



EFFECT OF CASH MANAGEMENT ON FINANCIAL PERFORMANCE OF LISTED DEPOSIT MONEY BANKS IN NIGERIA

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Abstract

Deposit Money Banks (DMBs) rely on optimal liquidity to safeguard deposits and invest in profitable ventures, maintaining stakeholders' confidence. However, declining depositor trust, inadequate capital and liquidity, and regulatory sanctions can lead to financial distress and potential insolvency. This calls for investigating the factors influencing DMBs' liquidity and capital adequacy and their impact on banking stability and sustainability. This study examined the effect of cash management on the financial performance of listed deposit money banks in Nigeria for 2013-2022. It adopted an ex-post facto research design with a population and sample size of 14 and 10 DMBs using the judgmental sampling technique; the data were descriptively and inferentially analyzed using regression analysis. Using Panel Ordinary Least Square (OLS) regression as a data estimation technique, the result of the study showed that cash management has a significant effect on return on assets ($p\text{-value}=0.02629<0.05$) and return on equity ($p\text{-value}=0.01929<0.05$). Based on the results, the study concluded that cash management significantly affects the financial performance of listed deposit money banks in Nigeria. The study recommended that deposit money bank management should implement advanced cash flow forecasting models and liquidity management techniques to optimize the allocation of cash reserves and maximize investment returns while ensuring liquidity adequacy

Keywords: *Cash management, financial performance, deposit money banks*

JEL Code: *G2, G 32*

INTRODUCTION

The financial industry plays a crucial role in a nation's economic prosperity and progress, with Deposit Money Banks (DMBs) serving as key institutions that drive economic activity. These banks facilitate financial intermediation, allocating available investment funds to areas with the highest potential returns. This essential function, however, comes with considerable risk, particularly as DMBs have increasingly diversified their asset portfolios (Harb et al., 2022; Mohammed & Knapkova, 2016). The profitability and financial stability of Deposit Money Banks (DMBs) are critical indicators of their capacity to meet withdrawal demands and safeguard depositor funds. Poor performance in banks can undermine depositor confidence and raise concerns about the safety of their money. Conversely, strong financial performance by DMBs enhances economic stability and growth. Well-performing banks are better equipped to provide loans for business expansion, foster job creation, and support new initiatives, driving overall economic progress (Apochi &Baffa, 2022).

The financial performance of Deposit Money Banks (DMBs) plays a pivotal role in their ability to sustain operations and achieve growth. Effective management is demonstrated through the strategic use of resources, expansion of bank activities, exploration of new business opportunities, and maintaining a competitive advantage. Strong financial performance not only contributes to the stability of the financial sector but also ensures that DMBs can manage expenses, reduce debt, and make informed strategic decisions. For investors, analyzing a bank's financial performance provides insights into its potential, including projected growth and anticipated returns on investment. Overall, financial performance serves as a comprehensive indicator of a bank's health and management effectiveness (Hoque, 2023). Financial efficiency involves implementing effective cash management strategies, which play a critical role in supporting DMBs' debt management efforts. Efficient cash management enhances a bank's capacity to access lower-cost financing and maintain a favourable credit rating, directly linked to its ability to meet financial obligations as they come due. This ensures that the organization maintains the liquidity and financial stability needed to meet its obligations, make strategic investments, and maximize profitability (Onyekwelu et al., 2018).

Deposit Money Banks (DMBs) function in a dynamic environment, facing numerous challenges that can adversely affect their financial performance. Financial management issues in DMBs often stem from both internal and external factors. Such issues frequently lead to failures, typically caused by inadequate performance in critical areas. Key challenges include liquidity issues, poor capital management, ineffective cost control, and weak governance and oversight. Consequently, unsatisfactory financial performance can significantly undermine the stability, profitability, and reputation of DMBs. Due to a decline in depositor confidence, an inability to satisfy financial commitments resulting from insufficient capital and liquidity, and regulatory measures and sanctions, these repercussions can cause financial hardship and insolvency. Violations of regulatory standards can lead to severe fines and penalties, the revocation of operating licenses, reduced capital and liquidity, operational limits, and a negative impact on profitability due to lower earnings and increased provisional costs. Cash management (CM) variables can affect DMB performance if not properly managed. Poor cash management practices may result in liquidity problems, making it difficult for DMBs to meet their immediate financial obligations. This may lead to overdue payments, trouble paying vendors or staff, and possible business interruptions.

