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Board diversity and financial performance: A data-driven analysis of listed commercial banks in Vietnam

Linh Thi Ha Bui [1], Huyen Thi Thanh Lam [1,*], Anh Hoang Nguyet Nguyen [2]

[1]*Faculty of Corporate Finance, Academy of Finance, Hanoi, Vietnam*
[2]*Institute of International Finance Education, Hanoi, Vietnam*

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ABSTRACT

The role of board members has become increasingly important in corporate governance, particularly in the banking sector, which is a key part of the economy. This study aims to examine how the characteristics of boards of directors affect the financial performance of commercial banks listed in Vietnam. The analysis is based on data from 26 listed commercial banks over a sixteen-year period (2008–2023). Quantitative regression methods are used to assess the impact of board diversity on financial performance. The findings show that certain board characteristics—such as gender, level of education, presence of independent directors, and government ownership—have a negative effect on the performance of banks in Vietnam. However, the study also finds that state-owned banks tend to perform better, likely due to easier access to resources and government support during economic downturns. These results provide useful insights for listed banks in Vietnam to improve their board structure, which is crucial for enhancing financial performance.

1. Introduction

Enhancing corporate governance efficiency, thereby improving the overall firm performance, is an essential desire for companies globally. Corporate governance efficiency is influenced by the board of directors, especially the diversity of directors (Bagh et al., 2023). It is believed that diversity in the board of directors will bring significant benefits to the business, such as different perspectives, practical experiences, and unique skills, which can improve the quality of decision-making processes in both the short and long term. Notably, several countries have introduced regulations and guidelines to promote diversity in the board of directors, thereby exploiting its benefits. Typical countries that have applied these regulations are Norway and Germany, where regulations on the gender ratio in the board of directors have been implemented. The UK has encouraged the increase of female board members, while the US has placed a requirement for independent board members. This indicates that the concern about the effectiveness of board diversity has been increasing among researchers as well as governments worldwide. A diverse board is expected to bring numerous benefits to both companies and the economy, bringing a better understanding of customers, generating more innovations, and strengthening their position, that are especially important in the context of a rapidly changing global market. A diverse board can also bring a better alignment with sustainable development, which not only improves business performance and reputation but also ensures harmony with the interests of stakeholders and the environment.

Among various sectors of the economy, the banking sector plays a critical role, profoundly influencing financial stability, economic growth, and development. In particular, the effectiveness of bank governance has an essential impact on both national and global financial systems. Members' diversity in the bank's board of directors can contribute to better banking risk management, more effective monitoring, and more innovative and sustainable financial solutions (Ho et al., 2025).

In Vietnam, the role of the banking sector is exceptionally important, not only as the financial intermediaries retaining capital flows for the economy but also as an industry that significantly influences the national economic stability and development. Banks in Vietnam have had comprehensive growth and transformation over the

* Corresponding Author.
Email Address: lamthanhhuyen@hvtc.edu.vn (H. T. T. Lam)
https://doi.org/10.21833/ijaas.2025.06.008
Corresponding author's ORCID profile:
https://orcid.org/0009-0002-1985-8990

past few decades. Each bank has been making a committed effort to enhance its performance and adapt to the dynamic financial environment. To be a leading industry boosting economic growth, ensuring stability and sustainable development, mitigating risks for the economy, the Vietnamese banking industry needs to have a truly perceptive, visionary, dynamic, and effective corporate governance board, which is contributed by the diversity in the bank's board of directors.

In Vietnam, the consciousness of diversity among board members is unfamiliar, although researchers and governments worldwide have been promoting the importance of this issue. The boards of directors of Vietnamese banks have been formed according to traditional structures and have had quite uniform characteristics with limited representation of women, young people, and foreigners. However, awareness has been partly changing; banks in Vietnam are gradually realizing the significant role of diverse membership in the board. This change in awareness is completely consistent with the Vietnamese socio-economic transition, with international corporate governance standards and practices.

Although there are substantial studies in the world on the role of diverse boards in enhancing corporate achievements in developed countries, in emerging markets like Vietnam, there is a lack of extensive studies on this matter, especially in the banking sector. This research aims to fill this gap by providing empirical evidence on the interplay between diverse board members and corporate efficiency of listed commercial banks in Vietnam.

This paper is structured as follows: following the introduction, the literature review delves into corporate governance, including agency theory, stewardship theory, and stakeholder theory, which form the basis for the development of the hypotheses. The third section reviews previous studies and outlines the research methodology used to address the research questions. The subsequent section presents the study's findings and their interpretation. Finally, section 5 concludes with a discussion of the results and recommendations.

2. Literature review

2.1. Theoretical framework

Corporate governance encompasses the framework or system that outlines the principles for guiding and overseeing business operations. Efficient corporate governance practices strengthen the transparency, reliability, and overall quality of financial statements (Trung, 2022). In contrast, poor corporate governance poses significant risks to organizations. It is marked by an absence of accountability, insufficient risk management practices, poor corporate social responsibility, tax avoidance, and fragile internal control systems. These shortcomings can damage the organization's reputation and increase the likelihood of fraud and moral hazards (Nawawi and Salin, 2018; Norbit et al., 2017).

A well-structured governance approach ensures more effective investments and enhances corporate value (Claessens and Yurtoglu, 2013). At the core of corporate governance is the Board of Directors (BOD), which serves as the highest decision-making body in an organization. The board is responsible for guiding and overseeing the organization for the benefit of its shareholders (Taljaard et al., 2015). According to Donaldson (1990), the top management in an organization is controlled by the Board of Directors (BOD) through monitoring programs and the enforcement of various policies.

The BOD plays a crucial role in protecting the interests and assets of the company and ensuring investment profitability for investors. They are tasked with setting corporate objectives, developing business strategies, examining the effectiveness of multiple strategies, and overseeing the competency of executive management (Nekhili and Gatfaoui, 2013). The board's influence extends to arranging, supervising, and compensating senior managers, significantly impacting the firm's overall strategy (Chen et al., 2021).

In the banking sector, the role of the board is particularly critical due to the opacity often associated with bank lending activities. In such contexts, other stakeholders, including shareholders and debtholders, may find it challenging to impose effective governance. This elevates the importance of bank boards in maintaining rigorous oversight.

