beta_2 LEV_{it} + \beta_3 SIZE_{it} + \beta_4 GDP_{it} + \varepsilon_{it} \quad (2)$$

*Return on total assets (ROTA) model*

$$ROTA_{it} = \alpha_0 + \beta_1 CG + \beta_2 LEV_{it} + \beta_3 SIZE_{it} + \beta_4 GDP_{it} + \varepsilon_{it} \quad (3)$$

In these models, *CG* represents the composite variable of corporate governance, encompassing board size, board independence, board diversity, board meetings, remuneration, and ownership concentration. *LEV* denotes leverage, *SIZE* signifies bank size, and *GDP* corresponds to the gross domestic product. The error term $\varepsilon_{it}$ accounts for unobserved factors and random fluctuations within the data. Additionally, we examine two alternative models: Model 2, which focuses on *ROE*, and Model 3, which examines *ROTA*. These models are structured similarly to Model 1 but employ *ROE* and *ROTA* as the dependent variables, respectively.

To ascertain the relationships between these variables, a multivariate regression analysis has been employed, offering a robust statistical framework for assessing the significance and magnitude of the influence exerted by corporate governance mechanisms on financial performance outcomes.

### 3.2. Statistical analysis

The research uses Stata software to examine UAE and MENA banks' corporate governance and financial performance from 2016 to 2020. Some analytical stages are:

1. *Descriptive statistics:* Characterize dependent, independent, and control variables using descriptive statistics. Calculating mean, median, standard deviation, lowest, and maximum values reveals the data's primary patterns and fluctuations.

2. *Correlation analysis:* Pearson correlation coefficient measures the degree of relationships between dependent, independent, and control variables. Based on absolute value, correlation scores from 0 to 1 indicate minor, medium, or large strength. Statistically significant correlations have p-values below 0.05.

3. *Multicollinearity test:* Identifies correlations among explanatory variables in regression models, addressing significant pair-wise correlations that may affect statistical findings.

4. *Autocorrelation test:* The Breusch-Godfrey (BG) test detects autocorrelation, guaranteeing error terms are not reliant on one other.

5. *Heteroscedasticity test*: Checks whether error term variance changes over time while the mean stays steady, ensuring the homoscedasticity assumption is satisfied.

The strength of the association between the dependent, independent, and control variables was then determined using Pearson correlation, with the coefficient of Pearson's ($r$) and the corresponding p-value indicating the direction and significance of the relationship. The coefficient of association is from 0 to 1. The absolute value of $r = 0.1$ is graded as small, the absolute value of 0.3 as medium and 0.5 as great. The correlation generally indicates the degree to which two variables are altered accordingly, on average. The p-value is the probability that if the correlation coefficient was negative ($H_0$) the present results would have been achieved. When this probability is less than the normal 5% ($p < 0.05$), the coefficient of correlation is considered statistically significant.

The pooled regression model is appropriate if $H_0$ fails to reject. However, the random effect model is appropriate if $H_0$ is rejected. The hypothesis is written as follows:

*$H_0$: $\sigma t = 0$ (pooled ordinary least squares [OLS] — homogeneity).*

The pooled OLS model assumes that all of the individual banks in the panel dataset belong to the same group and share the same constant parameters for the regression equation. The $H_0$ for the Breusch-Pagan Lagrange multiplier (LM) test is that there is homogeneity across all banks, i.e., that each bank's coefficients are the same.

*Interpretation of results*: There is no unobserved bank-specific heterogeneity, according to the pooled OLS model, if the LM test fails to reject the null hypothesis ($H_0$: $t = 0$).

The random effect model is predicated on the assumption that bank-specific heterogeneity exists but is not detected. However, it makes the supposition that the heterogeneity is random and unrelated to the explanatory factors. The LM test is applied in the context of the random effect model, much as the pooled OLS model. The validity of the entity-specific effects is assessed against the null hypothesis ($H_0$: $t = 0$).

*Interpretation of results*: The random effect model is better suitable, according to the LM test, which implies that the $H_0$ is false. This suggests that the pooled OLS model does not adequately account for unobserved entity-specific heterogeneity.

These analytical methods provide a thorough banking sector corporate governance and financial performance analysis.

**Table 1.** Summary of variables and previous studies

| *Variable* | *Abbreviation* | *Measurement* | *Sources* |
|---|---|---|---|
| ***Dependent variable*** | | | |
| Tobin's Q | *TBQ* | The market capitalization divided by the total assets | Kyere and Ausloos (2021) |
| Return on equity | *ROE* | The net income divided by shareholders' equity | Buallay (2022) |
| Return on total asset | *ROTA* | The net income divided by total assets | Buallay (2022), Kyere and Ausloos (2021) |
| ***Independent variable*** | | | |
| Board size | *B_SIZE* | The total number of directors on the board | Mertzanis et al. (2019), Puni and Anlesinya (2019), Kyere and Ausloos (2021), El-Chaarani et al. (2022) |
| Board independent | *B_IND* | The percentage of independent directors on the total board size | Mertzanis et al. (2019), AlHares et al. (2019), Puni and Anlesinya (2019), Kyere and Ausloos (2021), El-Chaarani et al. (2022) |
| Board diversity | *B_DIV* | The percentage of women directors on the total board size | Mertzanis et al. (2019), AlHares et al. (2019), El-Chaarani et al. (2022) |
| Board meeting | *B_MEET* | The number of meetings of BOD | Puni and Anlesinya (2019) |
| Remuneration | *B_REM* | Natural logarithm of total cash amount of directors' remuneration | Das and Dey (2016) |
| Ownership concentration | *B_OWN* | The percentage of ownership held by the top shareholder | Mertzanis et al. (2019), Puni and Anlesinya (2019), Kyere and Ausloos (2021) |
| ***Control variable*** | | | |
| Capital structure | *LEV* | The total debt divided by total assets | Mertzanis et al. (2019), AlHares et al. (2019) |
| Bank size | *SIZE* | The natural logarithm of total assets | Mertzanis et al. (2019), AlHares et al. (2019), Kyere and Ausloos (2021), El-Chaarani et al. (2022) |
| Gross domestic production | *GDP* | GDP growth | AlHares et al. (2019), El-Chaarani et al. (2022) |

