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- I. Title page
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- IV. Introduction
- V. Literature Review
- VI. Methodology
- VII. Results and Discussion
- VIII. Conclusion and Recommendations
- IX. References (APA 7th Edition)
- X. Appendices (if necessary)
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EFFECT OF BOARD CHARACTERISTICS ON CASH HOLDING OF LISTED COMMERCIAL BANKS IN NIGERIA.

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ABSTRACT

This study examines the effect of board characteristics on cash holding in listed commercial banks in Nigeria using a longitudinal research design. The study analyzes data from 15 commercial banks listed on the Nigerian Exchange Group (NGX) as of December 31, 2024. Board characteristics considered include board size, board independence, and board meetings, while firm size is included as control variables. Secondary data were sourced from audited financial statements, and panel regression analysis was employed for data estimation. The findings reveal that board size and firm size have a significant negative impact on cash holding. Conversely, board independence has a significant positive effect on cash holding. However, board meetings show an insignificant relationship with cash holding, implying that the frequency of board meetings alone may not directly influence liquidity decisions. The study concludes that corporate governance mechanisms play a critical role in cash management strategies among Nigerian commercial banks. It recommends maintaining an optimal board size, strengthening board independence, and adopting efficient cash management strategies to ensure financial stability.

Keywords: Board Characteristics, Cash Holding, Board Size, Board Independence,

1.0 Introduction

Cash holdings are a critical component of financial strategy for companies globally, particularly for banks and other financial institutions. Cash, being one of the most liquid assets, serves as the lifeblood of an entity. Its liquidity provides the company with the ability to settle short-term obligations, fund daily operations, and swiftly respond to unforeseen financial exigencies. From an accounting perspective, it is regarded as the riskiest account due to its involvement in a substantial number of financial transactions and its vulnerability to potential misuse in comparison to other assets. Consequently, numerous stakeholders, including shareholders, creditors, management, and auditors, place significant importance on evaluating a company's cash reserves. Furthermore, companies hold cash to achieve many benefits such as obtaining external financing (Elsayed, 2018), hedging against unexpected fluctuations' risks, taking advantage of additional investment opportunities and generating unexpected profits (Sheikh & Khan, 2015). However, agency conflicts between managers and shareholders affect the decisions regarding the use of

the firm's resources and can be the source of significant inefficiencies (Nguyen & Rahman, 2020).

Board size is one of the board characteristics that can influence cash holding. A larger board with more diverse expertise and perspectives might provide a broader range of insights into financial decisions. It can lead to more thorough discussions about cash management strategies, potentially resulting in more prudent decision-making regarding the optimal level of cash reserves. Jamil et al (2016) observed that larger boards are associated with higher levels of cash holdings, suggesting that larger boards may represent diverse viewpoints that lead to more cautious financial policies and higher cash reserves.

Board independence can also affect cash holding. Because Independent boards are better positioned to mitigate agency conflicts between managers and shareholders. By ensuring that the interests of shareholders are prioritized, these boards may guide the company toward optimal cash holding levels that align with shareholders' expectations and company

needs. Talbi and Menchaoui (2023) suggest that an independent board can act as a check on managerial entrenchment, ensuring that management doesn't hoard excessive cash reserves to maintain control or to serve their interests. This oversight can promote a more balanced and efficient allocation of resources, including cash.

The frequency and quality of board meetings can also affect company's cash holding policies. Board meetings provide the opportunity to deliberate on cash management strategies, assessing the company's current financial position and future needs. The frequency and quality of these meetings can impact the depth of discussions on cash holding levels, ensuring the optimal balance between liquidity and investments (Narwal & Jindal 2017). That is more frequent meetings can enable quicker responses to changing financial circumstances, facilitating prompt adjustments in cash holding policies to adapt to market conditions or unforeseen events.

Recent corporate failures within the Nigerian banking sector underline the urgency of this issue. High-profile cases such as Skye Bank Plc, Diamond Bank Plc, and the license revocation of Heritage Bank by the Central Bank of Nigeria (CBN) have highlighted critical governance and liquidity issues. These banks faced substantial challenges related to non-performing loans, weak corporate governance structures, and inadequate capitalization, which ultimately affected their liquidity and solvency. The collapse of these banks not only weakened investor confidence in Nigeria's financial sector but also raised critical questions about the adequacy of board oversight in ensuring effective cash management and liquidity risk mitigation. Poor governance practices and inadequate oversight were significant contributors to these failures, underscoring the need to examine the link between board attributes and cash management practices more closely.