Additionally, in Vietnam, the board must adhere to the responsibilities and obligations outlined in Article 278 of Decree 155/2020/ND-CP. These include being accountable to shareholders for the company's activities, ensuring equal treatment of all shareholders, complying with legal and internal company regulations, and preventing conflicts of interest. The Board is also responsible for developing and disclosing its operational regulations, appointing a person responsible for corporate governance, organizing training for Board members and executives, and reporting its activities to the General Meeting of Shareholders. These regulations aim to improve the transparency, accountability, and effectiveness of corporate governance in public companies in Vietnam, which is particularly important in the banking sector.

Board diversity is reflected in many aspects. Diversity derives from age, gender, nationality, education, and professional background. In addition, diversity encompasses different life experiences, attitudes, and personalities of members on the board. Each of these factors can have its unique influence on the motivation and decision-making process within the board. Diversity indicates the complexity of the board structure; however, it points to the potential merits of promoting diversity in corporate governance.

Board diversity is advocated as it can bring significant potential benefits. Many policies, systems, and organizations support this view due to the belief that board diversity can lead to the utilization of talent and enhance the strategic decision-making process, as well as be more aligned with investor interests (Raheja, 2015). The variety of perspectives brought by board members with divergent backgrounds can enrich discussions and lead to more innovative solutions.

However, there are contrasting views on the impact of board diversity. Some critics argue that the heterogeneity of a board can introduce conflicts due to differing goals and perspectives among members. This can potentially diminish the efficiency of decision-making processes and might be more destructive than beneficial, hindering the creation of value. The challenge lies in managing the diverse viewpoints to ensure they contribute positively to the board's functionality rather than causing discord.

Moreover, according to Article 276 of Decree 155/2020/ND-CP, the composition of the BOD of a public company in Vietnam is defined with specific guidelines to ensure proper governance and accountability. The Board must consist of a minimum of 3 members and a maximum of 11 members. Furthermore, it is stated that at least one-third of the Board members must be non-executive members to promote balanced and objective decision-making. The number of independent directors required varies with the size of the Board: a minimum of 1 independent member is necessary for Boards with 3 to 5 members, at least 2 for Boards with 6 to 8 members, and at least 3 for Boards with 9 to 11 members.

Levine (1997) described a commercial bank that serves as a financial intermediary, defined as an institution that facilitates the flow of funds between ultimate lenders and borrowers. Ball (2012) defined a commercial bank function as a financial institution that accepts both checking and savings deposits, while also offering loan services to individuals and businesses.

A commercial bank is one whose primary functions are accepting demand deposits and making loans, thereby facilitating the flow of funds within the economy. A commercial bank is an institution primarily engaged in deposit-taking and loan-making, distinguishing it from investment banks, whose main activities include securities underwriting, mergers and acquisitions advisory, asset management, and securities trading. The features in these definitions are the acceptance of deposits from savers and the provision of loans to individuals and organizations, which highlight the role of commercial banks in mobilizing financial resources and underscore their importance in the economy.

In addition, according to the Law on Credit Institutions in 2020 in Vietnam, a commercial bank is defined as a type of bank that engages in all banking activities and other business operations prescribed by this Law for-profit purposes. Based on the nature and objectives of their operations, banks are classified into commercial banks, policy banks, and cooperative banks. However, in this study, the author focuses solely on the performance of commercial banks listed on the stock exchange.

Financial performance refers to the evaluation of a company's ability to effectively utilize its assets to create higher value for its shareholders. It also describes the overall financial condition of a company over a specific period. Financial performance can be measured using accounting-based indicators like ROA, ROE, and Return on Capital Employed (ROCE), as well as market-based indicators such as Tobin's Q and share price (Onyekwere et al., 2019).

Agency theory posits that the separation of ownership from management leads to conflicts of interest between principals (owners) and agents (managers), as managers may prioritize their self-interest over that of the owners (Jensen and Meckling, 1976). This concept, introduced by Jensen and Meckling (1976) and later expanded by Fama and Jensen (1983), underscores the fundamental issue of conflicting interests arising from the separation of ownership and control within an organization (Quoc Trung, 2021). The essentiality of hiring people to manage business activities, including enhancing firm performance and benefits to shareholders, can aggravate these conflicts.

To diminish agency problems, Jensen and Meckling (1976) proposed that closer collaboration and supervision between principals and agents are essential. Without such control, the agency problem is likely to negatively impact firm value. Eisenhardt (1989) also highlighted that an effective corporate governance framework can significantly mitigate conflicts inherent in the agency problem.

One strategy to enhance corporate performance is to nominate individuals with miscellaneous skills and practical work. Detering managers from chasing personal ambitions is crucial when it leads to the detriment of shareholders' interests (Valls and Rambaud, 2019). To effectively mitigate conflicts of interest, it is suggested that the roles of the CEO and the board's Chairman should be separated.

Several frameworks have been suggested to reduce conflicts between owners and managers. These include ownership for managers (Jensen and Meckling, 1976), executive salaries, debt ratio and debt level, the labor market, the BOD, owners, payout ratio as dividends, and the market need for corporate control. Each of these plays a significant role in aligning the interests of managers with those of the shareholders, thereby boosting corporate governance and the whole firm's performance.

Resource dependency theory clarifies the way in which external assets and resources affect the strategic direction and strategic perspectives of a company. In view of this theory, BOD plays a crucial role in strategic resources. The primary function of BOD is to provide the ability to access essential resources.

Corporate performance can be enhanced by the diversity of board members who bring diverse and unique resources (Shehata et al., 2017). The theory suggests that organizations are not completely selfsufficient and must rely on external entities to obtain important resources. Organizations refine their board composition to attract members who can bring vital resources, such as access to finance, information, or political connections, rather than relying solely on random or independent factors.

The diversity of members in the board of directors can have profound benefits such as diverse perspectives, different visions, strategic counseling, broad social networks which are uniquely drawn from each member's practical experiences, and natural characteristics. A diverse BOD can enhance the understanding of external environments comprehensively due to the discussions and interactions among board members (Nielsen and Huse, 2010).

Stakeholder theory assumes that companies should not only operate for the benefit of shareholders but also ensure the harmony of interests with stakeholders such as creditors, customers, employees, suppliers, government agencies, and the community. Only when a company ensures the balance of interests of stakeholders can it guarantee sustainable development. According to this view, the structure and membership of the board of directors must ensure the presence of stakeholders to express their interests and perspectives (Shehata et al., 2017).