## 4. RESULTS AND DISCUSSION

Data is analyzed using descriptive and inferential statistics. The investigation focuses on creating a composite variable (index) from corporate governance aspects and assessing its impact on UAE and MENA bank performance. The previous section covered data and techniques in detail. This section summarizes the sample's variable distribution using short descriptive statistics. It summarizes dependent factors like Tobin's Q ratio (*TBQ*), *ROE*, and *ROTA* and independent variables like board size (*B_SIZE*), independence (*B_IND*), diversity (*B_DIV*), meetings (*B_MEET*), remuneration (*B_REM*), and ownership concentration (*B_OWN*). It includes capital structure (*LEV*), bank size (*SIZE*), and *GDP* as control variables. The descriptive analysis provides mean, standard deviation, minimum, and maximum values for these variables.

### 4.1. UAE banks: Descriptive statistics

The landscape of corporate governance within UAE banks represents a pivotal domain for inquiry, offering insights into the intricate interplay between governance structures, financial performance, and economic dynamics within the region. This subsection delves into an exploratory analysis of key dependent variables, company governance factors, and control variables, shedding light on the nuanced factors shaping the governance landscape of UAE banking institutions.

1) Dependent variables:

- The mean *TBQ* is 0.1796, with a range of 0.04 to 0.93 and a standard deviation of 0.1633, indicating stability and little variation.
- *ROE*: Mean = 0.0127, range = -1.9703 to 0.1777, standard deviation = 0.3087.
- *ROTA*: Clustered data with a mean of 0.0059, values ranging from -0.1765 to 0.0297, with a standard deviation of 0.0264.

2) Company governance factors:

- Board size (*B_SIZE*): Mean = 8.5493, range = 6–11, standard deviation = 1.5193.
- Board independence (*B_IND*): With 37 observations out of 100, the mean is 0.6693, ranging from 0.2857 to 0.9091, indicating a majority of independent directors.
- Board diversity (*B_DIV*): Average = 0.0368, standard deviation = 0.0583, reflecting gender imbalance on UAE bank boards.
- *B_MEET* has a mean value of 6.1692, a range of 2–11, and a high standard deviation of 1.4955, indicating frequent bank board meetings.

• The board of directors receives reasonably high total remuneration (*B_REM*) with an average of 6.1947 and a standard deviation of 2.0500.

• The mean ownership concentration (*B_OWN*) is 0.4114, ranging from 0.2 to 0.6252, suggesting a strong concentration on average.

3) Control variables:

• Capital structure (*LEV*): Mean = 0.8576, range = 0.6532 to 0.9467, standard deviation = 0.0472.

• The mean bank size (*SIZE*) is 10.7677, with a standard deviation of 0.5147, ranging from 9.9412 to 11.9633.

• The mean *GDP* is 0.7649, with values ranging from -6.1345 to 3.4115. The high *GDP* standard deviation suggests UAE's *GDP* will fluctuate from 2016 to 2020, with a negative value of -6.1345.

**Table 2.** Descriptive statistics of variables in the context of UAE banks

| *Variable* | *Obs.* | *Mean* | *Std. dev.* | *Min* | *Max* |
|---|---|---|---|---|---|
| *TBQ* | 82 | 0.18 | 0.16 | 0.04 | 0.93 |
| *ROE* | 99 | 0.01 | 0.31 | -1.97 | 0.18 |
| *ROTA* | 99 | 0.01 | 0.03 | -0.18 | 0.03 |
| *B_SIZE* | 71 | 8.55 | 1.52 | 6.00 | 11.00 |
| *B_IND* | 37 | 0.67 | 0.20 | 0.29 | 0.91 |
| *B_DIV* | 71 | 0.04 | 0.06 | 0.00 | 0.25 |
| *B_MEET* | 65 | 6.17 | 1.50 | 2.00 | 11.00 |
| *B_REM* | 96 | 6.19 | 2.05 | 0.00 | 7.74 |
| *B_OWN* | 94 | 0.41 | 0.12 | 0.20 | 0.63 |
| *LEV* | 99 | 0.86 | 0.05 | 0.65 | 0.95 |
| *SIZE* | 99 | 10.77 | 0.51 | 9.94 | 11.96 |
| *GDP* | 100 | 0.76 | 3.55 | -6.13 | 3.41 |

Table 2 lists the factors used to study corporate governance and UAE bank performance. Once missing data is removed, the dataset contains 100 observations from 20 UAE banks from 2016 to 2020.

## 4.2. MENA region banks: Descriptive statistics

The MENA region stands as a dynamic landscape for the study of corporate governance within the banking sector, offering a rich tapestry of governance structures, financial metrics, and economic dynamics. This section embarks on an insightful exploration of corporate governance dynamics within MENA region banks, delving into an array of dependent variables, corporate governance factors, and control variables to unravel the nuanced facets shaping governance practices and financial performance across the region.

1) Dependent variables:

• *TBQ*: A mean of 0.1368, ranging from 0.02 to 1.01, and a standard deviation of 0.0948 indicate reasonable data stability.

• The mean *ROE* is -0.0484, showing banks experience an average loss. Equity compared to revenue is very variable, as *ROE*'s standard deviation is 1.6257 and ranges from -24.6876 to 1.7244.

• *ROTA*: Mean is 0.0095, standard deviation is 0.0109. The *ROTA* range is from -0.0524 to 0.0950.

2) Corporate governance variables:

• Board size (*B_SIZE*): Mean is 9.9209, range is 4–15, standard deviation is 1.8246.

• Board independence (*B_IND*): With 346 observations out of 605, *B_IND* shows a mean of 0.3835, ranging from 0 to 0.875, showing a preponderance of dependent directors on MENA bank boards.

• A male preponderance is seen in board diversity (*B_DIV*), with an average of 0.0793 and a standard deviation of 0.0970. Values range from 0 to 0.44.

