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Corporate board characteristics and banks valuation measures: Empirical evidence from the MENA Region

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Abstract

The research paper investigates the impact of corporate board characteristics on key value measures across 104 publicly traded MENA banks over the 2010–2024 period. Fixed Effects (EE) and the Generalized Method of Moments (GMM) are employed to test the research hypotheses. The study extends the literature by employing a multi-theoretical approach including agency, stakeholder, resource dependency, signalling, managerial entrenchment and risk-based perspectives and providing a critical analysis of the effect of board characteristics on specific value measures and drawing on two distinct banking models, conventional versus Islamic. The results provide consistent evidence that corporate board characteristics play a significant role in influencing bank value measures in the MENA region, although the strength and significance of these effects vary across the valuation measures. In particular, ownership concentration, board gender diversity, and audit committee independence all exhibit a positive relationship with valuation metrics. Duality, however, shows a negative relationship with stock returns. Interestingly, the findings reveal that corporate governance mechanisms are more closely aligned with value measures in conventional banks, whereas this alignment is less evident in Islamic banks, which tend to be affected by additional institutional and governance factors. These results offer valuable insights to banks' managers, customers, investors, and policymakers on the impact of corporate board attributes on value measures and to what extent this is driven by banking model and their financial performance determinants.

Keywords Corporate board characteristics · Bank value · Conventional banks · Islamic banks · MENA region.

JEL CLASSIFICATION G21 · G30 · G32

1 Introduction

Effective corporate governance practices are pivotal in driving and maintaining public trust and confidence in banks as they directly contribute to the proper functioning of the banking sector and the economy as a whole (John et al., 2016). Arguments are put forward that poor corporate governance can trigger bank failures, which in turn poses significant macroeconomic consequences due to the direct impact on the deposit insurance system and the broader economy (Alzayed et al., 2023; Berger et al., 2016). Besides, poor corporate governance can contribute to the loss in confidence in banks' ability to properly manage their assets and liabilities, including deposits, which might in turn trigger banks' run. Bank governance, as embodied in their board characteristics including size, structure of audit committee and other board features are found to have direct impact on price of banks' loans (Francis et al., 2012). In line with these assertions, information linked to bank corporate governance is perceived to be playing a major role in driving banks' future value and risk (Carlini et al., 2020).

The last global financial crisis, 2007-2008, has further highlighted the importance of corporate governance practices in the banking industry with the area receiving extensive attention by both researchers and policy makers (see for instance Grove et al., 2011; Peni & Vähämaa, 2012). The intuition put forward is that poor corporate governance observed in the financial sector is to blame for the crisis. In drawing their conclusions studies employed various corporate governance parameters. These include board characteristics, ownership, gender and duality (Fahlenbrach & Slutz, 2011). Another significant area learnt from the financial crisis is the role of corporate governance in driving banks' financial performance. The relationship between corporate governance and banks' performance is important as this indicates if their strategies are efficient and if governance policies are contributing to better financial results and outcomes (Becht et al., 2011; Reyad et al., 2022).

Considering the above developments and using data from the largest banks in the MENA region, this research paper aims to examine the extent to which corporate board characteristics affect the market valuation of banks. The type of banking activities and the manner in which they are managed are likely to influence valuation; therefore, studying corporate board characteristics and their effect on banks' valuation is considered insightful. Moreover, the literature exploring the association between sound corporate governance mechanisms and banks' market value presents conflicting arguments regarding this relationship, depending on the markets and data used (e.g., Caprio et al., 2007; Chahine, 2007; Yeddou, 2024), while the MENA region remains underexplored. In addition, certain elements

of board characteristics examined in this study, such as board gender diversity and audit committee independence, have not been fully researched in the context of Arab banks.

Incorporating a carefully selected control variables, including size, ROA, LLR, and GDP, further enriches the study results and their interpretation, contributing to the broader debate on banking corporate governance. Additionally, the existing literature on corporate governance mechanisms is still largely dominated by studies of conventional banks, with comparatively less attention given to Islamic banks, which operate under a distinct theoretical and business model.

Unlike conventional banks Islamic banks fully prohibit interest as it is deemed unfair, unjustifiable and result in an exploitative gain. Besides, Islamic banks prohibit excessive risk taking (*gharar*) and engaging in gambling (*maysir*). Adopting these principles alongside profit and loss sharing tenets Islamic banks are seen to be offering an alternative financial system, which is deemed more ethical and economically moral (Karbhari, Benamraoui, & Hassan, 2024). Research further show that Islamic banks play positive role in poverty alleviation, enhancing financial inclusion and contributing to sustainable development goals (SDGs) (Demirguc-Kunt, Klapper & Randall, 2013; Ben Jedidia, 2025). Studies also reveal that Islamic banks are more resilient to financial crisis and among the reasons given for their resistance is their effective governance (Asmild et al., 2019). Therefore, by comparing Islamic banks to conventional banks we aim to shed further light on the arguments put forward on Islamic banks' merits and to what extent this really results in better value for this type of banks.

Investigating different markets, using distinctive study samples, and covering various periods of time, contribute to the divergence in the results attained on the relationship between corporate governance and bank financial performance. In the context of the MENA region, a number of studies explored the impact of corporate governance on bank financial performance, but these studies do suffer from their own weaknesses (e.g. Almoneef & Samontaray, 2019; Basuony et al., 2014). First, the overwhelming majority of the studies focus solely on the GCC countries and the findings presented may not apply to the rest of the MENA region. Second, the focus on the GCC countries limits the size of the samples studied and hence the reliability of the results to the whole of the MENA region. Third, the existing studies ignore some important characteristics of bank data such as ownership (public versus private), which this paper encapsulate. Fourth, to our best of knowledge, this is the first comprehensive study to capture the different aspects of corporate board characteristics on the financial performance of an important banking segment in the MENA region, which is Islamic banks. Previous research on the MENA region has not systematically investigated how corporate governance

mechanisms driven by various board own features including board size, CEO-chairman duality, number of independent members on the board, board gender diversity, and existence of audit, risk, nomination and remuneration committees influence different aspects of financial performance and to what extent this varies by bank type (conventional versus Islamic).

The manuscript aims to fill the above gaps by analysing the effect of the corporate governance mechanisms or structures on the financial performance of MENA banks. To do so, a panel dataset containing 104 publicly traded MENA banks are studied, over the period 2010 to 2024. The board characteristics are examined using eight variables. To obtain more homogenous data sets, the sample is split into sub-samples based on banks type (public versus private) and then by business model or approach (conventional versus Islamic). This allows us to test the impact of the selected corporate governance factors on banks' financial performance, while taking into consideration the variation in banks ownership and their business ethos or objectives, with conventional being interest-based and Islamic being *Sharia* compliant.

Two variations of models are implemented to run the study regressions: Fixed Effect (FE), and GMM. Employing FE model is perceived to be effective at controlling unobserved time-invariant bank-specific heterogeneity, but due to its shortcomings, particularly on issues such as endogeneity and dynamic panel bias we have also used GMM. By employing GMM we are able to mitigate endogeneity, properly account for the specifications of the data used, deal with arbitrary patterns observed and to limit instrument proliferation (see Mollah and Zaman (2015) & Aebi et al. (2012)). To effectively test the research hypotheses, we have included the ownership structure, board characteristics and board committees' variables in each model. In addition, four selected control variables (bank size, return on assets (ROA), loan-loss-reserves (LLR) and GDP) are used in the regressions. The models constructed (see section) have been run for four key areas of banking valuation: Tobin' Q, MB, P/E, returns.

The research findings reveal that corporate board characteristics do influence bank valuation in the MENA region, although the strength and significance of these effects vary across the different valuation measures. Specifically, the results show that OWNERSHIP has a positive and statistically significant relationship with the valuation measures at the 5% level, aligning with key theories such as agency theory, stewardship theory, the monitoring hypothesis, and the charter value theorem. BIND also exhibits a positive effect on each bank valuation measure, with a stronger impact observed on MB and P/E. This finding supports the principles of managerial entrenchment theory. Similarly, FEMALE shows a positive effect on Tobin's Q supporting the growing literature calling form more female on boards (e.g. Adams & Ferreira, 2009; Gulamhussen & Santa, 2015)

Unlike recent studies, such as Awad et al. (2024), this research shows that DUALITY, has a negative and significant relationship with RETURNS. Board committee variables— AuditCommittee and RiskCommittee— instead exhibit positive relationships with banks' valuation measures, although the effect is more pronounced for the RiskCommittee. Finally, audit committee independence (AO) appears to have a relatively limited influence on banks' valuation measures. These results imply that the role of committees is more important than their independence in driving the bank market value.

Splitting the sample between conventional and Islamic banks reveal that corporate board characteristics have more influence on market value measures in conventional banks than Islamic banks suggesting that complexity of the governance environment to which Islamic are exposed to have negative effect on their market valuation. This is particularly observed in OWNERSHIP and BIND with less significant relationship found in Islamic banks. Gender diversity (FEMALE) is the only factor showing a consistent positive association with value measures for both banking models, although the coefficients values are somewhat lower for Islamic banks. The role of board committees also exhibits divergence between the two banking models. In conventional banks, audit and risk committees are positively correlated with bank valuation, especially in terms of Tobin's Q and P/E. In Islamic banks, however, the audit committee is significant only for the P/E, while the risk committee does not exhibit any statistically significant effect. This finding implies that in Islamic banks monitoring and risk management mechanisms may be set within broader governance frameworks, which extend beyond formal committee structures. DUALITY, in contrast, exhibits a negative association with stock returns in both banking models, denoting that the decision-making concentration is likely to diminish governance effectiveness and affect shareholder value negatively. Finally, the results for the control variables are mostly consistent across the two banking models with ROA exhibiting a strong and positive relationship with banks valuation measures, especially for Tobin's Q and P/E. SIZE also maintains a positive and significant effect on Tobin's Q signifying the role of economies of scale and market power in steering bank value. Instead, LLR continues to show a negative effect, highlighting the detrimental impact of deteriorating asset quality on bank valuation.

The rest of the paper is organised as follows. Next section sheds light on the study relevant literature and identifies relevant gaps. This is followed by a section discussing the research hypotheses. The research methodology and variables used are explained in section 4. In section 5 we discuss the study data. The empirical results and their analyses are presented in section 6. The last section concludes the paper and presents study policy implications.

2 Literature review

This section presents a critical review of the extant literature investigating the effect of corporate governance on banks' financial performance. The literature is examined according to four clusters of research: (1) papers which explore the area using global data; (2) papers which investigate banks in developed countries; (3) studies that are based on developing and emerging markets only; and (4) studies that focused on the MENA region. This approach is employed as corporate governance frameworks and mechanisms tend to differ across countries and regions leading to variations on the impact of corporate governance determinants or drivers on bank financial performance and outcomes. We also devote a sub-section to analyse extant literature on corporate governance in the context of Islamic banks due to their unique business model.

2.1 Research evidence from studies employing global data

Rooted in agency theory, the corporate governance framework is viewed to mitigate conflicts of interest between managers and shareholders, reducing information asymmetry, and contributing to an enhanced firm value (Jensen & Meckling, 1976). Empirical evidence across countries and industries largely supports the notion that well-governed firms tend to enjoy higher market valuation, improved access to external finance, and lower cost of capital (La Porta et al., 2000; Love, 2010). However, the strength and direction of this relationship are highly contingent on institutional, legal, and regulatory environments.

Banks represent a special case within this literature. Unlike non-financial firms, banks operate with high leverage, opaque assets, high regulatory environment and implicit or explicit government guarantees. These features intensify agency problems and complicate governance mechanisms, as bank managers may have incentives to engage in excessive risk-taking that is not fully priced by shareholders or creditors (de Haan & Vlahu, 2016). Therefore, corporate governance in banks is increasingly viewed as a key determinant of financial performance and stability, reflecting investors' perceptions of risk management quality and long-term sustainability in these institutions. Moreover, effective corporate governance in the banking sector, is perceived as vital for the stability of the whole financial system and the prevention of financial crises (Komath et al., 2023).