It is not comprehensive to measure the performance of a company solely based on the best interests of shareholders. A company cannot exist independently without its stakeholders. the truth is that the interests of shareholders come from exploiting the interests of stakeholders, and it is necessary to be reciprocal and mutual in this relationship. Thus, incorporating diverse perspectives and interests into the decision-making process of the Board of Directors can ensure the sustained prosperity of the company.

Stewardship theory puts emphasis on the belief that managers will prioritize the goals of the company and its shareholders, because the sustainable growth of the company also offers the managers benefits. Thus, their decision-making tends to the prosperity of the company and its shareholders. This enables the CEO to exercise quick and independent decision-making, thereby enhancing business performance (Miller and Sardais, 2011).

The theory assumes that top management is inherently motivated to act in the company's best interests, aiming to work efficiently while being good stewards of the company's assets (Trung, 2022). Unlike agency theory, stewardship theory presumes there is no inherent conflict between the interests of managers and owners.

This approach emphasizes the alignment of the interests of managers and shareholders, focusing on trust and empowerment rather than oversight and control. The theory suggests that organizational performance can be significantly improved by fostering an environment where managers are trusted and empowered.

2.2. Empirical review

Tariah (2019) conducted an empirical study with 85 companies in the industrial and service sectors listed on the Amman Stock Exchange, Jordan. The study examined the influence of board diversity on company performance. The results of the study indicated that gender and ethnic diversity of board members had a positive impact on firm performance (ROA). Onyekwere and Babangida (2022) conducted research examining the relationship between the board and financial performance metrics (measured through Return on Assets (ROA) and Return on Equity (ROE)) of 12 commercial banks over a period of 5 years (2015-2019). The study indicated that characteristics such as gender and independence of board members have a positive impact on ROA and ROE. Gender diversity increases diversity of perspectives, increasing corporate governance efficiency. Additionally, the more independent members on the board of directors, the more transparency, and the fewer conflicts of interest.

Khalaf (2022) empirically studied the impact of diverse board membership on business outcomes for a group of banks in the Middle East and North Africa (MENA) region. The study found that gender diversity and board independence have a positive impact on bank performance (ROA) and stock performance. In addition, the study emphasized that fewer board members and higher independence have a positive impact on stock performance as a smaller board facilitates faster decision making, lower operating costs, and less complexity.

EmadEldeen et al. (2021) studied 233 non-financial companies listed on the London Stock Exchange (FTSE 350) from 2000 to 2016 to examine the impact of board diversity on financial performance (using ROA and Tobin's Q as proxies). The study found that gender and national diversity positively affected performance by offering diverse perspectives, experiences, and effective governance. On the other hand, age and educational diversity negatively affected performance, indicating that older board members reduce financial performance.

Tran et al. (2019) collected data from 482 listed companies from 2015 to 2017 to examine the impact of board diversity on corporate performance. The results of the study showed that factors such as gender, nationality, and education of board members have an impact on performance, specifically, the presence of female members, foreign members, and post-graduate educational members has a positive impact on performance. However, board age composition doesn't show a significant impact.

Trung (2022) investigated the board of directors' characteristics affecting the performance of commercial banks in Vietnam using data from 35 listed Vietnamese commercial banks over eleven years (2010–2020). The study employs a quantitative regression method, specifically the System Generalized Method of Moments. The results indicate that board size, nationality diversity, and advanced education of board members significantly impact bank performance. Furthermore, the study highlights the positive influence of ownership structures, particularly government ownership and ownership concentration, on bank performance. The findings emphasize that banks with significant ownership stakes (over 5%) held by institutions, the government, and board members tend to perform better.

2.3. Research gap

In recent years, the impact of board member diversity on organizational performance has garnered significant academic interest. While numerous studies have explored this topic, they often focus on different geographical regions and sectors, leading to varied conclusions.

Existing research on board diversity and firm performance (Tariah, 2019; Onyekwere and Babangida, 2022; Khalaf, 2022; EmadEldeen et al., 2021), has largely centered around locations such as Nigeria, Jordan, and the UK. The results obtained in these studies come in several ways, depending on the context of the homeland and different types of the banking sector, but there have been no extensive studies specifically for Vietnam. Although some studies by Tran et al. (2019) and Trung (2022) provide insights into the Vietnamese context, they do not focus on listed commercial banks, leaving an important gap in understanding the impact of board diversity on this industry segment.

Research has covered a range of board diversity variables, including gender, ethnicity, age, education, and work experience. Yet the effect of these dimensions on firm performance has been inconsistent. For instance, Tran et al. (2019) found that financial performance was influenced positively by female and foreign board members, whereas age diversity did not show a significant impact. Additionally, EmadEldeen et al. (2021) reported a negative impact of age and educational diversity on performance. This inconsistency underscores the need for further research to clarify the effects of different diversity dimensions, particularly within the context of Vietnamese listed banks.

In addition, Trung (2022) and Tran et al. (2019) also applied Tobin's Q to measure market valuation, but as the dependent variable (Tobin's Q — measure of market valuation) instead of fundamental financial performance indicators (ROA, ROE, ROCE) for listed banks in Vietnam. This speaks to another research gap in the literature.

Therefore, it is necessary to conduct more studies examining the impact of board diversity on financial performance indicators at commercial banks listed in Vietnam. That kind of study would have provided more practical and theoretical contributions to the research field of corporate governance and banking studies in Vietnam, in addition to being of more valuable insights into the governance dynamics and economic impacts of diversity initiatives in this area.

This research may focus on broader themes but a potential avenue for future work is an in-depth study of the Vietnamese-listed commercial banking sector in its totality. The investigation delves into the impact of diverse board attributes—such as board size, gender composition, age diversity, national identity, educational background, the proportion of outside directors, and government ownership—on the financial performance of Vietnamese-listed commercial banks. This study attempts to fill these outlined gaps in the literature to offer important clues to this crucial part of the Vietnamese economy.

This study would not only look at the direct effect of board diversity on its financial variables (ROA) but would also longitudinally analyze the past 16 years (2008-2023). Throughout these years, Vietnam's economy has witnessed various stages of development, including economic reforms, market liberalization, and integration into the global economy. Such economic cycles and regulatory environments are vital to understanding the evolving nature of board diversity dynamics and how they can cross periods of time and affect bank performance.

Using a longitudinal dataset, the objective of this essay is to elucidate the complex links between board diversity and bank performance throughout various stages of the economy. This will add new insight to close the gap of research but also provide chains of action that will assist policymakers, regulators, as well as bank CEO to improve the shortcomings and optimize the performance of those commercial banks that are currently listed in Vietnam.