While numerous studies have explored the relationship between board characteristics and cash holding, most of this research is based in developed markets, which have distinct institutional, regulatory, and economic contexts. Scholars such as Boubaker et al. (2015), Qian (2021), Magerakis (2022), and Talbi et al. (2023) have presented varying results, highlighting a lack of consensus on how board attributes influence cash holding. However, the unique characteristics of developed economies—such as their advanced regulatory frameworks, strong investor protection laws, and established market structures—limit the applicability of these findings to developing countries like Nigeria. As a result, the dynamics observed in developed markets may not translate directly to the Nigerian context, where

economic, regulatory, and governance structures differ significantly.

In emerging economies, including Nigeria, limited research has focused on the relationship between board characteristics and cash holding. For instance, Nkem et al. (2017) examined the effects of specific governance attributes such as female board members, board size, board ownership, educational qualifications, and age on cash holding in five Nigerian listed manufacturing companies from 2012 to 2015. Similarly, Lawal et al. (2020) analyzed the impact of firm dynamism and characteristics, specifically female leadership and leverage, on corporate cash holding in Nigerian manufacturing firms from 2012 to 2019. Nwokoye (2022) focused on the determinants of cash holding in 12 Nigerian deposit money banks, using data from 2008 to 2020. While these studies provide insight into cash holding practices within Nigerian firms, they lack a focus on critical variables, such as board independence and board expertise that are fundamental to understanding cash holding decisions in banks.

Further, a methodological gap exists in the current literature regarding the measurement of cash holding. Previous studies have primarily used the Cash Ratio as a proxy for cash holding. However, this measure does not fully capture the operational realities and lacks a direct alignment with accounting practices, which limits its practical relevance. This study addresses this methodological shortfall by employing the operating cash flow ratio as a more accurate measure of cash holding. Unlike the Cash Ratio, the operating cash flow ratio aligns with accounting practices and provides a robust reflection of a bank's cash-generating ability from operational activities, making it a more relevant metric for assessing cash management effectiveness.

Moreover, commercial banks play a central role in the economic development of Nigeria, acting as primary financial intermediaries and facilitating economic growth through credit provision, deposits, and other essential financial services. Despite the critical role banks play, prior research in Nigeria has rarely examined cash holding within the specific context of the banking sector. This oversight is significant, as commercial banks possess unique financial dynamics, market complexities, and regulatory requirements that differ from other industries. The unique operational needs of banks, alongside the regulatory framework set by the CBN, influence their cash holding requirements and governance needs, making them a distinct area for focused study.

2.1 Literature Review

2.1.1 Board Size

The term board size refers to the total number of

directors, both executive and non-executive, that serve on the board of directors as of the date of the annual meeting held at the beginning of each fiscal year (Wang & Hussainey, 2013). Jensen (1993); Lipton and Lorsch (1992) were the first to postulate that board size is an independent control mechanism and imply that larger boards may be less successful than smaller boards. Both of these researchers published their findings in 1992. This argument is based on the theory that excessively large boards lead to an increase in the number of agency problems that occur within the board, as well as a shift toward the board taking on a more symbolic role in the management process. The size of the board affects how directors carry out their responsibilities; smaller boards encourage more participation from board members and allow for greater freedom of communication among them (Zahra et al., 2000). It is easier for the board's monitoring operations to be effective when it has a wide number of directors that come from a variety of backgrounds and have had a variety of experiences. However, due to the increased likelihood of competition and dysfunctional disputes among board members, an excessively big board may impede the processing of information and slow down the decision-making process (Zahra et al., 2020). Jensen (1993) found that when the size of a group increased, the difficulties associated with coordination made the group less successful. In addition to this, it is commonly believed that larger boards are unable to monitor senior management as efficiently (Yermack, 1996). In addition, Elzahar and Hussainey (2020) claimed that an increase in the size of the board may increase the number of directors who have a background in finance or accounting. According to Garcia-Sánchez et al. (2011), the complexity of management control and of ensuring the accuracy of the information (including financial information) provided requires the presence of a considerable number of directors, with the experience and diversity required to successfully perform these supervisory functions. Additionally, the complexity of management control and of ensuring the accuracy of the information (including financial information) provided requires that the information be provided. In this sense, improved monitoring would lead to the disclosure of greater quantities of information regarding the company.