• Board meetings (*B_MEET*): The largest standard deviation (12.223) indicates a diverse range of frequencies (4–89).

• Remuneration (*B_REM*): The average is 7.0995, standard deviation is 1.2261. The lowest and highest values of *B_REM* are 0 and 10.7775, signifying high board member pay.

• Ownership concentration (*B_OWN*): Mean is 0.3802, range: 0.0553 to 0.9988.

3) Control variables:

• MENA area banks have a reasonably high capital structure (*LEV*) with a mean of 0.8721 and values ranging from 0.0355 to 1.1560.

• The mean bank size (*SIZE*) is 11.0103, with a standard deviation of 1.4356 and values ranging from 8.5817 to 15.3254.

• *GDP* has a high standard deviation of 4.9313 and an average of 0.6406, indicating large variances in macroeconomic indicators like *GDP* between nations. The values are -21.4643–13.3962.

*TBQ*, *ROE*, and *ROTA* compare UAE banks' corporate governance and performance to the MENA banking sector. Pearson correlation research. Perfect negative correlation is -1 and perfect positive correlation is +1. A negative correlation means that an increase in one variable decreases another, whereas a positive correlation means that both variables rise.

**Table 3.** Descriptive statistics of variables in the context of MENA region banks

| *Variable* | *Obs.* | *Mean* | *Std. dev.* | *Min* | *Max* |
|---|---|---|---|---|---|
| *TBQ* | 355 | 0.1368451 | 0.0947829 | 0.02 | 1.01 |
| *ROE* | 584 | -0.0484241 | 1.625721 | -24.68755 | 1.724371 |
| *ROTA* | 584 | 0.0095178 | 0.0109359 | -0.0523582 | 0.0950021 |
| *B_SIZE* | 493 | 9.920892 | 1.824581 | 4 | 15 |
| *B_IND* | 346 | 0.3835287 | 0.1734428 | 0 | 0.875 |
| *B_DIV* | 488 | 0.079279 | 0.0970407 | 0 | 0.4444444 |
| *B_MEET* | 378 | 11.8254 | 12.223 | 4 | 89 |
| *B_REM* | 460 | 7.099486 | 1.226077 | 0 | 10.77753 |
| *B_OWN* | 422 | 0.3801645 | 0.2142556 | 0.0553 | 0.9988 |
| *LEV* | 584 | 0.8720761 | 0.1222915 | 0.0354735 | 1.155993 |
| *SIZE* | 584 | 11.0103 | 1.435616 | 8.58166 | 15.32539 |
| *GDP* | 605 | 0.6405959 | 4.931319 | -21.46427 | 13.39624 |

The table summarizes the factors used to study corporate governance and bank performance in MENA. The 2016–2020 dataset includes 121 MENA banks and 605 observations after deleting incomplete data.

### 4.3. UAE banks: Pearson correlation

Pearson correlation between factors in MENA banks is seen in Table 4. The study found a negative association between *ROE* and *TBQ*, whereas *ROTA* showed a positive correlation ($p < 0.01$). *B_SIZE* and *B_DIV* are adversely and strongly linked with *TBQ* at 1% and 10% significance levels, respectively, in corporate governance procedures. Conversely, *B_IND, B_REM*, and *B_OWN* ($p < 0.01$) show favorable relationships with *TBQ*. For *ROE, B_SIZE* ($p < 0.1$), *B_DIV* ($p < 0.01$), *B_MEET*, and *B_OWN* ($p < 0.1$) are negatively correlated, while *B_IND* and *B_REM* are positively and significantly correlated at 5% significance level. For *ROTA, B_SIZE* ($p < 0.1$), *B_DIV* ($p < 0.01$), *B_MEET*, and *B_OWN* ($p < 0.1$) show negative correlations, whereas *B_IND* and *B_REM* ($p < 0.01$) show positive correlations. The control variable *LEV* is inversely linked with *TBQ* ($p < 0.1$), *ROE* ($p < 0.01$), and *ROTA* ($p < 0.01$). *SIZE* has a negative association with *TBQ* but positive and extremely significant correlations with *ROE* and *ROTA* at 1%. While *GDP* is positively correlated with *TBQ, ROE*, and *ROTA*, corporate governance mechanisms such as *B_IND* ($p < 0.01$), *B_DIV, B_MEET*, and *B_REM* are positively correlated with *B_SIZE*, while *B_OWN* is negatively and significantly correlated at a 5% significance level. Additionally, *B_DIV* and *B_OWN* are positively linked with *B_IND* at a 10% significance level, whereas *B_MEET* and *B_REM* are. *B_REM* is adversely and strongly connected with *B_DIV* at 1% significance, whereas *B_MEET* is favorably and significantly correlated at 10%. *B_OWN* is favorably connected with *B*_DIV and *B_MEET* but negatively with *B_REM*. The control variable *LEV* is positively connected with *B_SIZE* ($p < 0.01$), *B_IND, B_DIV* ($p < 0.1$), *B_MEET*, and *B_OWN*, and negatively linked with *B_REM*. *SIZE* is negatively connected with *B_DIV* at a 5% significance level, but positively correlated with *B_SIZE, B_IND, B_MEET, B_REM*, and *B_OWN* ($p < 0.1$, $p < 0.05$, $p < 0.01$, and $p < 0.01$, respectively). The control variable *GDP* is positively connected with *B_IND* and *B_REM* and negatively correlated with *B_SIZE, B_DIV, B_MEET*, and *B_OWN*. *GDP* has negligible connections with other factors. At a 5% significance level, *SIZE* is positively and substantially connected with *LEV*, whereas *GDP* is negatively correlated with *LEV* and *SIZE*.

