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Effect of Operational Capital Management on Economic Performance of Nigerian Banking Sector

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ABSTRACT: This study conducted the effect of working capital management on financial performance of listed deposit money banks in Nigeria. Working capital is a very important element for the sustainability of an organization like deposit money banks. During the assessment the focus was on evaluating working capital through key indicators such as the current ratio, ratios of cash to deposits as well as loans to deposits. Moreover, metrics like Return on Equity (ROE) and Return on Asset (ROA) were employed to evaluate financial performance. *An expost-facto* research design was employed. The study population comprised of twenty-two deposit money banks out of which only 10 were purposively selected for sampling. Secondary data was utilized, and financial statements spanning a period of 10 years (2013 – 2022) were scrutinized. Panel Ordinary Least Square (OLS) was employed as a technique for data analysis. The results demonstrated that working capital had a considerable impact on ROE (p=0.000024 0.05) and ROA (p=0.000001 0.05). Thus, the study came to the conclusion that working capital significantly affects financial. Hence, it was recommended that banks in Nigeria should look for a way of balance between working capital and financial performance.

KEYWORDS: Current ratio, Economic performance, Operational capital management, Return on assets, Return on equity.

1.0 INTRODUCTION

Nigeria's financial system relies heavily on deposit money banks (DMBs), which provide a range of financial services including deposit collection, lending, and economic growth promotion. It is impossible to overestimate the significance of deposit money banks in a country since they play a key role in the expansion and development of that country and hold important financial positions.

A stable macroeconomic environment depends on a sound, viable, and competent banking sector of any economy (Ademiju, 2022). Effective financial resource management is critical to these institutions because it affects their capacity to maintain viability and competitiveness as well as their ability to support the general stability of the Nigerian economy. The effective management of operational capital and the optimal utilization of debt financing are essential for the sustained financial performance and stability of DMBs. The Nigerian banking sector has undergone significant reforms and regulatory changes in recent years. These reforms aimed to enhance the soundness, stability, and efficiency of the sector. However, challenges are including liquidity management, non-performing loans, and the overall impact on financial performance.

Commercial banks are the major financial institutions that play quite an important role in the economic development in the domains of investments and saving as well (Panigrahi, et al., 2022). Banks are major players in the nation's financial and economic life since they provide capital for trade and industry (Maharjan, 2023). A bank must always have cash balances in hand in order to pay its depositors upon demand or when the amounts credited to them becomes due. It must also keep a proportion of its assets in forms that can readily be converted into cash. Only in this way the confidence in the banking system can be maintained.

Operational capital as a working capital is important and plays a vital role in a company's management structure. In this regard, working capital and liquidity have been likened to a blood, circulating in the vessels of a business unit and required for the survival of that unit. Experience has demonstrated that ineffective working capital management is a major cause of financial troubles and insolvency for the majority of organisations (Osuji & Agbada, 2020). Thus, in order to ensure the expansion, financial success, and

long-term viability of their organisations, managers ought to be able to put into practice an efficient working capital management strategy policy.

Ajorsu et al., (2020) provide that one of the most widely used method by firms to measure and evaluate risks and returns associated with liquidity management are cash flow cycles. Through cash flow cycles management, bank managers are able to identify the areas that require further improvement to enhance future cash flow.

This study attempts to give a thorough examination of the relationship between operational capital management as a working capital management and the economic performance of deposit money banks in Nigeria, taking into account the gaps in the literature and the dynamic nature of the Nigerian banking system.

The importance of financing decisions cannot be over emphasized since many of the factors that contribute to business failure can be addressed using strategies and financial decisions that drive growth and the achievement of organizational objectives.

Objectives of the study

The main objective of the study is to investigate how working capital affects Nigerian deposit money banks' financial results between 2013 and 2024. The specific objectives are to:

i. to examine the effect of working capital management on the return on asset (ROA) of listed Nigerian deposit money; and

ii. to investigate the influence of working capital management on the return on equity (ROE) of listed Nigerian deposit money banks

2.0 LITERATURE REVIEW

2.1 Conceptual Review.

2.1.1 Working Capital Management

The management of working capital has a significant impact on the liquidity of banks and other organisations. Working capital management, which is concerned with how well a company can handle its short-term assets and commitments (Said, 2020) to ensure the smooth running of its daily activities, is a crucial aspect of financial management. It is crucial to an organization's overall success and financial stability.