2.1.2 Board Independence

The term independent director refers to a director who is not affiliated or associated with the company in any way and whose sole responsibility is to protect the interests of members who cannot independently look after their concerns. According to the Nigerian code of corporate governance (2018), an independent director is an external director who is a member of the board of directors of a company but does not form part of the executive management team. This director is considered to be independent of the company's

executive management team. They are distinguished from inside directors, also known as executive directors, who are members of the board who also serve or have previously served as executive managers of the company and are not employees of the company nor are they affiliated with it in any other way. They do not work for the company nor are they connected to it in any other way. They typically keep a distance from the day-to-day operations of the business to be able to provide criticism that is devoid of emotion and is grounded in logic. This is because they are aware that they are subject to the same legal obligations, responsibilities, and potential liabilities as the executives who report to them. (NGGC, 2018). The CBN code of corporate governance fundamentally stipulates that non-executive directors should be high-caliber individuals with extensive expertise, integrity, and trustworthiness. They should be integral members of the board who provide strategic guidance, objective evaluations of management's performance, and critical oversight of the company's most senior leaders appointments. The Financial Reporting Council (2018) recommends a three-year term of office for newly nominated independent non-executive directors. The term may be renewed if both the director and the board agree. Directors must be elected or re-elected at annual general meetings and can be removed from office following the Companies Act and the articles of organization. There is an apparent notion that boards with considerable outside directors (non-executive directors) will make different and probably better judgments than boards dominated by inside directors (executive directors) (executive directors). According to the CAMA (2020), any shareholder with the ability to nominate a majority of the Board members must nominate at least three independent directors.

2.1.3 Board Meeting

Board meetings serve as a platform for strategic discussions and decision-making. A higher frequency of board meetings is often associated with more active monitoring and oversight by the board. **Board meetings** are formal gatherings of a company's board of directors, convened at regular intervals to address various aspects of corporate governance and management. These meetings serve as a pivotal mechanism for boards to fulfill their responsibilities, make informed decisions, and exercise oversight over the organization's activities. The board meeting is essential in order for the board to effectively perform its duties efficiently and effectively. This is supported by the findings of Xie et al. (2023) who found negative significant relationship between frequency of board meetings and earnings management. On the contrary, Adams et al. (2018) found that directors who primarily monitor management performances participate less in boardroom discussion than other directors.

Board meeting frequency impacts the timeliness of decision-making regarding cash holding practices. Banks with more frequent board meetings have more opportunities to discuss and evaluate changes in liquidity needs, market conditions, and regulatory requirements, enabling them to make timely adjustments to cash reserves as needed. Frequent board meetings facilitate strategic oversight of cash holding practices. Boards that meet regularly can engage in in-depth discussions on the bank's liquidity position, risk management strategies, and capital allocation priorities, ensuring that cash holding decisions align with the bank's long-term strategic objectives and financial stability.

Regular board meetings promote enhanced monitoring and accountability regarding cash holding practices. Directors have more opportunities to review financial reports, assess performance metrics, and hold management accountable for cash management decisions, reducing the risk of mismanagement or inappropriate use of cash reserves.

2.2 Empirical Review

Cambrea, et al (2021) examined the influence of corporate governance on company cash holding by explaining the relationship between board size, board independence, board gender and cash holding using a sample of 87 non-financial companies including industrial and service companies that listed on the Amman Stock Exchange from 2018 to 2020. By using random-effect generalized least square (GLS) regression model. The findings indicate that board size negatively influences cash holdings, while board gender has a positive association with cash holdings. Further, board independence did not have a direct effect on cash holdings in Jordan. The study does not extensively explore cultural and institutional factors that may shape governance practices and financial decisions in Jordan. Nigeria has its own cultural and institutional dynamics, and a comprehensive analysis should consider these factors when interpreting the impact of corporate governance on cash holdings.