Among early studies exploring corporate governance and bank financial performance employing cross-country analyses is Caprio et al. (2007), providing detailed examination linking governance arrangements to bank market value. Using Tobin's Q as a valuation

measure, they demonstrate that stronger shareholder protection and governance frameworks are associated with higher bank valuation, particularly in countries with effective legal enforcement. Crucially, their findings highlight that country-level governance and legal institutions often dominate firm-level governance mechanisms in explaining valuation and performance differences across banks, a conclusion highly relevant for MENA or Arab economies.

Subsequent studies extend this valuation-based approach by focusing on how governance affects banks' capitalisation, risk-taking, and strategic behaviour, all of which are priced and evaluated using market mechanisms. For example, Anginer et al. (2016) demonstrate that better-governed banks tend to adopt stronger capitalisation strategies, holding higher and more stable capital buffers. Because capitalisation directly affects default risk and expected losses, this channel provides an indirect but powerful mechanism through which governance influences bank valuation and performance. Their findings suggest that markets reward governance structures that constrain excessive risk-taking and promote financial resilience.

A growing number of studies focused exclusively on the effect brought by diverse boards on specific areas including bargaining and consensus (Baranchuk & Dybvig, 2009), deadlocks in strategic decisions (Donaldson et al., 2020), shareholder voting (Gow et al., 2023), corporate policies and risks (Bernile et al., 2018), and managerial ability (Baghdadi et al., 2023). The studies also explored board heterogeneity, information pooling and bank failures (e.g. Donaldson et al., 2020; Berger et al., 2016). The research findings all point into the significant effect of board diversity on these subject areas although the extent of the impact does vary based on the models adopted and period under consideration.

2.2 Research evidence from developed economies

Empirical studies focusing on developed economies provide substantial research evidence supporting the view that corporate governance characteristics are priced by markets and do influence bank financial performance. Research on the US and Western Europe shows that board structure, executive compensation, ownership dispersion, and risk governance play significant roles in driving market-based valuation indicators, such as Tobin's Q and stock returns (Adams & Mehran, 2012; Erkens et al., 2012). Extending this line of inquiry to US investment banks Mamatzakis & Bermpei (2015) reveal that corporate governance significantly affects performance outcomes, particularly during periods of heightened financial stress. Their results suggest that governance quality becomes especially relevant when market

discipline intensifies, supporting the argument that governance structures influence valuation and performance not only in normal times but also during crises.

Board characteristics have received special attention in exploring the extent to which governance impacts financial performance in banks. Smaller and more independent boards are often associated with better monitoring and higher financial performance in normal times, although their effectiveness may diminish during financial crises when rapid decision-making and industry expertise become more critical (Adams, 2012). de Andres & Vallelado (2008) provide evidence that board effectiveness in banks exhibits a non-linear relationship with performance, arguing that excessively large independent boards may impair decision-making in complex banking environments. Their findings suggest that optimal board composition, rather than maximal independence, is critical for enhancing bank value and performance. Pathan (2009) and Pathan & Faff (2013) further deepen this analysis by explicitly linking board strength and CEO power to bank risk-taking. They find that strong, independent boards are associated with lower risk-taking, while greater CEO power increases risk exposure. Because bank performance reflects investors own assessment of both expected returns and downside risk, these studies imply that governance structures affecting managerial discretion are likely to be capitalised into market values.

Complementary research evidence from the UK financial sector is provided by Akbar et al. (2017), who document that board characteristics significantly influence bank risk-taking behaviour. Their findings reinforce the view that governance mechanisms shape banks' risk profiles, which in turn affect financial performance through market perceptions of stability and long-term sustainability.

Similarly, ownership structure emerges as an important factor in driving banks financial performance. Dispersed ownership combined with strong legal protection is perceived to be allowing governance mechanisms to function effectively, while concentrated ownership can sometimes lead to entrenchment and lower valuation if controlling shareholders extract private benefits (La Porta et al., 2000). On same note, bank risk profile is linked to performance with political influence identified as a key factor driving the risk behaviours of saving banks in Spain, for example (Illueca et al., 2014). This research shows that government ownership and governance structures influence banks risk taking, which ultimately impact their performance outcomes.

Generally, the literature on developed economies suggests that corporate governance contributes positively to bank financial performance, but its effects are highly sensitive to market discipline and regulatory frameworks. In an intuitive study by Braggion & Giannetti

(2019) they demonstrate that markets are sensitive to governance arrangements that weaken shareholder rights, a factor that carries important implications for bank financial performance in regions characterised by concentrated ownership.

2.3 Research evidence from developing and emerging economies

In developing and emerging economies, the relationship between corporate governance and bank financial performance is more complex and context-dependent. Weak legal enforcement, concentrated ownership structures, and political interference often limit the effectiveness of conventional governance mechanisms (Claessens & Yurtoglu, 2013). Empirical studies across Asia, Africa, and Latin America indicate that improvements in corporate governance are associated with higher firm and bank financial performance primarily when supported by strong institutional quality and investor protection (Love, 2010).

Evidence from emerging economies further highlights the importance of institutional context. For instance, Liang et al. (2013) study Chinese banks and find that board characteristics significantly affect bank performance, though the direction and magnitude of these effects differ from those observed in developed markets. Their results suggest that governance mechanisms function differently under state influence, concentrated ownership, and evolving regulatory frameworks. These findings reinforce the assertion proposed by Caprio et al. (2007) that governance and financial-performance relationships are highly contingent on institutional quality**.**

Ownership concentration plays a dominant role as family-owned, public, or politically connected banks often exhibit governance structures that diverge from international best practices. While large shareholders may enhance monitoring, they may also pursue private benefits at the expense of minority shareholders, which negatively affects market valuation and performance of banks (Claessens et al., 2002). As a result, governance reforms in emerging markets tend to yield valuation and performance gains only when they effectively constrain controlling shareholders and enhance transparency.

Studies focusing on developing economies banks further highlight the importance of disclosure quality, audit committees, and risk governance frameworks (Manta et al., 2020). Investors appear to reward banks that signal stronger internal controls and transparency, particularly in environments characterised by high uncertainty and macroeconomic volatility. These findings are especially relevant for the Arab region, where banking sector often dominate the national financial system and capital markets remain relatively shallow.

2.4 Research evidence from the MENA region

The literature on corporate governance in MENA banks has expanded significantly in recent years, reflecting increased interest in financial sector reform, liberalisation, privatisation, and market development. Empirical studies using panel data methods generally find that governance mechanisms such as board size, gender diversity, audit committees, and ownership structure have significant implications for bank performance and valuation, although results are not always uniform across countries (Farag & Mallin, 2017; Belkhir, 2009). Likewise, board governance mechanisms in the form of board independence, foreign directorship, level of education, meetings held, and size of board all have a positive effect on banks' liquidity creation in the GCC region (Mousa et al., 2023).

Another finding in the MENA context is the limited or insignificant impact of board independence on bank valuation and performance. This result is often attributed to the formal rather than substantive independence of board members, as well as to the concentrated ownership and state influence, which are viewed to be weakening board effectiveness (Farag et al., 2018). In contrast, governance mechanisms that directly enhance transparency and risk oversight, such as audit committees and disclosure quality, are found to have positive consistent correlation with higher market valuation and performance for the MENA banks (Farag & Mallin, 2017).

Ownership structure is particularly critical in the MENA region. High levels of state ownership and family control can dampen the positive performance effects of governance reforms, while foreign ownership is often associated with improved governance practices and higher financial performance, reflecting better monitoring and alignment with international standards (Farag et al., 2018).

Recent MENA based studies examined the relationship between banks' board features and their stock performance (e.g. Awad et al., 2024). Among board characteristics used are board size, board independence, number of board meetings and CEO duality. Stock performance is measured by share price and market-to-book ratio. The findings reveal a positive impact of board independence on stock performance, while board size generates a negative effect. CEO duality and number of meetings both have no significant effect on the stock performance of MENA banks.

Taking a holistic view of the above literature, we can establish three main conclusions. First, corporate governance influences bank financial performance both directly, through investor perceptions of shareholder protection, and indirectly, through its effects on risk-taking,

capitalisation, and monitoring. Second, board structure and CEO power are central mechanisms shaping banks' strategic behaviour, but their optimal design depends on institutional context. Third, governance norms and ownership arrangements play a crucial role in determining whether governance reforms translate into higher financial performance. For the Arab region, the research that commonly emphasise on governance mechanisms as a tool to enhance banks' financial performance may not automatically apply to the region unless supported by effective enforcement and genuine reductions in agency problems. Instead, governance arrangements that strengthen risk oversight, limit managerial discretion, and improve capitalisation strategies are more likely to be reflected in bank market value and their financial performance.

2.5 Research evidence based on Islamic banks

A number of studies investigated the relationship between Islamic banks' corporate governance and their value – although these studies remain far smaller compared to those that focus on conventional banks. For instance, a corporate governance index for Islamic banks was created by Abdel-Baki & Sciabolazza (2014) and their results show a positive and significant correlation between the index and Tobin's Q, while the relationship turns to be negative and significant when using P/E ratio. A study carried out by Cahyaningtyas et al. (2017) using Good Corporate Governance (GCG) indicator for the period 2011 to 2013 on a sample of 24 banks in Indonesia exhibit a positive association between GCG scores and banks' Tobin Q.

Among the areas explored by scholars when analysing the relationship between corporate governance mechanisms and market value of Islamic banks are duality, percentage of non-executive directors and size of Sharia board (e.g. Nawaz, 2017). This research indicate that size of board of directors and CEO duality are positively associated with banks' Tobin's Q. Conversely, the percentage of non-executive directors is found to be of limited effect on banks' market value. However, the size of the Sharia supervisory board is negatively associated with banks' Tobin's Q, which support the notion that market does not favour larger Sharia supervisory boards. While dual CEOs plays an active role at limiting risk exposure which ultimately enhances banks value.

Studies also explored the differences between conventional and Islamic banks in terms of Sharia supervisory boards, board structure, and CEO-power role and effect on performance (e.g. Mollah & Zaman, 2015). This stream of research reveal that board size has negative, although insignificant, impact on Tobin's Q for both Islamic and conventional banks. While board independence is found to be positively and significantly associated with conventional banks' Tobin's Q, but not for Islamic banks as they exhibit insignificant correlation with the

market measure. Duality is negatively correlated with bank market value for both types of banks, but only shows significant sign in case of conventional banks. Finally, Islamic bank Sharia supervisory boards is found to play a key role at driving performance while board structure and CEO power both play a significant role at influencing banks' performance as well as value.

3 Arab banking system overviews

The Arab banking sector constitutes the backbone of Arab economies and represents one of the largest and most systemically important regional banking systems among emerging markets. Reflecting its central economic role, Arab financial systems remain predominantly bank-based, with banks acting as the primary channel for mobilising savings and financing investments (Beck et al., 2007; IMF, 2023). According to data from the Union of Arab Banks, aggregate assets of Arab banking sectors reached approximately USD 5.5 trillion by the end of 2025, a yearly growth rate of 11%, from 2024. This followed a robust asset growth of 8.7% and 8% in 2024 and 2023 respectively (UAB, 2025). These remarkable rates underscore the resilience and adaptive capacity of Arab banks, despite global monetary tightening and heightened geopolitical uncertainty. Over the same period, total bank credit reached approximately USD 3.3 trillion, signifying the central role of banks in supporting economic activity across the Arab region.