In the late 1980s and early 1990s, amid the period of dissolution and hardships, the issue of Nigeria's DMBs constrained cash operations came to light. The banking sector's recapitalization phase required DMBs to increase their capital base from N2 billion to N25 billion for the negative accretive commodities (Malik & Shafie, 2021). However, this recapitalization was further increased to N500 billion for DMBs with international licenses and N200 billion for national and regional licenses (CBN, 2024). Numerous deposit money banks have had comparable challenges both within and beyond Nigeria due to their inability to understand and adhere to cash operating protocols in their day-to-day activities, as well as their occasional disregarding of signals that could compromise DMB functioning. This has led to the failure of certain deposit money institutions and the insolvency of others. Situations similar to this can be found at the intersection of Diamond Bank and Access Bank (Hassan & Malik, 2021). Recently, Heritage Bank's operating license was withdrawn by the CBN in June 2024 as a result of the management's erratic operations, which left clients stranded and posed a threat to financial stability. Profitability is crucial for the survival of

DMBs. Thus, improper cash management due to unutilized idle funds towards profitable investments and unproductive investments can jeopardize the profitability of DMBs.

Research Hypotheses

The hypotheses related to the specific objectives stated in null forms were tested in this study;

H₀₁: Cash management does not have a significant effect on return on assets of selected listed deposit money banks in Nigeria.

H₀₂: Cash management does not have a significant effect on return on equity of selected listed deposit money banks in Nigeria.

LITERATURE REVIEW

Conceptual Review

Financial Performance

Financial performance is a concept that measures a deposit money bank's (DMB) ability to utilize its assets to generate profit within a specified time frame while adhering to the primary operational objectives. An economically successful DMB may easily attract investors to broaden its capital base and create more jobs, both of which boost the country's economy. Thus, enabling the DMBs to yield large profits with few mistakes made in running the business (Hindasah et al., 2020). By evaluating a company's performance and figuring out the total result of its operations, Zhongming and Frimpong (2019) identified financial performance as a crucial measure of a business's stability, reliability, and operational cost-effectiveness. Appah et al. (2020) describe accounting ratios, which illustrate the relationship between the variables in the financial statement, and compute financial success as its principal expression. Nonetheless, several financial performance measures contribute to the understanding of DMBs' effectiveness and profitability. However, financial performance is the result of organizational resources being engaged in the provision of services or goods to the business environment while taking relevant risks and uncertainties into account to achieve set corporate objectives, such as maximizing shareholder wealth and maximizing the value of the business entity.

Return on Assets

Return on assets (ROA) is a performance metric that measures an organizations capacity to make money from its assets and is a component of performance measurement. Return on asset is used in the banking industry to evaluate how well the entity utilizes its resources to generate profit and to compare different investments in a portfolio. Shareholders and other stakeholders can evaluate how well DMBs use their resources to generate profit by looking at ROA. The ratio considers both the cost of an asset and the net profit or gains from it. According to Fahmi (2015) and Okolie et al. (2023), this ratio evaluates how well the capital that has been invested can generate the anticipated returns. These returns when positive, indicate profit margins for DMBs, while negative returns indicate non-profit or loss. A consistently low ROA might prompt regulatory scrutiny and intervention. The fundamental approach for calculating return on assets involves dividing net income by the average value of all assets for the company, then multiplying the resulting number by 100 to get the percentage. Return on Assets is measured in ratio units using the following equation:

$$\text{Return on Assets (ROA)} = \frac{\text{Earnings after tax}}{\text{Total Assets}}$$

ROA is an important indicator for deposit money banks since it shows how well and efficiently, they use their assets. It provides information about how well a DMB converts its assets into net income, which makes it an important metric for regulators, investors, and management. DMBs may improve their ROA and, consequently, their overall financial performance and stability, by concentrating on elements like net interest margin, asset quality, and operational efficiency.

