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CASH FLOW MANAGEMENT AND FINANCIAL PERFORMANCE: THE EXPERIENCED OF NIGERIAN DEPOSIT MONEY BANKS

[1]Nera Ebenezer Mansi, PhD, [2]Obah, Obah Daddy PhD &[3]Ofoniofoni Sueneme Bobkime (PhD Student)
[1]Department of Accountancy, [2&3]Department of Banking and Finance
[1,2&3]Niger Delta University, Nigeria

ABSTRACT

The study explored the influence of cash flow management on the performance of Nigerian Deposit Money Banks. The data were sourced from the Nigerian Exchange Group and annual reports of fifteen listed banks over a six-year period (2018-2023). The research focused on operating cash flow, financing cash flow, and investing cash flow as independent variables, with return on assets (ROA) as dependent variable. The study conducted the fixed effect model of the panel least square regression resulting from the Hausman test. The findings revealed that operating cash flow negatively and significantly affects ROA, financing cash flow positively but insignificantly influences ROA, and investing cash flow has a negative yet insignificant impact on ROA. The study concludes that cash flow management plays a pivotal role in shaping the performance of Nigerian Banks, highlighting the need for focussing on optimizing core operational activities through an improving efficiency in revenue generation, minimizing operational costs, and by prioritizing internal funding sources (e.g., retained earnings) and consider external financing (e.g., debt issuance) only when necessary.

Keywords: cashflow management, hausman test, Panel regression, deposit money bank

INTRODUCTION

Financial performance is a critical parameter of a firm's overall health and success, often measured by metrics such as return on assets (ROA), return on equity (ROE), net profit margin, and earnings per share (EPS). It reflects a firm's ability to generate revenue and manage its resources efficiently, making it a crucial concern for stakeholders, including investors, regulators, and management (Adeleke, 2022). In the context of deposit money banks (DMBs) in Nigeria, financial performance is particularly vital due to the sector's significant role in economic stability and growth. Given the dynamic and often volatile nature of the Nigerian economy, maintaining strong financial performance is essential for DMBs to remain competitive and solvent (Adeleke, 2022; Udo, 2023).

Cash flow management, which involves analyzing, monitoring, and optimizing a firm's cash inflows and outflows, is a key determinant of financial performance. Cash flow management effectiveness entails adequately managing liquidity to meet short-term obligations while also enabling strategic investments for long-term growth. For DMBs in Nigeria, cash flow management is even more critical due to the complex regulatory environment and the need to balance liquidity with profitability. Financing cash flow, operating cash flow, and investing cash flow are the three primary components of cash flow management. Each of these elements plays a unique role in enhancing financial performance (Ibrahim & Yusuf, 2021; Chukwu, 2023).

Operating cash flow depicts the cash generated from a bank's core business activities, such as interest income, fees, and commissions. Positive operating cash flow is essential for sustaining day-to-day operations and ensuring that the bank can meet its financial commitments without resorting to external financing. Financing cash flow, on the other hand, involves cash movements related to debt, equity, and dividend payments. Effective management of financing cash flow can reduce the cost of capital and improve a bank's capital structure, thereby enhancing its financial performance. Finally, investing cash flow pertains to the cash used for acquiring or disposing of investments and assets. Strategic investment decisions, supported by robust investing cash flow management, can drive growth and improve a bank's return on assets (Osakwe & Nwokoro, 2023; Adeoye, 2023).

In Nigeria, where DMBs face challenges such as economic instability, currency fluctuations, and regulatory pressures, efficient cash flow management is crucial for sustaining financial performance. The ability to generate strong operating cash flow while managing financing and investing activities effectively can serve as a buffer against external shocks and enhance profitability. Therefore, understanding the link between cash flow management and financial performance is essential for DMBs aiming to improve their financial stability and competitiveness in the Nigerian banking sector (Ogundipe & Adebayo, 2022; Okonkwo, 2023). This study seeks to explore the complex relationship between cash flow management and financial performance in Nigeria's DMBs, providing insights into how banks can optimize their cash flows to enhance financial outcomes.

Several prior studies have explored the connection of cash flow management and financial performance in various contexts. For example, Osakwe and Nwokoro (2023) examined cash flow components and profitability in Nigerian banks but focused more on profitability ratios without adequately addressing the broader implications of cash flow management on overall financial performance metrics like return on assets (ROA) and return on equity (ROE). Similarly, Chukwu (2023) studied cash flow management strategies in Nigerian banks but did not explicitly investigate the distinct effects of operating, financing, and investing cash flows on financial performance. Moreover, some studies have been limited by outdated data, overlooking the recent economic challenges that have significantly impacted DMBs in Nigeria (Adeola & Ogundele, 2022). These gaps in the literature highlight the need for a comprehensive study that examines the effects of different cash flow components on the financial performance of DMBs in Nigeria.

