

## To What Extent does Corporate Governance Influence Financial Performance of Banks in Nigeria?

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### ABSTRACT

This study examined the link between bank performance and a vector of corporate governance, macroeconomic and institutional quality indicators, using data of 15 banks listed on the stock exchange from 2010 to 2019. Static panel data regression model was estimated, with Return on Asset (ROA) employed as a proxy for bank performance. Estimated results show that, bank age and bank performance are negatively related, while board size had a negative but insignificant effect on ROA. The coefficient of board composition was significant and positively signed while the coefficient of non-performing loan expectedly had an adversely significant effect on its performance. Other results showed the expected significance of macroeconomic and sociopolitical influence on bank performance. Specifically, misery index, a measure of macroeconomic instability had a negative influence on bank performance, while per capita GDP exert a positive effect on bank return on asset. Regulatory quality, a measure of governance, had a positive impact on bank performance while polity, a measure of likelihood of political instability, was found to have a negative and significant effect on bank performance, suggesting the destabilizing effects of political instability on bank performance. This study provides important policy recommendation on the need to enhance corporate governance, effective macroeconomic strategy adoption within a sound politico-institutional setting to improve the trajectory of overall bank performance in Nigeria.

Key words: Corporate Governance; Bank Performance; Panel Data Analysis; Misery Index; Nigeria.

JEL Classification: G21, G34, O16

### 1.0 INTRODUCTION

The financial sector is the backbone of every country's economic system and, it is particularly effective in facilitating commercial activities through the use of money for payments and investments. This makes the operations of banking institutions within a financial system critical to stimulating economic performance by acting as a bridge between the surplus and deficit economic units (Bencivenga & Smith, 1991; Pagano, 1993; King & Levine, 1993; Perkins, Radelet & Lindauer, 2006; Green, Kirkpatrick & Murinde, 2006; Abdulraheem, Ogbeide, Adeboje and Musa, 2019).

However, the process of financial intermediation, particularly when there is an unexpected mismatch in level of funds' maturities, makes Deposit Money Banks (DMBs) to be exposed to liquidity risks or outright failure. The events that unfolded in the Nigerian banking system during and after the 2007 global financial crisis necessitated further need to strengthen the country's macro-prudential and corporate governance regulations, as the banking sector was severely hit, with the quantum of bad loans in the industry reaching unsustainable levels.

Understanding the relationship between corporate governance and company's performance has received attention across academic and policy circles over the past decade-and-a-half, especially with the occurrence of prominent corporate irregularities in many developed economies (Bianco, Ghosh, and Sirmans, 2007). The reason for increased attention dovetails from the fact that, corporate governance is seen as a set of interdependent relationships between a company's management, board of directors, shareholders, and other stakeholders that provide the framework for determining the company's goals, as well as the methods by which those goals can be achieved and the results that can be tracked. This is because effective corporate governance remains very crucial to efficient functioning of banking sector and the economy in general (Basle Committee on Banking Supervision, 2015).

To encourage a good corporate governance tradition in the financial services sector, the regulatory agencies, like the Securities & Exchange Commission (SEC), Central Bank of Nigeria (CBN), amongst others, release corporate governance codes from time to time. The thrust of the codes is geared towards promoting an efficient and transparent banking system, with effective risk management system in a bid to create value for stakeholders (Umoh, 2002).

Thus, it is now widely accepted that the soundness and profitability of any business enterprise can be greatly influenced by the quality of corporate governance. All economic transactions, especially in emerging and transition economies, have been identified as critical to corporate governance in terms of explaining differences in firm-level performance (Dharwardkar, et al., 2000). Some authors contend that a company's ability to respond to external factors that have an indirect impact on overall performance is influenced by the governance structure of the entity. In this regard, it has been noted that well-governed companies typically outperform their competitors, and that good corporate governance is essential for businesses. Some authors contend that a company's ability to respond to external factors that have an indirect impact on overall performance is influenced by the governance structure of the entity. In this regard, it has been noted that well-governed companies typically outperform their competitors, and that good corporate governance is vital for businesses to succeed (Berglof & Von-Thadden, 1999). To this end, the OECD (2003) asserted that the general growth of an economy is highly dependent on the effectiveness of a nation's governance institutions.

The extant literature has gained much more attention with attempts by researchers across the world, even in developing and emerging economies, to explain the effect of corporate governance mechanism on the performance of financial institutions. There are theoretical link that, the survival and stability of any financial sector depends on the quality of its governance structure. However, in spite of several reforms put to strengthen the bank performance through the adoption of broad-based codes of corporate governance in Nigeria, monitoring and the resultant banking sector consolidation exercise, corporate governance remains relatively weak in the sector, with attendant effects on bank depositors and profitability.

More so, despite the volume of inspired empirical studies, like Maher and Andersson (1999); Adenikinju and Ayorinde (2001); Jensen (2001); Claessens (2003); Gompers & Metrick (2003); Ahmad and Tukur (2005); Sanda (2005); Kajola (2008); Kim, Nofsinger and Mohr (2010); Akpan (2012); Daniya, Adeyeye, Ndibe and Yahaya (2016), that have established the relationship between corporate governance and firm performance, no consensus exist yet regarding the

definite effect of corporate governance mechanism on bank performance, and the nature of relationship, which gives room for further studies. In addition, most of these studies ignored the role of macroeconomic variables and political governance indicators in analysing the nexus between corporate governance and financial performance of banks. More so, some of these earlier studies employed dummy variables to capture board size and bank age, and other corporate governance measures, and using such dummy variables as metrics, may lead broadly to spurious empirical findings and biases in policy formulation.

