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Research Article

Impact of Money Market on the Liquidity of Some Selected Quoted Banks in Nigeria

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Abstract

The issue of bank failure due to low level of liquidity has been an age-long challenge bedeviling the Nigerian banking sector. Hence, this study examined the linkage between money market and the liquidity of some selected quoted banks in Nigeria. Specifically, the study assessed the impact of deposit money banks' working capital on savings deposits in Nigeria, and it also investigated how the interbank call rate influences monetary policy rate in Nigeria. The research used secondary data from 2014 till 2023 of five (5) selected banks including First Bank PLC, Guaranteed Trust Bank, Zenith Bank, United Bank for Africa PLC, and Access Bank PLC for its analyses. Findings showed that, first, there was a significant and positive relationship between savings deposit rates and working capital, and secondly, monetary policy rate does not have a statistically significant impact on the interbank call rate. The study thus recommended that as savings deposit rates significantly influence working capital, policymakers should focus on mechanisms that stabilize these rates to ensure consistent liquidity conditions. The study further recommended that understanding the differential impact of various financial indicators on bank liquidity can help policymakers design more targeted and effective monetary policies. For instance, if savings deposit rates significantly influence working capital, policymakers should focus on mechanisms that stabilize these rates to ensure consistent liquidity conditions.

Keywords

Liquidity, Working Capital, Inter Bank Call Rate, Savings Deposit Rate, Monetary Policy Rate

1. Introduction

Finance is the most significant factor supporting investment projects, economic growth, and development. The money market is a group of financial organizations specifically designed to offer short-term loans and trade short-term securities with maturities ranging from a few days to a year, easily convertible into cash. The money market development facilitates financial intermediation, enhances lending to the economy, and improves the country's economic and social welfare [8]. Money market instruments are vital for the growth and development of the Nigerian economy. However,

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their effectiveness is limited by the absence of sub-markets and the lack of adequate credit instruments necessary for smooth market operations [17].

The Nigerian money market, established by the Central Bank, aims to raise domestic savings for profitable investments and provide funding to the government for policy implementation [19]. Additionally, it serves as an intermediary for short-term financial assets that closely substitute for cash. The Nigerian money market offers highly liquid, low-risk short-term instruments trading opportunities. The money market also lays the groundwork for implementing monetary policy. Treasury bills, Treasury certificates, commercial paper, banker's acceptances, and certificates of deposit are among the instruments traded. According to [16], the Nigerian money market has experienced substantial growth and development following the deregulation of the financial system in 1986. This growth is evident in the expansion of securities offerings and increased trading volumes.

The money market's role in economic development cannot be overstated. It is crucial for bank liquidity management and monetary policy transmission to offer appropriate instruments and liquidity trading partners [32]. Hence, the money market facilitates refinancing short-term positions and enhances business liquidity management.

Since the financial market is essential to the economy's growth, the Central Bank, the banking industry, and the economy as a whole, stands to gain from the money market's expansion [23].

The impact the money market has on the growth and development of the Nigerian economy cannot be over-emphasized or underestimated. This assertion is true because the money market functions as an intermediary, channeling funds from surplus units to deficit units within the Nigerian population, primarily for short-term investments in trade and commerce [16]. Consequently, the money market development facilitates financial intermediation and enhances economic lending, promoting economic growth. Money markets are crucial for banks' liquidity management and monetary policy transmission. They help control the money supply, mitigate demand-pull inflation, and determine short-term interest rates [13].

Some factories have either temporarily shuttered or completely collapsed due to the inability to meet their financial obligations. This pertains to liquidity issues, while some promising investments with high rates of return have turned out to be failures due to inadequate working capital [12].

1.1. Statement of the Problem

The money market has underperformed in many developing nations, such as Nigeria when it comes to providing funds to investors with deficits. This deficit has hampered development and economic growth.

Nigeria's money market is still underdeveloped, which is accurate considering the market's present liquidity issues [32]. Nigeria's money market remains in its infancy compared to its counterparts in advanced and emerging economies. It is characterized by an underdeveloped secondary market, a lack of diversified instruments, poor coordination in issuing debt instruments, and inadequate information flow, among other issues [32].

Government assets like Treasury Bills and Bonds dominate the market, with a significant disparity between deposit and lending rates. The Nigerian money market has recently experienced significant reforms and expansion. However, it still faces several challenges. Unlike in advanced economies, where the money market is a key institution for creating liquidity for governments, companies, and individuals, the Nigerian money market is inadequate. It is constrained by sub-markets' absence and the lack of adequate credit instruments necessary for smooth market operations [21].

A deepening of the market is necessary to achieve the vibrancy expected of a money market [28]. This does not imply inefficiency but underscores the importance of continuously evaluating its performance and its impact on the economic growth and development of the country. Consequently, the expansion of the money market promotes the development of financial intermediation, enhances economic lending, and improves the nation's economic and social well-being.

1.2. Purpose of the Study

This study aims to examine the money market and evaluate its performance in terms of how it affects the liquidity and profitability of some quoted banks.

1.3. Objectives of the Study

The specific objectives to be achieved include the following:

1) To examine the impact of banks' working capital on financial stocks in Nigeria.
2) To investigate the influence of CBN monetary policies on the liquidity of banks in Nigeria.

1.4. Research Questions

1) What is the impact of banks' working capital on financial stocks in Nigeria?
2) How do CBN monetary policies influence the liquidity of banks in Nigeria?

1.5. Research Hypotheses

H_{01}: There is no significant difference between the banks' working capital and financial stocks in Nigeria.

H_{02}: There is no significant difference between CBN monetary policies and the liquidity of banks in Nigeria.

2. Literature Review

2.1. Concept of Money Market

Money market instruments are short-term maturity documents representing economic entities' claims and obligations. These instruments channel funds from surplus units within the economy to deficit units [28]. The Nigerian money market participants include the Central Bank of Nigeria (CBN), the Nigerian Deposit Insurance Corporation, the Debt Management Office, the Federal Ministry of Finance, Deposit Money Banks, Microfinance Banks, Discount Houses, and private individuals.