Return on Equity

The return on equity (ROE) of DMBs depicts the correlation between their earnings and their investors' return to assess whether it is profitable. ROE is a key indicator of financial performance and efficiency, showing how well DMB utilizes its equity base to generate profits. It is an essential parameter that helps potential investors analyze a company's financial performance. A deposit money bank's performance can be assessed through its return on equity (ROE). This metric provides investors with information about how deposit money banks have efficiently managed the capital entrusted to them. Regulators monitor ROE to assess the bank's profitability and sustainability. A stable or high ROE reflects sound management and financial health. ROE influences how rapidly earnings may be reinvested by a company to promote internal growth. The efficiency with which a business generates income from the equity investments of its shareholders is measured by the return on equity calculation (Sulaiman et al., 2019).

Return on Equity (ROE) = $\frac{\text{Earnings after tax}}{\text{Shareholders' Equity}}$

Cash Management (CM)

Cash management (CM) is the ability of a bank to pay its debts on time, which is vital for Deposit Money Banks (DMBs) because it affects client satisfaction and reliability. Cash management is viewed as a prerequisite for everyday DMB operations, and a high level of knowledge is required to prevent mismatches. Efficient cash management means that a company can allocate resources to pay operating expenses, invest, pay shareholders, and maintain appropriate reserves. A company that generates enough cash can meet its daily needs without incurring debt, thereby giving it more control over its finances (Ali et al., 2020). Cash management practices refer to the effective and efficient way management of an organization ensures that there is enough money to support ongoing operations, financing opportunities, and payments for unforeseen services (Major & Azali, 2022). As noted by Dzapasi (2020), maintaining stable banking operations hinges on efficient cash management. This entails striking a healthy balance between cash inflows, outflows, and DMBs, as inadequate management can erode customer trust and disrupt smooth operations. Thus, the management of liquidity metrics enhances smooth day-to-day operations in achieving optimal liquidity. However, effective management of cash flows, liquidity, and investments constitutes a core responsibility of deposit money institutions. Banks can fulfil their responsibilities, maximize profits, lower risks, and adhere to regulations when they manage their cash well. The operational efficiency, financial stability, and customer happiness of banks can be improved by the implementation of strong cash management procedures and the utilization of technology.

Cash and Cash Equivalent

The financial position of DMB explains its cash and cash equivalents as liquid assets to pay for immediate liabilities. These assets include government bonds not exceeding a maturity date of three months, bank accounts, cash bills, marketable paper, and marketable securities. Marketable

securities are considered cash equivalent because they are liquid and not subject to significant value changes (Imo, 2021). According to Balance of Payment Primer (1993), banks need cash to pay their bills. However, cash recessions by customers are unpredictable and can cause problems for banks. To remain solvent, DMBs (Deposit Money Banks) must maintain a specific level of cash to their arrears (Takon & Ogakwu, 2019). Cash, including coins, bills, and currency notes, is the currency of demand deposit accounts. These accounts allow customers to withdraw money as they deem fit without prior notice to the bank; for instance, Savings and current accounts are examples of demand deposit accounts (Imo, 2021). According to IAS 7 Paragraph 7 (IFRS Interpretation Committee 2013), cash equivalents are not held for investments or other uses, but rather to satisfy immediate cash obligations. A cash equivalent investment has no risk of value changes and is readily convertible into a known sum of cash (Odo & Udodi, 2022). Generally, cash equivalents are classified as investments whose maturity is no longer than three months from the date of ascension.