The depth of Arab banking systems is further reflected in the size of banking assets relative to economic output. At the end-2024, banking sector assets were equivalent to around 143% of aggregate GDP, up from 133% registered in 2023 (UAB, 2025). In several Arab countries, banking assets significantly exceed domestic GDP, reflecting both high financial depth and the role of banks in economic activities. For instance, banking assets exceed 500% of GDP in Bahrain and surpass GDP in countries such as the UAE, Qatar, Kuwait, Jordan, and Morocco. While such depth can enhance economic financing capacity, it also amplifies systemic risk and heightens the importance of effective corporate governance, as any governance failures in large banks may pose economy-wide repercussions (Caprio et al., 2007).

A defining feature of Arab banking system is the high degree of market concentration and ownership concentration. Sector assets are dominated by a relatively small number of large banks, particularly in Gulf Cooperation Council (GCC) countries, where scale, market power, and regulatory protection contribute to persistent concentration (Neaime & Gaysset, 2018). The UAE and Saudi Arabia alone account for nearly half of total Arab banking assets, with assets of approximately USD 1.45 trillion and USD 1.32 trillion, respectively, followed by Qatar,

Egypt, and Kuwait (UAB, 2025). Ownership structures are typically characterised by the presence of blockholders, including families, business conglomerates, sovereign wealth funds, and government-related entities. The concentrated ownership may alleviate classic manager-shareholder agency problems through closer monitoring. However, it does raise concerns related to principal-principal conflicts, minority shareholder expropriation, and the extraction of private benefits, particularly in environments with weaker investors protection (La Porta et al., 1999; Claessens et al., 2000). These issues are directly relevant for understanding the dynamics of bank valuation and performance in the Arab context.

State involvement represents another salient facet of the Arab banking sector. Governments maintain direct or indirect ownership stakes in many systemically important banks and exert influence through board appointments, lending/investment priorities, and regulatory discretion. This phenomenon is particularly pronounced in oil-exporting economies, where banks play a strategic role in channelling hydrocarbon revenues toward public investment and economic diversification initiatives, while in oil-importing countries banks frequently serve as key financiers of fiscal deficits and development projects (Cull et al., 2018). Although state ownership may enhance stability by providing implicit guarantees during periods of stress or crisis, it can also weaken market discipline, distort credit allocation, and blur accountability mechanisms, resulting in ambiguous implications for bank performance and valuation (IMF, 2021).

Managerial culture and corporate governance practices in Arab banks are shaped by relationship-based business norms, hierarchical organisational structures, and relatively limited contestability and accountability for top managerial positions. Board composition often reflects ownership structures, with controlling shareholders exerting substantial influence over strategic decision-making. While regulatory reforms over the past decade – driven by Basel II and III implementation and strengthened supervisory frameworks – have improved transparency, risk management, and disclosure standards, significant heterogeneity persists across Arab countries in terms of board independence, audit committee effectiveness, and enforcement of governance codes (OECD, 2019; Tauseef & Lakhani 2025). Empirical evidence from the region suggests that formal adoption of governance structures does not always translate into effective oversight, due to impediments brought by concentrated ownership and weak enforcement (Arouri et al., 2014).

Another distinctive characteristic of the Arab banking landscape is the prominent role of Islamic banking. Several Arab countries host some of the world's largest Islamic banks, and Islamic financial institutions account for a substantial share of total banking assets in markets

such as Saudi Arabia, the UAE, Kuwait, Qatar, and Bahrain. Islamic banks operate under *Shariah*-compliant principles and are subject to a dual governance framework, whereby *Shariah* supervisory boards coexist alongside the regular boards of directors (Grais & Pellegrini, 2006). While this additional governance layer may strengthen ethical oversight, risk-sharing principles, and stakeholder confidence, it may also introduce coordination challenges, overlapping authority, and slower decision-making processes, with potential mixed effects on operational efficiency and bank performance outcomes (Mollah & Zaman, 2015; Hasan & Dridi, 2011).

Over the past two decades, Arab banks' governance frameworks have undergone substantial development, driven by financial sector reforms, liberalisation, regulatory modernisation, and increasing integration with global financial markets. Central banks and supervisory authorities across the region have progressively introduced governance codes, to strengthen fit-and-proper criteria for board members and senior management, and to enhance requirements related to risk governance, internal controls, and disclosure (BCBS, 2015; BCBS, 2017). In addition, several Arab countries have issued special corporate governance guidelines for banks, mandating the establishment of audit, risk, and compliance committees and promoting a clearer separation between executive and non-executive functions. However, the pace and depth of implementation remain uneven, reflecting differences in countries' legal systems, institutional capacity, and enforcement quality.

As a whole, the Arab banking industry is mainly characterised by banks dominance of the credit function, concentrated ownership, significant state and sovereign influence, relationship-oriented managerial culture, and the coexistence of conventional and Islamic banking models. These structural features suggest that the relationship between corporate governance and bank financial performance in the Arab region may differ fundamentally from the one observed in advanced economies, known by their dispersed ownership and market-based financial systems (Caprio et al., 2007). Accounting for these regional specificities is therefore essential to have a deeper understanding on how governance mechanisms essentially impact bank financial performance outcomes in the Arab regional context.

4 Study theoretical framework

The relationship between corporate governance and bank financial performance is grounded on several complementary theoretical frameworks linking governance mechanisms into managerial behaviours, risk-taking attitudes, and market perceptions. These frameworks provide the conceptual foundation for interpreting empirical evidence and they are of particular

relevance in the context of banking, where informational asymmetries and externalities are highly pronounced.

The Agency Theory (Jensen & Meckling, 1976) remains to large extent the dominant framework in governance research. It posits that conflicts of interest arise from the separation of ownership and control, leading managers to pursue private benefits at the expense of those who provide capital, the shareholders. In banks, agency problems are intensified by complex organisational structures, opacity, and moral hazard stemming from deposit insurance and implicit government guarantees (Macey & O'Hara, 2003). Effective governance mechanisms, brought through independent boards, audit committees, and concentrated ownership are therefore expected to reduce agency costs, restraining opportunistic behaviour, and enhancing bank financial performance.

Supplementing this perspective, the Stakeholder Theory (Freeman, 1984) argues that governance should balance the interests of a broad set of stakeholders, including depositors, creditors, regulators, employees, and society at large. Because banking failures impose substantial social costs, governance structures that emphasise prudence, accountability, and long-term stability may enhance financial performance by reducing banks' default risk and strengthening their institutional trust (Allen et al., 2015).

In contrast, the Stewardship Theory (Davis et al., 1997) challenges the assumption of managerial opportunism, suggesting that managers may act as stewards whose objectives align with those of the owners (shareholders). From this viewpoint, governance arrangements that promote trust, leadership continuity, and managerial discretion – such as CEO duality or insider-dominated boards – may improve strategic efficiency and long-term value creation. This theory is often invoked to explain why certain governance practices do not necessarily reduce financial performance in relationship-based or family-controlled banking systems.

The Resource Dependence Theory (Pfeffer & Salancik, 1978) conceptualises boards as providers of critical resources rather than merely provide monitoring. Board size, expertise, diversity, and external connections are deemed to enhance access to capital, regulatory legitimacy, and strategic advice, thereby improving bank financial performance (Hillman & Dalziel, 2003). These factors are particularly important in emerging markets, where institutional voids heighten reliance on internal governance mechanisms.

Another stream of research uses the Signalling Theory (Spence, 1973) and the Institutional Theory (North, 1990; DiMaggio & Powell, 1983) to explain how governance structures influence financial performance through market perceptions and institutional context. Their assertion is strong governance practices can signal quality and credibility,

reducing information asymmetry and the cost of capital, while institutional environments shape the effectiveness and performance impact of these mechanisms. In the MENA or Arab region, where governance practices and institutional quality vary widely, employing these theoretical perspectives are essential to understand cross-country differences in terms of the actual factors driving banks' financial performance outcomes.

The literature on corporate governance and financial performance has traditionally been dominated by agency theory, which predicts a positive association between strong governance mechanisms and firm value (Jensen & Meckling, 1976; Shleifer & Vishny, 1997). In the context of banking industry, empirical studies show that effective boards and ownership structures mitigate excessive risk-taking and enhance market valuation, particularly during periods of financial stress (Adams, 2012; Erkens et al., 2012). However, the presence of regulatory oversight and safety nets may dilute this relationship, as they may weaken market discipline and alter managerial incentives.

Stakeholder-oriented studies instead emphasise that banks with governance structures, which directly promote prudence and accountability are valued more highly by markets due to lower default risk and greater resilience (Laeven & Valencia, 2018). These findings support the view that financial performance reflects not only profitability expectations but also risk perceptions and institutional trust.

Empirical evidence from studies employing resource dependency theory suggests that board size, financial expertise, and diversity can enhance financial performance by improving advisory capacity and access to external resources (Hillman & Dalziel, 2003; Adams & Ferreira, 2009). However, excessively large boards may suffer from coordination problems, leading to weaker monitoring and valuation discounts, resulting in a non-linear relationship between board characteristics and banks' financial performance indicators.

Institutional theory is adopted to provide further insights on why governance and financial performance relationships vary across countries. The theory is used to posit that in weak institutional environments, internal governance mechanisms may substitute for external investor protection, resulting in stronger valuation and performance effects (Claessens & Yurtoglu, 2013). Conversely, in countries with strong legal systems, the marginal contribution of internal governance to financial performance may be smaller.

In the context of this research we employ six pertinent theories to test the relationship between governance indicators/drivers and bank financial performance in the Arab region: (1) agency theory; (2) political economy & institutional theory; (3) stakeholder theory; (4) managerial entrenchment theory; (5) resource dependency theory; and (6) risk-taking theory.

As discussed above these theories are adopted in major studies exploring corporate governance mechanisms (e.g. Jensen & Meckling, 1976; Pfeffer & Slancik, 1978; Di Maggio & Powell, 1980; Freeman, 1984; Shleifer & Vishny, 1997) and they are deemed relevant at answering the study research questions. The table 1 below shows how the theories relate to each of the research hypotheses and why they are perceived to be appropriate in the context of this study.

Research Hypotheses and Research Study Theories Nexus

Research Hypothesis	**Theory(s) Justifications**
Bank financial performance is negatively correlated with state ownership **(Hypothesis 1 – H1)**	H1 is linked to agency, political economy & institutional theorem which stipulates that principal-agent relationship, legal systems, political environment and institutional quality drive the corporate board effectiveness and ultimately impact bank financial performance due to the direct effect they have on monitoring, credit allocation and other distortions they cause to the financial/banking system.
Bank financial performance is negatively correlated with ownership concentration **(Hypothesis 2 – H2)**	H2 is connected to the agency and stakeholder theorem which argues that concentrated ownership is likely to impact principal-agent relationship and that boards are expected to address the interest of different stakeholders and not only those of the shareholders and bank performance and value are linked to the extent to which boards serve the interest of wider stakeholder groups.
Bank financial performance is positively/negatively correlated with board characteristics **(Hypothesis – H3)**	H3 is linked to resource dependency theory, managerial entrenchment theory, and risk-based theory. Resource-rich or large boards are expected to enhance bank performance due to their ability to navigate regulation, enhance capital access, better manoeuvre uncertainties, improve competitiveness and strategic aptitude of the firm. In contrast, CEO-chairman duality may result in increased entrenchment leading to negative accountability and governance and ultimately causing bank performance to decline. Similarly, and in line with the managerial entrenchment theory having less independent board members can result in weak boards due to reduced accountability and poorer governance contributing to a decrease in bank value and performance. While the resource dependency and risk-taking theories infer that having diverse boards would result in an improved strategic capability and better decision making contributing to an enhanced bank value and performance. This is because women bring additional qualities to the board including better risk management and effective use of corporate resources. Likewise, the two theories imply that having audit, risk, nominations and remuneration committees would result in an enhanced resource allocation and better governance leading to improved performance and value in banks.
Bank financial performance is associated with bank type, conventional versus Islamic **(Hypothesis – H4)**	H4 is associated with the risk-based theory as conventional banks are perceived overall to be taking more risk than Islamic banks - adopting profit and loss sharing principles reduces Islamic banks risk profile - and this expects to contribute to an effect on banks' financial performance.