The goal of working capital management, according to Gitman (2018), is to keep current assets like cash, marketable securities, receivables, and inventory in perfect balance with current liabilities like accounts payable and short-term loans. Working capital management focuses on variations in current asset and current liability management as well as the relationships that exist between them. The purpose of working capital is to obtain a desired level of net working capital by managing current assets and current liabilities as effectively as feasible. Therefore, net working capital is the quantitative difference between current assets and current liabilities for an organisation (Panigrahi, et al., 2022).

If a business or bank is unable to keep its net working capital at a sufficient level, it would be insolvent and if not corrected would be commensurate with bankruptcy (Peprah & Riziki, 2019).

The study measured the working capital management with current ratio, loan to deposit ratio and cash to deposit ratio.

2.1.2 Current Ratio

The current ratio is a measurement technique for determining the ability of banks to be able to pay their debt withing a year. This expresses how banks maximise the current assets to satisfy their debts and payables. Current ratio implies that whether a business entity's current assets are sufficient whether or not to pay the current obligations. This calculates the amount of liquidity that any business entity in terms of its short-term working capital requirement (Tafa & Toleshi, 2023). It is computed using:

$$\text{Current ratio} = \frac{\text{Current Asset}}{\text{Current Liability}}$$

2.1.3 Loan to Deposit Ratio

The loan to deposit ratio (LDR), a measurement method, determines a bank's liquidity by comparing all of its loans to all of its deposits during the same time period. The LDR is expressed as a percentage. The loan-to-deposit ratio reveals how the bank used depositors' funds for its clients (Nagian,2020). In the event that the ratio is unduly high, the bank could not have enough liquidity to cover any unexpected funding requests. That being said, if the ratio is too low, the bank may not be earning as much as it could. The formular using is:

$$\text{LDR} = \frac{\text{Total loan}}{\text{Total deposit}}$$

2.1.4 Cash to Deposit Ratio

The cash deposit ratio is the proportion of loans made by a bank to total deposits it has collected. According to Suman Goel (2019), the cash to deposit ratio is the proportion of a bank's loans to the total amount of deposits it has collected. It measures the percentage of core funds that a bank devotes to lending, which is the main purpose of banks. It is calculated using;

$$\text{Cash to deposit ratio} = \frac{\text{Total cash}}{\text{Total deposit}}$$

2.1.5 Financial Performance

Financial performance is the measuring of a firm's plans and actions in financial terms (Akaji, Uwadiator & Agubata, 2021). Bank performance is evaluated in relation to the organization's performance criteria. Performance is made up of elements such as effectiveness and efficiency in addition to production and competitiveness. Training can help individuals perform better on an individual basis. Typically, a variety of financial statistics are used to illustrate performance, including the growth rates of total assets, loans, and earnings. (Omali, Okeke & Obiora, 2021). The following metrics are used to indicate a company's or bank's performance: earnings per share, net profit margin, return on equity, return on investment, return on asset, and return on capital utilised. Return on equity (ROE) (Ihenyen & Joseph, 2023), which measures how well a bank uses invested capital, and return on asset (ROA), which indicates how profitable bank assets are, were the two metrics used in the study to assess the financial performance of deposit money banks in Nigeria.

2.2 Theoretical Review

This study reviews theory-off theory, For the purpose of supporting its research, this study accord on the trade-off theory.

2.2.1 Trade-Off Theory

In 1958, Franco Modigliani and Merton Miller presented the idea, arguing that companies could optimise their debt-to-equity ratio to lower their weighted average cost of capital and improve their capital structure. The idea was criticised for failing to consider non-financial factors such as social. According to the trade-off theory of capital structure, a business weighs the costs and advantages of using varying debt and equity funding levels to determine how much of each to use (Panigrahi, et al., 2022).