Cash to Total Asset

Cash-to-total-assets ratio is an economic measure that evaluates an organization's viability by comparing its cash and cash equivalents to its total assets. This ratio assists stakeholders in assessing the financial health of a company and its ability to meet short-term obligations by indicating the percentage of assets that are held in cash or near-cash items. According to Dzapasi (2020), a stable banking industry can only be created by all banks adopting a practice of maintaining a healthy balance between cash inflows and outflows through proper liquidity management.

$$\text{Cash to Total Assets} = \frac{\text{Total Assets}}{\text{Cash and Cash Equivalents}}$$

Theoretical Framework

This section addresses the underpinning theories relating to cash management and financial performance. These include stakeholders' theory and shiftability theory.

Stakeholders Theory

In the 20th century, Dr. Edward Freeman propounded the stakeholder theory, an extension of agency theory that focuses on the discord of the interests of equity owners and managers and the resolution of these conflicts. The theory suggests that firms develop externalities that influence several parties, both internal and external to the enterprise. The fundamental assumption of the stakeholder theory is that satisfying the expectations of various stakeholders is a prerequisite for the accomplishment of long-term company goals. According to Nwaobia and Jayeoba (2016), stakeholder theory extends beyond the interaction between shareholders, managers, and other entities or individuals that interact with the organization. However, when customers, employees, along other stakeholders of the company are content, shareholder wealth can be optimized over time (Nwaobia & Jayeoba 2016). Blattberg (2004) in his critique recommends conversation as a means of dealing with conflicts of shareholders' interest rather than the assumption that the interests of stakeholders can only be at best, compromised or balanced against each other.

Shiftability Theory

Harold G. Moulton first proposed the shiftability theory in 1915. The theory's underlying premise is that banks should allocate a portion of their available capital to credit instruments and securities with secondary markets, enabling them to be turned into cash whenever the need to deal with decreasing liquidity emerges. According to Alshatti (2015), shiftability theory holds that scarcity of liquidity by DMBs can be addressed if the bank marketable securities can be transferred to other banks with remarkably high liquidity. According to the assumption, DMBs' highly marketable securities are an ideal source of liquidity and can be easily converted into other securities if necessary (Inegbedion et al., 2020). However, the inability of DMBs to reserve highly marketable assets that can be sold to other banks at a profit poses a threat to their liquidity issue (Udoka, 2012). Husna and Manzora (2009) lend credence to the shiftability theory, highlighting its profound effect on banking practices, which can hardly be denied.

Empirical Review

Cash Management and Return on Assets

Ubesie et al., (2023) used an ex post facto research design to evaluate the influence of cash management on the financial performance of banks. The study used the regression technique to analyze the data and the findings demonstrated a statistically insignificant and adverse effect of cash and cash equivalent on return on assets. Dibie (2022) examined the impact of cash management on the financial performance of quoted manufacturing enterprises using the regression analysis technique from 2010 - 2018. The study's result showed that performance is positively impacted by cash management. In Kenya, Ayodi et al., (2022) analyzed the data of 38 commercial banks using a panel data model to investigate the impact of cash management and financial value of commercial banks from 2012 to 2021. The study's findings showed that cash management has a significant positive influence on the financial performance of commercial banks. Furthermore, Nangih et al., (2020) adopted a judgmental research design in analyzing the impact of cash management and financial performance of selected oil and gas firms from 2013 – 2018 using multiple and correlation techniques. The study's result revealed that cash flow from financing activities has a significant positive impact on firm performance while it is adverse and not significant from operating and investment activities.

Peter et al., (2020) empirically analyzed the data of 5 banks from 2014 to 2018 using the multiple linear regression model to evaluate the impact of cash management on Deposit money banks' financial performance. The findings showed that cash to total assets showed a negative and significant coefficient with ROA. In Northern Uganda, Eton et al., (2019) investigated the impact of cash management and financial performance of Business Firms using both purposive and stratified random sampling. The study's results showed an insignificant relationship between cash management and financial performance. In Botswana, Sathyamoorthi et al., (2020) descriptively analyzed the data of 9 commercial banks from 2011 to 2019. This analysis is to examine the impact of liquidity management and financial performance of commercial banks. The findings showed that cash and cash equivalents have a statistically positive but insignificant relationship with ROA.