Employing mixed theoretical approach enables to have a holistic view of the key principles and concepts that underpin the research study and to have a deeper understanding of the various relationships identified between bank financial performance indicators and board characteristics in addition to capturing the effect of bank ownership and type. Supporting this notion previous studies (e.g. Adams and Mehran, 2012) assert that the theories supporting the selection of the most significant governance characteristics are lacking and therefore they opted for ad-hoc selection approach for the variables used as a proxy for the governance aspects of the firm.

5 Research hypotheses

On the whole, the review of the extant literature on corporate governance and bank value (see previous section) reveals seven key aspects of governance that affect bank financial performance, either positively or negatively: (1) state ownership (i.e. Trabelsi, 2010; Chahine, 2007); (2) ownership concentration (Al-Sahafi et al., 2015; Aebi et al., 2012); (3) board of directors' size (Almoneef & Samontaray, 2019; Basuony et al., 2014; Adams & Mehran, 2012; de Andres & Vallelado, 2008); (4) duality (Garcia-Meca et al., 2015; Aebi, Sabato & Schmid, 2012); (5) independent directors' representation on the board (Basuony et al., 2014; de Andres & Vallelado, 2008); (6) board gender diversity (Arnaboldi et al., 2020; Handorf, 2018; Belhaj & Mateus, 2016); and (7) existence of committees in charge of audit, risk and remuneration (Caprio et al., 2007). Below we elaborate on each element and develop the relevant research hypotheses.

First, state ownership in banks can lead to inefficiencies and reduced performance, which negatively impacts bank financial performance. According to political economy theorem government-controlled banks often face political interference, prioritizing social and political goals over financial performance and efficiency. This political interference can result in suboptimal lending practices, such as extending loans to politically connected but financially unsound projects or firms. Additionally, state-owned banks may lack the competitive pressure and incentive structures that usually drive private banks to improve performance and innovate.

Studies by Trabelsi (2010) and Chahine (2007) support the notion that state ownership is associated with poorer financial outcomes. These studies highlight that banks under state ownership typically experience decreased profitability, lower operational efficiency, and reduced market valuation compared to their privately-owned counterparts. This body of evidence indicates a negative correlation between state ownership and bank value, suggesting

that increased government control can be detrimental to the financial health and market performance of banks. As a result, we posit the following research hypothesis:

*Bank value is negatively correlated with state ownership (**Hypothesis 1 – H1**)*

Second, high ownership concentration can have detrimental effects on bank value due to the entrenchment of controlling shareholders. These shareholders may prioritize personal benefits over the interests of minority shareholders, leading to agency problems and suboptimal decision-making that ultimately harm the bank's performance. Research by Al-Sahafi et al. (2015) and Aebi et al. (2012) suggests that concentrated ownership often results in less effective governance and oversight. Dominant shareholders may further resist necessary changes that could enhance bank value, contributing to governance issues. This resistance to change can stifle innovation and prevent the implementation of best practices that are critical for maintaining competitiveness and performance in the banking sector.

Furthermore, the lack of diversified input from a broader range of stakeholders can limit strategic perspectives and contribute to self-serving behaviour by major shareholders. The self-serving behaviour can manifest in various ways, such as the misallocation of resources, favouritism in corporate policies, and reluctance to undertake beneficial reforms. These factors collectively contribute to the negative relationship between ownership concentration and bank financial performance, underscoring the importance of balanced and diversified ownership structures for optimal bank performance. This leads us to argue that:

*Bank financial performance is negatively correlated with ownership concentration (**Hypothesis 2 – H2**).*

Third, board characteristics are likely to impact banks' financial performance. To start with, a larger board size brings a diversity of perspectives and expertise, which can enhance decision-making and oversight, ultimately boosting bank performance. With a more extensive pool of knowledge and skills, larger boards can better distribute the workload, allowing for more thorough monitoring and strategic planning.

Research by Adams and Mehran (2012) and de Andres and Vallelado (2008) supports this assertion, finding that banks with larger boards tend to perform better due to improved governance. These studies further indicate that larger boards are more capable of effective supervision, strategic input, and robust decision-making processes. The ability to draw on a wider array of knowledge and skills contributes to more comprehensive oversight and better

strategic decisions, aligning with the view that larger board sizes positively impact bank financial performance.

The increased capacity for effective supervision provided by a larger board ensures that various aspects of the bank's operations are adequately monitored. This can lead to the implementation of more sophisticated and innovative strategies, ultimately enhancing the bank's performance and market value. Therefore, the positive correlation between corporate board size and bank financial performance suggests that having a larger board can be beneficial for the overall governance and success of a bank.

Moreover, the combination of the CEO and chairman roles can undermine the board's ability to effectively oversee management, leading to weaker governance and potentially harming bank financial performance. This duality can concentrate too much power in a single individual, reducing the checks and balances necessary for sound decision-making. Research by Garcia-Meca et al. (2015) and Aebi et al. (2012) reveals that separating these roles tends to enhance governance by ensuring independent oversight. The separation supports better financial performance and higher bank value by promoting accountability and preventing conflicts of interest. When the roles are combined, it can lead to a lack of independent scrutiny and an environment where the CEO's actions are not adequately monitored, which can result in suboptimal strategic decisions and governance failures.

The independence provided by having separate CEO and chairman roles encourages a more balanced distribution of power and a broader perspective in the decision-making process. This structure allows the board to more effectively challenge and guide management, fostering a governance environment that aligns with the best interests of shareholders and enhances overall bank performance. Thus, the negative correlation between CEO-chairman duality and bank value underscores the importance of maintaining distinct leadership roles to support robust governance and financial success.

Research further shows that whilst independent directors can be critical in creating better governance, having an excessive proportion of independent board members can potentially lead to a lack of cohesion and understanding of the bank's operations. Basuony et al. (2014) and de Andres and Vallelado (2008) suggest that too many independent directors might not be as effective if they lack the necessary industry-specific knowledge and experience. This lack of specialized knowledge can result in weaker strategic guidance and oversight, thereby negatively impacting bank financial performance.

Independent directors are deemed essential for ensuring objectivity and reducing conflicts of interest; however, their effectiveness diminishes if they are not well-versed in the

intricacies of the banking industry. An overemphasis on independence can lead to a board that is disconnected from the practical realities of the bank's operations and market environment. This disconnection can hinder the board's ability to make informed decisions, provide meaningful strategic input, and effectively monitor management.

A board with too many independent directors may struggle with internal cohesion and efficient communication, which are crucial for dynamic and responsive governance. The balance between independence and industry expertise is crucial for maintaining a board that can contribute positively to bank financial performance. Therefore, while independence is important, ensuring that the board also has a sufficient number of directors with relevant industry experience is vital for optimal performance and governance.

Similarly, board gender diversity is deemed to influence bank financial performance with banks having diverse boards perceived to be better equipped to understand and respond to a wide range of stakeholder needs, leading to more balanced and effective decision-making. Studies by Arnaboldi et al. (2020) and Belhaj & Mateus (2016) highlight that gender-diverse boards tend to foster a more inclusive culture, enhance corporate reputation, and improve risk management practices (see also Gulamhussen & Santa, 2015).

The different perspectives brought by a gender-diverse board contribute to more innovative solutions and a comprehensive approach to governance. Gender diversity can be a factor leading into richer discussions and a broader range of ideas, which can enhance the board's ability to address complex issues and make well-rounded decisions. This inclusivity and variety in viewpoints help in identifying and mitigating risks more effectively, thus improving the overall governance framework.

Gender-diverse boards can better reflect the diverse customer base and broader society, improving the bank's public image and stakeholder relations. This positive perception can translate into greater customer loyalty and attract top talent, further contributing to the bank's success. Therefore, the positive correlation between board gender diversity and bank financial performance underscores the importance of fostering diversity within the boardroom to drive better governance and enhance bank financial performance.

Another board characteristic that can drive bank financial performance is the presence of specialized committees such as those for audit, risk, nomination, and remuneration. These committees strengthen governance frameworks, leading to better risk management, transparent practices, and strategic human resource management, all of which positively impact bank value. These specialized committees play a critical role in ensuring rigorous oversight and control mechanisms. For instance, the audit committee enhances financial transparency and

accuracy, while the risk committee is pivotal in identifying, assessing, and managing risks effectively. The nomination committee ensures that board members and executives possess the necessary skills and experience, promoting strategic leadership. Meanwhile, the remuneration committee aligns management incentives with shareholder interests, fostering a performance-driven culture.

For example, Caprio et al. (2007) show that these committees are instrumental in implementing robust governance practices, which mitigate risks and promote accountability. By fostering a culture of rigorous oversight and enhancing operational efficiency, these committees help to safeguard the bank's assets and reputation. The existence of these committees ensures that the bank's governance framework is comprehensive and effective, leading to improved decision-making and strategic planning and also to more investments in R&D and innovation (see also Phan & Yu, 2022).

Therefore, the positive correlation between the existence of audit, risk, nomination, and remuneration committees and bank value underscores the importance of specialized governance structures in supporting higher bank performance and value. The above assertions lead us to posit that:

Bank financial performance is positively/negatively correlated with the board characteristics – ***Hypothesis 3 (H3)****.*

The variation existing between Islamic and conventional banks in terms of their governance structure, the way they operate and strategic focus is likely to impact their value. Islamic banks governance structure includes an independent advisory and supervisory body formulated by Sharia board members (Karbhari, Benamraoui, & Hassan, 2024). The body ensures that bank operations, products and contracts are adhering to Sharia rulings, prevents involving in prohibited activities, reviews and approves financial products, issues fatwas (religious rulings) and provides guidance on the structuring of products so they are aligned with the Islamic law and ethics. Sharia audit within Islamic banks board oversees sharia compliance, periodically reviews operations and transactions and produces annual Sharia compliance reports included in the banks' annual reports. Besides, Islamic banks operate in a restrictive portfolio of products and they are mostly smaller in size impacting their ownership concentration when compared to conventional banks. Moreover, the PLS strategic focus of Islamic banks is expected to impact their financial performance and ultimately their market value. This leads us to posit our final research hypothesis as:

Bank value is associated with bank type, conventional versus Islamic - ***Hypothesis 4 (H4)****.*

6 Methodology and variables specifications

6.1 Banks valuation measures

The accounting treatment of bank activities differs considerably from other non-financial firms affecting the measurement of their assets and liabilities (Bogdanova et al. 2018). Bank assets are predominantly in the form of financial instruments with well-defined cash flows - the majority of these assets (e.g. loans and investments) are reported at amortised cost. Besides, banks' assets are subject to additional risks, which result in the likelihood of incurring large losses. As such, banks have the discretion to set loan loss provisions and to report the estimated credit losses as allowance reducing the value of their loan portfolio and their reported earnings. The depressed price-to-book ratios is another element experienced in banks as they follow different accounting rules in the reporting of their book values while managers of the banks have the tendency to prefer more capital to be able to absorb any potential losses (Bogdanova et al., 2018). In light of this bank specific reporting approach, combining book- and market-based valuation measures is deemed to provide better view of the bank's state of financial affairs and position. As a result, in this study four variables are used to account for bank(s) value: Tobin's Q, Market-to-book ratio, Price-earnings ratio, and stock returns.

6.2 Model specification

The data used in this paper are two-dimensional, where variables vary across time ($t=1, 2,...,T$) and individual banks ($i=1,2,...,N$). To empirically assess the nature and strength of the relationship between bank value indicator and the set of corporate governance measures, we employ panel data methods, a suitable approach for such data. However, there is no consensus in the literature regarding a common modelling strategy for handling similar data. Generally, two variations of models are implemented: Fixed Effect, and GMM.