2.3 Empirical Review

Ademiju (2022), investigated on financial performance and working capital management of Nigeria's listed commercial banks. The research design used in the study was ex-post facto, and content analysis of audited financial statements as of 2021 was employed. Results of the investigation indicate RT and LT are positively correlated to PT while cash conversion cycle is negatively correlated to PT. The average ROA for the banks over the period and across the listed deposit money banks in Nigeria are 12.8% with a maximum of 63%. The minimum return on asset is -140%, with standard deviation of 20%.

Additionally, Orlu et al. (2022) looked at the relationship between the debt capital and financial performance of Nigerian commercial banks. The study also looked at how much a listed commercial bank's debt capital affects its financial performance. It was an ex-post factor design research. According to the results, there will be a greater return on equity, assets, and investments the more quoted commercial banks appropriately combine debt with equity.

In addition, Iklimatu, et al., (2023), review the effect of managing working capital on the profitability of the company. The study used a conceptual approach, gathering data from secondary sources to examine conceptual and definitional difficulties related to profitability and working capital management.

Marvis et al. (2019) looked into the impact of equity capital financing on the corporate financial performance of Nigerian deposit money banks. To collect, examine, and evaluate the pertinent data, the study used an ex post facto research design. The results show that ROE and EVA both positively impact the corporate financial performance of Nigerian deposit money companies.

Williams, et al., (2022), investigated the relationship between the working capital and profitability of twenty-five (25) Ghanaian commercial banks from 2016 to 2018. Panel data was used as the approach. Information about the connection between working capital management and profitability was provided by the Ghanaian Bank. Through the use of the current ratio, the results demonstrated a negative relationship between working capital management and profitability.

Moreover, Ochei, et al., (2021) examined the relationship between the management of working capital in Nigerian deposit money institutions. The study utilizes a regression analysis in which panel data was used. The findings showed that the major reason banks hold much liquid asset is to guard against a rise in demand or unplanned situation. It recommends that direct policies are implemented to ensure that high volume cash transactions are highly reduced.

Eze, et al., (2020) looked at the connection between Nigerian firm performance and working capital management in a different study. To determine the potential firm's unique working capital management strategy in the selected Nigerian listed enterprises, a panel data analysis was used. According to the survey, effective cash management is essential for any company hoping to maintain growth.

3.0 METHODOLOGY

3.1 Research Design

The study employs an ex post facto research design. This will enable the design to describe the underlying relationship between the variables.

3.2 Research Population

The twenty-two (22) deposit money banks in Nigeria that make up the study's population are divided into three (3) groups.

3.3 Sampling Techniques and Sampling Size

Purposive selection technique employed to choose ten deposits banks that are listed and selected based on their capital, listing status on the Nigerian stock exchange, and information updates. The ten (10) banks selected are Guarantee Trust Bank, Access Bank, Zenith Bank, First Bank, Wema Bank, Sterling Bank, UBA, Union bank, Stanbic IBTC and Fidelity bank.

3.4 Data Analysis

The mean, median, standard deviation, skewness, and kurtosis are the descriptive statistics used to measure the variables in this study project. The OLS, or ordinary least square in the form of multiple regression analysis was applied. Regression was chosen as a tool for hypotheses tests, owing to the fact that it is an appropriate parametric (involving assumptions) tool that estimates the effect of one or more variables on another.

3.5 Model specification.

To evaluate how working capital management strategies affect the listed deposit money banks in Nigeria in terms of their financial performance. The model is modified as below:

$Y_1 = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + E$…………………………………………………… Eq. (3.5.1)

$Y_2 = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + E$…………………………………………………… Eq (3.5.2)

Where; Y_1= Return on Assets; Y_2 =Return on Equity; β_0 = Constant term; $\beta_1 X1$= Current ratio; $\beta_2 X_2$ = Loan to deposit ratio; $\beta_3 X_3$ = Cash deposit ratio; E= Error Term