3. Hypothesis development

The size of the board, which is defined as the "total number of directors on any given company proxy statement date" (Larmou and Vafeas, 2010), has become a prominent issue in corporate governance research. Early work by Lipton and Lorsch (1992) discussed board size from the perspective of agency theory. According to the agency theory, the size of BOD impacts a company's long-term performance (Fama and Jensen, 1983) as well as resource dependency theory.

Researchers believe that there is a negative relationship between board size and company performance based on agency theory. Larger boards tend to incur higher agency costs, and as the board grows, coordination and communication issues can become more prevalent. Boards with more than seven or eight members become less effective and more difficult for the CEO to control.

Empirical studies support these theoretical claims. Agoraki et al. (2010) examined 57 commercial banks in Europe from 2002-2006, finding a negative relationship between board size and both cost and profit efficiency.

However, not all findings are consistent with this negative perspective. Andrés and Vallelado (2008) argued that larger boards may offer specialized expertise, which enhances monitoring and advising functions. Despite this potential, directors on large boards might struggle to express their ideas effectively due to limited meeting times (Lipton and Lorsch, 1992). Conversely, Adams and Ferreira (2020) suggested that larger boards provide more networking opportunities and access to a broader range of skills, potentially leading to better performance. This perspective explains the positive relationship between board size and firm performance observed in larger Australian firms. Furthermore, according to Trung (2022), an increase in board size provides organizations with a diverse and holistic information network, which allows the board of directors to proactively make informed decisions. From the above discussions, we hypothesize that:

- H1: The larger the board size, the better the performance of commercial banks.

Prior studies show that female participation in the BOD improves company performance. Women are frequently seen to be highly effective and devoted directors because they are usually highly skilled achievers with respect to the attributes that lead to directorship. In addition, it has been found that women directors offer more respect for their duties and are better prepared for board meetings than men, which may enhance the effectiveness of decisions made by the boards and the information flow. Stakeholder theory suggests that a rise in BOD diversity might lead to expanded opportunities for increasing corporate value and achieving financial objectives. Previous empirical studies by García-Meca et al. (2015) and Mertzanis et al. (2019) have found that female directors on boards have a positive effect on profitability, particularly in the banking industry. Additional empirical evidence of the positive impact of female board members on organizational performance was based on the studies above carried out by Darmadi (2011), Nguyen et al. (2015), Adams and Ferreira (2020), and Birindelli and Iannuzzi (2022). Consistently, these studies have shown that firms with women on their boards outperform. Even gender diversity and industry experience in the BOD have a positive impact on efficiency, especially in highly competitive industries. Based on the discussions, the following hypothesis is proposed:

- H2: Gender diversity has a positive effect on the performance of commercial banks.

Kim and Lim (2010) emphasize the importance of age diversity on boards, suggesting a positive impact on firm value. They emphasize the complementary benefits arising from the productivity of younger board members and the seasoned experience offered by older members. Other studies have also found that firms with senior directors are generally less prone to facing bankruptcy risks (Platt and Platt, 2012), and some even indicate a positive correlation between the presence of directors over 50 and the adoption of strategic changes.

Age diversity within a BOD can potentially enhance bank profitability by leveraging diverse networks, experiences, knowledge, and resources. However, older managers often exhibit traits such as conservatism, authoritarianism, and limited creativity, which can be considered common weaknesses (Darmadi, 2011). Additionally, older CEOs may prioritize personal interests and a desire for a peaceful life, potentially leading to a decline in company performance (Bertrand and Mullainathan, 2003). Based on the findings presented, the author proposes the following hypothesis:

- H3: Age diversity within BOD negatively influences bank profitability.

Nationality diversity, as measured by the proportion of foreign directors on a BOD, has been a subject of interest in corporate governance research. Oxelheim and Randøy (2003) suggested that having foreign members on a BOD can provide a competitive advantage through access to international networks and a commitment to shareholder rights and responsibilities.

For instance, an analysis of the Fortune 500 cohort between 1998 and 2002 indicated that ethnic diversity had a positive impact across all firms. Likewise, Choi et al. (2007) found that the financial performance of firms was positively influenced by the presence of international directors on corporate boards. In addition, Fogel et al. (2013) also pointed out the advantages of having board members from different nationalities. National diversity, they argue, can diminish information asymmetry and organizational costs, enhance financial flexibility with expanded access to a more diverse set of investors and funding options, as well as facilitate the cross-border flow of information and technology. The following hypothesis is put forth based on the findings presented above:

- H4: The higher the number of nationalities, the better the performance for commercial banks.

In this regard, educational diversity in the board may facilitate dialogues with respect to the suitability of corporate strategies and increase the creation of a wider range of strategic alternatives through better evaluation of possible results, which may eventually lead to more creative solutions (Harjoto et al., 2019). Likewise, Bantel and Jackson's (1989) study revealed that CEOs with higher levels of education also tend to process information better and are most likely to adopt significant organizational changes. Jalbert et al. (2011) found that companies perform better when their board of directors includes members with advanced degrees. In a comparable manner, Bertrand and Schoar (2003) demonstrated that firms run by people with an MBA are more profitable. Cheng et al. (2010) emphasized that managerial educational attainment is a crucial determinant in enhancing the company's operational efficiency.

Furthermore, King et al. (2016) highlighted that the educational attainment of CEOs is crucial for bank performance, both in terms of quantity and quality. Fernandes et al. (2017) and Gande and Kalpathy (2017) explored that having a CEO with an MBA degree from a top 20 business school significantly improves a bank's performance. Drawing on the outlined findings, the following hypothesis is suggested:

- H5: Educational diversity has a positive effect on the performance of commercial banks.