Cash Management and Return on Equity

In 2023, Oranefo and Benee used regression techniques to analyze the data of 5 banks to investigate the impact of cash management on the financial performance of selected banks in Nigeria. The study's result showed that cash and cash equivalents have positive and insignificant effects on ROE. Major and Azali (2022) adopted a panel data regression technique to analyze the

Omotunwase, O. M. (2024). Effect of cash management on financial performance of listed deposit money banks in Nigeria. *Malete Journal of Accounting and Finance*, 5 (1), 77-90

impact of cash management on financial performance from 2014 to 2020. The result of the findings showed a strong statistically significant and positive relationship between cash management practices and ROE.

Ofoegbu and Okoro (2020) revealed findings on the impact of cash flow on the performance of Nigerian listed deposit money banks from 2006 to 2015 using a simple regression technique for the data analysis that cash flow has a statistically insignificant but positive relationship with ROE. Wuave et al., (2020) evaluated the effect of liquidity management on a bank's performance with 50 observations. The result of the study showed that cash has a negative but significant relationship with ROE.

In Botswana, Sathyamoorthi et al., (2020) descriptively analyzed the data of 9 commercial banks from 2011 to 2019 to examine the impact of liquidity management and financial performance. The findings showed that cash and cash equivalents have a statistically insignificant and positive correlation with ROE. Dhruba (2019) examined the impact of cash management on the profitability of small manufacturing organizations in Dhruba. The study adopted a correlational research design to analyze 80 samples. The study's findings revealed cash management's insignificant but positive effect on profitability.

METHODOLOGY

Research Design

This study utilized an ex post facto research design employing secondary data to analyze existing information without experimental manipulation. This approach is justified as it allows for the examination of historical relationships and trends in the financial performance of Deposit Money Banks (DMBs).

Population, Sample and Sampling Technique

The study population consisted of the 14 Deposit Money Banks listed on the Nigerian Exchange Group (NGX, 2022). Ten (10) were chosen as a sample using the judgmental sampling technique, following the requirements on specific characteristics based on expertise and their continuous listing on the Nigerian Exchange Group. The selected DMBs include Eco Bank, Access Bank, Sterling Bank, Fidelity Bank, First Bank of Nigeria, First City Monument Bank, Guaranty Trust Bank, Union Bank, United Bank for Africa and Zenith Bank.

Method of Data Collection

The annual reports of each of the sampled listed Deposit Money Banks over ten (10) years served as the study's collection tool. This made up the panel data that was used in the research.

Reliability of Data

The study was verified and demonstrated that the data had been extracted completely and accurately following the study's design. On reliability, the DMBs complied with CAMA sections 401-404 by ensuring that they subjected their financial statements to statutory audit by the independent statutory auditors, the Financial Reporting Council of Nigeria certified the audited reports, and CBN approved the data by hoisting the reports in the website and publish them in their statistical bulletin.

Method of Data Analysis

The study analyzed the secondary data descriptively and inferentially using the E-view statistical software. Descriptive statistics and correlation analysis explained the features and degree of the link between cash management and financial performance while inferential statistics through the use of regression investigated the effect of cash management on each of the measures of financial performance.

Model Specification

The empirical model for this study is based on the principles of cash management and integrates key variables identified in the empirical review. It employs a panel methodology and is functionally specified as follows.