4.0 DATA ANALYSIS

4.1 Descriptive Statistics Result

Table 4.1: Descriptive analysis of Observed Variables

	ROA	ROE	CR	CDR	LDR
Mean	0.063751	0.601032	2.807962	3.209571	1.513245
Median	0.014919	0.117979	1.319284	0.240257	0.514598
Maximum	1.300572	23.82316	5.291569	54.47628	50.61112
Minimum	0.002375	0.010497	0.021714	0.001257	0.000570
Std. Dev.	0.170462	2.720764	82.06244	9.642998	6.544237
Skewness	4.955484	7.320410	3.770773	4.020120	6.755561
Kurtosis	31.40413	58.76139	18.61389	18.89641	47.80657
Jarque-Bera	3770.924	13848.69	1252.785	1322.255	9125.747
Probability	0.000000	0.000000	0.000000	0.000000	0.000000
Sum	6.375054	60.10324	2807.962	320.9571	151.3245
Sum Sq. Dev.	2.876688	732.8529	666690.1	9205.754	4239.877
Observations	100	100	100	100	100

Source: Researcher's computation, 2024.

Descriptive statistics explains the overall nature of the data set. The aim of this is to look at the average value of every parameter, together with the Jarque-Bera statistics and the maximum, minimum, and standard deviation. For every parameter, the mean value is positive, but the standard deviation of all the parameters is large indicating that they can deviate extensively within the period under review. The minimum and maximum value shows the least and highest value of the data set while the Jarque-Bera

statistics shows whether the data set are normally distributed. From indications, the data set are not normally distributed but there is no need for worry considering the sample size of the observation which is greater than 30.

4.2 Correlation Analysis

Table 4.2: Correlation among the Observed Variables

Variables	ROA	ROE	CR	CDR	LDR
ROA	1.000				
ROE	0.671	1.000			
CR	-0.089	-0.058	1.000		
CDR	-0.059	-0.044	-0.106	1.000	
LDR	-0.023	0.003	-0.039	0.076	1.000

Source: Researcher's computation 2024

Correlation seeks to establish the relationship between two or more variables. The result shows that ROA has strong positive relationship with ROE and is statistically significant but the relationship with CR, CDR and LDR is negative although it is not statistically significant. ROE is also seen to, despite the fact that none of them are statistically significant, have a negative association with CR and CDR but a favorable link with LDR. Furthermore, there is a negative correlation between CR and CDR and LDR, although there is no statistically significant correlation between CDR and LDR.

Result of the Hausman Test

This study uses fixed effect and random effect models in a panel research design must be used, with the Hausman test being used to determine which model is superior. Based on the two models that were employed in this investigation, the Hausman test results are listed below. The Hausman test's decision criterion states that a fixed effect model will be applied if the probability value is less than 5% and a random effect model will be applied otherwise.

Return on Assets

Correlated Random Effects - Hausman Test
Equation: Untitled
Test period random effects

Test Summary		Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Period random		5.543779	3	0.0092

Variable	Fixed	Random	Var(Diff.)	Prob.
CR	0.000159	-0.000201	0.000000	0.6020
CDR	-0.001012	-0.001195	0.000001	0.7455
LDR	-0.001644	-0.000564	0.000001	0.9748

Return on Equity

Correlated Random Effects - Hausman Test
Equation: Untitled
Test cross-section random effects

Test Summary		Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random		4.392096	3	0.0419

Variable	Fixed	Random	Var(Diff.)	Prob.
CR	0.000154	-0.001056	0.000017	0.7669

CDR	-0.004927	-0.007430	0.000071	0.7661
LDR	0.001628	0.001210	0.000105	0.9674

From the result of both models, it is evidenced that both p values are less than 5% confirming the support of the fixed effect model estimation

Hypotheses

Table 5. After the Hausman test are conducted, the hypotheses are now tested using the fixed effect model estimation as follows:

Variable	ROA	ROE
CR	0.000159* (0.004889)	0.000154*** (0.024551)
CDR	-0.001012 (-0.641244)	-0.004927* (0.161579)
LDR	-0.001644*** (-0.735834)	0.001628* (0.037735)
C	0.069442** (4.025081)	0.610051* (1.830587)
R^2	0.48	0.24
Prob	0.000000***	0.014941**

Source: Author's Computation 2024

***Denote** *, **, *** indicate level of significance at 1%, 5% and 10% significant level*

NB: t-statistics are in parentheses

The regression result that describes the relationship between the performance of deposit money banks in Nigeria and working capital management is displayed in Table 5 above. Two models were examined (ROA and ROE). The first model shows that CR has a favorable effect on ROA, although CDR and LDR have an adverse effect. This demonstrates that the current ratio has a favorable impact on ROA, whereas the loan to deposit and cash to deposit ratios have a negative impact. Nonetheless, the sum of all the parameters' effects is very important in explaining ROA.(p= 0.00000*** < 0.05, R2= 0.479831).