Money market in Nigeria did not exist before the establishment of the Central Bank of Nigeria (CBN) in 1958 [7]. However, some forms of short-term fund markets were present. Before the advent of commercial banking, there were elements of short-term lending and borrowing through commercial paper. This early market was closely linked to the London money market. Essentially, there was year-round money market activity. With the establishment of the Nigerian money market, the CBN began directing these funds towards the country's economic growth. The primary function of the money market is to facilitate the transfer of funds from surplus units (savers) to deficit units (investors) [1].

Securities with less than a year of maturity are traded on the money market. Due to its decentralized nature, most transactions occur through phone, fax, telex, and other communication channels [16]. The annual monetary policies of the Federal Government of Nigeria, regulated by the Central Bank, typically influence the prices of traded securities. Examples of high-quality, unsecured financial assets with relatively low risk include savings (negotiable and non-negotiable certificates of deposit), bankers' acceptances, commercial papers, call money, treasury bills, and treasury certificates.

The Nigerian financial market facilitates trading short-term financial instruments to address the immediate needs of major fund users, including governments, banks, and other similar institutions. Markets comprise the arrangements and infrastructure enabling short-term funds and securities trading. The money market originated as a segment of the African financial market focused on lending, borrowing, buying, and selling securities with initial maturities of one year or less [2]. Similar to the capital market, the money market is divided into primary and secondary markets. The primary market is responsible for issuing new debt instruments, whereas the secondary market facilitates trading previously issued instruments [4].

Commercial banks have access to a ready market for money to invest their excess reserves and earn interest while retaining liquidity [33]. For instance, bills of exchange are quickly converted into cash to facilitate customers' withdrawals. They can also borrow short-term loans from the money market rather than the central bank when they encounter liquidity issues. This may result in lower short-term lending interest rates on the money market than at the central bank.

2.2. Concept of Liquidity

A company is deemed liquid if it can quickly and conveniently convert its assets into cash. Balancing long-term and short-term financial needs determines the ideal capital structure. Bank liquidity is the capacity of a bank to sustain adequate funds to meet its maturing liabilities [3]. This means ensuring adequate liquidity for customers at all times is a fundamental aspect of banking. To meet this objective, banks ensure enough cash and other near-cash securities are available to fulfill withdrawal requests and satisfy new loan demands from customers requiring liquidity. Consequently, banks in Nigeria are legally obligated to adhere to the Cash Reserve Requirement (CRR) policy set by the Central Bank of Nigeria [26].

2.3. Concept of Liquidity Management

Liquidity management refers to a bank's programs and strategies designed to meet deposit and loan demands [14]. These strategies include holding short-term financial assets like treasury bills and certificates, which are highly marketable, maintaining avenues for short-term accommodation from the Central Bank or other banks, and bidding for greater deposits.

Effective liquidity management involves liquidity planning, which requires the bank to accurately forecast future fund demands and deposit supplies. A portfolio of short-term financial securities a bank holds can be easily sold or rediscounted for cash.

For Nigerian banks, liquidity primarily relies on two major sources: rediscounting assets for cash and interbank borrowings. Rediscounting assets involves selling existing assets, such as government securities or loans, to the Central Bank of Nigeria at a discounted rate in exchange for immediate cash. Interbank borrowings involve banks borrowing funds from other banks [22].

2.4. Banks Liquidity: Sources

Banks derive their liquidity from the following sources [31]:

1) Vault cash
2) Balances held with offices & branches outside Nigeria
3) Money at call in Nigeria
4) Inter-bank placement
5) Placement with discount houses
6) Treasuring bills
7) Treasuring certificates
8) Investment in stabilization securities [18]
9) Bills discounted payable in Nigeria
10) Negotiable certificates of deposits
11) Bankers' acceptances and commercial papers
12) Balances held with CBN

2.5. Characteristics of Liquidity

Three essential components or attributes comprise liquidity: marketability, stability, and conservatism. A higher level of marketability or transferability is ideal for liquid assets. This suggests that they can be quickly exchanged for cash and used for redemption before maturity. On the other hand, assets are considered illiquid if they cannot be redeemed by the maturity dates [31].

The ease with which an asset can be sold or turned into cash on the market is called marketability. An asset is seen as more liquid, the more marketable it is. The capacity of an item to hold onto its worth or keep a steady price in the face of shifting market conditions is known as stability. A conservative approach to asset liquidity assessment considers worst-case situations and the possibility that assets won't be sold for their full worth [5].

2.6. Government Policy Measures for Liquidity Management

The main objectives of government monetary and financial policies are:

1) Establish market-based interest and exchange rate regimes [18].
2) Reduce excess liquidity in the banking system.
3) Maintain stability in the financial sector.
4) Promote non-inflationary growth.
5) Achieve a favourable balance of payments [31, 29].

2.7. Importance of Liquidity

Since much of the money commercial banks use to function is borrowed from depositors in demand and time deposits, liquidity assets are very important.

Banks must maintain sufficient liquidity assets to preserve depositor confidence, which is valued as an intangible asset in the commercial banking industry. To effectively manage risks, uphold depositor confidence, sustain profitable operations, and prevent bad outcomes during financial stress, commercial banks must retain appropriate liquidity [11].

Liquidity helps manage various risks, such as funding risk, which is the ability to replace net outflows by taking out retail deposits or by choosing not to renew wholesale funds.

Secondly, Liquidity is required to compensate for the loss of anticipated funds if borrowers default on their obligations.

When favourable lending opportunities materialize, such as a request from a valued customer, or when abrupt increases in borrowing under credit lines occur, the bank can obtain more capital to fulfill these obligations [31].

2.8. Policy Instruments

According to [7] and [6], the policy instruments adopted for liquidity management include the following:

1) Open market operations conducted wholly in Nigeria.
2) Treasury Bills.
3) Discount window operations
4) Cash reserve requirements
5) Liquidity ratios
6) Bank credit policies
7) Taxation and government borrowing, etc.