Therefore, this study seeks to bridge these aforementioned gaps in literature. This study is a novel attempt to introduce economic misery and political governance indicators in modelling the corporate governance-performance nexus within a country study. The study is important and relevant because it brings important aspects of economic literature together, namely corporate governance, bank performance, macroeconomic factors and politico-institutional variables, with scope for broadened policy formulation and adoption of holistic corporate governance mechanism and institutional quality to induce higher level of banking system performance.

This paper is structured into six sections. Following this introductory section, section 2 contains stylised facts on corporate governance and brief synopsis of relevant regulations, section 3 reviews related literature, and section 4 discusses the research framework and methodology. Presentation of empirical results and discussion follows in section 5, and the last section, contains concluding remarks and key policy recommendations.

## **2.0 STYLISTED FACTS ON CORPORATE GOVERNANCE OF BANKS IN NIGERIA**

### **2.1 Stylised Issues on Corporate Governance in Nigeria**

There is no question that some remnants of Nigerian culture still affect the governance procedures in Nigerian banks. Over the years, corruption, insecurity, and other social ills have negatively impacted the Nigerian banking system and are indelibly woven into every aspect of life there. According to Yakasai (2001), the management of the majority of Nigerian firms "cooks the books" in order to conceal the true state of the bank's health and give the public and shareholders the impression that everything is fine. However, because the financial reports were falsified, there is no obvious positive impact on the real economy; as a result, employment cannot be sustained even if the employing banks survive. Corporate governance in Nigeria has suffered greatly as a result of this act of corruption that resulted in behind-closed-doors governance, and this has gradually sparked some reforms, particularly in the Nigerian banking sector. For banking reforms to work, the rule of law and corruption must be strictly enforced (Alford, 2001). Moreover, the socio-cultural, ethical, political, and religious forces underlying the Nigerian nation's existence are crucial determining factors. This is also evident in the manner in which businesses are managed in Nigeria (Okike, 2007). All of the aforementioned factors define the societal influences on corporate governance in Nigeria.

Specifically, Yakasai (2001) identified some cultural issues that have become ingrained in the Nigerian banking systems over the years and have become a fundamental societal value. Board members are often pressured by friends and family members for favours such as hiring unqualified and incompetent employees, lobbying for contracts, seeking loans and cash gifts from them. Business practises have been adversely affected by all of these factors (Okike, 2007). To

avoid excessive risk-taking and control possible agency problems, Kirkpatrick (2009) claims that corporate governance systems may fail if regulators do not take a more active role in improving the practice of companies.

The Bank and Other Financial Institutions Act (BOFIA), which governs the governance of Nigerian banks, is also a major issue in the area of financial regulation and control. Since it is obvious that different banking operations have a wide variety of effects on the economy, the Central Bank of Nigeria (CBN) has implemented a number of different measures in order to regulate banking operations while also ensuring that banks act in the best interests of their stakeholders.

In spite of its voluntary nature, the Securities and Exchange Commission Code (SEC code 2003) is a deliberate attempt to establish best practices and ethical standards for all publicly traded businesses, banks included. Mandatory corporate governance provisions for banks can be found in the Companies and Allied Matters Act (CAMA) of 1990, as well as the Banks and Other Financial Institutions Act of 1991, the Investments and Securities Act 1999, and the SEC Acts of 1988, according to Wilson (2006).

The compliance with the provisions of the CBN's code of conduct for directors of licenced banks and financial institutions, as well as the post-consolidation-2006 corporate governance code for banks, is mandatory for all banks. Significant adherence to corporate governance principles in Nigeria is gradually being enshrined through a combination of both voluntary and mandatory mechanisms, though there are varying degrees of compliance with corporate governance provisions among Nigerian banks. The CBN directive that all banks change their accounting years to the calendar year beginning in December 2009 was one of these reforms. The directive required all bank subsidiaries to align their fiscal years with the parent banks. According to the CBN, the policy change was made to create a level playing field in the banking sector, as well as to standardise the accounting year after consolidation to improve transparency and comparability of financial reports among Nigerian banks.

Corporate governance is not a new concept in Nigeria, but the documented cases of gross abuse of corporate governance in Nigeria have only recently come to light. This includes Lever Brothers Plc., led by Rufus Giwa, and Cadbury Nigeria Plc., led by Bunmi Oni, among other notable examples. It was widely reported in the late 1990s that Lever Brothers management had been accused of violating corporate governance principles, but it was not made public whether or not the allegations had been proven. According to Sanusi (2003), the widespread corporate scandals and failures of the late 1990s and early 2000s were caused by dishonest management decisions and, in some cases, outright concealment of illegal activities. When Credite Bank Nigeria Limited, Lead Bank Plc, and Liberty Bank Plc all failed in 1998, 2006, and 2006, respectively, it was due to violations of corporate governance codes.

The Central Bank of Nigeria revoked the operating licences of three (3) banks, including Afribank, Spring Bank, and Bank PHB, on August 5, 2011, citing insufficient capacity and ability for recapitalization, as well as violations of corporate governance codes. In their stead, the CBN, through the NDIC, established Bridge Banks and transferred the assets and liabilities of the three affected banks to the Bridge Banks as follows: Mainstreet Bank Limited assumed the deposits

and liabilities of the defunct Afribank, while Keystone Bank Limited and Enterprise Bank Limited assumed control over Bank PHB and Spring Bank, respectively. More recently, Polaris Bank assumed the assets and liabilities of the defunct Skye Bank as a result of poor results for a number of performance indicators caused by lax internal control and a deficient corporate governance structure.