ROA = F (CCE, CSHA)

ROE = F (CCE, CSHA)

Econometrically, the regression model is as stated in equations 3.6.1 and 3.6.2

$ROA_{it} = \alpha + \beta_0 + \beta_1 CCE_{it} + \beta_2 CSHA_{it} + \epsilon_{it}$ (3.6.1)

$ROE_{it} = \alpha + \beta_0 + \beta_4 CCE_{it} + \beta_5 CSHA_{it} + \epsilon_{it}$ (3.6.2)

Where;

ROA_{it} = Return on Asset at period t; ROE_{it} = Return Equity at period t; CCE = Cash and Cash Equivalent; CSHA= Cash to Total Asset ratio; β₀ = Fixed intercept/ Constant; β = Coefficient of the explanatory variable; ε = Stochastic error term; α = Intercept.

The *a-priori* expectations are β₁, β₂, β₃, β₄ >0

RESULTS AND DISCUSSION

Descriptive Statistics

TABLE 1: Descriptive Statistics Results

	CCE	CSHA	ROA	ROE
Mean	5.689821	6.793250	0.035478	0.138686
Median	5.498010	6.374556	0.014260	0.117443
Maximum	7.342910	9.985011	0.530885	0.892588
Minimum	3.319938	4.450251	-0.000481	-0.008172
Std. Dev.	1.005639	1.454757	0.067548	0.120232
Skewness	-0.268288	1.046006	4.910487	2.678536
Kurtosis	2.543097	3.045214	32.23504	16.71692
Jarque-Bera	2.069481	18.24400	3963.079	903.5499
Probability	0.355319	0.000109	0.000000	0.000000
Sum	568.9821	679.3250	3.547824	13.86861
Sum Sq. Dev.	100.1197	209.5155	0.451713	1.431110
Observations	100	100	100	100

Source: Author’s Computation (2024)

Table 1 shows the cash management strategies of the investigated DMBs, which are demonstrated by the mean values of 5.689821 and 6.793250 for CCE and CSHA, respectively. These average values imply that, concerning their total assets, the investigated DMBs retain a comparatively high level of CCE and CSHA. DMBs can reduce the risk of financial problems, fulfil immediate obligations, and capitalize on investment opportunities as they arise. This can be indicative of a conservative cash management strategy aimed at ensuring liquidity and financial stability. This suggests that on average DMBs allocate an enormous portion of their total assets to cash holdings.

Return on Assets (ROA) has a mean of 0.035478 (3.5%) with a minimum value of -0.000481(-0.0481%) and a maximum value of 0.530885 (53%) indicating that, on average, DMBs in Nigeria generate a return of approximately 3.5% on their assets. This metric serves as a key indicator of a bank's financial viability, reflecting its ability to generate earnings from its asset base. ROE shows a mean value of 0.138686 indicating that banks, on average, are earning a return of 13.87% on their equity with a minimum of -0.008172 (-0.81%) and a maximum of 0.892588 (89.25%).

4.2 Correlation Matrix

TABLE 2: Correlation Result

Probability	CCE	CSHA	ROA	ROE
CCE	1.000000 -----			
CSHA	0.839145 0.0000	1.000000 -----		
ROA	-0.387304 0.0001	-0.288659 0.0036	1.000000 -----	
ROE	0.325027 0.0010	0.295408 0.0028	0.135180 0.1799	1.000000 -----

Source: Author's Computation (2024)

Table 2 illustrates the relationship between Cash Management (CM) and the financial performance of deposit money banks in Nigeria. It displayed a strong positive correlation between Cash and Cash Equivalent (CCE) and Cash to Asset (CSHA) in Nigeria's banking context, with a coefficient of 0.839145 and a significant p-value of 0.0000 is a noteworthy finding. However, the adverse relationship between the cash management strategies (CCE, CSHA) and return on assets (ROA) is interesting. DMBs with higher cash holdings tend to exhibit lower profitability in terms of ROA as aligned by the negative correlation coefficients of -0.387304 (p=0.0001) for CCE and -0.288659 (p=0.0036) for CSHA. This finding suggests that holding excess liquidity in the form of cash may not be optimal for maximizing profitability, as it implies a trade-off between liquidity and profitability. Interestingly, despite the negative correlations with ROA, both CCE and CSHA exhibit positive correlations with Return on Equity (ROE). The positive correlation coefficients of 0.325027 (p=0.0010) for CCE and 0.295408 (p=0.0028) for CSHA suggest that banks with higher cash holdings tend to have higher returns on equity.