To properly address heterogeneity, in this study we first employ Fixed Effects (FE) model. The FE model is commonly used in the literature to accommodate heterogeneity (see Oikonomou et al., 2012; Salama et al., 2011). It allows each individual in the data to have its own intercept, capturing unit fixed effects that arise from differences across sections or time-independent factors. It is worth noting that the FE model can include time fixed effects, capturing characteristics, especially unobserved ones, that are common to all units but vary across time. This, however, does not fall into the scope of this paper since the time horizon is too short, which implies there are insufficient variations in the time dimension to capture meaningful time-specific effects. As a result, including time fixed effects may not add significant value to the analysis, and it falls outside the scope of this study.

In the context of this paper, the general panel data model can formally be written as:

$$Y_{it} = \alpha_i + \beta X_{it} + \gamma Z_{it} + \varepsilon_{it} \quad (1)$$

Where: Y_{it} is the dependent variables (bank value indicators) observed for bank *i* at time *t*; X_{it} is the i-*th* observation on *k* explanatory variables (the set of corporate governance measures); Z_{it} is the i-*th* observation on *k* vector of control variables, β and γ are $k \times 1$ vectors of parameters; α_i is the unobserved time-variant individual effect, and ε_{it} is the error term.

The FE model is also suitable when individual effects represent omitted variables, which are likely to be correlated with other regressors (Judson & Owen, 1999). Moreover, if the data include all relevant banks of interest and do not represent a random draw from a much larger population of firms, the FE model is more appropriate (Baltagi, 2005; Judson & Owen, 1999). However, in the case of this research, it is essential to test whether our data and the banks examined in this empirical work represent a random draw of a population. While the FE model effectively controls unobserved time-invariant bank-specific heterogeneity, it does not address two critical econometric concerns that commonly arise in corporate governance research: endogeneity and dynamic panel bias. Endogeneity may arise from reverse causality, where better-performing banks attract stronger governance structures, omitted variable bias due to unobservable factors that simultaneously affect governance and performance, or measurement error. In addition, bank valuation measures such as Tobin's Q and stock returns often exhibit persistence over time, implying that past performance influences current performance. In this dynamic context, the FE estimator becomes inconsistent because the lagged dependent variable is correlated with the error term as shown by Nickell (1981). To address these limitations, we employ the system Generalized Method of Moments (GMM) estimator developed by Arellano and Bover (1995) and Blundell and Bond (1998). The system GMM estimator offers several advantages for our empirical setting. First, it mitigates endogeneity by using internal instruments, specifically lagged levels of the endogenous variables to instrument current differences and lagged differences to instrument current levels. Second, it is well suited to panels with a moderate number of time periods and a larger number of cross-sectional units, which characterizes our dataset with T equal to 15 years and N equal to 104 banks. Third, the estimator remains consistent in the presence of heteroscedasticity and arbitrary patterns of autocorrelation, making it robust to various forms of misspecification. We implement the system GMM estimator with specification choices consistent with prior banking governance studies such as Mollah and Zaman (2015) and Aebi et al. (2012). Specifically, we employ the two-step system GMM estimator with the Windmeijer (2005) finite-sample

correction to obtain robust standard errors. To limit instrument proliferation, which can weaken the over-identification test, we collapse the instrument matrix following Roodman (2009). Having established the study empirical strategy, we now turn to the definition and measurement of the independent and control variables as explained in the section below.

6.3 Independent and control variables specifications

6.3.1 Independent variables

In order to test the proposed research hypotheses, the three categories of governance-explanatory variables are adopted: (1) ownership structure variables - the category contains two variables: (i) the type of ownership (TYPE) and (ii) ownership concentration (ownership); (2) board characteristics variables - the category contains three variables: (i) board size (BoardSize), (ii) duality (Duality), board independence (BIM), and (iii) board gender diversity (FEMALE); and (3) board committees' variables – the category contains three variables: (i) Audit Committee (AuditCommittee), (ii) Risk Committee (RiskCommittee), and (iii) audit committee independence (AO). The definition of these variables is provided in Appendix I.

The adoption of the above three categories of corporate governance variables enables us to capture the impact of the key dimensions of corporate governance on the MENA banks valuation. The first category of variables (ownership), and as the MENA banking sector is characterised with considerable state ownership and high levels of ownership concentrations (blockholdings), the study explores these variables with aim to capture the existence of any potential conflict of interest, and to what extent this affects banks' valuation. The second category of variables (board structure), and as the MENA banks are mostly run by large boards of directors, many of them adopt (Chairman-CEO) role duality, their independent board members play mostly non-active role, and have low ratios of women on the board, and therefore the study tests these variables with aim to identify any potential weaknesses in those areas and to what extent they may put pressures on banks valuation. The third category of variables (board committees), and with regulations enforce the split of board duties and responsibilities among several committees in order to maximise board oversight ability and control efficiency, the research aim to test these variables with aim to identify whether having such committees do result in a better guidance for the boards and as a result enhancing banks' value.

6.3.2 Control variables

The models further include four specific control variables that are based on the work of (Grove et al., 2011; Adams & Mehran, 2012; Aebi et al., 2012; Arouri et al., 2014; Mollah & Zaman,

2015; Manta et al. 2020; Arnaboldi et al., 2020). To control for the impact of bank size on value, the natural log of bank total assets is included. To test the effect of bank profitability, the return-on-asset ratio is included. To control for the impact of credit risk, the loan-loss-reserves (LLR) as percentage of gross loans is used. Finally, to control for the impact of macroeconomic developments, the real GDP growth rate is used. The rational for using the four control variables are: bank size to account for economies of scale in the banks, ROA to capture profitability, LLR to encapsulate banks' credit risk, and GDP for to account for macroeconomic conditions. To test the relationship between Tobin' Q, MB, P/E, returns and these control variables the following equations are employed:

$$TOBIN_Q_{it} = \alpha_{i,2} + \beta_{1,1}OWN_TYPE_{it} + \beta_{2,1}OWN_CONC_{it} + \beta_{3,1}BOARD_SIZE_{it} + \beta_{4,1}DUAL_{it} + \beta_{5,1}BIM_{it} + \beta_{6,1}FEMALE_{it} + \beta_{7,1}AUD_COMM_{it} + \beta_{8,1}RISK_COMM_{it} + \beta_{9,1}AO_{it} + \gamma_{1,1}SIZE_{it} + \gamma_{2,1}ROA_{it} + \gamma_{3,1}LLR_{it} + \gamma_{4,1}GDP_{it} + \varepsilon_{it} \quad (2)$$

$$MB_{it} = \alpha_{i,2} + \beta_{1,2}OWN_TYPE_{it} + \beta_{2,2}OWN_CONC_{it} + \beta_{3,2}BOARD_SIZE_{it} + \beta_{4,2}DUAL_{it} + \beta_{5,2}BIM_{it} + \beta_{6,2}FEMALE + \beta_{7,2}AUD_COMM_{it} + \beta_{8,2}RISK_COMM_{it} + \beta_{9,2}AO_{it} + \gamma_{1,2}SIZE_{it} + \gamma_{2,2}ROA_{it} + \gamma_{3,2}LLR_{it} + \gamma_{4,2}GDP_{it} + \varepsilon_{it} \quad (3)$$

$$P/E_{it} = \alpha_{i,3} + \beta_{1,3}OWN_TYPE_{it} + \beta_{2,3}OWN_CONC_{it} + \beta_{3,3}BOARD_SIZE_{it} + \beta_{4,3}DUAL_{it} + \beta_{5,3}BIM_{it} + \beta_{6,3}FEMALE_{it} + \beta_{7,3}AUD_COMM_{it} + \beta_{8,3}RISK_COMM_{it} + \beta_{9,3}AO_{it} + \gamma_{1,3}SIZE_{it} + \gamma_{2,3}ROA_{it} + \gamma_{3,3}LLR_{it} + \gamma_{4,3}GDP_{it} + \varepsilon_{it} \quad (4)$$

$$RETURNS_{it} = \alpha_{i,4} + \beta_{1,4}OWN_TYPE_{it} + \beta_{2,4}OWN_CONC_{it} + \beta_{3,4}BOARD_SIZE_{it} + \beta_{4,4}DUAL_{it} + \beta_{5,4}BIM_{it} + \beta_{6,4}FEMALE_{it} + \beta_{7,4}AUD_COMM_{it} + \beta_{8,4}RISK_COMM_{it} + \beta_{9,4}AO_{it} + +\gamma_{1,4}SIZE_{it} + \gamma_{2,4}ROA_{it} + \gamma_{3,4}LLR_{it} + \gamma_{4,4}GDP_{it} + \varepsilon_{it} \quad (5)$$

Where: $\alpha_{i,s}$, $\beta_{j,s}$ and $\gamma_{j,s}$ are the individual effects, explanatory variables and control variables parameters, respectively, for j=1,2, …, k and $s=1,\ldots,4$. The subscript s refer to the specification being estimated, which cover the specifications (4.1) to (4.4).

The above equations have been applied separately to conventional and Islamic banks (see Table 5). This allows for a direct comparison between the two banking models in terms of the impact of each corporate governance variable on bank valuation measures. The models include year and country fixed effects, and statistical significance levels of 10%, 5%, and 1% are employed. The test also included the four key control variables (size, ROA, LLR and GDP).

7 Data and summary statistics

The empirical estimations are organised initially according to the dataset containing 104 banks (made of 75 conventional banks and 29 Islamic banks) operating in the following MENA countries: Bahrain (10 banks), Egypt (5 banks), Jordan (13 banks), Kuwait (9 banks), Lebanon (5 banks), Morocco (3 banks), Oman (8 banks), Palestine (4 banks), Qatar (10 banks), Saudi Arabia (12 banks), Tunisia (8 banks), and the United Arab Emirates (17 banks). The covered period is 2010 to 2024.

For the data sources the corporate governance data has been collected from bank annual reports and websites. While bank assets, liabilities and financial ratios have been extracted from BankFocus database. The GDP growth rates have been extracted from the World Bank database.

Table 1 reports the descriptive statistics for the study sample. In terms of variation four variables exhibit high level of variation. These are P/E, ownership, GDP and LLR. Among the variables showing low level of variation are FEMALE, TOBINQ, BIND, AO, Audit-Committee and Risk-Committee. These results imply that female representation on banks' boards, board independence and size of the audit and risk committees are mostly uniform across the banks. The variation seen in banks' P/E and ownership are mainly related to bank type, conventional and Islamic, and listing status of the bank. The variability observed in LLR is attributed to bank size, type of loans given and areas of financing.

The mean values are mostly small with FEMALE showing the lowest value followed by returns, MB and duality respectively. These values denote that female representation on banks' boards is minute with several banks even exhibiting no female presence on the board. The diminutive average return is caused by extreme values seen in number of banks returns with maximum of 27.72 and low of -20.12. The low market-to-book ratio signify high perceive risk, possible financial distress and undervaluation. The board size instead tends to be consistent across banks with an average of almost 10 members per board in each bank. An overall high value is also noticed for the P/E ratio indicating growth opportunities and strong expected performance that can be linked to good governance, low risk taking and high-quality loans in the banks' sample. The median values support what has been observed for the mean with P/E of 11.7, ROA of 1.43 and LLR of 4.96. The middle value for ownership is also close to its mean value signifying a symmetrical distribution of the data and with little skewness. The P25 and P75 values further support what has been observed for the standard deviation, mean and median values with higher interquartile range (IQR) discerned in P/E, ROA, LLR,

FEMALE, Ownership and GDP. As a whole, the descriptive statistics denote that the data is balanced with no concerns of being skewed or entailing extreme outliers.

Other key observations in terms of the descriptive statistics is a Tobin's Q mean value of 0.1571, indicating that banks, on average, have market values below their asset replacement costs. The ownership concentration averages 52.76%, reflecting the prevalence of blockholdings in Arab banks. The control variables show considerable variation, particularly in bank size (SIZE) and loan loss reserves (LLR), highlighting the heterogeneity across the sample banks.