Theoretical Review

This study employed the pecking order theory, proposed by Myers and Majluf in 1984, which posits that firms prefer to finance their operations and investments using internal funds (e.g., retained earnings) before resorting to external financing (e.g., debt or equity). In the context of deposit money banks, pecking order theory suggests that banks should prioritize cash flow management and retain earnings to finance their operations and investments, rather than relying on external financing (Myers, 1984). Pecking order theory implies that effective cash flow management is essential for minimizing the cost of capital and enhancing bank performance.

Empirical Review

Owolabi (2022) examined the impact of cashflow and firm size both in the industrial economies and business organization using current ratio (CR), cashflow ratio, firm size

against ROA, ROE, and sale between the period of 2013 and 2020 to access the financial performance of beverage and food listed companies on the Nigerian Stock Exchange (NSE) based on quarterly panel data using pooled OLS and random panel regression method of analysis. The study finds that current ratio (CR) and ROA are statistically significance, so as cash flow ratio (as a cash flow is also significance with ROE. While, firm size is negatively sale, so as firm size has significantly impact on both ROE and ROA.

Kipngetich et al (2021) examined the relationship between stock returns and cashflow of listed companies in the NSE based on panel analysis between the period of 2007 and 2019 for 29 listed non-financial firms. The study revealed that cashflow management spur the growth of stock returns for non-financial listed firms. Therefore, there is need for an effective cashflow management through prudent allocation of cash so as to enhance stock returns of non-financial listed firms.

Okagbare and Okolie (2024) in their paper critically evaluated the extent to which tax aggressiveness affect operating cash flows (OCF) of 12 sampled Nigerian banks from 2012-2021. The regressor is tax aggressiveness measured by accounting ETR, cash ETR, and income tax expense-ITE while the regressand is OCF measured by volumes of OCF. The study sourced data from the financial reports of the 12 sampled Nigerian banks. Specifically, descriptive statistics that were employed include maximum value, skewness, standard deviation, mean, median, minimum, kurtosis, and Correlation, diagnosis tests (variance inflation factor), and inferential statistics (panel least square estimate). The study evidenced that, a negative and negligible association among the tax aggressiveness proxies individually and OCF amongst the sampled banks within the reviewed periods. On the overall, tax aggressive has no discernible implicit effect on OCF of the 12 sampled Nigerian banks within the reviewed periods. Hence, the paper concludes that, the paper concludes that, the paper concludes high OCF is caused by tax aggressiveness. As such, the paper submits that, the sampled banks are advised to re-evaluate their asset base.
Pratama et al. (2022) carryout a study on the effect of net income and operating cash flow on stock prices (in healthcare sector companies listed on the IDX for the period 2016-2020)' using both descriptive and explanatory approach to analysis the association between operating cashflow and net income for 10 health care firms quoted companies using secondary data based on multiple regression analysis. operating cashflow exerts a significant positive impact on stock returns.

Wokeh (2024) investigated empirically cash flow accounting and financial performance of quoted insurance companies in Nigeria using ex-post facto design between the period of 2013 and 2016 for 22insurance quoted companies in Nigeria. The study employed PPMC (Pearson Product Moment Correlation). The findings suggest that cash flow accounting factors (operating activities and Financing activities) constrain the likelihood of financial performance of quoted insurance companies in Nigeria. It was concluded that while there is likelihood of a strong positive relationship between Cash flow activities and financial performance of quoted insurance companies. The recommendations are; Corporate Financial managers should appropriately blend their Cash flow activities to earn sufficient profitability without sacrificing liquidity. Accountants and standard setters of corporate insurance companies should enhance the quality of earnings because it usually attracts attention of investors.

Nangih, et al., (2020) focused on the healthcare and oil and gas sectors, respectively, their findings underscore the sector-specific impacts of cash flow components, suggesting that similar detailed studies are needed for the banking sector. This gap is further highlighted by studies such as Akinlabi,et al., (2023), which indicated significant sectoral variations in the impact of cash flow components on financial performance. Therefore, there is a clear need for focused research on how operating, financing, and investing cash flows specifically affect bank performance in Nigeria, which this study aims to address.