Idrees et al. (2022) studied the relationship between board attributes and board committee qualities and corporate cash holdings in Pakistan of 168 listed enterprises on the PSX for the period 2016 to 2020 were chosen as a sample from a population of 436 non-financial firms. Multiple regression analysis was used in the study to discover a relationship between board attributes and board committee features and cash holdings. The study's findings revealed that board size, executive directors, and board independence have no significant impact on the firm's cash holding because they play no important part in the firm's cash holding. The study covers the period from 2016 to 2020. Economic conditions can change over time, and the study. The study focuses on listed enterprises on the Pakistan Stock Exchange (PSX).

The findings may not be easily generalizable to non-listed firms or to firms in other countries with different market structures and regulatory environments.

Aizyadat et al (2022) examined the influence of corporate governance on company cash holding by explaining the relationship between board size, board independence, board gender and cash holding using a sample of 87 non-financial companies including industrial and service companies that listed on the Amman Stock Exchange from 2018 to 2020. By using random-effect generalized least square (GLS) regression model. The findings indicate that board size negatively influences cash holdings, while board gender has a positive association with cash holdings. Further, board independence did not have a direct effect on cash holdings in Jordan. The study is based on a relatively small sample of 87 non-financial companies from the Amman Stock Exchange. This may limit the generalizability of the findings to the broader population of companies in Nigeria.

Dwaikat (2023) investigated the impact of corporate governance (defined as companies' ownership attributes and board of directors' characteristics) on cash holdings in the context of Oman. This study leverages a quantitative panel pooled regression on a dataset of Omani non-financial firms from 2009–2015. The panel regression analysis demonstrates that a large stockholder size has a significant positive relationship with cash holding. Meanwhile, a positive (but insignificant) relationship was also found between institutional ownership and cash holding. Furthermore, state ownership was found to exhibit a significant negative relationship with cash holding. In terms of the board of directors' traits, this study's findings suggest that board sizes have a positive (but insignificant) relationship with cash holding. Furthermore, busy and independent boards were found to have a significant positive relationship with cash holding. The study focuses on Omani non-financial firms, limiting the generalizability of findings to firms in other countries or industries with different economic and institutional contexts. Consider conducting cross-country analyses or comparing findings with studies in different regions to enhance the generalizability of the results.

Wirianata, (2024) studied the influence of corporate governance in manufacturing companies in determining cash holdings accompanied by financial performance as a control variable. Corporate governance is measured from board structures proxied by board size, independent board compositions, and board meetings; the audit committee proxied by the number of members and meetings; and ownership structures are proxied with institutional and managerial ownership. The data in

the study were taken by purposive random sampling. The data in the study was processed and analyzed using panel data regression analysis using Eviews 10 for the 2017-2021 research period. The results showed that, partially, board size and the independent board compositions have a positive and significant influence. Meanwhile, board meetings, audit committee members, audit committee meetings, institutional ownership and managerial ownership did not significantly influence. The study employs panel data regression analysis using Eviews 10 to analyze the data. While panel data regression is appropriate for longitudinal data analysis, the choice of regression model and estimation technique should be justified based on the underlying assumptions and characteristics of the data. Additionally, robustness checks and sensitivity analyses could strengthen the validity of the results.

Hassanein (2022) examined the effect of corporate governance mechanisms on the corporate decision to hoard cash. The study focuses on the BIST100 nonfinancial firms listed on the Borsa Istanbul during the period from 2010 to 2014. It finds that firms with smaller boards of directors and larger audit committees are likely to hoard less cash. However, firms with a large percentage of independent directors are likely to hoard more cash. The study employs statistical analysis to examine the relationship between corporate governance mechanisms and cash hoarding. The choice of statistical techniques, the control variables included in the analysis, and potential issues such as endogeneity or omitted variable bias should be addressed to ensure the validity and reliability of the results.

Cambrea, et al (2023) studied the relationship between the board of directors and cash holdings before and during the global financial crisis. We focus on the main demographic characteristics of the board: CEO duality, independent directors, and board size. Employing a sample of listed Italian industrial firms over the period 2003–2013, our empirical findings show the different behaviors of the members of the board of directors in determining cash holdings in normal conditions and during a crisis. In normal periods, in line with agency theory, a vigilant board—characterized by a high proportion of independent directors—reduces cash holdings. Diversely, the presence of CEO duality and larger boards increase cash holdings. In times of crisis, members of the board of directors abandon their monitoring duties or opportunistic behavior and become more participative to help the firm to survive. The results suggest that the effects of the board of directors' characteristics are contingent on a firm's external environment. The study spans the period from 2003 to 2013, encompassing the global financial

crisis. However, economic conditions and governance practices may have continued to evolve after 2013.