2.9. Concept of Working Capital Management

Working capital refers to the resources available to a firm for conducting its daily operations and serves as a gauge of the business's liquidity. This capital enables a firm to meet its short-term obligations promptly as they arise [12]. Working capital management is the controlling and managing of current assets such as cash, marketable securities, accounts receivable, and inventories [20].

Working capital management involves establishing and implementing a working capital policy in daily operations [34]. Therefore, it holds significance due to its impact on the firm's profitability, risk, and overall value. Working capital management aims to maintain an optimal balance of its components, ensuring that firms operate with adequate funds (cash flows) to meet short-term and long-term debt obligations. Insufficient working capital results in shortages of inventories finished goods, and customer credit [34]. Conversely, excessive levels of working capital lead to unnecessary additional costs. This imbalance in working capital components poses challenges for management, a situation faced by firms of all sizes, including small, fast-growing enterprises and multinational corporations.

Working capital management involves supervising a company's short-term assets and liabilities to maintain sufficient liquidity for supporting daily operations and meeting financial obligations efficiently. It involves optimizing cash flow, overseeing inventories, managing accounts receivable, and handling accounts payable, all aimed at achieving a harmonious balance between operational efficiency and financial stability.

2.10. The Influence of CBN Monetary Policies on the Liquidity of Banks in Nigeria

These regulations, which include instruments like the Monetary Policy Rate (MPR), Open Market Operations (OMO), and Cash Reserve Ratio (CRR), have a direct impact on the amount of liquidity in the banking system [32].

1) Open Market Operations (OMO): The Central Bank of Nigeria (CBN) uses OMOs to buy and sell government securities, absorbing or injecting liquidity into the banking system to enhance lending capacity, [29].
2) Cash Reserve Ratio (CRR): The Central Bank of Nigeria (CBN) regulates banks' liquidity by adjusting the Central Reserve Ratio (CRR), which is the minimum fraction of customer deposits and liabilities.

3) Monetary Policy Rate (MPR): The MPR, the benchmark interest rate set by the CBN, impacts borrowing and lending costs in the economy, with higher MPR increasing funds costs and lower MPR decreasing costs, [19].

3. Theoretical Framework

3.1. Fry's Theory on Money Market

This theory was developed by Fry in 1988 and emphasized the role of money markets [15]. the theory argued that financial repression can elevate the real rate of interest due to liquidity preferences, pushing it above its equilibrium level. Consequently, freely determined money markets, where the interaction of supply and demand sets interest rates, are scarce in the developing world. The theory emphasizes that positive real interest rates act as an incentive for savers. They also enable banks to extend credit to the most efficient firms capable of generating profits sufficient to cover the high cost of borrowing [9, 10]. The theory focuses on utilizing market-based approaches to achieve financial development in emerging market economies. Financial intermediation and the money market's function in enabling the effective distribution of resources within an economy are the main topics of discussion in Fry's money market theory. In his seminal work, David Fry underscored the money market's role in transferring capital from savers (surplus units) to borrowers (deficit units), fostering stability and economic expansion. His theory emphasizes how important it is to control liquidity, set interest rates, and consider how monetary policy affects financial markets [15]. A positive money market rate encourages financial savings and intermediation, increasing the supply of credit to the private sector and stimulating investment [15].

Fry's thesis revolves around financial intermediaries who invest in money market instruments, including commercial papers, treasury bills, and certificates of deposit to manage liquidity [8]. These instruments let intermediaries fulfill their responsibilities by offering short-term liquidity. The influence of monetary policy on liquidity in the money market is recognized by Fry's hypothesis [15]. The availability and cost of liquidity are impacted by shifts in interest rates and other central bank policy measures, which impact how financial intermediaries and market players behave.

3.2. Empirical Review

A study aimed to ascertain the relationship between money market efficiency and the development of the Nigerian financial system. The study utilized money market variables as measures of money market efficiency while real gross domestic product (RGDP) was employed as the control variable. Financial deepening (M2/GDP) was used as a proxy for financial system development with the adoption of multivariate OLS analysis for the estimation process, co-integration analysis for long-run relationships and the associated error correction model (ECM) to determine the short-run impact of the variables. The Granger causality test was also used to determine the direction of causality among the variables. It was found that there is a significant positive relationship between money market efficiency regarding interest expense and financial system development both in the short and long run, respectively. The study recommended that monetary authorities, in collaboration with the bankers' committee, devise a framework to relax certain credit requirements that have been stifling the loan market. This initiative will support the growth of retail and small to medium-scale enterprises, contributing to a robust economy and fostering the development of our financial system [1].

A research examined the impact of the Nigerian money market instruments on the liquidity of ten selected quoted banks from 2005 to 2014. Secondary data were used and the multiple regression econometric technique was used to analyze the data obtained. It was found that firms' working capital and profitability significantly impact the money market instrument. The study recommended that sufficient monitoring and surveillance of market participants' activities, along with the introduction of new and flexible financial instruments, is required to improve the money market [21].

Another research sought to investigate the impact of selected money market instruments on economic growth in Nigeria. Data was obtained from the Central Bank of Nigeria Statistical Bulletin 2017. The study adopted the Autoregressive Distributive Lag (ARDL) Bound Testing approach to co-integration. It was found that the Nigerian money market has not been efficient in its functions. The study recommended that the Central Bank of Nigeria exercise caution when using Treasury Certificates for short-term liquidity management, as their prolonged use may result in negligible economic impact [7].

4. Methodology

4.1. Sources of Data Collection

The data obtained for this study was through secondary sources. Atotal of (24) commercial banks operate in Nigeria, constituting the study's population. Therefore, five (5) selected banks (First Bank PLC, Guaranteed Trust Bank, Zenith Bank, United Bank for Africa PLC, and Access Bank PLC) were selected to represent all commercial banks in Nigeria from 2014 to 2023. These banks were specifically chosen for this study, providing an appropriately wide cross-section of the banking industry. According to the Central Bank of Nigeria's guidelines, the selection criteria comprised age, geographic distribution, innovation, and rating. These banks were selected because of their broad branch networks and prompt financial statement release, which is widely available on the internet and easily accessible on their websites.

