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Liquidity Management and Commercial Banks' Performance in Nigeria (An Auto-Regressive Distributed LAG ARDL Model Approach)

Christy Twaliwi Zwingina*, Efanga, Udeme Okon and Agbaeze, Clifford Chilasa*****

** Department of Management,*
Bingham University, Karu, Nasarawa State, Nigeria
*** Department of Banking and Finance, University of Calabar, Nigeria*
**** Department of Banking and Finance,*
Michael Okpara University of Agriculture, Uneudike, Nigeria

Abstract

The liquidity position of any business is vital to its growth and profitability as it is what guarantees smooth day-to-day activities. It is the life wire of the financial system and the banking system in particular. Commercial banks must hold optimal liquidity to meet up their maturing obligations. This study sought to analyze the impact of liquidity management on commercial bank performance. The Data set was generated from the Central Bank of Nigeria Statistical Bulletin of 2019. Total Assets of Commercial Banks in Nigeria served as a proxy for Banks' performance in Nigeria while the Liquidity Ratio, Cash Reserve Ratio, and Loan-to-Deposit Ratio were adopted as independent variables. The Auto-Regressive Distributed LAG (ARDL) Model was used for estimation and inference drawn from there. Various diagnostic tests, including Test of Normality, Auto-correlation test, Heteroskedasticity test, and the Breusch-Godfrey Serial Correlation LM test, were carried out to confirm the reliability and validity of obtained results. Our findings confirm the significant impact that liquidity management has on Nigerian Commercial Bank performance. The study recommended that commercial banks in Nigeria must maintain optimal liquidity to meet day-to-day liquidity demands.

Key Words

Liquidity Management, Commercial Bank Performance, Total Assets, Cash Reserve Ratio, Loan-to-Deposit Ratio.

INTRODUCTION

Background to the Study

Negative experiences and a flailing banking sector were the primary reasons for the Central bank of Nigeria's determination to institute much-needed reforms in the banking sector. Between 1994 and 2003, at least 36 banks folded up due to insolvency. In 1995 alone, four banks closed shop, followed by 26 commercial banks in 1998. It then became apparent that the banking system in Nigeria, the life wire of the Nigerian economy, was in distress. The chaos extended to 2000 through 2003 as at least one bank folded up each year. It became clear that these banks' failure was attribuTable to two primary reasons; being the small size of commercial banks in Nigeria regarding capitalization and unethical and unscrupulous practices perpetrated by the bank management. As of 2004, when the banking sector reforms targeting recapitalization were initiated, out of the 89 banks in existence, 11 were already in distress (Efanga, Ugwuanyi, Umoh, and Jonah, 2019).

It suffices to say that liquidity is the soul of the banking business. Commercial banks in Nigeria would struggle to carry out their primary and fundamental financial intermediation function without adequate liquidity. There is a need for commercial banks to maintain and store sufficient and optimal liquidity to meet up its day-to-day maturing obligations.

Alshatti (2015) made known that banks, especially in Nigeria, are primarily exposed to various types of risks hovering around liquidity management, which affect the activities and performance of these banks. Alshatti opined that since the fundamental objective of bank management revolves around maximizing profit, it is vital that a balance between stored liquidity and that which is given out for on-lending is maintained.

Statement of the Problem

During the widespread banking sector distress that characterized much of the 1990s and early 2000s, it became apparent that a bank's profitability is not the sole determinant or measure of its stability. Indeed, one lesson learned in the aftermath was that profitability alone is not sufficient. This led to the introduction of CAMEL, an acronym for capital adequacy, Asset quality, Management, Earnings, and Liquidity by Monetary authorities. Available evidence suggests that the banking sector has improved tremendously post-reform (Richard and Steve, 2018).

One noTable feature that characterized Nigeria's dark banking days

between the 1980s and early 2000s was the severe liquidity management challenge possibly traceable to a grossly inadequate capital base.

Liquidity management is considered a delicate and tricky task as a bank manager is faced with either storing liquidity in anticipation of meeting maturing obligations of the bank (cash withdrawal by customers) or giving credit facilities to investors (extending credit facilities to borrowers). Management thus has to balance the proportion of liquidity for on-lending to investors versus that kept in anticipation of customers' withdrawals.

From the above-highlighted problems faced by managers, this study is carried out to investigate the impact of liquidity management on commercial banks' performance (total assets) in Nigeria. Scholars have sought to give answers to this question. For instance, study carried out by Richard and Steve (2018) suggested a positive impact of liquidity management on commercial banks' performance in Nigeria, while other scholars such as Adesina and Olatise (2020) suggested a negative impact. Some such as Kurotamunobaraomi, Giami and Obari (2017) suggested mixed impact.

Generally, there is mix result to the outcome of the impact of liquidity management on commercial banks' performance in Nigeria. This study is also poised to give independent evidence to this question with updated data and empirical evidence.

OBJECTIVES OF THE STUDY

1. To ascertain the impact of Liquidity Ratio on Total Assets of commercial banks in Nigeria.
2. To investigate the impact of Cash Reserve Ratio on Total Assets of commercial banks in Nigeria.
3. To evaluate the impact of Loan-to-Deposit Ratio on Total Assets of commercial banks in Nigeria.