Qian (2021) analyzed the level of cash holdings and the role of corporate governance in monitoring the potential agency problem. This research studies the relationship between cash holdings, the Board of directors' design, and managerial ownership levels in Latin America's public traded companies in Argentina, Brazil, Chile, Colombia, Mexico, and Peru. The study found a positive and statistically significant effect of board size and institutional ownership on cash holdings. The results show that board independence is positively and statistically significantly associated with cash holdings. The study covers several Latin American countries (Argentina, Brazil, Chile, Colombia, Mexico, and Peru) collectively. However, the corporate governance landscape and economic conditions may differ significantly among these countries.

Alghadi, et al (2021) studied the relationship between ownership attributes and level cash holdings in an emerging country, namely, Saudi Arabia, by constructing a corporate governance mechanism (foreign ownership, family ownership, institutional and managerial ownership). This paper uses] data from 100 listed firms at Saudi Stock Exchange from 2011 to 2019. Using the random-effect generalized least square (GLS) regression model, the findings reveal that foreign and family ownership negatively influences cash holdings, while managerial ownership has a positive association with cash holdings. The study covers the period from 2011 to 2019, but it does not discuss how the relationship between ownership structures and cash holdings might have evolved over this time frame. A discussion on the temporal dynamics of the relationships studied would contribute to a better understanding of their stability or changes over time.

Lawal et al (2020) assessed corporate governance and cash holdings in Nigeria. To realize this general objective, a sample of one hundred and twenty-seven (127) companies, determined with the use of Yamane's (1967) sampling size technique, was used and drawn from the Nigeria Stock Exchange (NSE), the selection of which was made through the simple random sampling to allow every listed firm, the equal chance of being selected. The NSE became the focal point of this study because of the assumption that the Stock Market represents the 'economic hub' of the nation. Specifically, the study evaluated four independent variables of corporate governance as well as two (2) control variables and a dependent variable of Cash Holding. The corporate governance variables were Board Size, Audit Committee Size, Board Meeting, Board Independence. The findings

revealed that board meeting had a significant relationship with cash in publicly listed companies in Nigeria. The study uses Yamane's (1967) sampling size technique, but there may be other more contemporary and robust methods for determining sample size. Additionally, the representativeness of the sample might be crucial for generalizing the findings to the broader Nigerian market. Discussing the choice of the sampling technique and addressing the representativeness of the sample would enhance the study's validity.

Gul et al (2020) examined the impact of corporate governance on cash holdings and the interplay of family ownership on this relationship through static and dynamic panel estimation models. Composite indicator for the corporate governance based on several proxies related to corporate board attributes and ownership is constructed using principal component analysis (PCA). Our evidence is based on a sample of 120 publicly listed non-financial firms from Pakistan Stock Exchange (PSX) over the period 2013–2017. The selected sample is further divided into family and non-family firms based on 10% or more ownership. We document the negative impact of board meeting on cash holdings. The study's findings have practical implications for corporate governance practices and financial management in non-financial firms listed on the Pakistan Stock Exchange. Gul et al. should discuss the practical implications of their results for boards, policymakers, investors, and other stakeholders, considering how governance reforms or interventions may impact cash holding behavior and firm performance.

Darma et al (2021) studied the effect of corporate governance on cash holdings empirically. This study proxies corporate governance into four proxies: family ownership, institutional ownership, size of the board of commissioners, and proportion of independent commissioners. In addition, this research uses five control variables, namely, bank relationship, company size, leverage, return on assets, and cash flows. The samples were chosen based on the purposive sampling technique from consumer goods companies listed in the Indonesian Stock Exchange during 2015-2019, with 77 firm years. In order to test hypotheses, this study performed multiple regression analysis. The results showed that board meeting negatively affect cash holdings, while family ownership, institutional ownership, and board size have not. The study employs multiple regression analysis to test hypotheses. While regression analysis is a commonly used technique for examining relationships between variables, the choice of model specification, the inclusion of interaction terms, and potential issues such as multicollinearity or heteroscedasticity should be addressed to ensure the validity and reliability of the results.