**Table 4.** Pearson correlation among variables in the context of UAE banks

| *Variables* | *TBQ* | *ROE* | *ROTA* | *B_SIZE* | *B_IND* | *B_DIV* | *B_MEET* | *B_REM* | *B_OWN* | *LEV* | *SIZE* | *GDP* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ***TBQ*** | 1.0000 | | | | | | | | | | | |
| ***ROE*** | -0.0437 | 1.0000 | | | | | | | | | | |
| ***ROTA*** | 0.0175 | 0.9495*** | 1.0000 | | | | | | | | | |
| ***B_SIZE*** | -0.3278*** | -0.1101 | -0.2124* | 1.0000 | | | | | | | | |
| ***B_IND*** | 0.5787*** | 0.3574** | 0.3236* | 0.4249*** | 1.0000 | | | | | | | |
| ***B_DIV*** | -0.2271* | -0.2750** | -0.3352*** | 0.1047 | 0.2849* | 1.0000 | | | | | | |
| ***B_MEET*** | -0.1014 | -0.1037 | -0.1854 | 0.1667 | 0.2823 | 0.2163* | 1.0000 | | | | | |
| ***B_REM*** | 0.0095 | 0.2424** | 0.3289*** | 0.0492 | 0.1981 | -0.3343*** | 0.0311 | 1.0000 | | | | |
| ***B_OWN*** | 0.3339*** | -0.1837* | -0.1932* | -0.2496** | 0.2773* | 0.1105 | 0.1939 | -0.1273 | 1.0000 | | | |
| ***LEV*** | -0.1915* | -0.2840*** | -0.3981*** | 0.4291*** | 0.1423 | 0.2124* | 0.1505 | -0.1560 | 0.0920 | 1.0000 | | |
| ***SIZE*** | -0.1190 | 0.3201*** | 0.3276*** | 0.1990* | 0.3842** | -0.2782** | 0.0319 | 0.4559*** | 0.1228 | 0.1983** | 1.0000 | |
| ***GDP*** | 0.0639 | 0.0813 | 0.1516 | -0.0320 | 0.0165 | -0.1298 | -0.1639 | 0.1334 | -0.0114 | -0.0443 | -0.0224 | 1.0000 |

*Note: *** p < 0.01, ** p < 0.05, * p < 0.1.*

### 4.4. MENA region banks: Pearson correlation

Spearman's rank correlation between factors in MENA banks is shown in the table. The financial variables *TBQ, ROE*, and *ROTA* are positively associated at 1% significance. At 5% significance, *B_SIZE* and *B_IND* have negative and significant relationships with *TBQ* among corporate governance systems. At 1% significance, *B_DIV* and *B_MEET* have negative and highly significant associations with *TBQ*. *B_OWN* is the only corporate governance instrument that positively and insignificantly correlates with *TBQ*. Corporate governance procedures favorably correlate with *ROE* including *B_SIZE* ($p < 0.1$), *B_DIV, B_MEET, B_REM*, and *B_OWN* ($p < 0.01$), but *B_IND* has a negative and significant link at a 10% significance level. For *ROTA, B_SIZE, B_IND, B_DIV* ($p < 0.1$), and *B_REM* are negatively connected, but *B_MEET* and *B_OWN* are favorably correlated. The control variable *LEV* has a negative connection with *TBQ, ROE* ($p < 0.1$), and *ROTA* ($p < 0.01$). At 1% significance, *SIZE* is favorably connected with *TBQ* but negatively and extremely substantially correlated with *ROE* and *ROTA*. *GDP* is favorably connected with *TBQ* and *ROTA* ($p < 0.01$), but negatively correlated with *ROE*. A 1% significance level association between corporate governance mechanisms shows that *B_DIV* and *B_OWN* positively correlate with *B_SIZE* while *B_IND* adversely correlates. Moreover, *B_DIV* ($p < 0.1$), *B_REM*, and *B_OWN* ($p < 0.01$) adversely correlate with *B_IND*, but *B_MEET* positively correlates. *B_MEET, B_REM*, and *B_OWN* strongly correlate with *B_DIV* at 1%, 5%, and 1% significant levels. In contrast, *B_REM* and *B_OWN* adversely correlate with *B_MEET* and favorably with *B_REM*. In terms of control variables, *LEV* is favorably correlated with *B_SIZE, B_DIV, B_REM*, and *B_OWN*, while negatively correlated with *B_IND* and *B_MEET* ($p < 0.05$). For the control variable *SIZE*, it correlates negatively with *B_SIZE* ($p < 0.01$), *B_IND, B_DIV*, and *B_OWN*, and favorably with *B_MEET* and *B_REM* at a 1% significance level. The control variable *GDP* has a positive correlation with B*_SIZE, B_DIV, B_MEET*, and *B_OWN* ($p < 0.01$), but a negative correlation with *B_IND* and *B_REM* ($p < 0.05$). Control factors reveal a substantial positive association between *SIZE* and *LEV* at a 1% significance level, whereas *GDP* negatively correlates with both variables ($p < 0.05$).

**Table 5.** Pearson correlation among variables in the context of MENA region banks

| *Variables* | *TBQ* | *ROE* | *ROTA* | *B_SIZE* | *B_IND* | *B_DIV* | *B_MEET* | *B_REM* | *B_OWN* | *LEV* | *SIZE* | *GDP* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ***TBQ*** | 1.0000 | | | | | | | | | | | |
| ***ROE*** | 0.4209*** | 1.0000 | | | | | | | | | | |
| ***ROTA*** | 0.4884*** | 0.1562*** | 1.0000 | | | | | | | | | |
| ***B_SIZE*** | -0.1112** | 0.0778* | -0.0134 | 1.0000 | | | | | | | | |
| ***B_IND*** | -0.1334** | -0.0967* | -0.0704 | -0.1956*** | 1.0000 | | | | | | | |
| ***B_DIV*** | -0.1926*** | 0.0594 | -0.0825* | 0.2847*** | -0.0982* | 1.0000 | | | | | | |
| ***B_MEET*** | -0.3015*** | 0.0408 | 0.0803 | -0.0648 | 0.0134 | 0.1830*** | 1.0000 | | | | | |
| ***B_REM*** | -0.0199 | 0.0637 | -0.0607 | -0.0363 | -0.0552 | 0.1006** | -0.0412 | 1.0000 | | | | |
| ***B_OWN*** | 0.0528 | 0.1545*** | 0.0363 | 0.1661*** | -0.4677*** | 0.3007*** | -0.0047 | 0.0333 | 1.0000 | | | |
| ***LEV*** | -0.0622 | -0.0809* | -0.3019*** | 0.0118 | -0.0025 | 0.1165** | -0.0174 | 0.2093*** | 0.0409 | 1.0000 | | |
| ***SIZE*** | 0.0021 | -0.1308*** | -0.2398*** | -0.1621*** | -0.0878 | -0.0003 | 0.1500*** | 0.7291*** | -0.0153 | 0.2581*** | 1.0000 | |
| ***GDP*** | 0.0375 | -0.0292 | 0.3484*** | 0.0346 | -0.0826 | 0.1629*** | 0.2083*** | -0.0986** | 0.1974*** | -0.0231 | -0.1061** | 1.0000 |