[Insert Table 1 Here]

8 Empirical results and discussions

The section presents and discusses the study results and provides a mapping with the relevant literature. The analyses capture the impact of each of the adopted independent and control variables for board characteristics on banks' valuation/performance measures.

8.1 Corporate governance and bank performance

Table 2 presents the baseline panel regression results examining the relationship between corporate governance mechanisms and bank performance across four valuation measures: Tobin's Q, market-to-book ratio, price-to-earnings ratio, and stock returns. Overall, the results provide consistent evidence that corporate governance plays a significant role in shaping bank valuation in the Arab banking sector, although the strength and significance of individual mechanisms vary across performance indicators. Note that the R-squared values range from 11.66% to 19.13%, suggesting moderate explanatory power, but is still within the range seen in other studies.

[Insert Table 2 Here]

The baseline regression results show that ownership concentration (OWNERSHIP) has a positive and significant relationship with all four-bank financial performance/value measures (TOBINQ, MB, P/E and RETURNS) at the 5% level, suggesting that blockholdings enhance bank value. Ownership concentration supports bank value through improved efficiency, better resource allocation and adoption of profit-maximizing strategies (see Nguyen, 2024). This positive association between OWNERSHIP and bank value measures is aligned with agency theory (Jensen & Meckling, 1976), which suggests that concentration reduces agency costs leading to an improved financial performance. Similarly, this result supports stewardship

theory, which argues that larger owners act as better stewards for firm value (Davis et al., 1997; Nguyen, 2024). The monitoring hypothesis reasoning further endorses this finding by asserting that blockholders enhance governance through oversight contributing to an increase in firm value (Ahn & Choi, 2009). The charter value theory also advocates the result by stating that large blockholders protect long-term franchise value through reduced risk positively impacting firms' own financial performance (Demsetz et al., 1996).

Board independence (BIND) shows positive effect on each financial value measure although with higher impact on MB and P/E. This supports managerial entrenchment theoretical reasoning stating that more independent boards strengthen accountability and governance leading to improved bank value. Female representation (FEMALE) are positively associated with Tobin's Q at the 5% level, supporting the resource dependency theory. However, duality (DUALITY) shows a negative and significant relationship with stock returns (RETURNS) at the 5% level, indicating that CEO power concentration may harm shareholder value.

Overall, the results for both board independence and diversity support our research hypothesis (**H3**) implying that large boards create better value and performance for banks through improved strategic decision-making and stability, effective management of uncertainties and expanding the capacity of the board to negotiate. Likewise, the presence of women on board contributes to better risk management and to enhanced governance with women bringing additional positive qualities to the board, such as open dialogue, balanced risk-taking, ethics, stronger monitoring and accountability (see Carter et al., 2003; Konrad et al, 2008; Adams & Ferreira, 2009; Nguyen, 2024).

Audit committee and risk committee exhibit positive relationship with banks' valuation measures. However, it is evident from the results that the strength of relationship is more pronounced for the risk committee, which is then followed by the audit committee. AO tends to have less influence on the banks' value or performance drivers. These findings align with the resource dependency theory asserting that hosting such committees contributes to better allocation of resources, which then contributes to an enhanced financial value or performance.

Finally, the results in Table 2 show that profitability (measured by ROA) contributes to higher bank value and the same applies to GDP although with far less magnitude. The loan loss reserve (LLR) instead has negative effect on each bank's value measures, with MB affected the most followed by RETURNS. These findings are consistent with other studies carried out in other markets (see Choi & Hasan, 2025; Nguyen, 2024).

8.2 Robustness tests

To verify the reliability of the baseline results reported in Table 2, we implement two additional estimation approaches: firm fixed effects and system Generalized Method of Moments (GMM). These methods are commonly used to address potential econometric issues, particularly unobserved heterogeneity and endogeneity, which may otherwise distort the estimated relationships. By comparing outcomes across these alternative specifications, we can better assess whether the documented link between corporate governance mechanisms and bank performance remains stable.

8.2.1 Firm fixed effects estimation

Table 3 presents the results based on the firm fixed effects (FE) specification, which accounts for unobservable, time-invariant characteristics at the bank level. Such characteristics may include internal governance culture, long-standing managerial practices, or institutional norms that are difficult to measure directly but may influence both governance structures and performance. A notable feature of the FE results is the improvement in model fit, with R-squared values increasing to a range of 23.14%-28.78%, compared to 11.66%-19.13% in the baseline model. This indicates that bank-specific factors explain a meaningful share of the variation in valuation.

[Insert Table 3 Here]

In general, the FE estimates are broadly in line with the baseline findings, suggesting that the core conclusions are not driven by omitted firm-level characteristics. Ownership concentration (OWNERSHIP) remains positively associated with bank valuation across all models, although the level of statistical significance declines in some cases. This pattern implies that part of the ownership effect identified earlier may reflect persistent structural features of banks rather than purely time-varying changes. Nonetheless, the consistent positive coefficients support the argument that concentrated ownership enhances monitoring and helps mitigate agency problems.

The influence of board independence (BIND), however, appears weaker under the FE specification. While the coefficients remain positive, their significance diminishes, especially for Tobin's Q and P/E. This suggests that the benefits of board independence may largely reflect cross-sectional differences between banks, rather than short-term adjustments within individual institutions. In other words, banks that are structurally more independent tend to

perform better, but incremental changes in independence over time may not immediately translate into higher valuation.

Gender diversity (FEMALE) continues to show a positive association with firm valuation, particularly for Tobin's Q and P/E ratio. The fact that this relationship persists even after controlling for firm-specific effects indicates that the contribution of female directors is not merely a cross-sectional phenomenon, but may also reflect improvements in governance quality within banks. This supports the view that diversity enhances board effectiveness by enriching perspectives and strengthening decision-making processes.

The audit committee variable remains positively linked to valuation, with a significant effect on the P/E ratio. This result points to the importance of effective internal monitoring mechanisms in shaping investor confidence. Notably, this relationship holds even after accounting for unobserved heterogeneity, reinforcing the role of audit structures in governance quality. CEO duality (DUALITY) continues to exhibit a negative association with stock returns, although the statistical strength of this relationship weakens slightly. This suggests that while leadership concentration remains a concern for investors, part of its impact may be tied to underlying firm characteristics.

Turning to the control variables, profitability (ROA) remains a strong and positive driver of valuation, especially for Tobin's Q and P/E. Bank size (SIZE) also retains a positive and significant effect on Tobin's Q, indicating that larger institutions benefit from scale advantages and stronger market recognition. In contrast, loan loss reserves (LLR) continue to exert a negative effect, highlighting the detrimental impact of deteriorating asset quality on bank valuation.

8.2.2 System GMM estimation

Although the FE model addresses unobserved heterogeneity, it does not fully resolve endogeneity concerns that may arise from reverse causality or simultaneity. For example, better-performing banks may adopt stronger governance structures, leading to biased estimates. To tackle this issue, Table 4 reports the results of system GMM estimations, which rely on internal instruments to correct for potential endogeneity. Importantly, the diagnostic tests indicate that the GMM specification is appropriate. The AR(2) test shows no evidence of second-order serial correlation, as the reported p-values exceed conventional significance levels. In addition, the Hansen test confirms the validity of the instruments, suggesting that the model is correctly specified.

[Insert Table 4 Here]

The GMM estimates largely replicate the patterns observed in both the baseline and FE models, providing further support for the robustness of the results. Ownership concentration continues to be positively related to bank valuation across all specifications, with coefficients remaining statistically significant. This reinforces the interpretation that concentrated ownership improves governance by strengthening monitoring incentives.

Similarly, gender diversity (FEMALE) maintains a positive and significant association with Tobin's Q and P/E ratio. The persistence of this effect in the GMM framework suggests that it is not driven by reverse causality, but instead reflects a genuine contribution of board diversity to firm performance. Board independence (BIND) remains positively signed, although its statistical significance becomes weaker, indicating that its effect may be more nuanced when endogeneity is explicitly addressed.

The audit committee variable continues to display a strong positive relationship with the P/E ratio, remaining significant at the 1% level. This finding underscores the importance of financial oversight and transparency in shaping market valuation. In contrast, CEO duality retains its negative and significant effect on stock returns, confirming that excessive concentration of managerial power is viewed unfavorably by investors. The consistency of this result across all estimation methods strengthens confidence in its robustness.

The control variables behave in a manner similar to previous specifications. Profitability remains a key determinant of valuation, while loan loss reserves continue to have a negative effect. Bank size maintains a generally positive influence, although its significance varies across models.

Overall, the GMM results confirm that the relationship between corporate governance and bank performance is not driven by endogeneity concerns. The consistency of the findings across different estimation techniques strengthens the credibility of the empirical evidence and supports the reliability of the study's conclusions.

8.3 Conventional and Islamic banks comparative analysis

To explore whether the relationship between corporate governance mechanisms and bank performance varies across different banking models, the sample is divided into two groups: conventional banks and Islamic banks. The regression results for each sub-sample are reported in Table 5, enabling a direct comparison of both the magnitude and statistical significance of governance variables across the two institutional contexts.

A first notable observation concerns the explanatory power of the models. The R-squared values are consistently higher for conventional banks compared to Islamic banks, suggesting that the governance and control variables included in the analysis capture bank valuation more effectively in the conventional banking setting. This outcome implies that traditional governance mechanisms are more closely aligned with market valuation in conventional banks, whereas the performance of Islamic banks may be influenced by additional institutional or governance dimensions not explicitly captured in the model.

[Insert Table 5 Here]

More broadly, the results indicate that governance mechanisms tend to have stronger and more systematic effects in conventional banks. This pattern is consistent with the predictions of agency theory, which emphasizes the role of governance tools—such as ownership concentration, board independence, and internal monitoring structures—in mitigating agency conflicts and enhancing firm value (Jensen & Meckling, 1976; Fama & Jensen, 1983). In conventional banking systems, where governance arrangements are largely shareholder-oriented, these mechanisms appear to play a central role in shaping investor perceptions and market valuation. In contrast, the weaker and less consistent relationships observed in Islamic banks point to a more complex governance environment. This interpretation is in line with stakeholder theory and the literature on Islamic corporate governance, which highlights the importance of Sharia supervisory boards, ethical considerations, and broader stakeholder objectives in guiding managerial decisions (Chapra & Ahmed, 2002; Mollah & Zaman, 2015). Within such a framework, standard governance indicators may only partially capture the mechanisms through which value is created and monitored, thereby limiting their explanatory power.

Ownership concentration (OWNERSHIP) illustrates these differences clearly. In conventional banks, ownership is positively and significantly associated with all four performance measures, suggesting that large shareholders play an active monitoring role and contribute to enhancing firm value. This result is consistent with prior empirical evidence showing that concentrated ownership can reduce agency costs and improve firm performance in banking institutions (La Porta et al., 1999; de Andres & Vallelado, 2008). By contrast, in Islamic banks, ownership concentration is significant only for the market-to-book ratio and remains insignificant for the other valuation measures. This weaker and less consistent effect suggests that the monitoring role typically played by blockholders may be partly substituted by

alternative governance arrangements specific to Islamic finance, including Sharia oversight and reputational mechanisms.

Differences also emerge in relation to board structure. In conventional banks, board independence (BIND) is positively and significantly associated with Tobin's Q, market-to-book ratio, and P/E ratio, supporting the view that independent directors enhance monitoring quality and limit managerial opportunism (Fama & Jensen, 1983). In Islamic banks, however, board independence does not display consistent statistical significance across most performance measures. This finding aligns with existing research suggesting that governance effectiveness in Islamic banks is influenced not only by board composition but also by the presence and functioning of Sharia supervisory boards (Mollah & Zaman, 2015), which may complement or partially substitute the role of independent directors.