4.2. Method of Data Analysis

The multiple linear regressions, an econometric technique, was used to establish the nature of the relationship among the variables under investigation using E-views Statistical Package.

4.3. Data Analysis and Discussion

Descriptive Statistics

The dataset provides descriptive statistics for six key financial indicators in an economy: Savings Deposit rates, Treasury Bill rates, Prime Lending rates, Maximum Lending rates, Interbank Call rates, and the Monetary Policy Rate (MPR). These indicators are crucial for understanding the financial environment and monetary conditions. The analysis of these statistics includes measures of central tendency (mean, median), dispersion (standard deviation), and the shape of the distributions (skewness, kurtosis). Additionally, unit root tests were conducted to assess the stationarity of these series.

Table 1. *Descriptive Statistics.*

	SAVINGS DEPOSIT	TREASURY BILL	PRIME LENDING	MAX LENDING	INTERBANK CALL RATE	MPR
Mean	3.493697	7.441261	15.14193	28.57840	12.32916	13.52941
Median	3.780000	9.110000	16.08000	28.31000	10.73000	13.50000
Maximum	5.280000	14.93000	18.23000	31.56000	64.58000	18.75000
Minimum	1.250000	0.000000	11.13000	25.07000	0.000000	11.00000
Std. Dev.	1.030757	4.457431	2.211634	1.872554	9.529954	1.987827
Skewness	-0.819605	-0.135781	-0.587006	0.114057	2.085911	1.285068
Kurtosis	3.048773	1.564817	1.850867	1.694879	10.36455	4.240044
Jarque-Bera	13.33489	10.57858	13.38161	8.703747	355.2186	40.37725
Probability	0.001272	0.005045	0.001242	0.012883	0.000000	0.000000
Sum	415.7500	885.5100	1801.890	3400.830	1467.170	1610.000
Sum Sq. Dev.	125.3704	2344.506	577.1763	413.7622	10716.76	466.2721
Observations	119	119	119	119	119	119

Source: Eviews Version 10 Output

The table above revealed the data used in the study with the mean savings deposit rate is 3.49%, with a median of 3.78% and a range of 1.25% to 5.28%. This suggests a relatively low savings deposit rate, which may impact the incentive for individuals to save [25]. The treasury bill rate has a mean of 7.44% and a median of 9.11%, indicating a moderate return on government securities [10].

The prime lending rate has a mean of 15.14% and a median of 16.08%, with a range of 11.13% to 18.23%. This suggests a relatively high cost of borrowing for businesses, which may constrain investment and economic growth [9]. The maximum lending rate has a mean of 28.58% and a median of 28.31%, indicating a high cost of credit for borrowers [30].

The interbank call rate has a mean of 12.33% and a median of 10.73%, with a range of 0% to 64.58%. The high standard deviation of 9.53% suggests significant volatility in the interbank market, which may be a concern for financial stability [5]. The MPR has a mean of 13.53% and a median of 13.50%, with a range of 11% to 18.75%, indicating a relatively tight monetary policy stance.

The skewness and kurtosis values for most of the variables suggest a non-normal distribution, which is confirmed by the significant Jarque-Bera test statistics and probabilities. This indicates that the financial variables may not follow a Gaussian distribution, and the use of appropriate statistical techniques for non-normal data may be necessary in further analysis [24].

4.4. Unit Root Test

Table 2. *Unit root (individual unit root process).*

Series: SAVINGS DEPOSIT, TREASURY BILL, PRIME LENDING, MAX LENDING, INTERBANK CALL RATE, MPR

Date: 07/17/24 Time: 07:10

Sample: 1 119

Method	Statistic	Prob.**
ADF - Fisher Chi-square	72.6918	0.0000
ADF - Choi Z-stat	-4.83725	0.0000

** Probabilities for Fisher tests are computed using an asymptotic Chi -square distribution. All other tests assume asymptotic normality.

Intermediate ADF test results UNTITLED

Series	Prob.	Lag	Max Lag	Obs
SAVINGS DEPOSIT	0.7898	11	12	107
TREASURY BILL	0.0526	0	12	118
PRIME LENDING	0.0017	0	12	118
MAX LENDING	0.0556	0	12	118
INTERBANK CALL RATE	0.4872	1	12	117
MPR	0.0000	0	12	118

Source: Eviews Version 10 Output

The analysis presented in Table 2 is focused on determining the presence of a unit root in various financial time series, including YEAR, SAVINGS DEPOSIT, TREASURY BILL, PRIME LENDING, MAX LENDING, INTERBANK CALL RATE, and MPR. The unit root tests conducted here are essential for understanding the stationarity properties of these time series, which in turn has implications for their statistical properties and for econometric modeling.

The results of the ADF (Augmented Dickey-Fuller) Fisher Chi-square and ADF Choi Z-statistics indicate strong evidence against the null hypothesis of a unit root for the collective series. The Fisher Chi-square statistic is 72.6918 with a p-value of 0.0000, and the Choi Z-statistic is -4.83725 with a p-value of 0.0000. These p-values suggest that we can reject the null hypothesis at conventional significance levels, implying that at least some of the series are stationary.

The unit root test (ADF - Fisher Chi-square and ADF - Choi Z-stat) results suggest that some series may be non-stationary, meaning their statistical properties change over time. This is crucial for econometric modeling and forecasting, indicating the need for differencing or other transformations to achieve stationarity [27].

4.5. Hypotheses Test

4.5.1. Hypothesis One

H_{01}: There is no significant difference between the banks' working capital and savings deposit in Nigeria.