## **2.2 Regulatory Requirements on Corporate Governance for Banks in Nigeria**

To strengthen corporate governance principles in the banking industry, including Board composition, independence and performance, among others, various regulations and guidelines were spelt by government, including regulators. Unfortunately, the inability to strictly enforce these penalties for contravening laid down guidelines is a major reason Boards of banks continue to breach regulatory guidelines. Some of these guidelines are examined in this subsection.

### **2.2.1 Revised Code of Corporate Governance for Banks and Discount Houses in Nigeria, 2014 (Replacing the 2006 Code)**

The 2014 CBN Code of Corporate Governance for Banks and Discount Houses outlines the corporate governance guidelines for Banks in Nigeria. The 2014 code is an update to the prior corporate governance code, which came into effect in April 2006 and was developed to improve corporate governance procedures within the banking industry. The 2006 code was revised because some of its rules were difficult for Nigerian banks to apply because they were unclear or in conflict with Companies and Allied Matters Act (CAMA) provisions. The code needed to be updated in order to reflect current trends and international best practises.

The revised 2014 Corporate Governance Code aims to modernise and harmonise corporate governance in the Nigerian banking sector with global best practises, while reducing perceived uncertainties and boosting governance processes. All banks in Nigeria are mandated to comply with the Code and they are required to report to the CBN on their compliance status at the end of each quarter.

The Code emphasises the importance of a strong board and numerous board committees with effective control roles as part of a bank's overall corporate governance framework. To prevent a majority stake in banks, the Code limits government ownership to 10%, and it provides a framework for protecting the rights of stakeholders and whistle-blowers.

### **2.2.2 Nigerian Code of Corporate Governance (NCCG) 2018**

With effect from January 1, 2020, the Financial Reporting Council of Nigeria (FRCN) has extended to Nigerian banks the obligation to comply with and apply the Nigerian Code of Corporate Governance 2018 (NCCG). By defining a comprehensive set of principles on corporate accountability, transparency, and sustainability for both public and private firms in Nigeria, the Code establishes a framework "to ensure good corporate governance practises in the public and private sectors of the Nigerian economy..."

It offers general corporate governance guidelines and global benchmarks that are applicable to all management levels (i.e., the board, the MD and CEO, independent directors, the chairperson, the company secretary and external auditors). Furthermore, the FRCN 2018 mandates that all

pertinent companies (including banks) include a statement regarding NCCG compliance in their annual reports for each fiscal year.

### **2.2.3 Companies and Allied Matters Act, 2020 (CAMA 2020)**

It provides general corporate governance principles and global benchmarks applicable to all levels of management (i.e., the board, the MD and CEO, independent directors, the chairperson, the company secretary and external auditors). In addition, the FRCN 2018 requires all relevant companies (including banks) to include a statement regarding NCCG compliance in their annual reports for every fiscal year.

### **2.2.4 Banks and Other Financial Institutions Act (2020 as amended)**

Banks and Other Financial Institutions Act (2020) is a fundamental legislation governing the conduct of banks in Nigeria. It specifically spelt out guidelines guiding the conduct of banks in Nigeria, in line with global best practices. For instance, Section 67 (1a) of the BOFIA 2020 specifies that “the CBN Governor shall make regulations and issue guidelines for or with respect to corporate governance, including the appointment of principal officers of banks and other financial institutions in Nigeria”.

## **3.0 REVIEW OF RELEVANT THEORETICAL AND EMPIRICAL LITERATURE**

### **3.1 Empirical Literature**

#### **a) Composition of the board and firm performance**

The composition of the board members is examined to help reduce the agency problem (Ogbechie et al., 2009; Martin and Herrero, 2018; Merendino and Melville, 2019; Pucheta and Gallego-Alvarez, 2020; Kiptoo, Kariuki and Ocharo, 2021; Goel, Dhiman, Rana and Srivastava, 2022). When a company has an internal board of directors and an external board of directors, they are distinguished by their respective board composition. Simply put, it is the percentage of directors from outside the company who sit on the board of directors. Executive directors, who are involved in the day-to-day management of the company, are those appointed from within the organisation; non-executive directors, on the other hand, are those appointed from outside the organisation. Non-executive directors play a critical role in a company's success because of their independence from the day-to-day running of the business, which allows them to have an unbiased perspective on the company's growth. The number of non-executive directors on a board is expected to have a positive impact on the company's performance.

Independent directors are thought to be better able to challenge the CEOs/management than their corporate counterparts. Accordingly, it may be possible in light of this critical role of independent directors to require three independent directors to be present on every board in the UK, and at least two independent directors to make up at least a majority of every board in the United States (Bhagat and Black, 1999). Studies examining the link between board composition and firm performance have yielded mixed results. Some studies show a connection between executive directors and the firm's performance, such as those by Weisbach (1988), Mehran (1995), and Pinteris (2002). A study by John and Senbet (1998) on corporate governance shows that an active inner executive director has a positive effect on firm performance. Boachie (2023) finds that audit independence, CEO duality, non-executive directors, and bank size all positively affect

performance. The results also showed that the relationship between corporate governance and profitability is influenced by the presence of foreign ownership. As the research showed, good corporate governance is essential for the benefit of all parties involved.

Other studies, on the other hand, have failed to discover a link between the proportion of independent board members and firm performance (Hermalin and Weisbach, 1991; Yermack, 1996; Bhagat and Black, 1999, 2000; Metrick and Ishii, 2002; and Brick and Chidambaran, 2010). According to Weir and Laing (2001), there is an antagonistic relationship between them. As a means of encouraging board independence, John and Senbet (1998) point to the importance of committee structure in their study. In addition, Martin and Herrero (2018) analysed the structure of boards of directors and its impact on business performance, noting a negative and significant relationship between the performance of a firm and independence of its Board. The study also affirmed that an excessive power of CEO has a negative effect on return on asset of a firm.