Shawtari et al. (2017) and Shukla et al. (2020) defined an independent board member as someone without ownership interest or managerial rights within the company. Independent board members can limit information asymmetry, thus increasing the transparency of financial reporting (Allini et al., 2016). Lefort and Urzúa (2008) found that a higher proportion of independent directors correlates with increased firm value. However, not all findings support a positive view of board independence. García-Sánchez et al. (2021) observed that boards with more independent directors might perform worse, as these directors, often serving on multiple boards, may not dedicate sufficient time and resources to their fiduciary duties. Bhagat and Bolton (2008) and Fauzi and Locke (2012) found a negative correlation between board independence and firm performance in the US and New Zealand, respectively. Similarly, Kweh et al. (2019) utilized various analytical approaches, including OLS, two-stage least squares, and GMM, to analyze the impact of board independence on firm performance. The research demonstrated a significant negative relation among these variables for the case of Malaysian firms. On the other hand, Mohapatra (2016) suggested that independent directors have no effect on bank performance. Likewise, Zabri et al. (2016) found no significant relationship between corporate governance practices between board independence and firm performance. Employing panel data analysis, Onyekwere et al. (2019), through their study of five (5) Nigerian banks, discovered that board independence does not have any significant effect on ROA and ROE. Similarly, Trung (2022) found no significant impact on the financial performance of Vietnamese banks. In addition, Hermalin and Weisbach (2023) found a more independent board of directors tends to increase supervision, but the effectiveness depends on the specific context of the business. Based on the results previewed above, a hypothesis is proposed:

- H6: Independent directors' impact on the performance of commercial banks.

The topic of government ownership in banks has raised significant discussion about its impact on the performance of such financial institutions. Trung (2022) argued that government ownership has a positive impact on bank performance, implying that state involvement might lead to stability and assistance. Zeitun (2014) equally sided with this opinion, arguing that government ownership in companies provides more protection and better chances to generate more profit. Bhattacharyya et al. (1997) found publicly owned banks to be the most efficient, outperforming foreign as well as domestic private banks. However, not all research aligns with these positive views. Chen and Liu (2013) discovered that government-owned institutions negatively influence ROA, indicating that these institutions have a 0.185% lower ROA compared to the average private domestic institutions. This suggests that while government ownership can offer certain advantages, it may also come with inefficiencies that impact profitability. Based on the findings presented, the following hypothesis has been put forward:

- H7: Government ownership affects the performance of commercial banks.

4. Research methodology

4.1. Research data

This study focuses on listed commercial banks on Vietnam's primary stock exchanges: HOSE, HNX, and UPCOM. Data will primarily be sourced from the websites of 26 banks, annual reports, corporate governance reports, and audited financial statements. The annual reports provide the board of directors' profiles, including gender, age, nationality, education, and information on independent directors. Corporate governance reports contain data on board meeting frequencies. Audited financial statements offer crucial financial metrics such as total assets, audit firm details, leverage ratios, and ROA. However, due to insufficient data, Viet Capital Bank was excluded from the study (the exclusion of this bank from the sample does not affect the results, as its size is very small, and it does not accurately represent the characteristics of the rest of the sample). Macroeconomic indicators essential to the study, such as Vietnam's GDP growth rates and inflation figures, are sourced from the reputable World Bank database. The study covers the period from 2008 to 2023, comprising a total of 416 observations.

4.2. Research variables

4.2.1. Dependent variables

This study measures financial bank performance using ROA, which indicates how profitable a company is in relation to its total assets.

4.2.2. Independent variables

Regarding the variables that may explain bank performance, SIZE is defined as the total number of directors on the proxy statement date. GENDER and NATIONALITY are calculated as the proportions of female and foreign members, respectively, to the total number of directors on the board. AGE is measured as the average age of the BOD. EDUCATION is represented by the number of members holding a master's degree or doctorate, divided by the total number of board members. INDEPENDENT refers to the number of non-executive directors compared to the total number of board members. Finally, GOVERNMENT OWNERSHIP is a dummy variable that takes the value of 0 if the bank is a state-owned commercial bank and 1 otherwise.

4.2.3. Control variables

The control variables in this study also account for differences in audit firms and bank structure, particularly focusing on bank size (BANKSIZE) and bank age (BANKAGE). Each control variable used in this study has been used by different researchers.

Audit firm type is another important control variable in this study, coded as 1 if the bank is audited by one of the Big 4 audit firms, and 0 otherwise. The type of audit firm can significantly influence bank performance, with mixed findings in the literature. Bouaziz and Triki (2012) suggested a positive impact of Big 4 audit firms on bank performance, implying that these prestigious firms enhance the credibility and perceived reliability of financial statements, thereby boosting investor confidence and potentially improving performance.

On the other hand, this may have the counterintuitive effect of reducing reported performance in the short run as a Big 4 auditor is likely recognized to engage in more rigorous review and conservative financial reporting (Trung, 2022). Towers also pointed out that many small banks in Vietnam use Big 4 audit services as a tool for building confidence among shareholders and investors, respectively. But after they have their financial house in order, these banks also tend to impress the audit controls by choosing non-Big 4 auditors, thereby reporting a more favorable post-audit financial performance. The standard of the audit firm is another crucial variable since it captures the trade-off between quality and reputation (the upside of increasing credibility) versus expense and dependence (the downside from stringent audits) on banks.

In empirical banking literature, bank size is usually measured as the logarithm of the bank's total assets at book value-some recent examples include Tan (2016) and Dietrich and Wanzenried (2011), among others. According to Andrés and Vallelado (2008), larger banks are often able to grant lower costs because of the considerable market power they usually enjoy. In addition, larger banks benefit from economies of scale and diversification on account of larger customer bases, which, in turn, reduces their cost of funding and enhances profitability. The size advantage also involves spreading fixed costs over a larger asset base, therefore having access to a more diversified pool of resources and investments that may enhance stability and performance.

Bank age is the other important control variable and is measured by the logarithm of years since the bank's inception. Other studies indicated that the older an entity is, the more experience and established branding it has, which usually enables it to perform well, as stated by Akben-Selçuk (2016). The reasons are that long-standing institutions have built strong operational frameworks, customer confidence, and market recognition that, with time, may lead to better performance. However, this does not find universal acceptance. Beck et al. 2005 showed that older institutions tend to perform worse compared to the new entrants. This finding is supported by Wu et al. (2007), who found that older banks often have lower ROA than younger banks. These mixed results suggest that the link between a bank's age and its performance is complex. On one hand, older banks may benefit from more experience and a stronger market presence. On the other hand, they may suffer from complacency and reduced efficiency over time. Therefore, including bank age as a control variable helps to capture both the positive and negative effects it may have on performance.

Another control variable in this study is economic growth, measured by the annual real change in Vietnam's GDP. In theory, economic growth should have a positive effect on bank profitability because, during economic expansion, the demand for banking services increases and the risk of loan defaults decreases. When the economy is stable, individuals and businesses are more likely to apply for credit, which can improve bank earnings. This idea is also supported by empirical studies.