METHODOLOGY

The study examines 15 audited financial statement of deposit money banks in Nigerian Exchange Group (NXG) using panel data for the period between 2018 and 2023. The study conducted the redundant fixed effect test to assess the relevance of individual fixed or random effects in a model's goodness of fit (See: Möller & Kneib, 2019). While, the Hausman test is used to evaluates random effects versus fixed effects assumptions (Hausman, 1978). The study modelled, return on assets (ROA) serves as financial performance variable; while, cash flow management is proxied by net financing cash flow (NFCF), net operating cash flow (NOCF), and investing cash flow (NICF), as independent parameters. The model is presented in the following equations as shown below:

$ROA_{it} = \beta_0 + \beta_1 NOCF_{it} + \beta_2 NFCF_{it} + \beta_3 NICF_{it} + u_{ii}$ ..... (1)

Where:

β_0 = Constant; e = Error term
β_1, β_2 and β_3 = Coefficient of the independent variables
ROA = Return on Assets
OPCF = Net Operating Cash Flow
FNCF = Net Financing Cash Flow
INVCF = Net Investment Cash Flow

RESULTS

Table 4.1: Summary Descriptive and Correlation Matrix

Panel A: **Summary Descriptive**				
	ROA	NOCF	NFCF	NICF
Mean	1.705	32735.92	786722.8	-614079.7
Median	1.300	22921.00	289754.0	-237409.0
Maximum	6.700	1142774.	7475728.	1257392.
Minimum	-4.200	-2118764.	-302644.0	-5768371.
Std. Dev.	1.445	393458.0	1250376.	1008831.
Skewness	0.496	-2.579	3.009	-2.765
Kurtosis	7.032	15.491	13.811	12.717
Jarque-Bera	63.923	677.258	567.726	463.564
Prob	0.000	0.000	0.000	0.000
N	89	89	89	89
Panel B: **Correlation Matrix**				
ROA	1			
NOCF	0.306	1		
NFCF	0.372	0.205	1	
NICF	-0.423	-0.347	-0.746	1

The descriptive statistics presented in Table 4.1 provide insights into the distribution and characteristics of the variables studied. The mean return on assets (ROA) across the fifteen listed deposit money banks in the Nigerian Exchange Group (NGX) is 1.71%, indicating a relatively modest average performance. The median ROA, however, stands at 1.30%, suggesting some level of skewness towards lower returns. Among the cash flow variables, net operating cash flow (NOCF) has a mean of ₦32,735.92 million, while net financing cash flow (NFCF) and net investing cash flow (NICF) have much higher means of ₦786,722.8 million and -₦614,079.7 million respectively, indicating substantial financial activities in these areas. The skewness and kurtosis values reveal the distributional characteristics of the variables, with NOCF displaying negative skewness and NFCF and NICF exhibiting positive skewness, indicating asymmetry in their distributions. Moreover, all variables display kurtosis values well above the normal distribution's value of 3, suggesting heavy-tailed distributions. The Jarque-Bera test statistics and associated p-values indicate that all variables significantly deviate from normality. Overall, the descriptive statistics offer a comprehensive overview of the data's central tendency, variability, and distributional properties, providing valuable insights for further analysis and interpretation in the study of cash flow management and its impact on return on assets in Nigerian deposit money banks.

The correlation matrix presented in Table 4.1 offers insights into the relationships between the variables under study. In this analysis, the correlation between return on assets (ROA) and net net operating cash flow (NOCF) is 0.306, suggesting a weak positive correlation. Similarly, the correlation between ROA and net financing cash flow (NFCF) is 0.372, indicating a slightly stronger positive correlation. However, the correlation between ROA and net investing cash flow (NICF) is -0.423, indicating a moderate negative correlation. Notably, the negative correlation between ROA and NICF suggests that as investing cash flow increases, return on assets tends to decrease, highlighting a potential inverse relationship between investment activities and profitability. These correlation coefficients provide valuable insights into the interplay between cash flow components and return on assets, guiding further analysis and interpretation of their impact on the financial performance of Nigerian deposit money banks.

Table 4.2: Redundant Fixed Effect and Hausman Test

Test	Stat	Prob	Remark
Redundant Fixed Effect	92.643	0.000	Random or Fixed Effect recommended (Pooled Ordinary Least Square (POLS) model not suitable)
Hausman Test	7.249	0.044	Fixed Effect Model (FEM) is appropriate

Source: *Authors Computation*, 2024

Based on the information provided in the table 4.2, the statistical analysis reveals that the pooled ordinary Least Square (POLS) model is considered unsuitable, necessitating the utilization of either the Random or fixed effect model for further analysis. While, the Hausman test further infer that the fixed effect model (FEM) is the appropriate against the random effect model and more efficient model for analyzing our study.