Regression

Table 3 presents the regression models, displaying agreement in the results of the two models. The coefficients of CCE and CSHA are negatively related to the performance proxies ROA, indicating an adverse relationship between the two cash management parameters and ROA, while being positively related to ROE, indicating a direct relationship.

Table 3: Regression Results

	Fixed Effects		Random Effects	
	Model 1 (ROA)	Model 2 (ROE)	Model 1 (ROA)	Model 2 (ROE)
CCE	-0.008349 (0.020714)	0.010765 (0.037137)	-0.021737 (0.015685)	0.020113 (0.029502)

	[-0.403033]	[0.289876]	[-1.385805]	[0.681754]
	{0.6879}	{0.7726}	{0.1690}	{0.0970}
CSHA	-0.026961	0.037714	-0.004378	0.017557
	(0.017976)	(0.032227)	(0.011418)	(0.021766)
	[-1.499827]	[1.170249]	[-0.383374]	[0.806606]
	{0.1372}	{0.2451}	{0.7023}	{0.0219}
Constant	0.266132	-0.178766	0.188893***	-0.095021
	(0.104464)	(0.187284)	(0.056753)	(0.110377)
	[2.547590]	[-0.954521]	[3.328363]	[-0.860877]
	{0.0126}	{0.3424}	{0.0012}	{0.3914}
R ²	0.381766	0.372799	0.572276	0.548592
Adjusted R ²	0.304487	0.294399	0.453148	0.428975
F- Statistics	4.940092	4.755087	3.778483	2.477069
F- Stat. (Prob)	0.000006***	0.000011***	0.026291**	0.019288**
Auto Corr				
(DW Stat)	1.890550	1.490804	1.751098	1.968055

Source: Author's Computation (2024)

NB: Standard Errors are in parentheses (), t-statistics [] and prob value {} *, **, *** means the significant level at 10%, 5% and 1% significant level

Hausman's Specification

The Fixed and Random models were tested using the Hausman (1978) specification test to determine which one best ideal the regression data. According to Gujarati and Porter (2009), a fixed effect model will be applied if the probability value is less than 5%; in all other cases, a random effect model will be applied.

TABLE 4: Hausman's Specification Result

Model	Dep. Variable	Chi-Square		
		Stat.	Chi-Square d.f	Prob.
1	ROA	2.699032	2	0.2594
2	ROE	0.719918	2	0.6977

Source: Author's Computation (2024)

Test of Hypotheses

H₀₁: Cash Management (CM) does not have a significant effect on the Return on Assets (ROA) of listed deposit money banks in Nigeria.

The discussion of the regression was conducted using the results of the Random effects model in Table 4.3 because the model's prob-values, as indicated in Table 4.4, are more than 5%.

However, Table 4.3's results showed the F-Statistical of 3.7785 with a significant level of 0.05, a degree of freedom of 6,93, an adjusted R² of 0.453148, and the probability of the F-Statistical is 0.02629, which is less than the 0.05 level of significance used for this investigation.

Therefore, the study rejected the null hypothesis which implied that Cash Management has a significant effect on the Return on Assets of Deposit Money Banks in Nigeria.

H₀₂: Cash Management (CM) does not have a significant effect on the Return on Equity (ROE) of deposit money banks in Nigeria.

The discussion of the regression was conducted using the results of the Random effects model in Table 4.3 because the model's prob-values, as indicated in Table 4.4, are more than 5%.