Laing and Weir (1999), on the other hand, downplay the significance of the board's structure and composition while emphasising the significance of industry experience and entrepreneurialism. According to Laing and Weir (1999), businesses led by dynamic CEOs tend to perform financially better than those led by less dynamic CEOs. Laing and Weir investigated whether foreign companies outperform their domestic counterparts in Bulgaria, Romania, and Poland based on the premise that foreign companies are led by more experienced CEOs (1999). Using panel data for the countries over a four-year period, it was found that foreign companies outperform domestic ones regardless of the estimation method. It was concluded that this may be due to the possibility that foreign companies are more knowledgeable, resulting in their higher efficiency. The significance of the CEO's experience and skills in enhancing the performance of the company is a common hypothesis of these studies.

Leftwich, et al. (1981) and Fama and Jensen (1983) both made the case that non-executive directors help a board of directors to be more independent of management. Corporate disclosure and performance trajectories can be anticipated to increase as the percentage of non-executive directors on the board increases, making it more effective at policing managerial opportunism (Leftwich et al. 1981; Fama & Jensen, 1983; Haniffa & Cooke, 2002).

#### **b) Executive management shareholding and firm performance**

The relationship between insider ownership and firm performance has been the subject of numerous studies (McConnell and Servaes, 1990; Loderer and Martin, 1997; Nor et al., 1999), all of which have come up with conflicting results. According to Servaes and McConnell (1990), management shareholding has a significant curvilinear relationship with firm performance. Nonlinear relationships between them are depicted by Nor et al. (1999). However, Yeboah-Duah (1997) and Loderer and Martin (1997) find no significant relationship between them.

#### **c) Board size and firm performance**

There has been a lot of debate about how many members a board should have in order to ensure good governance. Different arguments have been made in favour of smaller boards versus larger ones. According to Yermack (1996), who analysed the previous work of Monks and Minow (1995), boards with a large membership lengthen decision-making time and impede innovation. It is also common to believe that it is more difficult to control a larger board size, and thus more

difficult to get the desired results (Ogbechie and Koufopoulos, 2010). An additional benefit of a smaller board of directors is that directors are less likely to criticise the policies of senior managers, and this problem tends to get worse as the board's size grows (Yermack 1996; Lipton and Lorsch 1992); on the other hand, a large board may be linked to difficulty in making decisions (Andres and Vallelado, 2008).

Yan, Hui, and Xin (2021) found that a larger board of directors is associated with lower company performance. The researchers then segmented their sample into high-tech and non-high-tech businesses and discovered that the negative association was more pronounced in the former. Moreover, when the sample is divided into two groups based on the even/odd number of directors, the odd-number group is found to be more productive than the even-number group.

Yermack (1996) found a correlation between the size of the board and the performance of a company. An ideal number of board members is ten or fewer, according to a study that found that smaller boards resulted in better company performance. Eisenberg et al. (1998) found a negative correlation between board size and profitability in a sample of small and mid-sized businesses to back up their claim. There has been more recent confirmation of the above findings by Mark and Yuanto (2003) who found that firms listed in Singapore and Malaysia are highly valued by having five directors on their board, which is considered to be a small number in those markets. But John and Senbet (1998) maintain that the implications of Yermack's theory may be so important, that the board size may have to be influenced by factors outside the market system in order to be determined. There are only a few studies that have found a positive correlation between small-sized boards and firm performance (Sanda, et al, 2005). There is evidence that increasing the size of a company's board has a positive impact on its performance, for example, according to the theory of resource dependence (Khan, Hussain, Magboor, Ali and Numan, 2019; Riyadh, Sukoharsono and Alfaiza, 2019; Vaidya, 2019). The study by Musah and Adutwumwaa (2021) demonstrates a favourable correlation between board size and ROA and ROE, despite the statistical insignificance of ROA. In addition, board independence was identified as a crucial factor in determining rural bank financial performance. In addition, the study found a statistically significant negative relationship between gender diversity on rural bank boards and ROA and ROE.

Using data from the Nairobi Stock Exchange, Kyereboah-Coleman & Biekpe (2006) and Kyereboah-Coleman (2007) looked at how factors like board size, board composition, and CEO duality affected the financing decisions of 47 companies. Board independence has a negative correlation to the amount of short-term debt accrued by a company, according to the researchers. By the time a company is old, it appears to be less profitable than it was when it was younger. According to the authors, the ageing of a company may be a reflection of the hardening of organisational rigidities over time, which is consistent with rising costs, slowing growth, obsolete assets, and decreased investment and R&D activities. It is also possible that older age will help spread rent-seeking behaviour in the workplace. The larger boards and higher CEO compensation seen in older firms lend credence to this hypothesis.

#### **d) Ownership Concentration and firm performance**

The percentage of a company's share capital held by a particular number of shareholders is referred to as ownership concentration. There is a tendency for managers to feel under pressure to act in ways that maximise value when there is a high share concentration. According to



evidence from studies like Morck et al. (1988); Gorton and Schmid (1996), Shleifer and Vishny (1997); Sukoharsono and Alfaiza (2019); Vaidya (2019); and Yan, Hui, and Xin (2021), firm performance rises as ownership concentration rises until concentration reaches a certain point at which performance rate starts to decline. Other studies, however, disagree that a rise in concentration results in a rise in business performance. Holderness and Sheehan, for instance, did not provide strong evidence that high ownership concentration negatively impacts performance (1988). In fact, according to Renneboog (2000) and Musab et al (2022), there is no proof that ownership concentration and firm performance are positively correlated. The research conducted by Lungatso and Otuya (2019) found that the financial performance of commercial banks in Kenya is positively and significantly correlated with board size, board independence, and audit committee independence. On the other hand, there is a negative correlation between board gender and financial success and board composition.