Ezeani et al (2023) examined the impact of board characteristics on firms' cash holding in the UK, France and Germany. Using 2,805 firm-year observations between 2009 and 2019, the authors examine the relationship between board characteristics and corporate cash holding. The authors used two measures of cash holdings as our dependent variables. As independent variables, the authors used CG characteristics relevant to effective board monitoring such as board meetings, outside directors, board size and board gender diversity. The authors find that as board meetings, outside directors, board size and board gender diversity. influence firms' cash holdings of firms in the UK, France and Germany. While the study mentions using 2,805 firm-year observations, it does not elaborate on robustness checks or sensitivity analyses performed to test the stability of the results. Providing details on robustness checks and sensitivity analyses would enhance the credibility and robustness of the study's findings.

2.3 Theoretical Framework

2.3.1 Agency theory

The theory was instigated and developed by Jensen (Jensen & Meckling, 1976). According to Jensen (1986), the intention of managers is typically not aligned with those of shareholders and if managers have plenty of cash at their disposal, they use these assets to gain personal benefits rather than raise the significance of the institution. Therefore, in the model managers have an agenda of accumulating assets in sequence to gain discretionary have power over a firm's investment decisions (Jensen & Meckling, 1976). In this setting, the management of the firm settles on whether cash is held by the firm or paid to its investors. Consecutively for managers to pursue their individual interests, cash constitutes the most suitable form of financing, as having to raise external funds usually requires that the firm provides the lender with insights into how the funds are going to be used.

The relevance of agency theory to a study on the relationship between board attributes and cash holdings in listed consumer goods firms in Nigeria is significant. Agency Theory provides a theoretical framework to understand and analyze the dynamics of the principal-agent relationship within a corporate setting. Agency Theory is rooted in the principal-agent relationship, where shareholders (principals) delegate decision-making authority to managers (agents). In the context of the study on board attributes and cash holdings, it helps to explore how the composition and attributes of the board impact the decisions made by managerial agents, particularly in relation to cash management.

3.0 Methodology

This study employs a longitudinal research design to examine the effect of board characteristics on cash



holding in listed commercial banks in Nigeria. The population of the study comprise 15 listed commercial banks on the Nigerian Exchange Group (NGX) as of 31st December 2022.

To achieve a representative sample for the study, a purposive sampling technique will be employed. This approach is particularly relevant given the specific focus on listed commercial banks, allowing for a selection of banks that best fit the study's objectives.

Purposive Sampling: The purposive sampling technique will ensure that the study includes banks that have a diverse range of board attributes and cash holding practices. This allows for in-depth analysis and meaningful comparisons among different banks within the population. Given the manageable size of the population (15 banks), the study will include all listed commercial banks in Nigeria in the analysis. This comprehensive approach will enable a thorough examination of the board attributes and their effect on cash holding across the entire sector.

The study used a secondary source of data collection, meaning that the researchers will not directly collect new data from primary sources but will instead utilize existing data that has been previously collected by

other sources or organizations. In this case, secondary data will be employed due to the nature of the variables under study and the specific requirements of the research model and analysis technique.

The study employ paneled regression as a data analysis technique. The choice to employ panel multiple regression as the data analysis technique in this study is underpinned by the specific characteristics of the data obtained from the published audited annual reports and accounts of listed DMBs in Nigeria spanning from 2014 to 2023.

Model Specification

This study adopted the model of Cambrea et al (2021) is therefore given by:

$$CH_{it} = \beta_0 + \beta_1 BS_{it} + \beta_2 BM_{it} + \beta_3 BI_{it} + \beta_4 FS_{it} + \epsilon_{it}$$

Where:

- CSH=Cash holding
- BS= Board Size
- BM= Board Meeting
- BI= Board Independence
- FS= Firm size
- β_0 = Constant term
- β_1, β_2, \dots = Coefficients for each independent variable
- it= cross-sectional and time series