Table 3. *Regression analysis.*

Dependent Variable: WORKING CAPITAL

Method: Least Squares

Date: 07/17/24 Time: 07:22

Sample: 1 119				
Included observations: 119				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	26.99870	0.592327	45.58075	0.0000
SAVINGSDEPOSIT	0.452158	0.162667	2.779659	0.0063
R-squared	0.061948	Mean dependent var		28.57840
Adjusted R-squared	0.053930	S.D. dependent var		1.872554
S.E. of regression	1.821361	Akaike info criterion		4.053709
Sum squared resid	388.1306	Schwarz criterion		4.100417
Log likelihood	-239.1957	Hannan-Quinn criter.		4.072676
F-statistic	7.726505	Durbin-Watson stat		0.254718
Prob(F-statistic)	0.006342			

Source: Eviews Version 10 Output

The data presented in table 3 illustrates the findings of a linear regression analysis in which working capital serves as the dependent variable and savings deposit as the independent variable. The regression results show that the constant term (C) is statistically significant at the 1% level, with a coefficient of 26.99870. This suggests that there is a significant baseline level of working capital in the economy, even when the savings deposit rate is zero.

The coefficient of the savings deposit rate is 0.452158 and is also statistically significant at the 1% level. This indicates a positive relationship between the savings deposit rate and working capital, implying that a higher savings deposit rate is associated with an increase in working capital. This finding is consistent with the results of [34] which suggested that higher savings rates can lead to increased availability of funds for investment and working capital.

The R-squared value of 0.061948 suggests that the savings deposit rate explains approximately 6.19% of the variation in working capital. The adjusted R-squared, which accounts for the number of independent variables, is 0.053930, indicating a modest goodness of fit for the model.

The Durbin-Watson statistic of 0.254718 suggests the presence of positive autocorrelation in the residuals, which may indicate a need for further investigation and potential model refinement. The Akaike Information Criterion (AIC) and Schwarz Criterion (SC) provide measures of model fit, with lower values indicating better model performance.

The findings revealed that there is a positive and significant relationship between the savings deposit rate and working capital. However, the low R-squared indicates that other factors also play a significant role in determining working capital.

4.5.2. Hypothesis Two

H_{02}: There is no significant difference between Interbank Call Rates and Monetary Policy Rate (MPR) in Nigeria.

Table 4. *Regression analysis.*

Dependent Variable: INTERBANK CALL RATE				
Method: Least Squares				
Date: 07/17/24 Time: 07:21				
Sample: 1 119				
Included observations: 119				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	4.668308	6.017925	0.775734	0.4395
MPR	0.566237	0.440118	1.286558	0.2008
R-squared	0.013950	Mean dependent var		12.32916

Adjusted R-squared	0.005522	S.D. dependent var	9.529954
S.E. of regression	9.503605	Akaike info criterion	7.357883
Sum squared resid	10567.26	Schwarz criterion	7.404591
Log likelihood	-435.7941	Hannan-Quinn criter.	7.376850
F-statistic	1.655232	Durbin-Watson stat	1.410370
Prob(F-statistic)	0.200788		

Source: Eviews Version 10 Output

The provided data in Table 4 represents the results of a linear regression analysis with the interbank call rate as the dependent variable and the monetary policy rate (MPR) as the independent variable. The regression results show that the constant term (C) has a coefficient of 4.668308 and is not statistically significant at the conventional levels. This suggests that there is a baseline level of interbank call rate in the economy, which is not significantly influenced by the MPR.

The coefficient of the MPR is 0.566237, indicating a positive relationship between the MPR and the interbank call rate. However, this relationship is not statistically significant at the conventional levels, with a p-value of 0.2008. This finding suggests that the MPR may not be the primary driver of the interbank call rate, and other factors might be more influential in determining the interbank market dynamics [6].

The R-squared value of 0.013950 suggests that the MPR explains only 1.39% of the variation in the interbank call rate. The adjusted R-squared, which accounts for the number of independent variables, is 0.005522, indicating a very low goodness of fit for the model.

The Durbin-Watson statistic of 1.410370 suggests the presence of positive autocorrelation in the residuals, which may indicate a need for further investigation and potential model refinement. The Akaike Information Criterion (AIC) and Schwarz Criterion (SC) provide measures of model fit, with higher values indicating poorer model performance.

The result revealed that there is no significant difference between Interbank Call Rates and MPR in Nigeria, suggesting that other factors may be more significant in determining interbank market rates. The low R-squared value indicates a poor fit, necessitating further investigation.

5. Discussion of Findings

The study seeks to determine how the money market affects the liquidity of selected banks in Nigeria. The specific objectives are: to analyze the impact of banks' working capital on savings deposits in Nigeria; and to explore how the interbank call rate influences MPR in Nigeria.

The first hypothesis indicates that there is a significant and positive relationship between savings deposit rates and working capital in the economy. This highlights the importance of encouraging higher savings rates to support business liquidity and investment [11].

The second hypothesis indicates that the MPR does not have a statistically significant impact on the interbank call rate in the economy. This result goes against the expected theory that changes in the MPR would directly affect the interbank market [4].

6. Conclusion and Recommendations

The research aims to investigate the impact of the money market on the liquidity of selected banks in Nigeria. This analysis is crucial for understanding the dynamics of the financial system and for formulating effective monetary policies. The findings suggest stability in some areas, like savings deposit rates and prime lending rates, but significant volatility in others, such as interbank call rates. This variability has implications for the liquidity management strategies of banks. Stable indicators provide a reliable foundation for predicting future trends and making strategic decisions, whereas volatile indicators require more robust risk management practices.

The regression result indicates that savings deposit rates have a significant impact on working capital. This relationship suggests that fluctuations in savings deposit rates directly influence the liquidity available to banks for operational purposes. On the other hand, the study finds that the interbank call rate does not have a significant impact on Monetary Policy Rate (MPR). The lack of a significant relationship might suggest that other factors, such as market perceptions or external economic conditions, play a more dominant role in determining interbank call rates in Nigeria.