The examination of the connection between corporate ownership and firm performance in emerging Markets by Iwasaki, Ma, and Mizobata (2022) also revealed a tenuous connection. They discovered that regardless of country or region, the presence of domestic outside investors and foreign investors as company owners has a positive impact on firm performance, whereas state ownership has a negative impact on the performance of enterprises the state invests in. Furthermore, According to Alabdullah (2018), management ownership improves performance, but foreign ownership has no effect and company size has no effect.

Musah, Okyere, Boye, and Dodor (2022) discovered that foreign and government ownership influenced bank risk-taking behaviour, while managerial ownership did not. Foreign ownership lowers bank risk-taking, while government ownership raises it. With a focus on investor protection policies at the national level and regional variations in legal systems, Klapper and Love (2002) investigated the relationship between corporate governance and finance. The empirical tests demonstrate that improved corporate governance mechanisms are strongly correlated with better operating performance and market valuation. Furthermore, the authors provided evidence that corporate governance at the firm level is more impacted in nations with lax legal systems, arguing that businesses can partially make up for lax laws and enforcement by implementing good governance and offering reliable investor protection. The study also demonstrates that countries with lax legal systems have lower levels of firm-level governance and performance. Puni and Anlesinya (2019) also found that company boards with insiders and outsiders performed better financially. Board size, meeting frequency, and shareholder concentration/ownership structure also improved financial performance. Board committees generally hurt financial performance, but CEO duality did not.

## **4.0 RESEARCH METHODOLOGY**

### **4.1 Estimation Techniques**

This study follows the panel procedure to analyse the influence of corporate governance mechanisms on the financial performance of banks in Nigeria. The choice of panel data estimation technique is dictated by the nature of this study as it covers the selected banks across ten years, 2008 to 2018. A key advantage of using panel data set is its ability to accommodate inter-individual differences and intra-individual dynamics, while ensuring less collinearity among variables. In addition to allowing more degrees of freedom, panel data analysis can better identify

and measure dynamic effects that are more difficult to detect in pure cross-section or time-series data (Baltagi, 1995).

A panel data regression is typically of the form:

$$y_{it} = \alpha + X_{it}'\beta + u_{it} \quad i = 1, \dots, N ; t = 1, \dots, T \quad (1)$$

with  $i$  denoting the countries and  $t$  denoting time. The  $i$  subscript, therefore, denotes the cross-section dimension whereas  $t$  denotes the time-series dimension.  $\alpha$  is a scalar,  $\beta$  is  $K \times 1$  and  $X_{it}$  is a vector of explanatory variables.

The empirical models are estimated using static panel data modelling frameworks. Either fixed or random effect techniques are commonly used to estimate these parameters. It is assumed that the individual specific component is random in relation to the explanatory variables if we use the random effect estimator, and these two techniques were developed to deal with this systematic tendency. We use fixed effects estimation if the explanatory variables are non-independent for each individual specific component. Fixed effect models assume that individual heterogeneity is represented by the intercept term.

The Hausman specification test then compares models with fixed and random effects under the null hypothesis that no regressor is related to any of the individual effects (Hausman, 1978). Random effects models and fixed effects models are distinguished by the existence or absence of a correlation between the set of regressors.

An individual effect's correlation with other regressors is examined in the Hausman specification test. The random effect model breaks a Gauss-Markov assumption if any regressor is correlated with any other regressor, and therefore, no longer the best linear unbiased estimate (BLUE). To put it in a different way, the error term in a random effect model includes the individual effects. There is an advantage to using a fixed effect model instead of a random one when the null hypothesis is rejected.

#### 4.2 Theoretical Framework and Empirical Model

The conceptual underpinning for this study is hinged on the agency theory developed by Jensen and Meckling (1976) and later modified by Eisenhardt (1989) and Darayseh and Chazi (2018). In the context of this study, the existence of an agency relationship is shown by the reliance of the principal party (the banks) on other parties (agents), especially the management and board of directors, to carry out specific tasks that will enhance performance of the bank. Consequently, this study investigates the underlying relationship between banks financial performance and a variety of corporate governance mechanisms and macroeconomic factors. Static panel data models are estimated with ROA, employed as dependent variable, amidst inclusion of bank-specific, macroeconomic factors and institutional metrics as explanatory variables.

This study employed ROA as a measure of banking performance because it is known to be a superior indicator than ROE for measuring bank profitability. This is because in finance, ROA indicates how profitable a company is in relation to its total assets, making it a good measure of

bank performance as it shows earnings generated from assets, unlike ROE, which is calculated by dividing net income by shareholders' equity. Its suitability stems from the fact that a higher ROA means a company is more efficient and productive at managing its balance sheet to generate profits, while a lower ROA indicates there is room for improvement. Most influential studies such as: Gržeta, Žiković, and Žiković (2023); Kiptoo, Kariuki and Ocharo (2021); Martin and Herrero (2018); Nawaz and Ohlrogge (2022); Riyadh, Sukoharsono and Alfaiza (2019), had employed ROA as a measure of bank performance. Thus, we employed ROA because of its superiority rather than using other performance metrics just for regression and academic purpose. The references for the above listed papers are attached below. The justification has also been included in Section 4.2 of the paper.