Gender diversity (FEMALE) stands out as one of the few governance mechanisms that remains positively associated with performance in both banking systems. In conventional banks, female representation on boards is positively and significantly related to Tobin's Q and P/E ratio. A similar pattern is observed in Islamic banks, although the magnitude of the coefficients is somewhat lower. This finding is consistent with the growing body of literature emphasizing the benefits of board diversity in improving decision-making, strengthening monitoring, and enhancing stakeholder alignment (Adams & Ferreira, 2009). The consistency of this result across both banking models suggests that gender diversity constitutes a broadly relevant governance factor, irrespective of institutional differences.

The role of board committees further highlights the divergence between the two systems. In conventional banks, both audit and risk committees are positively associated with firm valuation, particularly in relation to Tobin's Q and P/E ratio. These results underscore the importance of formal monitoring structures in improving transparency, strengthening internal controls, and enhancing risk management. They are also consistent with previous studies that emphasize the contribution of board committees to financial reporting quality and governance effectiveness (Klein, 2002). In Islamic banks, however, the audit committee is significant only for the P/E ratio, while the risk committee does not show any statistically significant effect. This suggests that, in Islamic banking, monitoring and risk management functions may be embedded within broader governance frameworks that extend beyond formal committee structures.

CEO duality (DUALITY) exhibits a negative association with stock returns in both banking models, indicating that the concentration of decision-making authority may weaken governance effectiveness and adversely affect shareholder value. This result is in line with

agency theory predictions and prior empirical findings (Jensen, 1993). However, the negative impact is stronger and more statistically significant in conventional banks, suggesting that investors in these institutions may be more sensitive to governance arrangements that compromise board independence.

Regarding the control variables, the results are largely consistent across both sub-samples. Profitability (ROA) remains a strong and positive determinant of bank valuation, confirming its central role in shaping investor perceptions. Bank size (SIZE) is positively associated with Tobin's Q in both banking systems, reflecting potential scale economies and market advantages. Loan loss reserves (LLR) are negatively related to valuation, particularly in conventional banks, highlighting the adverse impact of asset quality deterioration. GDP growth (GDP) is positively associated with stock returns in both contexts, consistent with the cyclical nature of banking activity.

Taken together, these findings suggest that the relationship between corporate governance and bank performance is not uniform across banking models. Conventional banks appear to conform more closely to agency-theory predictions, with governance mechanisms playing a direct and measurable role in firm valuation. In contrast, Islamic banks operate within a broader governance framework that incorporates ethical, religious, and stakeholder-oriented dimensions. This implies that future research should consider more comprehensive measures of governance—particularly those related to Sharia compliance and institutional context—to better capture the determinants of performance in Islamic banking systems.

9 Conclusions and directions for future research

Using data from 104 traded MENA banks and covering the period from 2010 to 2024 the study explored to what extent corporate governance key parameters impact bank value measures. To ensure appropriate examination of the different effects of the adopted variables based on the banking model or approach, the study data is also split into two sub-samples, 75 conventional and 29 Islamic banks, to run the relevant regressions. This has enabled us to provide a comprehensive analysis of the two banking models and to draw direct comparison between them based on each indicator of corporate governance utilised.

The study employed two models to run the relevant regressions, FE and GMM. These models enabled us to control unobserved time-invariant bank-specific heterogeneity through FE, and to handle endogeneity, data specifications and instrument proliferation by using GMM. The research hypotheses are tested by including ownership structure, board characteristics and board committees' variables in each model. Additionally, four selected control variables - bank

size, ROA, LLR, and GDP - are utilised in running the regressions. The models constructed have been carried out for four main areas of banking valuation: Tobin' Q, MB, P/E, returns.

The research findings provide consistent evidence that corporate governance mechanisms play a significant role in influencing bank valuation in the MENA region, although the strength and significance of the impact vary across the banks' valuation parameters. In particular, the regression results show that OWNERSHIP has a positive and significant relationship with all four-bank financial valuation measures (TOBINQ, MB, P/E and RETURNS) at the 5% level. This finding aligns with key theories including agency theory, stewardship, monitoring hypothesis, and charter value theory. Similarly, BIND exhibits positive effect on each banking value measure although higher impact is observed on MB and P/E. This result supports the principles set under the managerial entrenchment theorem. FEMALE also shows positive association with Tobin's Q. DUALITY, nonetheless, exhibits a negative and significant relationship with RETURNS. These results broadly support our research hypotheses (**H2** & **H3**). Board committee variables, AuditCommittee and RiskCommittee, exhibit positive relationship with banks' valuation measures although the strength of relationship is more pronounced for the RiskCommittee. Finally, AO tends to have less influence on the banks' value measures.

The FE estimates are largely in line with the baseline findings, suggesting that the core results are not driven by omitted firm-level characteristics. The level of statistical significance decreases in some variables though. The influence of BIND also appears weaker under the FE specification. The significance lessens, especially for Tobin's Q and P/E. This result suggests that the board independence benefits may largely reflect cross-sectional differences between banks, rather than short-term adjustments within individual banks. Gender diversity (FEMALE) instead continues to exhibit positive relationship with bank valuation, particularly for Tobin's Q and P/E signifying that this is not a cross-sectional issue. The AuditCommittee variable remains positively correlated with bank valuation reflecting the importance of effective internal monitoring mechanisms in the bank. DUALITY instead continues to exhibit a negative association with RETURNS, although with a weakened statistical relationship. In terms of control variables, ROA shows a strong and positive relationship with banks valuation measures, especially for Tobin's Q and P/E. SIZE also retains a positive and significant effect on Tobin's Q indicating the role of economies of scale and market power in driving bank value. In contrast, LLR continue to show a negative effect, emphasising the detrimental impact of deteriorating asset quality on bank valuation.

The GMM estimates mostly replicate the findings observed in the baseline and FE models, providing additional support for the results robustness. OWNERSHIP continues to show positive association with bank valuation measures and with coefficients being statistically significant. The finding reinforces the assertion that concentrated ownership enhances governance by strengthening monitoring incentives. Likewise, gender diversity (FEMALE) remains positive and significantly associated with Tobin's Q and P/E. The persistence seen in these results denotes that relationships are not driven by reverse causality. The audit committee variable continues displaying a strong positive relationship with P/E and being significant at the 1% level. This result signifies the role of financial oversight and transparency in driving bank valuation. In contrast, DUALITY retains negative and significant effects on RETURNS, confirming that concentration of managerial power is against investors' financial interests.

Comparing conventional and Islamic banks reveal that governance mechanisms are more aligned with market valuation in conventional banks, whereas the value of Islamic banks is influenced by additional institutional or governance dimensions, such as the Sharia board. Generally, governance mechanisms tend to exhibit stronger and more systematic effects in conventional banks. In conventional banking systems, where governance arrangements are mostly shareholder-driven, the governance mechanisms appear to play a crucial role in shaping market valuation. Instead, a weaker and less consistent relationships is observed in Islamic banks indicating a more complex governance environment for these banks. OWNERSHIP demonstrates these differences clearly. In conventional banks, OWNERSHIP is positively and significantly associated with all four valuation measures, signifying that large shareholders play an active monitoring role contributing to higher bank value. By contrast, OWNERSHIP in Islamic banks is significant only for MB ratio and remains less significant for the rest of value measures. Differences are also observed in terms of board structure. In conventional banks, BIND is positively and significantly correlated with Tobin's Q, MB, and P/E, supporting the notion that independent directors enrich monitoring quality and limit managerial opportunism (Fama & Jensen, 1983). In Islamic banks, however, BIND does not exhibit a consistent statistical significance across valuation measures. Gender diversity (FEMALE) is the only factor displaying a consistent positive association with value measures for both banking models, although the coefficients' magnitude is somewhat lower for Islamic banks.

The role of board committees further shows the divergence between the two banking models. In conventional banks, audit and risk committees are positively correlated with bank valuation, particularly in terms of Tobin's Q and P/E. In Islamic banks, nonetheless, the audit

committee is significant only for the P/E, while the risk committee does not exhibit any statistically significant effect. This finding signifies that in Islamic banks monitoring and risk management mechanisms may be set within broader governance frameworks, which extend beyond formal committee structures. In contrast, DUALITY exhibits a negative association with RETURNS in both banking models, implying that the decision-making concentration is likely to diminish governance effectiveness and affect shareholder value negatively. Finally, the results for the control variables are mostly consistent across the two banking models.

While the current study provides a comprehensive overview and analyses of the effect of the main corporate governance parameters on the value measures for the MENA banks and employs robust methodological approach future research can still expand the area as follows. First, other methods such as difference-in-difference (DiD) can be used to draw on the impact of female directors' share of the board on banks risk taking and value, to capture the effect of board independence on banks' financial performance and to identify if audit committee regulations influence on banks' earnings. Second, with the significant turbulence observed in the MENA region, particularly in GCC countries, due to USA-Iran war, future research can explore the extent to which this major event has impacted the relationship between corporate governance and bank value and approach taken by each banking model to address the strains caused by the war. Third, building on the current study a qualitative methodology could be used to examine how and why board characteristics and corporate mechanisms influence managerial decisions and ultimately bank value and expand on some of the theories presented in this research paper.

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Table 1: Descriptive Statistics

This table reports the descriptive statistics for our sample. The appendix provides detailed descriptions of the variables.

	Mean	Median	Min	P25	P75	Max	SD
TOBINQ	0.1571	0.1320	0.0040	0.0850	0.1980	1.7860	0.1245
RETURNS	0.0565	0.0000	-20.1220	-0.1150	0.1350	29.7270	1.7348
P/E	19.1092	11.7230	1.0880	8.4050	15.3590	889.9090	52.0620
MB	0.0565	0.0000	-20.1220	-0.1150	0.1350	29.7270	1.7348
OWN-TYPE	0.7577	1.0000	0.0000	1.0000	1.0000	1.0000	0.4286
Ownership	52.7558	51.5950	5.5300	35.1600	66.7400	100.0000	22.5851
BoardSize	9.8163	10.0000	5.0000	9.0000	11.0000	16.0000	1.7540
Duality	0.1678	0.0000	0.0000	0.0000	0.0000	1.0000	0.3738
BIND	0.4115	0.4000	0.0000	0.2730	0.5560	1.0000	0.2410
FEMALE	0.0463	0.0000	0.0000	0.0000	0.0910	0.4550	0.0741
AuditCommittee	0.5562	0.6670	0.0000	0.3330	0.7500	1.0000	0.3260
RiskCommittee	0.9239	1.0000	0.0000	1.0000	1.0000	7.0000	0.4747
AO	1.8835	2.0000	1.0000	2.0000	2.0000	3.0000	0.3231
SIZE	16.6045	16.6599	10.9199	15.8011	17.5370	19.6920	1.3429
ROA	1.2713	1.4395	-12.4148	0.9049	1.9071	8.6839	1.4531
LLR	4.9655	3.7504	0.0746	2.4498	5.2066	100.0000	7.3429
GDP	24.5138	22.9459	6.6956	14.9943	29.9469	58.3689	12.5470

Table 2: The impact of corporate governance on Bank Performance

This table presents the baseline panel regression results examining the relationship between corporate governance mechanisms and bank performance (*TOBINQ, MB, P/E, RETURNS*). All regressions include year and country fixed effects. t-statistics are reported in parentheses. *, **, *** denote statistical significance at the 10%, 5%, and 1% levels, respectively.