Table 1: Measurement of variables

s/n	Variables	Variables measurement
1	Cash Holding	the proportion of a company's cash flows generated from operating activities concerning its total cash flow. Soboleva, et al 2018
2	Board Size	Number of members who sit on the board of directors. Harford et al. 2008. D'Aurizio et al. (2015)
3	Board Independence	Proportion independent directors
4	Board Meeting	Number of meetings of board of directors per year. Alzoubi (2016)
5	Firm Size	Natural log of total assets

Researches' computation, 2025

4.0 Result and Discussions

Table 2: Descriptive Statistics

Variables	Mean	Std. Dev.	Min	Max
CH	3.819656	3.076096	.5054945	22.97504
BS	9.241176	2.458065	6	19
BM	3.852941	.9273093	2	6
BI	.2008232	.0723396	.0769231	.5
FS	7.672151	1.126939	4.193848	9.800101

Source: Stata Output, 2025

The descriptive statistics provide a comprehensive overview of the variables in the study. The mean cash holding (CH) for the banks is 3.82%, with a standard deviation of 3.08%, indicating significant variation in cash holdings across the banks. The minimum value of 0.51% and maximum value of 22.98% suggest that some banks hold significantly more cash than others,

which may reflect differences in liquidity management strategies.

Board size (BS) has a mean of 9.24 members, with a standard deviation of 2.46, ranging from 6 to 19 members. This variation in board size may influence decision-making processes related to cash management, with larger boards potentially offering a



broader range of perspectives. The average number of board meetings (BM) per year is 3.85, with a standard deviation of 0.93, indicating that the banks hold board meetings regularly, which may be crucial for making decisions about cash management and responding to financial circumstances.

Board independence (BI) has an average of 20%, with a standard deviation of 7.23%. This suggests that the

proportion of independent directors on the boards of Nigerian commercial banks is relatively low, which could impact the effectiveness of oversight over management's cash holding decisions. Finally, firm size (FS) has a mean of 7.67, with a standard deviation of 1.13, indicating that there is a significant variation in the size of the banks. Larger banks tend to have more resources and may be able to hold higher cash reserves compared to smaller banks.

Table 4.2: Correlation Matrix

	CH	BS	BM	BI	FS
CH	1.000				
BS	-0.003	1.000			
BM	-0.142	0.212	1.0000		
BI	-0.107	-0.083	-0.068	1.000	
FS	0.105	0.1095	0.009	0.122	1.000

Source: Stata Output, 2025

The correlation between board size (BS) and cash holding (CH) is -0.003, indicating a negligible and near-zero relationship. This suggests that board size does not have a strong direct influence on cash holding levels in Nigerian commercial banks. Similarly, board independence (BI) has a weak negative correlation with cash holding (-0.107), implying that as board independence increases, cash holding slightly decreases. This could suggest that independent directors play a role in reducing excessive cash reserves by encouraging optimal cash utilization.

Board meetings (BM) show a weak negative correlation with cash holding (-0.142), indicating that more frequent board meetings may be associated with lower cash reserves, possibly due to more active

decision-making regarding cash deployment. Firm size (FS) has a weak positive correlation with cash holding (0.105), suggesting that larger banks tend to hold slightly more cash, likely due to their higher operational scale and liquidity management strategies.

The interrelationships among the independent variables show that board size (BS) has a small positive correlation with board meetings (0.212), indicating that larger boards may convene more frequently. Firm size (FS) has a weak positive correlation with both board size (0.1095) and board independence (0.122), suggesting that larger banks may have slightly larger boards and a higher proportion of independent directors.

Table 4: Result of Multicollinearity Test

Variable	VIF	1/VIF
BS	1.71	0.584643
BM	1.09	0.914631
BI	1.20	0.833330
FS	1.28	0.781021
Mean Value	1.30	

Source: Stata Output, 2025

The multicollinearity test results, as presented in Table 4, indicate that all the independent variables in the study—board size (BS), board meetings (BM), board independence (BI), and firm size (FS)—have Variance Inflation Factor (VIF) values well below the commonly accepted threshold of 10. Board size (BS) has a VIF of 1.71, suggesting a low level of multicollinearity. Board meetings (BM) have the lowest VIF at 1.09, indicating almost no multicollinearity. Board independence (BI) and firm size (FS) have VIF values of 1.20 and 1.28, respectively, both of which also indicate low

multicollinearity. The mean VIF value of 1.30 further confirms that multicollinearity is not a significant concern in this study. The corresponding tolerance values (1/VIF) range from 0.5846 for BS to 0.9146 for BM, all of which are above the acceptable lower limit of 0.1. This further reinforces that there is no severe collinearity issue among the independent variables.