*Note: *** p < 0.01, ** p < 0.05, * p < 0.1.*

## 4.5. Corporate governance and financial performance of the UAE: Panel regression model

The relationship between corporate governance practices and financial performance represents a critical area of inquiry within the context of UAE banks. This section provides an overview of a panel regression analysis conducted to investigate the impact of corporate governance on Tobin's Q ratio (*TBQ*), a key indicator of financial performance, within the UAE banking sector. The panel regression analysis employs three distinct estimation approaches: pooled OLS, fixed effect, and random effect models. These models are evaluated to determine the most appropriate framework for assessing the relationship between corporate governance factors and *TBQ* in UAE banks.

Regression analysis shows how independent corporate governance factors affect dependent variables (bank performance). This study's dependent variables are *TBQ, ROE*, and *ROTA*, the independent variables are *B_SIZE, B_IND, B_DIV, B_MEET, B_REM*, and *B_OWN*, while the control variables are *LEV*, *SIZE*, and *GDP*. Fixed effect model, random effect model, and pooled OLS model are panel regression types. We evaluate these three models to choose the best one for this study.

**Table 6.** Result of the panel regression model in *TBQ* in UAE banks

| | *Pooled OLS* | | | | *Fixed effect* | | | | *Random effect* | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ***Coef.*** | ***SE*** | ***z-value*** | ***p-value*** | ***Coef.*** | ***SE*** | ***z-value*** | ***p-value*** | ***Coef.*** | ***SE*** | ***z-value*** | ***p-value*** |
| *l(TBQ)* | 0.429 | 0.090 | 5.240 | 0.000 | 0.211 | 0.035 | 6.050 | 0.001 | 0.414 | 0.093 | 4.480 | 0.000 |
| *CG* | 0.005 | 0.003 | 1.610 | 0.108 | 0.011 | 0.007 | 1.700 | 0.133 | 0.005 | 0.003 | 1.490 | 0.136 |
| *LEV* | -0.534 | 0.281 | -1.900 | 0.058 | -0.642 | 0.306 | -2.100 | 0.074 | -0.541 | 0.318 | -1.700 | 0.089 |
| *SIZE* | 0.029 | 0.010 | 3.000 | 0.003 | -0.088 | 0.024 | -3.740 | 0.007 | 0.029 | 0.011 | 2.630 | 0.009 |
| *GDP* | 0.002 | 0.001 | 2.940 | 0.003 | 0.002 | 0.001 | 2.510 | 0.040 | 0.002 | 0.001 | 2.660 | 0.008 |
| Cons | 0.207 | 0.177 | 1.170 | 0.242 | 1.613 | 0.348 | 4.630 | 0.002 | 0.211 | 0.199 | 1.060 | 0.290 |
| Obs. | 26 | | | | 26 | | | | 26 | | | |
| Wald | 250.04 | | | 0.00 | | | | 0.00 | | | | 0.00 |
| $R^2$ | | | | | within (0.63) | between (0.28) | overall (0.24) | | within (0.43) | between (0.89) | overall (0.74) | |

The table shows the summary results of the panel regression model used to examine UAE banks' corporate performance and *TBQ* using pooled OLS, fixed effect, and random effect estimation approaches. The model's dependent variable, the lagged value of *TBQ*, positively and statistically significantly affects its present value. The pooled OLS technique shows that corporate governance (*CG*) improves *TBQ* by an 11% significant level. Notably, all three estimate approaches show comparable *CG* effects on *TBQ*, with somewhat different significant thresholds. The negative effect of leverage (*LEV*) on *TBQ* is statistically significant at less than 10% across all three approaches. Corporate governance, as a composite variable, seems to improve firm-level financial performance. However, rising business leverage seems to worsen financial performance. *TBQ* is positively correlated with company size in all three models, with probability values below 10%.

This work supports prior studies by Zeitun and Tian (2007), Salawu (2007), Chen (2004), Tzelepis and Skuras (2004), Gleason et al. (2000), Krishnan and Moyer (1997), and Rajan and Zingales (1995). *GDP*, the model's final independent variable, does not significantly affect UAE bank *TBQ*. The model's goodness of fit ($R^2$) ranges from 0.24 to 0.89, showing that independent factors explain 24% to 89% of UAE banks' *TBQ* variance. The "within" $R^2$ value reflects *TBQ* variance within UAE banks, while the "between" value shows it between banks. The weighted average of within and between $R^2$ values is the overall $R^2$. The Wald test probability values in all three approaches are near zero, showing the model lacks heteroskedasticity, making the findings policy-relevant.