Table 4.3: Fixed Effect Model

Variable	β	Std. Error	t-Stat	Prob.
α	1.512	0.115	13.147	0.000
NOCF	-7.279	3.530	-2.062	0.030
NFCF	1.370	1.973	0.694	0.490
NICF	-1.480	2.640	-0.561	0.576
R-squared	0.726			
Adj. R-squared	0.660			
F-stat	11.059			
Prob(F-stat)	0.000			

Source: Author Computation, 2024

From the fixed effect model analysis Table 4.3, covering the period from 2018 to 2023, offers significant insights into the factors influencing Return on Assets (ROA) within the banking sector. The results reveal that operating cash flow (NOCF) has a statistically significant negative effect on ROA, suggesting that higher operating cash flows are linked to lower profitability. This may indicate that excessive liquidity or poor management of operating cash flows could impede profitability.

In contrast, financing cash flow (NFCF) and investing cash flow (NICF) do not show statistically significant relationships with ROA. This implies that financing and investment activities may not have a direct and meaningful impact on profitability within this context. The analysis is further validated by a relatively high R-squared value of 0.726, indicating that approximately 72.6% of the variation in ROA is explained by the independent variables included in the model. These findings highlight the critical role of efficient operating cash flow management in enhancing profitability in the banking sector.

Discussion of Findings

The results from the fixed effect model analysis, as detailed in Table 4.6, offer significant insights into the relationship between various cash flow types and the return on assets (ROA) of Nigerian deposit money banks. Specifically, net operating cash flow (NOCF) reveals a negative coefficient of -1.729 with a statistically significant t-statistic of -2.062, indicating that an increase in operating cash flow is associated with a decrease in ROA. This finding aligns with the study by Akinlabi et al. (2023), which identified a negative impact of operating cash flow on the profitability of consumer goods firms in Nigeria, particularly on ROA.

On the other hand, financing cash flow (NFCF) displays a positive coefficient of 1.370, suggesting that an increase in financing cash flow leads to an improvement in the performance of deposit money banks in Nigeria. This observation is consistent with the findings of Nangih et al. (2020), who also reported a positive relationship between financing cash flows and firm performance.

Lastly, investing cash flow (NICF) demonstrates a negative coefficient of -1.480, implying that an increase in investing cash flow results in a decline in ROA. This is in line with Kuria et al. (2024), who found that volatility in investing cash flows negatively impacted market valuation in Kenyan firms, echoing the current study's finding that investing cash flows do

not significantly enhance financial performance. Similar conclusions were also drawn by Stom and Wepukhulu (2019) and Sijabat (2022).
Overall, the varying impacts of different types of cash flows on ROA underscore the complex interplay of financial activities within banks and highlight the importance of targeted cash flow

Conclusion and Policy Implication

The study explored the influence of cash flow management on the performance of deposit money banks in Nigeria, utilizing data from the Nigerian Exchange Group and annual reports of fifteen listed banks over a six-year period (2018-2023). The research focused on operating cash flow, financing cash flow, and investing cash flow as independent variables, with return on assets (ROA) serving as the dependent variable. Employing an ex-post facto research design and conducting statistical analysis through the Hausman test and the Fixed Effect Model of the Panel Least Square Regression, the study revealed that operating cash flow negatively and significantly affects ROA, financing cash flow positively but insignificantly influences ROA, and investing cash flow has a negative yet insignificant impact on ROA. The study concludes that cash flow management plays a significant role in shaping the performance of banks in Nigeria, highlighting the critical need for focussing on optimizing its core operational activities through an improving efficiency in revenue generation, minimizing operational costs, and closely monitoring cash inflows and outflows. And also, to carefully evaluate its financing strategies by prioritizing internal funding sources (e.g., retained earnings) and consider external financing (e.g., debt issuance) when necessary and cost-effective. Additionally, further explore innovative financing options, such as issuing long-term bonds or hybrid financial instruments, to reduce the cost of capital and enhance financial flexibility. Banks should also, prioritize investments that offer strong potential for returns and align with their long-term goals by ways of avoiding overextending into risky or non-core investments that may strain cash flow and negatively affect financial performance through regular evaluation of the performance of investment portfolios to ensure positive contribution to the bank's overall profitability.
This study contributes to the existing body of knowledge by providing empirical evidence on the effect of cash flow management on the performance of deposit money banks in Nigeria, specifically through the analysis of operating, financing, and investing cash flows and their respective impacts on return on assets (ROA). By focusing on data from 2018 to 2023, the study offers current insights into the significance of strategic cash flow management in optimizing bank performance, thereby adding to the literature on financial management practices within the banking sector in emerging economies. The study encourages further researchers to investigate the impact of cash flow management on bank performance in other emerging economies to compare findings and validate the results. Future studies could also examine the role of external factors such as economic policies, regulatory changes, and market conditions on cash flow management and bank performance. Additionally, research could explore the influence of digital banking innovations and financial technology on cash flow dynamics and profitability. Expanding the scope to include a broader range of financial institutions, such as microfinance banks and investment banks, could provide a more comprehensive understanding of cash flow management across the financial sector.

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