Based on the conclusion, the study recommends that understanding the differential impact of various financial indicators on bank liquidity can help policymakers design more targeted and effective monetary policies. For instance, if savings deposit rates significantly influence working capital, policymakers should focus on mechanisms that stabilize these rates to ensure consistent liquidity conditions. Also, Banks should improve their liquidity management and risk assessment strategies. Further research may be needed to identify the key determinants of the interbank call rate and to explore the potential factors that may influence the relationship between the MPR and the interbank market.

Abbreviations

AIC	Akaike Information Criterion
ARDL	Autoregressive Distributive Lag
CRR	Cash Reserve Ratio
CBN	Central Bank of Nigeria
ECM	Error Correction Model
MPR	Monetary Policy Rate
OMO	Open Market Operations
OLS	Ordinary Least Squares
SC	Schwarz Criterion

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Conflicts of Interest

The authors declare no conflicts of interest.

Appendix

Table 5. *Money Market Indicators from year 2014-2023.*

Year	Month	InterBankCallRate	MRR	MPR	TreasuryBill	SavingsDeposit	PrimeLending	MaxLending
2023	1	10.35		17.5	1.39	4.29	13.67	27.63
2023	2	12.54		17.5	2.09	4.3	13.62	28.75
2023	3	14.75		18	3.81	4.58	13.97	28.08
2023	4	15.8		18	5.73	4.59	14.05	28.59
2023	5	12.31		18.5	2.98	5.13	14.07	28.31
2023	6	11.66		18.5	3.87	5.18	13.85	28.94
2023	7	6.73		18.75	4.45	5.24	13.98	27.38
2023	8	3.89		18.75	5.13	5.26	13.99	27.59
2023	9	12.73		18.75	5.29	5.26	14.32	27.24
2023	10	7.2		18.75	5.39	5.26	14.39	28.97
2023	11	19.39		18.75	7.73	5.26	14.05	27.61
2023	12	16.99		18.75	8.93	5.28	14.17	26.62
2022	1	14.31		11.5	2.49	1.25	11.68	27.65
2022	2	9.3		11.5	2.3	1.25	11.78	30.73
2022	3	11.33		11.5	1.75	1.28	11.84	26.61
2022	4	8.67		11.5	1.74	1.28	11.83	27.79
2022	5	8.38		13	2.47	1.37	11.96	27.37
2022	6	11.1		13	2.41	1.38	12.29	27.61
2022	7	13		14	2.76	1.42	12.1	27.61
2022	8	15		14	3.83	2.93	12.23	28.3
2022	9	0		15.5	5.68	4.08	12.23	28.06
2022	10	0		15.5	6.49	3.77	12.23	28.06
2022	11	12.25		16.5	6.5	3.93	13.17	28.14

Year	Month	InterBankCallRate	MRR	MPR	TreasuryBill	SavingsDeposit	PrimeLending	MaxLending
2022	12	12		16.5	4.35	4.13	13.85	29.13
2021	1	4.4		11.5	0.52	1.86	11.25	28.3
2021	2	11.43		11.5	1.49	1.79	11.21	28.54
2021	3	10.1		11.5	2	1.86	11.13	28.74
2021	4	30		11.5	2	1.86	11.24	28.64
2021	5	15.23		11.5	2.5	1.83	11.29	28.39
2021	6	16.57		11.5	2.5	1.81	11.67	29.05
2021	7	12.38		11.5	2.5	1.82	11.57	27.99
2021	8	13.45		11.5	2.5	1.82	11.62	28
2021	9	13.21		11.5	2.5	1.28	11.73	27.1
2021	10	13.33		11.5	2.5	1.28	11.61	27.1
2021	11	11.53		11.5	2.5	1.83	11.8	27.26
2021	12	0		11.5	2.49	1.25	11.68	27.58
2020	1	5.74		13.5	3.45	3.89	14.97	30.77
2020	2	8.91		13.5	3	3.89	15.04	30.63
2020	3	10.29		13.5	2.39	3.89	14.71	30.48
2020	4	7.33		13.5	1.91	3.69	14.92	30.73
2020	5	4.35		12.5	2.47	3.83	14.73	30.69
2020	6	5.75		12.5	1.94	3.78	15.65	30.57
2020	7	6.25		12.5	1.3	3.78	12.1	28.42
2020	8	7.38		12.5	1.17	3.78	11.76	29.51
2020	9	2		11.5	1.1	2.41	11.55	28.45
2020	10	0		11.5	0.86	1.87	11.31	28.36
2020	11	0		11.5	0.03	1.84	11.6	28.85
2020	12	1.25		11.5	0.03	2.04	11.35	28.31
2019	1	15		14	10.98	4.07	16.01	30.48
2019	2	16.45		14	10.91	4.07	16.08	30.56
2019	3	11.5		13.5	10.42	3.97	14.92	30.83
2019	4	13.98		13.5	10.24	3.91	18.23	30.89
2019	5	5.14		13.5	10	3.9	15.33	31.07
2019	6	8.38		13.5	9.93	3.93	15.8	31.04
2019	7	6.52		13.5	9.92	3.93	15.46	31.07
2019	8	8		13.5	10.89	3.93	15.4	31.04
2019	9	11.61		13.5	11.1	3.2	15.15	31.43
2019	10	6.37		13.5	10.03	3.93	15.07	30.56
2019	11	0		13.5	6.73	3.31	14.91	29.4
2018	1	15.58		14	12.27	4.07	17.5	31.39
2018	2	26.19		14	11.88	4.07	17.53	31.4
2018	3	15.16		14	11.84	4.07	17.35	31.55