For example, Petria et al. (2015) confirmed a positive link between GDP growth and bank profitability. Similarly, Jara-Bertin et al. (2014) found that economic growth improves bank performance in Latin America. These findings highlight the beneficial impact of economic growth on banking sector profitability. Table 1 provides a summary of the variables, including GDP, used in this study.

4.3. Proposed model

First, the Pooled OLS regression was applied to preliminarily identify the fundamental relationship between independent and dependent variables. The regression equations were specified as follows:

$$
\begin{aligned}
ROA = \beta_0 &+ \beta_1\, BOARDSIZE + \beta_2\, GENDER + \beta_3\, AGE \\
&+ \beta_4\, NATIONALITY \\
&+ \beta_5\, EDUCATION + \beta_6\, INDEP \\
&+ \beta_7\, GOVEROWN + \beta_8\, AUDITFIRM \\
&+ \beta_9\, BANKSIZE + \beta_{10}\, BANKAGE \\
&+ \beta_{11}\, GDP + \epsilon
\end{aligned}
$$

Subsequently, the Fixed Effect Model (FEM) and Random Effect Model (REM) were employed to further estimate the relationships outlined in the model. The Hausman test was then conducted to determine the most appropriate model between FEM and REM. By using GLS, the analysis seeks to robustly assess the impact of board diversity and other control variables on bank performance, ensuring that the results are not biased by unobserved heterogeneity or other econometric issues. The Generalized Method of Moments (GMM) will be employed to address potential endogeneity issues.

5. Research results

5.1. Descriptive analysis

Table 2 provides descriptive statistics for all variables included in the model, but they can be summarized in several new statistical findings: The mean value for ROA is 1.0718 with a standard deviation of 0.9987. The maximum and minimum ROA values are -5.99 and 11.9, observed in Lien Viet Post Joint Stock Commercial Bank (LPB) and Tien Phong Commercial Joint Stock Bank (TPB), respectively. The average number of directors on the board (BOARDSIZE) is 7.41, with a standard deviation of 1.76. The largest board, with 13 members, was observed at the Joint Stock Commercial Bank for Investment and Development of Vietnam (BIDV) in 2015. In contrast, the smallest board, consisting of 4 members, was recorded at Orient Commercial Joint Stock Bank (OCB) in 2011.

The average age (AGE) of board members is 49.51 years, with a standard deviation of 6.01. The oldest average board age, 62.8 years, was found at A Binh Commercial Joint Stock Bank (ABB) in 2010, while the youngest, 32.17 years, was recorded at Bac A Commercial Joint Stock Bank (BAB) in 2023.

The variable GENDER, which indicates the proportion of female board members, has a mean of 0.1821 and a standard deviation of 0.1616. The highest proportion of female members, 0.8, was recorded at the National Citizen Bank (NVB) in 2010, while the lowest value is 0. This minimum value also appears in the variables NATIONALITY, EDUCATION, and INDEPENDENT, indicating that in some of the 416 observations, boards had no foreign members, no members with a master's or doctoral degree, or no independent members.

Dummy variables are used for GOVEROWN and AUDITFIRM, with values ranging from 0 to 1. The mean value of GOVEROWN is 0.8846, indicating that 88.46% of the banks are non-state-owned commercial banks. The mean value of AUDITFIRM is 0.8077, suggesting that 80.77% of the banks are audited by one of the Big Four accounting firms.

5.2. Regression testing

Pooled OLS regression was employed to provide an overview of the relationship between the independent and dependent variables. All VIF coefficients for the variables are less than 5, providing evidence that multicollinearity is not present. However, testing for autocorrelation in the two models revealed Prob > F values of 0.0008 and 0.0014, respectively, both of which are less than 5%, indicating the presence of autocorrelation. Additionally, testing homoskedasticity in both models showed Prob > F values of 0.0000, also less than 5%, signifying that the models exhibit heteroskedasticity, meaning the variance is not homogenous.

Table 1: Explanation of variables

	Variable	Expected sign	Reference
Dependent variables	ROA		Cao et al. (2021) and Onyekwere (2022)
	BOARDSIZE	+	Trung (2022) and Andrés and Vallelado (2008)
	GENDER	+	Darmadi (2011) and Nguyen et al. (2015)
	AGE	-	Bertrand and Mullainathan (2003) and Darmadi (2011)
Independent variables	NATIONALITY	+	Fogel et al. (2013) and Choi et al. (2007)
BOD characteristics	EDUCATION	+	Fernandes et al. (2017), Gande and Kalpathy (2017), and Bertrand and Schoar (2003)
	INDEP	-	Bhagat and Bolton (2008)and Fauzi and Locke (2012)
	GOVEROWN	+	Trung (2022), Zeitun (2014) and Bhattacharyya et al. (1997)
	AUDITFIRM	+	Bouaziz and Triki (2012)
Control variables	BANKSIZE	+	Elsas et al. (2010), Petria et al. (2015), Chowdhury and Rasid (2015), and Singh and Sharma (2016)
	BANKAGE	-	Beck et al. (2005) and Tan (2016)
	GDP	+	Petria et al. (2015) and Jara-Bertin et al. (2014)

Table 2: Descriptive analysis of variables

Variable	Observation	Mean	Standard deviation	Min	Max
BOARDSIZE	416	7.4135	1.7609	4	13
GENDER	416	0.1821	0.1616	0	0.8
AGE	416	49.5103	6.0122	32.1667	62.8
NATIONALITY	416	0.0836	0.1203	0	0.4286
EDUCATION	416	0.4859	0.2627	0	1
INDEP	416	0.1337	0.0873	0	0.4
GOVEROWN	416	0.8846	0.3199	0	1
AUDITFIRM	416	0.8077	0.3946	0	1
BANKSIZE	416	18.4821	1.3184	14.6987	21.5566
BANKAGE	416	24.3173	11.5801	1	66
GDP	416	0.0596	0.0147	0.0256	0.0802
ROA	416	1.0718	0.9987	-5.99	11.9

Consequently, the results obtained from the Pooled OLS method were not effective. FEM and REM were used to re-estimate the models to tackle these problems. Test results indicated that the FEM and REM models were more appropriate than the OLS model in both scenarios. The author then examined the suitability between the FEM and REM models for both situations. A Hausman test was used to determine which model was more appropriate, FEM or REM. After performing the Hausman test, the author found that the REM was more appropriate for their data. Thus, the REM was used for the analysis, yielding slightly more accurate conclusions about the relationship between the independent variables and return on assets (ROA) than would have been yielded by the OLS model. The following variables are found to be endogenous during the testing process: AGE, INDEP, BANKSIZE, BANKAGE, and GDP. The GMM model is utilized to mitigate the endogeneity problem of the previously mentioned variables.