**Table 7.** Result of the panel regression model in *ROE* in UAE banks and MENA region banks

| | *Pooled OLS* | | | | *Fixed effect* | | | | *Random effect* | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ***Coef.*** | ***SE*** | ***z-value*** | ***p-value*** | ***Coef.*** | ***SE*** | ***z-value*** | ***p-value*** | ***Coef.*** | ***SE*** | ***z-value*** | ***p-value*** |
| *l(ROE)* | 1.37 | 0.45 | 3.07 | 0.00 | 0.015 | 0.024 | 0.620 | 0.554 | 1.292 | 0.547 | 2.360 | 0.018 |
| *CG* | 0.01 | 0.00 | 1.10 | 0.27 | -1.321 | 1.168 | -1.130 | 0.295 | 0.005 | 0.006 | 0.860 | 0.388 |
| *LEV* | -0.93 | 0.75 | -1.24 | 0.21 | 0.010 | 0.098 | 0.100 | 0.924 | -1.030 | 0.860 | -1.200 | 0.231 |
| *SIZE* | 0.00 | 0.02 | 0.04 | 0.97 | 0.008 | 0.003 | 2.570 | 0.037 | 0.004 | 0.020 | 0.210 | 0.832 |
| *GDP* | 0.01 | 0.00 | 1.75 | 0.08 | 1.117 | 0.883 | 1.260 | 0.246 | 0.006 | 0.004 | 1.710 | 0.087 |
| Cons | 0.73 | 0.64 | 1.15 | 0.25 | 0.015 | 0.024 | 0.620 | 0.554 | 0.787 | 0.752 | 1.050 | 0.295 |
| Obs. | 26 | | | | 26 | | | | 26 | | | |
| Wald | 250.04 | | | 0.00 | | | | | | | | |
| $R^2$ | | | | | within (0.39) | between(0.18) | overall (0.28) | | within (0.44) | between(0.71) | overall (0.59) | |

A panel regression model on UAE bank *ROE* and corporate governance is summarized in the table. Table 7 shows statistical results from three estimate approaches, including pooled OLS, for the UAE banking industry model. The model's dependent variable, the lagged *ROE* value, positively and statistically significantly affects *ROE*'s current value. Corporate governance (*CG*) has a 27% significance threshold on ROE for the pooled OLS approach. Importantly, the three estimating approaches show comparable effects of *CG* on *ROE*, albeit somewhat different significance thresholds. Across all three methodologies, leverage (*LEV*) has no effect on UAE banking enterprises' *ROE*. Firm size (*SIZE*) affects *ROE* significantly in the fixed effect model but not in the pooling or random effect models, with probability values over 10%.

These results are consistent with Zeitun and Tian (2007), Salawu (2007), Chen (2004), Tzelepis and Skuras (2004), Gleason et al. (2000), Krishnan and Moyer (1997), and Rajan and Zingales (1995). *GDP*, the model's final independent variable, affects *ROE* significantly in pooled OLS and random effect techniques but not in fixed effect. The model's goodness of fit ($R^2$) ranges from 0.28 to 0.71, showing that independent factors explain 28% to 71% of UAE banks' *ROE* variance. The $R^2$ value labeled "within" reveals *ROE* variance within UAE banks, whereas the "between" value shows *ROE* variation across banks. The weighted average of within and between $R^2$ values is the overall $R^2$. The Wald test probability values in all three approaches are practically zero, showing no heteroskedasticity in the model and supporting policy relevance.

**Table 8.** Result of the panel regression model in *ROTA* in UAE banks

| | *Pooled OLS* | | | | *Fixed effect* | | | | *Random effect* | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ***Coef.*** | ***SE*** | ***z-value*** | ***p-value*** | ***Coef.*** | ***SE*** | ***z-value*** | ***p-value*** | ***Coef.*** | ***SE*** | ***z-value*** | ***p-value*** |
| *l(ROTA)* | 1.749 | 0.062 | 28.440 | 0.000 | 0.370 | 0.621 | 0.600 | 0.570 | 1.108 | 0.317 | 3.500 | 0.000 |
| *CG* | 0.001 | 0.000 | 2.980 | 0.003 | 0.001 | 0.003 | -0.110 | 0.917 | 0.001 | 0.001 | 1.790 | 0.073 |
| *LEV* | 0.112 | 0.045 | 2.470 | 0.014 | -0.177 | 0.123 | -1.440 | 0.193 | -0.086 | 0.067 | -1.290 | 0.196 |
| *SIZE* | -0.001 | 0.001 | -0.880 | 0.381 | -0.028 | 0.029 | -0.960 | 0.371 | 0.001 | 0.001 | 0.920 | 0.355 |
| *GDP* | 0.001 | 0.000 | 1.240 | 0.214 | 0.001 | 0.000 | 2.620 | 0.035 | 0.001 | 0.000 | 2.200 | 0.028 |
| Cons | -0.104 | 0.028 | -3.660 | 0.000 | 0.467 | 0.339 | 1.380 | 0.210 | 0.058 | 0.053 | 1.100 | 0.273 |
| Obs. | 26 | | | | 26 | | | | 26 | | | |
| Wald | 19377 | | | 0.00 | | | | | | | | |
| $R^2$ | | | | | within (0.53) | between(0.16) | overall (0.18) | | within (0.46) | between(0.89) | overall (0.66) | |

The table shows the panel regression model's results on corporate governance and UAE bank *ROTA* performance. Table 8 shows statistical data from three estimating methods: pooled OLS for UAE financial modeling. Surprisingly, the model's dependent variable, *ROTA*'s lagged value, positively and statistically significantly affects its present value. Corporate governance (*CG*) positively affects *ROTA* for panel businesses in the pooled OLS and random effect models, but not in the fixed effect case (significance > 10). The pooled OLS model indicates a substantial (< 10%) beneficial impact of leverage (*LEV*) on *ROTA* for UAE enterprises, but fixed and random effect models do not demonstrate a significant effect. With probability values above 10%, the pooled OLS, fixed effect, and random effect models show no significant influence of firm size on *ROTA*. These results match Zeitun and Tian's (2007) and Salawu's (2007) investigations. *GDP* has no influence on *ROTA* for UAE banks, although it does in the random and fixed effect models with a probability score of less than 10%.

The model's $R^2$ values range from 0.18 to 0.89, indicating that independent variables explain 18% to 89% of UAE banks' *ROTA* variation. The "within" and "between" values show *ROTA* variation within and between UAE banks, respectively. The weighted average of within and between $R^2$ values is the overall $R^2$. The Wald test probability values in all three approaches are practically zero, showing no heteroskedasticity in the model, making the data useful for policy concerns.