Year	Month	InterBankCallRate	MRR	MPR	TreasuryBill	SavingsDeposit	PrimeLending	MaxLending
2018	4	3.1		14	11.43	4.07	17.24	31.56
2018	5	25.43		14	10	4.07	17.08	31.29
2018	6	5		14	10.11	4.07	16.78	31.17
2018	7	2.86		14	10	4.07	16.83	31.09
2018	8	2.45		14	10.64	4.07	16.65	30.93
2018	9	4.57		14	11	4.07	16.59	30.77
2018	10	14.18		14	10.94	4.07	16.53	30.67
2018	11	7.17		14	10.91	4.07	16.64	30.8
2018	12	22.68		14	0	4.07	16.17	30.52
2017	1	8.15		14	13.95	4.22	16.91	28.88
2017	2	27.46		14	13.75	4.22	17.13	29.26
2017	3	13.11		14	13.6	4.23	17.43	30.18
2017	4	64.58		14	13.58	4.24	17.44	30.31
2017	5	21.29		14	13.5	4.08	17.58	30.75
2017	6	13.46		14	13.5	4.08	17.59	30.94
2017	7	12.28		14	13.46	4.08	17.65	30.94
2017	8	22.63		14	13.35	4.08	17.69	31.2
2017	9	20.44		14	13.2	4.08	17.88	31.39
2017	10	43.78		14	13.18	4.08	17.86	31.39
2017	11	18.78		14	13.01	4.08	17.77	30.95
2017	12	9.49		14	0	4.08	17.71	30.99
2016	1	2.04		11	4.12	3.29	16.54	26.77
2016	2	2.67		11	4.91	3.29	16.72	26.73
2016	3	4.32		12	5.53	3.26	16.82	26.93
2016	4	3.75		12	7.27	3.54	16.77	26.88
2016	5	7.67		12	8.04	3.57	16.13	26.73
2016	6	35.26		12	8.32	3.61	16.78	26.93
2016	7	31.51		14	12.34	3.89	17.14	27.06
2016	8	24.25		14	14.93	3.93	17.18	27.21
2016	9	14.5		14	14	4.05	17.09	27.49
2016	10	36.42		14	13.96	4.08	17.1	27.69
2016	11	15.21		14	13.99	4.28	17.06	28.53
2016	12	10.39		14	13.97	4.18	17.09	28.55
2015	1	10.21		13	11.2	3.48	16.86	25.97
2015	2	23.5		13	10.88	3.47	16.77	26.33
2015	3	12.59		13	10.77	3.76	16.9	26.61
2015	4	24.24		13	10.23	3.6	15.95	26.41
2015	5	10.43		13	10.03	3.6	16.08	26.43
2015	6	10.85		13	9.95	3.6	17.24	26.84

Year	Month	InterBankCallRate	MRR	MPR	TreasuryBill	SavingsDeposit	PrimeLending	MaxLending
2015	7	7.79		13	10	3.63	17.3	27.03
2015	8	33.26		13	10	3.63	17.29	27.01
2015	9	8.12		13	10.36	3.72	17.02	26.99
2015	10	3.22		13	9.11	3.71	16.84	27.01
2015	11	0.84		11	5.62	3.47	16.98	27.02
2015	12	0.77		11	4.57	3.33	16.96	26.84
2014	1	10		12	10.81	3.27	16.95	25.52
2014	2	10.5		12	11.82	3.26	16.93	25.83
2014	3	10.5		12	11.92	3.38	16.69	25.8
2014	4	10.5		12	11.26	3.42	16.7	25.63
2014	5	10.63		12	10.13	3.41	16.5	25.76
2014	6	10.5		12	9.98	3.42	16.5	26.07
2014	7	10.5		12	9.88	3.41	16.44	26.07
2014	8	11.91		12	9.95	3.24	16.6	25.07
2014	9	10.73		12	9.75	3.43	16.44	25.77
2014	10	10.98		12	9.83	3.43	16.48	25.75
2014	11	8.98		13	9.82	3.43	16.47	25.74
2014	12	24.3		13	10.8	3.46	15.88	25.91

Source: CBN Statistics Bulletin, 2024

Table 6. *Working Capital of Selected Quoted Banks.*

YEAR	FIRST BANK	GTB	UBA	ZENITH	ACCESS BANK
2014	11,258,118	5,053,387	46,293,166	9,034,780	3,697,221
2015	31,066,966	12,174,536	72,767,868	6,256,364	12,164,132
2016	78,928,707	19,733,974	70,756,000	8,120,000	17,807,000
2017	17,764,318	25,285,350	252,003,98	9,605,000	40,216,000
2018	62,470,986	38,661,271	255,944,97	7,772,000	30,579,000
2019	27,606,200	25,505,000	273,074,59	10,048,000	80,321,000
2020	55,784,079	82,271,000	368,282,47	30,072,000	100,432,895
2021	132,196,061	117,291,00	210,300,28	25,840,000	109,987,000
2022	228,322,12	207,834,00	228,609,55	20,722,000	142,698,000
2023	211,982,604	173,500,86	288,761,27	21,104,000	90,435,964

Source: CBN Statistics Bulletin, 2024

References

[1] Adepoju, A. A., Austin, O. C., & Nwachukwu, C. (2019). Money market efficiency and the development of Nigerian financial system. *Management Strategies*, 12(2), 18-26.

[2] Afiemo, O. O. (2013). The Nigerian money market. *Understanding Monetary Policy Series*, 15(27), 10-23.

[3] Agbada, O. A. & Osuji, C. C. (2013). The efficacy of liquidity management and banking performance in Nigeria. *International Review of Management and Business Research*, 2(1), 2306-9007.

[4] Akosah, N. K., Alagidede, I. P., & Schaling, E. (2021). Dynamics of money market interest rates in Ghana: Time-frequency analysis of volatility spillovers. *South African Journal of Economics*, *89*(4), 555-589.

[5] Alaeddini, M., Madi ès, P., Reaidy, P. J., & Dugdale, J. (2023). Interbank money market concerns and actors' strategies—A systematic review of 21st century literature. *Journal of Economic Surveys*, *37*(2), 573-654.

[6] Archibong, E. U., Nwude, C. A., & Nwude, E. C. (2022). The impact of monetary policy on interbank market rate: Evidence from the Nigerian banking industry. *Social Science Journal for Advanced Research*, *2*(4), 31-41.

[7] Ayebaemi, A. E. & Francis, E. A. (2018). Money market instruments and growth of the Nigerian economy: An empirical analysis. *Pakistan Journal of Humanities and Social Sciences*, 6(1), 30-43.