The model's outcomes point to a clear relationship between the ROA measure of return and certain independent variables. Table 3 presents the results of the regression analysis. Table 4 provides a summary of the regression results.

Table 3: Regression testing of the model

Variables and parameters	Coefficient	P-values
CONSTANT	-1.1906	0.276
BOARDSIZE	0.1767	0.433
GENDER	-0.9213	0.003
AGE	0.0012	0.905
NATIONALITY	-0.4292	0.306
EDUCATION	-0.0090	0.967
INDEP	-1.8144	0.009
GOVEROWN	0.3215	0.103
AUDITFIRM	0.1158	0.432
BANKSIZE	0.1926	0.002
BANKAGE	-0.4263	0.000
GDP	-5.5211	0.080
No. of observations	416	
R-squared	0.1467	
Adjusted R-squared	0.1234	

Table 4: Summary of regression results

Variable	OLS	FEM	REM	GLS	GMM
BOARDSIZE	0.0383 (0.0316)	0.0175 (0.0369)	0.0366 (0.0336)	0.0330** (0.0138)	0.0182 (0.0484)
GENDER	-1.016*** (0.312)	-0.969** (0.461)	-0.857** (0.381)	-0.394** (0.198)	-1.046* (0.620)
AGE	0.00164 (0.0107)	-0.0116 (0.0127)	-0.00159 (0.0117)	-0.0136** (0.00603)	-0.0136 (0.0242)
NATIONALITY	-0.424 (0.434)	-0.117 (0.600)	-0.304 (0.522)	-0.0667 (0.323)	-0.245 (0.568)
EDUCATION	-0.0539 (0.219)	-0.191 (0.258)	-0.0985 (0.238)	-0.140 (0.110)	-0.839** (0.369)
INDEP	-1.811** (0.712)	-1.968*** (0.758)	-1.763** (0.725)	-0.997*** (0.383)	-2.072* (1.234)
GOVEROWN	0.400* (0.238)	0.000 (.)	0.516 (0.367)	0.623*** (0.199)	2.381*** (0.570)
AUDITFIRM	0.223 (0.148)	0.282 (0.229)	0.250 (0.183)	0.185* (0.107)	0.0448 (0.583)
BANKSIZE	0.121** (0.0606)	-0.275** (0.138)	0.0758 (0.0777)	0.247*** (0.0526)	0.598*** (0.122)
BANKAGE	-0.00577 (0.00640)	0.0793*** (0.0262)	0.00317 (0.0105)	-0.00666 (0.00597)	0.0289* (0.0170)
GDP	-5.466* (3.214)	-4.149 (3.104)	-5.323* (3.080)	2.704** (1.081)	2.093** (0.891)
Constant	-1.104 (1.041)	5.237** (2.145)	-0.474 (1.340)	-3.569*** (0.921)	-11.65*** (1.656)
Observations	416	416	416	416	364

Standard errors in parentheses; *: $p < 0.10$; **: $p < 0.05$; ***: $p < 0.01$

First, GENDER, EDUCATION, and INDEP increased, then ROA decreased, respectively. Such outcomes indicate issues of gender diversity, educational level, and board independence that may have a detrimental effect on firm performance. The negative relation between ROA and GENDER could imply that greater diversity on the board is not a panacea; in fact, it might reflect challenges of managing diverse teams or important firm-wide information biases. The adverse influence of educational level suggests that the higher the proportion of members holding post-graduate degrees on the board, the lower the financial performance. The same goes for INDEP as with overall "good governance": High INDEP is normally good, but if different views are held among the board members, this might lead to losing internal cohesion or lead to slower decisions. On the other hand, GOVEROWN government ownership has a positive impact on bank performance.

For the control variables, BANKSIZE had a significant positive effect on ROA at 1% level, indicating that total assets played a significant role in increasing ROA. This strong positive relationship indicates that firms with larger asset bases can leverage their resources more effectively to generate higher returns. Larger assets provide more opportunities for investment, expansion, and economies of scale, all of which can improve profitability.

Additionally, GDP was statistically significant at the 10% level. Specifically, a 1% increase in BANKSIZE and GDP was associated with expected increases in ROA by 0.598% and 2.093%, respectively. The positive impact of GDP growth on ROA highlights the influence of broader economic conditions on firm performance. A growing economy generally leads to increased business opportunities, higher demand for products and services, and better financial outcomes for firms.

6. Discussion and recommendation

Firstly, the negative coefficient (-1.046) for gender diversity indicates that an increase in the proportion of women on the board of directors has a negative impact on the ROA of banks. This finding contrasts with expectations and differs from studies such as Darmadi (2011), Nguyen et al. (2015), García-Meca et al. (2015), and Mertzanis et al. (2019), which generally observe a positive impact of gender diversity on corporate performance. These studies argue that increasing the proportion of women on the board brings diverse, creative, and rational perspectives, reducing biases in decision-making and bolstering its reputation among customers, partners, and investors. However, this result aligns with certain explanations from existing literature and theoretical perspectives that clarify the negative relationship. Studies by Pucheta-Martínez et al. (2016), Yang et al. (2019), and Ahern and Dittmar (2012) suggested that increased gender diversity driven by regulatory mandates and external pressures from governments, organizations, and investors—rather than an intrinsic desire within the board—may lead to conflicts within the board and reduce the effectiveness of decision-making processes (Darmadi, 2013; Pucheta-Martínez et al., 2016). In the banking sector, research such as that by Sajjad and Rashid (2015) on Pakistani banks and Lim et al. (2019) has also identified a negative relationship between gender diversity and financial performance. In Vietnam, the banking sector is essentially male-dominated. The increase in the proportion of women on the Board of Directors, according to the legal regulations on gender equality, is more a matter of fulfilling legal requirements than a true contribution from them as members of the Board. This slows down the decision-making process, and the more the proportion of women increases, the more difficult it becomes to integrate and communicate effectively. This requires fostering a board culture that encourages the active participation of women. Incorporating women into boards must be carefully prepared, ensuring harmony among board members, and accompanied by training and leadership development for female board members. Such efforts are essential to maximize the potential benefits of gender diversity while minimizing its drawbacks, ultimately enhancing corporate performance in Vietnam's banking sector.