4.2.4 Heteroskedasticity Test

One of the assumptions of the classical linear regression model is that there is no heteroscedasticity. Heteroscedasticity arises if there are sub-populations



that have different variability from others. In view of the preceding, Breusch-Pagan/Cook-Weisberg test for heteroscedasticity was performed to test whether the variance of the errors from the regression is dependent

on the values of the independent variables. The result indicates chi-square value of 0.59 with p-value of 0.6710 which is insignificant at 5%. This suggests that there is an absence of heteroscedasticity.

Table 5: Hausman test

Chi 19.24	Prob 0.0136
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The Hausman test result, as presented in Table 5, reports a Chi-square (χ^2) value of 19.24 with a corresponding p-value of 0.0136. This test is used to determine whether the fixed effects (FE) or random effects (RE) model is more appropriate for panel data analysis.

assumes that the random effects model is appropriate, is rejected. This implies that the fixed effects model is the preferred specification for this study. The fixed effects model accounts for individual bank-specific characteristics that do not change over time, making it more suitable for analyzing the effect of board characteristics on cash holdings in listed commercial banks in Nigeria.

Since the p-value (0.0136) is statistically significant (i.e., less than 0.05), the null hypothesis, which

Table .6 Regression Result

	Coef.	Std. Err.	T	P> t
BS	-1.428366	.2504706	-5.70	0.000
BM	.5339392	.3873059	1.38	0.170
BI	1.686543	.66519	2.54	0.011
FS	-.6694651	.277922	-2.41	0.017
R2	0.4932			
F(8,145) = 111.70				0.0000

Source: Stata Output, 2025

The regression results indicate the relationship between board characteristics and cash holding in listed commercial banks in Nigeria. The model explains approximately 49.32% ($R^2 = 0.4932$) of the variation in cash holding, suggesting a moderate explanatory power. Additionally, the F-statistic ($F = 111.70$, $p = 0.0000$) confirms the overall significance of the model, implying that the independent variables jointly influence cash holding decisions.

better access to external financing, reducing their need to maintain large cash reserves.

Examining the individual coefficients, board size (BS) has a coefficient of -1.4284 ($p = 0.000$), indicating a statistically significant negative relationship with cash holding. This suggests that as board size increases, cash reserves decrease, possibly due to larger boards making more efficient cash utilization decisions. Board meetings (BM), with a coefficient of 0.5339 ($p = 0.170$), has a positive but statistically insignificant effect, implying that the frequency of board meetings does not significantly influence cash holding.

Conclusion and Recommendations

This study examined the effect of board characteristics on cash holding in listed commercial banks in Nigeria using a longitudinal research design. The findings revealed that board size (BS) and firm size (FS) have a significant negative impact on cash holding, suggesting that larger boards and larger firms tend to hold less cash. In contrast, board independence (BI) has a significant positive relationship with cash holding, indicating that banks with more independent board members tend to maintain higher cash reserves, possibly as a precautionary measure. However, board meetings (BM) showed an insignificant relationship with cash holding, implying that meeting frequency does not substantially influence liquidity management decisions.

On the other hand, board independence (BI) shows a coefficient of 1.6865 ($p = 0.011$), signifying a statistically significant positive relationship with cash holding. This suggests that banks with more independent board members tend to hold higher cash reserves, likely as a risk mitigation strategy. Meanwhile, firm size (FS) has a coefficient of -0.6695 ($p = 0.017$), indicating a significant negative impact on cash holding. Larger banks are more likely to have

Based on the findings, the following recommendations are proposed:

Regulatory authorities and bank management should ensure an ideal board size that balances diversity in decision-making with efficiency. Reducing excessively large boards may help improve cash utilization.

Since independent directors positively influence cash holding, banks should enhance board independence

by appointing more qualified independent directors who can advocate for prudent cash management practices.

Given that board meetings do not significantly impact cash holding, bank boards should prioritize meeting quality over quantity, ensuring that discussions focus on effective financial decision-making rather than just meeting frequently.

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