The panel data model estimated in this study followed study conducted by Darayseh and Chazi (2018) to examine factors that determine bank performance in Nigeria. The model relates banks' performance to corporate governance factors, internal factors (bank specifics) and external factors (macroeconomic indicators). Thus, the functional relationship is modeled in equation (2) as:

$$ROA = f(\text{corporate governance, bank specific factors, macroeconomic indicators}) \tag{2}$$

Where:

Corporate governance is captured by Board size (**BDSIZE**), Board composition (**BDCOMP**) and Bank Age (**BANKAGE**);

Bank specific factor is represented by Non-performing loans ratio (**NPL**); and

Macroeconomic indicators are captured by Misery index (**MISINDEX**), Real GDP per capita (**RGDPpc**).

The explicit form of the functional relationship in equation (2) is specified in equation (3) as:

$$ROA_{it} = \alpha_1 BDCOMP_{it} + \alpha_2 BDSIZ_{it} + \alpha_3 BANKAGE_{it} + \alpha_4 NPL_{it} + \alpha_5 MISINDEX_{it} + \alpha_6 RGDPpc_{it} + \varepsilon_{it}$$

Both economic and political literature acknowledge the importance of institutional quality in promoting economic growth, including banking sector performance (North, 1990; Acemoglu, Johnson and Robinson, 2005). So, Equation (3) is amended by including institutional variables namely, Regulatory quality (**REGQTY**) and Political stability and absence of violence indicator (**POLITY**).

The estimated model for this study is as follows:

$$ROA_{it} = \alpha_1 BDCOMP_{it} + \alpha_2 BDSIZ_{it} + \alpha_3 BANKAGE_{it} + \alpha_4 MISINDEX_{it} + \alpha_5 RGDPpc_{it} + \alpha_6 NPL_{it} + \dots + \alpha_7 REGQTY_{it} + \alpha_8 POLITY_{it} + \varepsilon_{it} \tag{4}$$

### 4.3 Data Source

The corporate governance and bank-specific data used for the analysis span from 2010 to 2019, and are largely from annual reports of the selected banks for various years and the Nigerian Stock Exchange Fact Book. Other data sources are detailed in Table 1.

**Table 1: Definition of variables and data source**

Variable	Description	Source
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Return on Asset	This is calculated as profit after tax divided by total assets. It captures bank profitability by measuring how bank use its assets to generate profits.	Annual reports of the selected banks for various years
Board Size	It is the total sum of members with voting privileges on the board of directors of a bank.	Annual reports of the selected banks for various years
Board Composition	It is the ratio (mix) between executive and non-executive (independent) directors	Annual reports of the selected banks for various years
Bank Age	It is the period a bank remains listed on the stock exchange, suggesting experience and learning.	The Nigerian Stock Exchange Fact Book
Misery Index	It is measured as the sum of unemployment and inflation rate. It captures the level of macroeconomic instability.	Central Bank of Nigeria (CBN) Statistical Bulletin
Real GDP per capita	It is calculated by dividing real GDP by total population. It is a proxy domestic income level, and it measures access to economic resources.	World Development Indicator (WDI) database
Non-performing Loan Ratio	It is a ratio of non-performing loan to total loan. It is a measure of bank's credit risk.	Annual reports of the selected banks for various years
Regulatory Quality	It captures perceptions of government to formulate/implement sound policies and regulations that permit and promote private sector development.	World Governance Indicator (WGI) database
Polity	It measures the likelihood of political instability and/or politically-motivated violence, including terrorism.	World Governance Indicator (WGI) database

## 5.0 DISCUSSION OF EMPIRICAL RESULTS

The relationship between corporate governance metrics and the financial performance of Nigerian banks is discussed in this section based on empirical findings. Before proceeding to the results of the empirical analysis, this next section highlights the results from the preliminary tests conducted on the series employed.

### 5.1 Unit Root and Cointegration Tests

The stationary properties of the variables are ascertained using panel unit root of Im, Pesaran and Shin (IPS) (2003) whose assumption is based on individual unit root process and asymptotic normality. The use of IPS unit root tests is ideally suited for cross-sectional data analysis, as the one in the present study, because it assumes heterogeneity on the coefficient of the variables. As shown in Table 2, only ROA, per capita GDP and non-performing loan ratio are integrated of order 0, that is, they are stationary at level, while other variables are stationary after first difference. Furthermore, the long run relationship among the variables is established using

Johansen Fisher cointegration test. The choice of this cointegration test over other types is premised on its ability to handle both I (0) and I (1) variable series. As shown in Table 3, all the variables employed in the model are cointegrated and thus have long run relationship to predict the financial performance of the selected banks.

**Table 2: IPS Panel Unit Root Test**

Variable	Levels		First Difference	
	Individual Intercept	Individual Intercept and Trend	Individual Intercept	Individual Intercept and Trend
<b>ROA</b>	-1.352 (0.094)*	-1.179 (0.084)*	-2.735 (0.001)***	-2.594 (0.003)***
<b>BDSIZE</b>	2.725 (0.611)	2.551 (0.540)	-4.724 (0.000)***	-2.539 (0.005)***
<b>BDCOMP</b>	1.564 (0.318)	0.125 (0.149)	-3.992 (0.000)***	-2.397 (0.008)***
<b>BANKAGE</b>	2.542 (0.450)	0.157 (0.267)	-5.189 (0.000)***	-5.056 (0.000)***
<b>MISINDX</b>	3.109 (0.608)	2.933 (0.499)	-9.527 (0.000)***	-9.143 (0.000)***
<b>RGDPpc</b>	-2.917 (0.056)*	-2.655 (0.077)*	-4.526 (0.001)***	-3.268 (0.001)***
<b>NPL</b>	-2.533 (0.068)*	-2.151 (0.066)*	-5.321 (0.000)***	-4.487 (0.000)***
<b>REGQTY</b>	2.556 (0.513)	2.249 (0.461)	-7.733 (0.000)***	-7.068 (0.000)***
<b>POLITY</b>	2.325 (0.382)	1.935 (0.273)	-4.496 (0.002)***	-3.126 (0.002)***

\*\*\*, \*\*, \* denotes level of significance at 1%, 5% and 10% level, respectively.