[8] Babarinde, G. F., Popoola, O. T., Abdulmajeed, T. I., &Mohammed, H. K. (2021). Money market and the Nigerian economy (1981-2018): Empirical evidence from FMOLS and granger causality. *African Journal of Accounting and Financial Research*, 4(1), 64-83.

[9] Caballero, J., Fern ández, A., & Park, J. (2019). On corporate borrowing, credit spreads and economic activity in emerging economies: An empirical investigation. *Journal of International Economics*, *118*(53), 160-178.

[10] Croce, M. M., Nguyen, T. T., Raymond, S., & Schmid, L. (2019). Government debt and the returns to innovation. *Journal of Financial Economics*, *132*(3), 205-225.

[11] Dzapasi, F. D. (2020). The impact of liquidity management on bank financial performance in a subdued economic environment: A case of the Zimbabwean banking industry. *PM World Journal*, *9*(1), 1-20.

[12] Egbide B. (2009). Working capital management and profitability of listed companies in Nigeria; *Nigeria Research Journal of Accountancy* (NRJA) 1(1), 44-53.

[13] Ekmekcioglu, E. (2013). Role of financial markets in a global economy and the concept of uncertainty, *International Journal of Academic Research in Economics and Management Sciences*, 2(4), 199-206.

[14] Egugbo, R. U. (2018). Effect of liquidity management on deposit money banks performance in Nigeria, *Journal of Managerial Review*, 10(4), 1–9.

[15] Fry, M. J. (1988). Money and capital or financial deepening in economic development. *Journal of Money, Credit and Banking*, 10(4), 464-475.

[16] Ikpefan O. A. & Osabuohien, E. (2012). Discount houses, money market, and economic growth in Nigeria (1992-1997). *Economic Insights-Trends and Challenges*, 1(3), 19-30.

[17] Ishola, O. P., Oni, A. S., & Kolapo, M. B. (2021). Impact of money market instruments on economic growth in Nigeria. *International Journal of Social Science and Human Research*, 4(4), 689-697. https://doi.org/10.47191/ijsshr/v4-i4-17

[18] Isibor, A. A., Adetiloye, K. A., Olokoyo, F. O., Adesina, T. F., Akinjare, V. A., & Udume, M. E. (2022). Achieving sustained performance in the Nigerian oil and gas sector despite exchange rate fluctuations: A VAR approach. *International Journal of Energy Economics and Policy*, 12(3), 341-351.

[19] Isibor, A. A., Alexander, O., Benjamin, E., Godswill, O., Adenike, O., Adedoyin, B., and Kikiyanu, A. (2023). Achieving sustainable economic growth in sub-Saharan Africancountries using the tool of monetary policy effectiveness. *Journal of Central Banking Theory and Practice*, 12(3), 111-132.

[20] Isibor, A. A., Ehikioya, B. I., Mercy, A., Awogbenja, B. B., & Adedoyin, B. (2023). Carbon disclosure, board climate governance and financial performance of listed manufacturing firms in Nigeria. *International Journal of Energy Economics and Policy*, 13(4), 187-193.

[21] Isibor, A. A., Ikpefan, O. A. & Okafor, T. C. (2016). Impact of money market on the liquidity of some selected quoted banks in Nigeria. *International Business Management Journal*, 10(5): 646-651.

[22] Isibor, A. A., Omankhanlen, A. E., Mathias, C. M., Komolafe, D. T., & Okereke, Y. K. (2020). The impact of credit risk management and macroeconomic variables on bank performance in Nigeria. *WSEAS Transactions on Business and Economics*, 17(94), 947-955.

[23] Kehinde, J. S. & Adejuwon K. D (2011). Financial institution as a catalyst to economic development: The Nigerian experience. *European Journal of Humanities and Social Sciences*. 8(1), 322-324.

[24] Khatun, N. (2021). Applications of normality test in statistical analysis. *Open journal of statistics*, *11*(01), 113 - 120.

[25] Lian, C., Ma, Y., & Wang, C. (2019). Low interest rates and risk-taking: Evidence from individual investment decisions. *The Review of Financial Studies*, *32*(6), 2107-2148.

[26] Maccido, S. M. (2021). Liquidity management and profitability of listed financial institutions on the Nigerian stock exchange, *Journal of Statistics and Management*, 12(1), 24-33.

[27] Mohamed, J. (2020). Time series modeling and forecasting of Somaliland consumer price index: a comparison of ARIMA and regression with ARIMA errors. *American Journal of Theoretical and Applied Statistics*, *9*(4), 143-153.

[28] Ndugbu, M. O., Duruechi, A. H., & Ojiegbe, J. N. (2016). Money market instruments and bank performance in Nigeria. *Journal of Economics and Sustainable Development*, 7(10), 95- 104.

[29] Omankhanlen, A. E., Ilori, N., & Isibor, A. A. (2021). Monetary policies and the achievement of bank profit objective. *Journal of Central Banking Theory and Practice*, 2(1), 201-220.

[30] Schwert, M. (2020). Does borrowing from banks cost more than borrowing from the market? *The Journal of Finance*, *75*(12), 905-947.

[31] Tasie, C. Ejiogu, I. & and Chimaobi, I. (2024). Impact of liquidity management on the performance of selected deposit money banks in Nigeria (2015-2022). *International Journal of Management Sciences.* 12(1), 1-7.

[32] Tsintop, U. D. & Bala, T. T. (2023). The impact of money market activities on the economic growth of Nigeria. *FUW – International Journal of Management and Social Sciences.* 8(2), 1-6.

[33] Uruakpa, N. I., Kalu, U. E., & Ufomadu, O. A. (2019). Impact of financial inclusion on economic growth of Nigeria, *Journal of Management Review*, 8(3), 1-10.

[34] Wang, Z., Akbar, M., & Akbar, A. (2020). The interplay between working capital management and a firm's financial performance across the corporate life cycle. *Sustainability*, *12*(4), 1661.