**Table 9.** Result of the panel regression model in *TBQ* in MENA region banks

| | *Pooled OLS* | | | | *Fixed effect* | | | | *Random effect* | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ***Coef.*** | ***SE*** | ***z-value*** | ***p-value*** | ***Coef.*** | ***SE*** | ***z-value*** | ***p-value*** | ***Coef.*** | ***SE*** | ***z-value*** | ***p-value*** |
| *l(TBQ)* | 1.056 | 0.046 | 22.950 | 0.000 | 0.961 | 0.258 | 3.730 | 0.000 | 1.063 | 0.142 | 7.490 | 0.000 |
| *CG* | 0.004 | 0.003 | 1.220 | 0.222 | 0.011 | 0.014 | 0.800 | 0.427 | 0.004 | 0.007 | 0.550 | 0.584 |
| *LEV* | 0.010 | 0.044 | 0.220 | 0.824 | -0.145 | 0.273 | -0.530 | 0.599 | 0.011 | 0.018 | 0.600 | 0.551 |
| *SIZE* | 0.004 | 0.004 | 0.980 | 0.325 | 0.034 | 0.073 | 0.470 | 0.642 | 0.004 | 0.002 | 1.820 | 0.068 |
| *GDP* | 0.002 | 0.001 | 2.420 | 0.015 | 0.002 | 0.001 | 2.300 | 0.025 | 0.002 | 0.001 | 2.910 | 0.004 |
| Cons | -0.067 | 0.052 | -1.290 | 0.198 | -0.241 | 0.851 | -0.280 | 0.778 | -0.069 | 0.031 | -2.220 | 0.027 |
| Obs. | 217 | | | | 217 | | | | 217 | | | |
| Wald | 542.04 | | | 0.00 | | 897.7 | | 0.00 | | | | |
| $R^2$ | | | | | within (0.49) | between (0.71) | overall (0.66) | | within (0.48) | between (0.87) | overall (0.76) | |

The panel regression model examined MENA bank corporate governance (*CG*) and *TBQ*. The findings describe three estimating methods: pooled OLS, fixed effect, and random effect. *TBQ* lagged values were employed as independent variables. The lagged value of *TBQ* positively and significantly affects its current value, showing a steady connection. In all three techniques (pooled OLS, fixed effect, and random effect), corporate governance (*CG*) has little effect on *TBQ*. In all three techniques, leverage (*LEV*) had no significant effect on *TBQ* in MENA banks, with probability values over 10%. Pooled OLS and fixed effect approaches showed no influence of firm size (*SIZE*) on *TBQ*, whereas the random effect method did. In all three models, the *GDP* growth rate affected *TBQ* significantly. The independent factors explained 66% to 87% of MENA bank *TBQ* variance, according to the goodness of fit ($R^2$). MENA bank $R^2$ values showed variability inside and across banks. $R^2$ was the weighted average of these. Wald test findings showed no heteroskedasticity in the model, making them policy-relevant.

**Table 10.** Result of the panel regression model in *ROE* in MENA region banks

| | *Pooled OLS* | | | | *Fixed effect* | | | | *Random effect* | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ***Coef.*** | ***SE*** | ***z-value*** | ***p-value*** | ***Coef.*** | ***SE*** | ***z-value*** | ***p-value*** | ***Coef.*** | ***SE*** | ***z-value*** | ***p-value*** |
| *l(ROE)* | 0.955 | 0.220 | 4.350 | 0.000 | 0.366 | 0.425 | 0.860 | 0.392 | 0.922 | 0.239 | 3.850 | 0.000 |
| *CG* | 0.005 | 0.002 | 2.110 | 0.035 | 0.006 | 0.021 | 0.290 | 0.776 | 0.005 | 0.002 | 2.180 | 0.029 |
| *LEV* | -0.032 | 0.022 | -1.420 | 0.155 | -1.067 | 0.931 | -1.150 | 0.255 | -0.033 | 0.025 | -1.300 | 0.192 |
| *SIZE* | -0.004 | 0.006 | -0.640 | 0.521 | 0.210 | 0.186 | 1.130 | 0.264 | -0.003 | 0.006 | -0.510 | 0.609 |
| *GDP* | 0.009 | 0.003 | 2.470 | 0.014 | 0.012 | 0.004 | 2.790 | 0.007 | 0.009 | 0.003 | 2.490 | 0.013 |
| Cons | 0.055 | 0.050 | 1.100 | 0.273 | -1.292 | 1.309 | -0.990 | 0.327 | 0.052 | 0.052 | 1.000 | 0.318 |
| Obs. | 241 | | | | 241 | | | | 241 | | | |
| Wald | 153.23 | | | 0.00 | | 897.7 | | 0.00 | | | | |
| $R^2$ | | | | | within (0.39) | between (0.04) | overall (0.05) | | within (0.32) | between (0.78) | overall (0.56) | |

The above table shows statistical results from three pooled OLS estimation techniques for MENA banks. Lagged *ROE* is used as an independent variable to study how corporate governance (*CG*) affects *ROE*. Interestingly, delayed *ROE* positively and statistically affects current *ROE*. *CG* has a large and favorable influence on *ROE* across MENA area banks in pooled OLS, with comparable results in all three estimating techniques, but with somewhat different significance thresholds. The fixed effect technique shows that leverage and firm size affect *ROE*, whereas pooled OLS and random models do not. *GDP* has a positive and substantial effect on *ROE* in all three methodologies, supporting earlier research. The quality of fit ($R^2$) ranges from 0.05 to 0.78, showing that independent factors explain 5% to 78% of *ROE* variance among MENA banks. $R^2$ values for MENA banks show variances inside and across banks. $R^2$ is the weighted average of these values. The Wald test shows no heteroskedasticity in the model, making it eligible for the policy.