Source: Authors' Computation

**Table 3: Johansen Fisher Panel Cointegration Test**

Trace Test			Maximum Eigenvalues Test		
H <sub>0</sub>	H <sub>A</sub>	Fisher Stat	H <sub>0</sub>	H <sub>A</sub>	Fisher Stat
r ≤ 0	r > 0	108.43***	r ≤ 0	r > 0	131.52***
r ≤ 1	r > 1	677.70***	r ≤ 1	r > 1	432.69***
r ≤ 2	r > 2	534.60***	r ≤ 2	r > 2	398.63***
r ≤ 3	r > 3	311.80***	r ≤ 3	r > 3	208.95***
r ≤ 4	r > 4	175.61***	r ≤ 4	r > 4	131.79***
r ≤ 5	r > 5	99.41***	r ≤ 5	r > 5	95.88***
r ≤ 6	r > 6	56.99	r ≤ 6	r > 6	78.30
r ≤ 7	r > 7	33.24	r ≤ 7	r > 7	29.58
r ≤ 8	r > 8	19.93	r ≤ 8	r > 8	20.62

Notes: r represents number of cointegrating vectors.

\*\*\* denotes rejection of the null hypothesis at 1% level.

Fisher statistic: asymptotic p-values are computed using  $\chi^2$  distributions.

Source: Authors' Computation

## 5.2 Static Panel Regression Results

The estimated panel data models on the impact of corporate governance metrics on selected banks' performance for 15 listed banks in Nigeria for the period 2010 to 2019 are presented in this section. This study employed ROA as the dependent variable to capture bank performance. The Hausman's specification test shown in the lower section of Table 4 reveals preference for the fixed-effects model, compared to the random-effect model, since the Chi-Square value reported is 9.50, with a probability value of 0.0496. Thus, the study accepts the alternative hypothesis, that fixed effects model will, under this situation, produce consistent and efficient results, thereby rejecting the null hypothesis. Hence, the interpretation of results is based on the fixed effect (FE) model.

In terms of the individual parameter estimates, Board size coefficient has a negative, but not significantly related to bank performance, measured by return on assets (ROA), across all the models, including the FE model, suggesting bigger board size has negative impact on overall bank performance, perhaps due to greater bureaucracy and conflicts of interests, and result is consistent with the agency theory and conclusion drawn by Yermack (1996); Eisenberg, Sundgren & Martin (1998); Loderer and Peyer (2002). Some studies, like Sanda, et al, (2005); Ning, Davidson and Wang (2010) and the resource dependency theory, however, observed a positive relationship between bank performance and board size. This result is consistent with findings from the study's estimated Pooled OLS model.

Board composition (BdComp), measured in terms of ratio of independent non-executive directors to executive directors, was positive and highly significant at the 1% level in the FE model, suggesting that, increases in the proportion of independent (outsiders) directors as board members, will significantly improve bank performance. This result is consistent with findings from the study's estimated Pooled OLS model. The positive significance could be premised on the back of a likely reduction in agency problem, which aligns with findings from Panasian (2003); Krivogorsky, (2006); Martin and Herrero (2018); Kiptoo, Kariuki and Ocharo (2021).

The coefficient of Bank Age, which captures the length of time (in years) that a bank has been listed on the stock exchange, is negative and significant as found in the Pooled OLS model. This suggests that older firms on the stock exchange do not enjoy special privileges in making profit, and that their bank performance will, in fact, decline perhaps due to lack of innovative ideas, as found in Hsiang-Tsai Chiang, (2001); Vlachvier & Notta, (2008). This is contrary to the findings of Dunne, Roberts & Samuelson, (1989); Baker & Kennedy, (2002); Olumide, (2010) that older firms gain from experience garnered overtime, enjoy brand loyalty and consistent patronage, which could translate into profit-making through economies of scale. However, the inverse relationship could be drawn from the notion that firm complexity increases with firm age (Martin and Herrero, 2018), thus giving younger firms advantage of lesser complexities which could enhance more performance.

The coefficient of economic misery (MisIndx), representing the extent of macroeconomic instability, had a negative sign, and was significant at the 5% level, suggesting that, banks' performance, measured by ROA, is remarkably hampered in the presence of profound macroeconomic instability and distortions. This result is consistent with findings from the study's estimated Pooled OLS model. This is in line with the economic theory since the misery index is a function of both inflation and unemployment, which are expected to have an adverse effect on the bank performance. This index attempts to capture the most visible societal costs, as unemployment stops people from generating an income, whilst high inflation rates raise the cost of living by diminishing purchasing power (Lopez, 2022). The result shows that, a unit increase in economic instability or misery would lead to 1.8 units decline in overall banking sector's ROA. Although, this aspect is novel in the finance literature, but the impact of misery index on bank performance can be inferred from its destabilizing effects on economic growth, found in Fischer, (1993); Asteriou and Siriopoulos, (2000); Shah, Khan, Saboor and Iftikhar-ul-Husnain (2022).