However, at a level of significance of 0.05 and a degree of freedom of 6,93, Adjusted R² of 0.428975, the F – Statistics is 2.477069 while the probability of the F- Statistics is 0.0192 which is less than the 0.05 level of significance adopted for this study. Therefore, the study rejected the null hypothesis which implied that Cash Management has a significant effect on Return on Equity of Deposit Money Banks in Nigeria.

Discussion of Findings

The findings of the first hypothesis revealed an adverse effect of CCE on the ROA of listed DMBs in Nigeria. In line with this analysis, practically, DMBs must adopt better cash management to balance liquidity with investments in higher-yield assets, boosting profitability. Economically, the results underscore the need to revise cash retention policies to avoid non-productive over-capitalization, enhancing ROA, shareholder confidence, and sustainable growth. The outcome of the findings is in agreement with Nangih et al., (2020), and Ubesie et al., (2023) which aligns with the shiftability theory that holds that scarcity of liquidity by DMBs can be addressed if the bank marketable securities are transferred to other banks with remarkably high liquidity. However, the finding is in contrast with the study of Sathyamoorthi et al., (2020) that revealed a positive relationship between CCE and ROA.

Similarly, the findings exhibit an adverse effect of CSHA on the ROA of DMBs in Nigeria. The result aligns with the finding for CCE, as both ratios capture the level of cash holdings, albeit in different forms. Practically, DMBs must reassess cash management to avoid excessive holdings that limit profitability. While liquidity ensures stability, an elevated CSHA indicates underutilized assets that hinder growth. These findings are in line with the outcome of Peter et al., (2020), and Ayodi et al., (2022) which aligns with the shiftability theory that emphasizes that holding liquid, marketable assets allow banks to maintain liquidity while still investing in income-generating assets but in contrast with the result of Sathyamoorthi et al., (2020) which revealed a positive relationship between CSHA and ROA.

The findings from the second hypothesis revealed that the return on equity (ROE) of listed deposit money banks (DMBs) in Nigeria is positively influenced by cash and cash equivalents (CCE), though this relationship is statistically significant at the 10% level not at the 5% level. This suggests that an increase in CCE can enhance ROE, indicating that greater liquidity can lead to higher equity returns for Nigerian banks. However, according to the Shiftability Theory, maintaining higher levels of liquid assets comes with the drawback of reduced profitability due to the opportunity cost associated with holding low-yield assets. The study's outcome aligns with the findings of Ofoegbu and Okoro (2020), Sathyamoorthi et al., (2020), and Oranefo and Benee (2023) but in contrast with Wuave et al., (2020) who observed an adverse correlation between CCE and ROE.

Furthermore, the study identifies a positive and significant correlation between the cash-to-asset ratio (CSHA) and the return on equity (ROE) of listed deposit money banks in Nigeria. These findings are consistent with the results of Major and Azali (2022) but contrast with the work of Wuave et al. (2020), who reported a negative correlation between cash and cash equivalents (CCE) and ROE. This study presents compelling evidence that cash management plays a crucial role in

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shaping the financial performance of DMBs, as indicated by the aggregated findings from Models 1 and 2.

CONCLUSION AND RECOMMENDATIONS

The study examined the effect of cash management on financial performance of ten listed DMBs in Nigeria for a period of ten years (2013-2022). However, the study provided theoretical and statistical evidence to show that Cash Management significantly impacts financial performance of listed DMBs in Nigeria. Based on study's findings, it was concluded that Cash Management has a significant effect on return on assets and return on equity of listed DMBs in Nigeria.

The study's conclusions result in the following recommendations:

- i. Management should implement advanced cash flow forecasting models and liquidity management techniques to optimize the allocation of cash reserves and maximize investment returns while ensuring liquidity adequacy.
- ii. The management should conduct a comprehensive review of cash management policies and procedures to identify inefficiencies and areas for improvement in cash utilization and asset deployment. They should explore alternative liquidity management tools such as repurchase agreements (repos), reverse repos, and asset-backed securities to optimize cash deployment and reduce the need for excessive cash holdings.

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