However, in relation to the second model, CR and LDR shows a positive effect on ROE but CDR still shows a negative effect on ROE. This indicate that a change in CR and LDR will improve ROE but not significantly. However, the prob value of the model shows 0.014941** meaning that all the parameters used are significant in explaining ROE. This shows the fitness of the model which is a necessary condition for the approval of a regression model.

DISCUSSION OF RESULT

The result indicates that the current ratio, cash to deposit ratio, and loan to deposit ratio accurately forecast the financial performance of deposit money institutions with respect to ROA and ROE.

Although CR positively affects ROA and ROE in both scenarios, LDR, which has a favorable impact on ROE, also has a negative impact on ROA indicating that the impact of loan to impact of the deposit ratio on financial success varies depending on the metric. This implies that a higher loan-to-deposit ratio could result in lower returns on assets as well as higher returns on equity. These findings highlight how important it is to properly balance deposits and loans in order to improve overall financial success. Furthermore, money to deposit ratio shows a negative effect on both ROA and ROE. This shows that CDR is not adequately managed by the banks as it negatively affects both profitability and shareholder value. Banks should focus on improving their cash management strategies to make sure they have adequate cash on hand to fulfill their commitments and optimize their profits. Through efficient cash and loan-to-deposit ratio management to deposit ratio, banks can achieve a balance that will optimize their financial performance and ultimately benefit their stakeholders.

This outcome is consistent with the research conducted by Ademiju (2022). The study's conclusions show that whereas cash conversion cycle and payable turnover (PT) are negatively connected, receivable turnover (RT) and inventory turnover (IT) are positively correlated. Over the time and for all mentioned deposit money, the average return on assets (ROA) for the banks in Nigeria are 12.8% with a maximum of 63%. However, the result is inconsistent with Iklimatu, et al., (2023).

In contrast, Williams, et al., (2022), who conducted research on the relationship between working capital and profitability of 25 commercial banks in Ghana between 2016 and 2018, has a different viewpoint. They found an adverse relationship between profitability and working capital management, as indicated by the current ratio. This is due to negative relationship in the result and implied that as the return of asset increases, the working capital decreases. This may be because the banks prioritize investing their surplus funds in income-generating assets rather than keeping them as working capital. Moreover, the study also suggests that the banks may be effectively managing their working capital by optimizing their present liabilities and assets to guarantee profitability. These conflicting results underline the need for more investigation and analysis in various sectors and situations by highlighting the complexity and unpredictability of the relationship between working capital management and organisations' profitability.

5.0 CONCLUSION AND RECOMMENDATIONS

In conclusion, it was discovered that the loan-to-deposit and cash-to-deposit ratios may adequately account for the combined impact of current ratio on the financial performance of deposit-money banks in Nigeria. The study's findings indicate that while the cash to deposit ratio has a major impact on deposit money banks' financial performance, there is a positive relationship between the current ratio and financial performance. On the other hand, the loan to deposit ratio has contradictory effect on financial performance. The report suggests that banks in Nigeria should place a high priority on maintaining a healthy current ratio in order to guarantee enough liquidity and the capacity to fulfill short-term obligations. They should as an excessively high ratio can indicate potential credit risk and negatively impact financial performance. Therefore, banks should aim for a balanced loan portfolio and implement effective risk management strategies. Furthermore, the study suggests that banks should continuously evaluate and improve their overall operational efficiency, including streamlining processes, reducing costs, and adopting technology solutions. This can help banks optimize their operations and enhance their competitive advantage in the market. This paper tries to close gap on the bank performance and working capital. This paper also very important for regulators, policy makers, users, managers, academicians, investors, analysts, professional bodies and regulatory bodies.

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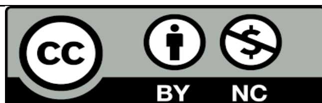

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