The coefficient of real GDP per capita (RGDPpc), representing the size of the economy and access to economic resources, was positive and significant at 10% level, suggesting that higher size of output and access to resources spur higher banking sector performance. The result is similar to findings by Sufian and Habibullah (2010); Simiyu and Ngile (2015), and result obtained from estimated Pooled OLS model. As output size increases, employment and income also rises, which may encourage savings and help bank financial intermediation, thereby raising interest income and asset quality.

The coefficient of non-performing loans (NPL) was negative and non-significant, similar to findings from estimated Pooled OLS model. This result is consistent with findings from the study's estimated Pooled OLS model, suggesting that, higher NPLs aggravates cash flow problems due to lack of earnings on assets, along with statutory provisions for its anticipated loss. Moreover, when a bank is unable to recover NPLs, repossessed assets pledged as collateral are often sold at discount, while a larger portion are provided for or written off as bad debts, which impact on the overall banking sector's ROA. Similar result was also found by Naili and Lahrichi (2022).

The coefficient of regulatory quality (REGQTY), which captures economic agents' perception of government's ability to formulate and implement sound policies/regulations, was positive and significant at 5% level, as found in the study's estimated Pooled OLS model. This suggests that, increase in REGQTY raises the overall performance of the banking sector in terms of asset quality, measured by ROA, and result is similar to implied findings by Ozkan, Balsari & Varan (2014); Katarzyna (2015); Kale, Eken & Selimler (2015). This further suggests that increased perception of government's ability to formulate and implement sound policies and regulations that permit and promote private sector development, could result in higher bank performance.

The coefficient of POLITY, which measures likelihood of political instability or politically-motivated violence (including terrorism), was found to have a negative and significant impact on bank performance, suggesting political instability and conflicts can result to a cyclical lower

performance in the banking sector. This result, which is consistent with findings from the study's estimated Pooled OLS model, confirmed the destabilising effects of political instability on bank performance that could precipitate the occurrence of actual systemic banking crisis, similar to implied findings in Beck, et al (2006); Rother, et al. (2016); IMF (2019).

**Table 4: Result From Estimated Model: ROA Dependent Variable**

Variables	Pooled OLS	Fixed effect (FE)	Random effect (RE)
Constant	-1.8868 [-0.4119] -4.5806***	1.6001 [0.1704] 9.3895***	-2.1632 [0.4926] -4.3917***
Board Size	-0.0924 [0.0889] -1.0393	-1.3474 [0.9211] -1.4628	-0.0041 [0.0221] -0.1864
Board Composition	0.0503 [0.0174] 2.8907**	1.0213 [0.2214] 5.7351***	0.0629 [0.0204] 3.0802**
Bank Age	0.2014 [0.0448] 4.4955***	-0.9882 [0.4136] -2.3891**	0.1005 [0.0259] 3.8802***
Misery Index	-2.8013 [0.8901] -3.147**	-1.8754 [0.8135] -2.3053**	-2.5612 [0.7982] -3.2087**
GDP Per capita	0.8874 [0.4247] 2.0894**	0.7589 [0.3794] 1.9989*	1.0714 [0.8882] 1.2062
Non-Performing Loan	-0.9278 [0.8124] -2.142**	-0.7178 [0.5425] -2.3231**	-0.9629 [0.8204] -1.1737
Regulatory Quality	1.9013 [1.0948] 1.7366*	0.02262 [0.010006] 2.2606**	-0.87775 [0.44327] -1.9801*
Polity	-0.91071 [0.40015] -2.27591**	-0.792184 [0.212197] -3.73324***	-0.68107 [0.187687] -3.62875***
R <sup>2</sup>	0.1915	0.1784	0.1626
R <sup>2</sup> (Adjusted)	0.1369	0.1458	0.1061
S.E.E	0.4509	0.0478	0.4128



F-Statistic	3.5069	9.9326	2.8746
Prob (F-Stat)	0.0067	0.0000	0.0199
D.W	1.8021	2.2907	1.7259

Hausman's Test: Chi-square statistics = 9.50; Prob (chi-square statistics) = 0.0496

Significant at the 10% level, \*\* significant at 5% level, \*\*\* significant at the 1% level. Standard errors are shown in parentheses.

**Source: Author's computation**

## 6.0 CONCLUSION

This study explores the underlying relationship between bank performance and a variety of corporate governance mechanisms, macroeconomic and institutional factors, using data of 15 banks listed on the stock exchange from 2010 to 2019. Static panel data regression model was estimated, with Return on Asset (ROA) employed as a proxy for bank performance. Estimated results show that, bank age exerted a negative and significant impact on bank performance, while board size had a negative but insignificant impact. The coefficient of board composition was significant and positively signed while non-performing loan of bank expectedly had an adversely significant impact on its performance.

Other results showed the expected significance of macroeconomic and sociopolitical influence on bank performance. Specifically, misery index, a measure of macroeconomic instability had a negative influence on bank performance, while per capita GDP exert a positive impact on bank return on asset. Regulatory quality, a measure of governance, had a positive impact on bank performance while polity, a measure of likelihood of political instability or politically-motivated violence (including terrorism), was found to have a negative and significant impact on bank performance, suggesting the destabilizing effects of political instability on bank performance. This study provides important policy recommendation on the need to enhance corporate governance, effective macroeconomic strategy adoption within a sound politico-institutional setting to improve the trajectory of overall bank performance in Nigeria.

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