	TOBINQ	***MB***	***P/E***	***RETURNS***
OWN-TYPE	0.0289	0.4218	0.3183	0.0355
	(2.18)**	(2.41)**	(3.34)***	(3.06)***
OWNERSHIP	0.0023	0.3102	0.0024	0.0032
	(2.07)**	(2.58)**	(1.97)**	(2.15)**
BoardSize	0.0007	4.0989	0.0016	0.0035
	(0.18)	(2.00)**	(0.05)	(0.29)
DUALITY	-0.0058	-1.0362	-0.0532	-0.0736
	(-0.41)	(-0.69)	(-0.54)	(-2.46)**
BIND	0.0462	16.1873	0.2843	0.0444
	(2.00)**	(2.14)**	(1.81)*	(0.80)
FEMALE	0.2187	3.1158	1.8808	0.1493
	(2.28)**	(1.32)	(2.72)***	(0.60)
AuditCommittee	0.0249	10.3723	0.3563	0.028
	(1.74)*	(1.25)	(3.19)***	(0.73)
RiskCommittee	0.0595	47.455	0.0521	0.0395
	(1.88)*	(1.73)*	(0.39)	(0.65)
AO	0.0034	0.6883	0.1833	0.0832
	(0.19)	(0.11)	(1.40)	(1.66)*
SIZE	0.0149	3.7786	0.034	0.0093
	(2.82)***	(1.56)	(1.10)	(0.80)
ROA	0.0143	12.2162	0.1025	0.0268
	(2.55)**	(2.11)**	(3.91)***	(2.01)**
LLR	-0.0009	-0.7614	-0.0011	-0.0037
	(-0.89)	(-2.31)**	(-0.24)	(-1.98)**
GDP	0.0042	0.6138	0.0188	0.025
	(1.45)	(0.57)	(1.10)	(4.41)***
CONSTANT	0.5248	155.7557	2.5465	-0.2125
	(4.95)***	(3.15)***	(4.04)***	(-1.05)
Year & Country Effects	Yes	Yes	Yes	Yes
R2	0.1178	0.1476	0.1166	0.1913
Sample	984	984	984	984

Table 3: Firm Fixed Effect

This table reports the firm fixed effects panel regression results estimating the impact of corporate governance mechanisms on four bank valuation measures (*TOBINQ, MB, P/E, RETURNS*). All models include firm, year, and country fixed effects. t-statistics are presented in parentheses. *, **, *** indicate significance at the 10%, 5%, and 1% levels, respectively.

	TOBINQ	***MB***	***P/E***	***RETURNS***
OWN-TYPE	0.0231	0.3372	0.2544	0.0284
	(1.76)*	(1.94)*	(2.68)***	(2.40)**
OWNERSHIP	0.0018	0.2480	0.0019	0.0026
	(1.66)*	(2.03)**	(1.57)	(1.76)*
BoardSize	0.0006	3.2764	0.0013	0.0028
	(0.13)	(1.57)	(0.09)	(0.22)
DUALITY	-0.0046	-0.8283	-0.0425	-0.0588
	(-0.37)	(-0.55)	(-0.46)	(-1.94)*
BIND	0.0369	12.9392	0.2273	0.0355
	(1.57)	(1.76)*	(1.48)	(0.65)
FEMALE	0.1748	31.2669	1.5034	0.1193
	(1.85)*	(1.01)	(2.12)**	(0.46)
AuditCommittee	0.0199	8.2910	0.2848	0.0224
	(1.39)	(0.92)	(2.59)**	(0.55)
RiskCommittee	0.0476	37.9328	0.0416	0.0316
	(1.58)	(1.39)	(0.37)	(0.56)
AO	0.0027	0.5502	0.1465	0.0665
	(0.19)	(0.10)	(1.11)	(1.39)
SIZE	0.0119	3.0204	0.0272	0.0074
	(2.21)**	(1.20)	(0.83)	(0.65)
ROA	0.0114	9.7649	0.0819	0.0214
	(2.03)**	(1.60)	(3.14)***	(1.67)*
LLR	-0.0007	-0.6086	-0.0009	-0.0030
	(-0.74)	(-1.85)*	(-0.18)	(-1.57)
GDP	0.0034	0.4906	0.0150	0.0200
	(-1.10)	(-0.46)	(-0.83)	(3.51)***
CONSTANT	0.4195	124.5023	2.0355	-0.1699
	(3.97)***	(2.59)**	(3.23)***	(-0.83)
Firm, Year & Country	Yes	Yes	Yes	Yes
R2	0.2314	0.2545	0.2276	0.2878
Sample	984	984	984	984

Table 4: GMM System Estimations

This table presents the results of the system Generalized Method of Moments (GMM) estimations to address potential endogeneity concerns in the relationship between corporate governance and bank performance. t-statistics are shown in parentheses. *, **, *** denote significance at the 10%, 5%, and 1% levels, respectively. AR(1) and AR(2) tests for autocorrelation are reported.

	TOBINQ	***MB***	***P/E***	***RETURNS***
OWN-TYPE	0.0254	0.3707	0.2797	0.0312
	(1.98)**	(2.19)**	(2.92)***	(2.61)**
OWNERSHIP	0.0020	0.2726	0.0021	0.0028
	(1.81)*	(2.23)**	(1.72)*	(1.84)*
BoardSize	0.0006	3.6021	0.0014	0.0031
	(0.12)	(1.76)*	(0.19)	(0.28)
DUALITY	-0.0051	-0.9106	-0.0468	-0.0647
	(-0.33)	(-0.64)	(-0.45)	(-2.18)**
BIND	0.0406	1.2252	0.2498	0.0390
	(1.76)*	(1.86)*	(1.56)	(0.70)
FEMALE	0.1922	3.3745	1.6528	0.1312
	(2.06)**	(1.10)	(2.33)**	(0.53)
AuditCommittee	0.0219	9.1151	0.3131	0.0246
	(1.51)	(1.05)	(2.83)***	(0.65)
RiskCommittee	0.0523	1.7029	0.0458	0.0347
	(1.61)	(1.53)	(0.37)	(0.52)
AO	0.0030	0.6049	0.1611	0.0731
	(0.10)	(0.17)	(1.23)	(1.48)
SIZE	0.0131	3.3206	0.0299	0.0082
	(2.42)**	(1.39)	(0.97)	(0.70)
ROA	0.0126	1.7354	0.0901	0.0236
	(2.29)**	(1.82)*	(3.41)***	(1.74)*
LLR	-0.0008	-0.6691	-0.0010	-0.0033
	(-0.71)	(-2.00)**	(-0.29)	(-1.70)*
GDP	0.0037	0.5394	0.0165	0.0220
	(-1.22)	(0.59)	(0.97)	(3.85)***
CONSTANT	0.4612	136.8762	2.2378	-0.1867
	(4.30)***	(2.72)***	(3.53)***	(-0.97)
Year & Country Effects	Yes	Yes	Yes	Yes
Sample	687	687	687	687
AR1	0.0264	0.0308	0.0231	0.0301
AR2	0.5321	0.6763	0.4372	0.5667
Hansen Test	0.2342	0.4303	0.2131	0.2679

Table 5: Comparative Analysis: Conventional versus Islamic Banks

This table provides a comparative analysis of the corporate governance effects on bank valuation between conventional banks (52 banks) and Islamic banks. All models include year, and country fixed effects. t-statistics are reported in parentheses. *, **, *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

	Panel A: Conventional Banks				Panel B: Islamic Banks			
	TOBINQ	*MB*	*P/E*	*RETURNS*	*TOBINQ*	*MB*	*P/E*	*RETURNS*
OWNERSHIP	0.0026	0.3512	0.0027	0.0036	0.0015	0.2385	0.0018	0.0025
	(2.34)***	(2.92)***	(2.23)**	(2.43)**	(1.59)	(1.98)**	(1.51)	(1.65)
BoardSize	0.0008	4.6413	0.0018	0.0040	0.0005	3.1512	0.0012	0.0027
	(0.20)	(2.26)**	(0.16)	(0.33)	(0.14)	(1.54)	(0.10)	(0.22)
DUALITY	-0.0066	-1.1733	-0.0602	-0.0833	-0.0045	-0.7966	-0.0409	-0.0566
	(-0.46)	(-0.78)	(-0.61)	(-2.79)***	(-0.32)	(-0.53)	(-0.42)	(-1.89)*
BIND	0.0523	18.3292	0.3219	0.0503	0.0355	1.4446	0.2186	0.0341
	(2.26)**	(2.42)**	(2.05)**	(0.91)	(1.54)	(1.65)	(1.39)***	(0.62)
FEMALE	0.2476	4.2917	2.1297	0.1691	0.1681	3.0717	1.4459	0.1148
	(2.58)**	(1.49)	(3.08)***	(0.68)	(1.75)*	(1.01)	(2.09)**	(0.46)
AuditCommittee	0.0282	1.7448	0.4034	0.0317	0.0191	7.9741	0.2739	0.0215
	(1.97)**	(1.42)	(3.61)***	(0.83)	(1.34)	(0.96)	(2.45)**	(0.56)
RiskCommittee	0.0674	5.7343	0.0590	0.0447	0.0457	3.4828	0.0401	0.0304
	(2.13)**	(1.96)**	(0.44)	(0.74)	(1.45)	(1.33)	(0.30)	(0.50)
AO	0.0038	0.7794	0.2076	0.0942	0.0026	0.5292	0.1409	0.0640
	(0.22)	(0.12)	(1.59)	(1.88)*	(0.15)	(0.18)	(1.08)	(1.28)
SIZE	0.0169	4.2786	0.0385	0.0105	0.0115	2.9049	0.0261	0.0071
	(3.19)***	(1.77)*	(1.25)	(0.91)	(2.17)**	(1.20)	(0.85)	(0.62)
ROA	0.0162	13.8327	0.1161	0.0303	0.0110	9.3917	0.0788	0.0206
	(2.89)***	(2.39)**	(4.43)***	(2.28)**	(1.96)**	(1.62)	(3.01)***	(1.55)
LLR	-0.0010	-0.8621	-0.0012	-0.0042	-0.0007	-0.5854	-0.0008	-0.0028
	(-1.01)	(-2.62)**	(-0.27)	(-2.24)**	(-0.68)	(-1.78)*	(-0.18)	(-1.52)
GDP	0.0048	0.6950	0.0213	0.0283	0.0032	0.4719	0.0145	0.0192
	(1.64)	(0.65)	(1.25)	(4.99)***	(1.11)	(0.44)	(0.85)	(3.39)***
CONSTANT	0.5942	17.3656	2.8835	-0.2406	0.4035	19.7431	1.9577	-0.1634
	(5.60)***	(3.57)***	(4.57)***	-(1.19)***	(3.81)***	(2.42)***	(3.11)***	(-0.81)
Country Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R2	0.2368	0.2605	0.2329	0.2945	0.1822	0.2004	0.1792	0.2266
Sample	646	646	646	646	338	338	338	338

Appendix A: Variables explanation and computation

Variable	Explanation
Dependent variables	
Tobin's Q (TOBINQ)	Market capitalisation + book value of liabilities divided by total assets
Market to book ratio (MB)	Stock price divided by stock book value
Price earnings ratio (P/E)	Stock price divided by earnings per share
Stock returns (RETURNS)	$(Price_t/Price_{t-1}) - 1$
Corporate governance variables	
Ownership type (TYPE)	Dummy variable: 1 for Islamic banks, 0 for conventional banks
Ownership concentration (Ownership)	The % of ownership of the top 3 shareholders
Board size (BoardSize)	Number of board members
Duality (Duality)	Dummy variable: 1 if the chairman is at the same time the CEO/GM, 0 otherwise
Board independence (BIND)	The % of independent board members
Board gender diversity (FEMALE)	The % of women board members
Audit committee (AuditCommittee)	Dummy variable: 1 for the existence of audit committee within the board, 0 otherwise
Risk committee (RiskCommittee)	Dummy variable: 1 for the existence of risk committee within the board, 0 otherwise
AO (Audit committee independence)	Audit Committee independence (% of independent members)
Control variables	
Size (SIZE)	Natural log of bank assets
Return on assets (ROA)	Net income divided by average assets
Loan-loss-reserves (LLR)	Loan-loss-reserves divided by gross loans
GDP growth rate (GDP)	Real growth rate of gross domestic product