The coefficient for education is negative, suggesting that the educational background of board members in listed commercial banks in Vietnam influenced this performance metric negatively. This finding contrasted with previous research. Since operational decisions are often carried out by lower management levels and are influenced by day-to-day activities, the educational background of the BOD might not have a negative impact on ROA. Operational efficiency usually depends on the bank's developed processes and systems, not highly educated board members' strategic input. In the context of Vietnam, the negative influence of educational diversity on firm performance can be justified by several factors. Banks in Vietnam have much in common with developing economies in terms of facing problems that not every highly educated board member would be aware of, thanks to their academic and theoretical knowledge. The business environment in Vietnam is mainly practical and requires fast, adaptable decision-making, with a profound understanding of local market conditions. Highly educated board members, particularly those with advanced degrees, might pay more attention to theoretical approaches and complex analyses that do not necessarily go in line with the immediate needs and practicalities of the banking sector in Vietnam. Moreover, the banking sector in Vietnam is marked by rapid changes and pragmatic solution imperatives. On the other hand, highly educationally diverse boards may find it difficult to arrive at a consensus, as members with diverse educational backgrounds may have different opinions on strategic decisions. This may lead to time-consuming decision-making with possible conflicts, hence making the board less effective. In this respect, this alludes to the need to balance academic knowledge with practical experience and contextual understanding in the boardroom for optimal firm performance in the context of the Vietnamese banking sector.

Our results indicate that increasing the number of independent directors has a negative impact on the performance of listed banks in Vietnam. This finding is consistent with previous research by Bhagat and Bolton (2008) and Fauzi and Locke (2012). Boards with a larger proportion of independent directors may perform worse because these directors often do not devote enough time and resources to fulfilling their fiduciary duties. Kweh et al. (2019) and Cavaco et al. (2016) have shown that the inefficiencies arising from board independence outweigh the expected benefits. In the Vietnamese context, the negative impact of independent directors on bank performance may be related to practical challenges and the legal framework, such as Article 276 of Decree 155/2020/ND-CP, which sets out specific criteria for independent directors in Vietnamese companies. Despite the regulatory push to enhance board independence, these independent directors may face difficulties due to limited understanding of market practices and insufficient involvement in the day-to-day operations of the bank. Independent board members are often valued for their objectivity and outside perspective. However, in the Vietnamese banking sector, which is characterized by rapid changes and the need for quick, informed decision-making, the theoretical benefits of independence may not translate into practical advantages. Independent directors may have difficulty in deeply understanding the complex, local issues facing banks, leading to slower decision-making and reducing the overall effectiveness of the board. Independent directors, who are less involved in the day-to-day operations and strategic nuances of the bank, may not be able to contribute effectively to this alignment, thereby affecting the bank's overall profitability and performance.

Our results indicate that greater government ownership has a positive impact on bank performance. Similar results are found by Zeitun (2014) and Trung (2022). They argue that greater government ownership can help firms gain better access to finance and support during economic downturns. Micco et al. (2007) found that government-owned banks in developing countries tend to perform better than their private counterparts due to greater access to resources and support. In addition, García-Meca et al. (2015) found that board diversity has a positive impact on bank performance, especially when there is government ownership. Research shows that government involvement can enhance the effectiveness of diverse boards by providing a stable and supportive environment for decision-making. Government ownership of banks often brings a level of stability and credibility that can reassure investors and customers. This stability is particularly important in emerging markets like Vietnam, where economic fluctuations and market volatility can pose significant risks. State-owned banks can receive preferential treatment in terms of regulatory support, access to capital, and customer confidence, which can improve their performance and profitability. Furthermore, government ownership can link a bank's goals to broader national economic goals, ensuring a focus on long-term stability and growth rather than short-term profit maximization. In the context of Vietnam, where the banking sector plays a key role in economic development, government ownership can facilitate access to resources and networks that are important for growth. State-owned banks can also benefit from policies and initiatives that support key industries and sectors, thereby further improving their performance. Therefore, fostering an environment where diverse perspectives are integrated into decision-making processes, under the auspices and stability of government ownership, can significantly improve bank performance.

In summary, this study explores how various characteristics of the BOD influence the performance of listed commercial banks in Vietnam from 2008 to 2023. The research findings reveal several significant impacts: while government ownership positively affects firm performance, gender diversity, educational level, and independent directors negatively influence ROA. The number of members, the average age of the BOD, and nationality do not significantly affect firm performance. Additionally, control variables indicate that total assets, bank age, and GDP positively impact firm performance, while the presence of audit firms does not affect either model. Therefore, the study underscores that government ownership enhances firm performance in Vietnamese-listed commercial banks. However, gender diversity and certain demographic characteristics of BOD, such as educational level and independence, present challenges to firm performance. These findings align with agency theory and resource dependency theory, suggesting that the negative impact of independent directors, gender diversity, and higher education levels on bank performance due to ineffective monitoring or conflicts in decision-making, and state ownership can help banks access resources and enhance performance.

The results suggest that optimizing board composition, focusing on governance practices that enhance strategic oversight and operational efficiency, and aligning with international best practices can significantly improve the performance of listed commercial banks in Vietnam amidst diverse economic conditions.

List of abbreviations

BOD	Board of directors
ROA	Return on assets
ROE	Return on equity
ROCE	Return on capital employed
GDP	Gross domestic product
FEM	Fixed effect model
REM	Random effect model
OLS	Ordinary least squares
GLS	Generalized least squares
GMM	Generalized method of moments
VIF	Variance inflation factor
HOSE	Ho Chi Minh City Stock Exchange
HNX	Hanoi Stock Exchange
UPCOM	Unlisted public company market
BIDV	Joint Stock Commercial Bank for Investment and Development of Vietnam
OCB	Orient Commercial Joint Stock Bank
LPB	Lien Viet Post Joint Stock Commercial Bank
TPB	Tien Phong Commercial Joint Stock Bank
ABB	A Binh Commercial Joint Stock Bank
BAB	Bac A Commercial Joint Stock Bank
NVB	National Citizen Bank
MENA	Middle East and North Africa
FTSE	Financial Times Stock Exchange
MBA	Master of business administration
CEO	Chief executive officer

Compliance with ethical standards

Conflict of interest

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