**Table 11.** Result of the panel regression model in *ROTA* in MENA region banks

| | *Pooled OLS* | | | | *Fixed effect* | | | | *Random effect* | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ***Coef.*** | ***SE*** | ***z-value*** | ***p-value*** | ***Coef.*** | ***SE*** | ***z-value*** | ***p-value*** | ***Coef.*** | ***SE*** | ***z-value*** | ***p-value*** |
| *l(ROTA)* | 0.711 | 0.088 | 8.070 | 0.000 | -0.0470 | 0.1582 | -0.3000 | 0.7670 | 0.636 | 0.103 | 6.200 | 0.000 |
| *CG* | 0.001 | 0.000 | 3.761 | 0.000 | 0.0033 | 0.0024 | 1.3800 | 0.1730 | -0.001 | 0.000 | -3.950 | 0.000 |
| *LEV* | -0.004 | 0.002 | -2.230 | 0.026 | -0.0940 | 0.0602 | -1.5600 | 0.1230 | -0.005 | 0.002 | -2.030 | 0.042 |
| *SIZE* | 0.000 | 0.000 | 1.110 | 0.268 | 0.0034 | 0.0117 | 0.2900 | 0.7700 | 0.001 | 0.000 | 1.440 | 0.151 |
| *GDP* | 0.001 | 0.000 | 3.450 | 0.001 | 0.0010 | 0.0002 | 4.2500 | 0.0000 | 0.001 | 0.000 | 3.620 | 0.000 |
| Cons | 0.001 | 0.003 | 0.280 | 0.778 | 0.0549 | 0.1003 | 0.5500 | 0.5860 | 0.001 | 0.003 | 0.300 | 0.767 |
| Obs. | 241 | | | | 241 | | | | 241 | | | |
| Wald | 173 | | | 0.00 | 43.65 | | | 0.00 | 130.76 | | | 0.00 |
| $R^2$ | | | | | within (0.32) | between (0.10) | overall (0.11) | | within (0.18) | between (0.71) | overall (0.57) | |

Three estimating approaches (pooled OLS) for MENA banks provide intriguing findings. Lagged *ROTA* is used as an independent variable to study corporate governance (*CG*) and *ROTA*. Surprisingly, the delayed *ROTA* positively and statistically affects the current *ROTA*. *CG* has a substantial and favorable influence on *ROTA* for companies in the pooled and random effect models, but not in the fixed effect model. Leverage (*LEV*) negatively affects *ROTA* for MENA businesses in pooled and random effect models (< 10%), but not in fixed effect models. These findings show that corporate governance, as a composite variable, improves firm-level financial performance, whereas leverage hurts it. In all three models, company size has a non-significant effect on *ROTA* with probability values over 10%. These results match Gleason et al. (2000), Krishnan and Moyer (1997), and Rajan and Zingales (1995). *GDP* positively and significantly affects *ROTA* in all three models for MENA banks, demonstrating the influence of economic expansion on financial performance. The goodness of fit ($R^2$) ranges from 0.11 to 0.71, showing that independent factors explain 11% to 71% of *ROTA* variance across MENA banks. $R^2$ values for MENA banks show variances inside and across banks. $R^2$ is the weighted average of these values. The Wald test shows no heteroskedasticity in the model, making it eligible for the policy.

## 5. CONCLUSION

The research examines corporate governance and bank performance using static panel regression techniques. UAE bank static analysis uses pooled OLS, fixed and random effect estimate techniques. The pooled OLS technique shows that corporate governance improves *TBQ*, whereas other methods

show that company size does. *GDP* has no statistically significant effect on *TBQ*. All approaches demonstrate little influence of corporate governance on *ROE*, but leverage and company size offer varied findings (Jensen, 2002). Corporate governance, *GDP* growth rate, and company size positively and significantly affect UAE bank *TBQ*. MENA bank performances resemble UAE bank results. Static study shows that leverage and firm size have equal effects on *TBQ*, while *CG* has no effect. *CG* positively and significantly affects *ROE* in fixed effect models but not pooled OLS or random effect techniques. *GDP* positively and considerably influences *ROE* in all approaches. In *ROTA*, *CG* affects pooled OLS and random effect approaches but not fixed effect. Leverage negatively affects *ROTA* in pooled OLS and random impact, but firm size is minor (Iqbal et al., 2019). The research finds that UAE banks have stronger corporate governance than MENA institutions. Strong corporate governance practices and government policies that favor shareholders may explain this. UAE's investor-friendly regulations reduced foreign ownership restrictions, and foreign direct investment incentives make it an attractive investment destination in MENA. UAE's economic might, FDI appeal, and commercial standing make it a favored investment location, emphasizing the necessity of corporate governance in its financial sector. The research concludes that corporate governance explains the differences in bank performance between the MENA area and the UAE, with the latter having better corporate governance and attracting more investment.

This corporate governance and company performance study has significant drawbacks. A restriction was the lack of corporate governance data for several MENA institutions. The bank performance study covers 2006–2020, including the COVID-19 pandemic period. Banks struggled to collect payments and had to write off loans and mortgages, notably from people and small and medium-sized enterprises losing income due to the pandemic (Otero Gonzalez et al., 2021). Future research may overcome these constraints by incorporating additional MENA and UAE institutions and doing pre- and post-COVID-19 assessments to determine how corporate governance affects financial performance during difficult times. This study focuses on commercial banks, but future research may cover other industries or all firms (Saeidi et al., 2015). Qualitative methods including questionnaires, case studies, and interviews may help researchers understand how corporate governance affects business performance and value. Future research should examine how governments can strengthen corporate governance in MENA to minimize agency costs and boost financial performance, given royal families and conglomerates' distinctive corporate structures.

As organizations develop worldwide and include many stakeholders, corporate governance and business ethics become more complicated. Businesses must address corporate governance ethics as they become more important. Future studies may examine how corporate governance ethics affect company performance (Farhan et al., 2017). The dynamics of management discretion and business success, particularly in light of rising individual investments, present exciting study prospects (Safiullah & Shamsuddin, 2018). Share investments, whether in regular corporations or cryptocurrencies, pose problems with agency theory, stakeholder theory, and corporate governance procedures' efficacy in improving company performance. In conclusion, future research in this domain can address data availability issues, expand the sectors studied, use diverse methodological approaches, examine corporate governance ethics, and examine managerial discretion and firm performance in an era of increased individual investments. These routes should help us comprehend the intricate link between corporate governance and business performance.

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