RESEARCH HYPOTHESES

HO_1 : Liquidity Ratio has no impact on Total Assets of commercial banks in Nigeria.

HO_2 : Cash Reserve Ratio has no impact on Total Assets of commercial banks in Nigeria.

HO_3 : There is no impact of Loan-to-Deposit Ratio on Total Assets of commercial banks in Nigeria.

REVIEW OF LITERATURE

Conceptual Review

Liquidity as a Concept

Liquidity is a concern's ability to meet its mature financial obligations. It also describes how to quickly and cost-effectively convert an asset for another asset. Acharya and Naqvi (2012) believe liquidity to be the speed and certainty of converting an asset to cash at the discretion of the asset owner. Anyanwu (1993) confirms this view and proffers that liquid assets could be monetized at minimal cost and loss. Jinghan (2010) argues that a bank's portfolio of assets requires a high level of liquidity. So banks need to have sufficient assets in the form of cash and current assets to increase customer trust and business outcomes (profitability). According to Spindt and Tarhan (1980), banking operations are driven by depositor debt, so liquid assets form an essential part of the bank's overall asset basket.

Indeed it is clear that liquidity is defined by marketability, stability and maintenance. Marketability establishes the ability to switch. You can exchange assets with the ability to trade assets and redeem them before maturity easily and quickly. Stability means value preservation. As a result, liquid assets are fixed, and price fluctuations are relatively small (compared to physical assets).

Liquidity Measurement in Commercial Banks in Nigeria

Several ratios measure liquidity in commercial banks. This study will pay strict attention to three ratios: loan-to-deposit, liquidity, and cash reserve. The loan-to-deposit ratio as a measure of liquidity compares the aggregate value of loans with the total deposit. A high ratio is an indication that there is a contraction of liquidity has a high proportion of deposits of commercial banks have been given out as loans. In contrast, a low ratio indicates the reverse (Nwankwo, 1991). The liquidity ratio is another measure for liquidity computed as a proportion of banks' current liabilities such as deposit liabilities, short-term interbank loans, net balance with foreign branches, and free balance with the central bank. The last measure of liquidity to be considered here is the Cash ratio. Ibe (2013) deduced that the cash ratio is particularly effective for sterilizing excess liquidity in the banking system as the regulating authorities can effectively monitor it. Under the cash ratio, liquid assets are related directly to deposits rather than loans and advances that constitute the most liquid illiquid of banks' assets. Emefiele (2015) asserts that the primary measures of liquidity in

Nigeria are the Cash Reserve Ratio (CRR), the Liquidity Ratio (LR), and the Loan-to-Deposit Ratio as enshrined in the CBN statistical Bulletin under the Financial Sector data set.

Theoretical Underpinning

Several theories discuss liquidity in the banking system. However, this study is anchored on the commercial loan theory, which states that banks should invest in short-term investments. Put differently, commercial banks, because of their nature, have to give out short-term loans. If the need arises for an increase in tenure of loans given out, it should not exceed medium term so that the bank would be able to meet its day to day maturing obligations, an example being that a depositor may work into the banking hall anytime to withdraw their funds and such funds should be made available (adequate stored liquidity) in.

Empirical Review

There have been several studies on liquidity and bank performance in Nigeria and the world over. This segment analysis past studies on the subject matter, tries to identify the gaps not filled by past studies, and closes the gaps identified. Since this study is more recent, an attempt is made to close the knowledge gap.

Kurotamunobaraomi, Giami and Obari (2017) undertook a study captioned liquidity and the performance of Nigerian banks. Their study utilized annual time series data between 1984 and 2014 and adopted the Cash Reserve Ratio, the Liquidity Ratio, and lastly, the Loan-to-Deposit Ratio as proxies for liquidity. Return on Shareholders' funds was then used as a proxy for performance while econometric tools such as Ordinary Least Square Regression, Johanson Cointegration, Granger Causality test, and Error Correction Model were used for analysis. Empirical results indicate a significant negative short-run relationship between Cash Reserve Ratio and corporate performance and a positive relationship between Loan-to-Deposit Ratio and Liquidity Ratio on the one hand and corporate performance on the other, albeit significantly insignificantly respectively. Also, Cash Reserve Ratio and Liquidity Ratio are statistically significant enough to influence Return on Shareholders' Fund in the long run. At the same time, the Loan-to-Deposit Ratio exhibits complacency in instigating Performance in deposit money banks in Nigeria.

In another related study, Richard and Steve (2018) focused on the financial performance of deposit money banks in Nigeria (2001-2014). Secondary

data was collected from the audited financial reports of the respective banks. The unit root test, OLS, Co-integration, and the Granger Causality method were applied to test and analyze generated data from the banks' annual publications at a 10% significance level. Findings showed that the Financial Performance of selected Nigerian banks had a significant relationship with Capital Adequacy, Asset Quality, and Liquidity both in the short and long term. None of the variables Granger Caused each other.

Similarly, Adesina and Olatise (2020) researched comparative performance evaluation of deposit money banks in Nigeria (financial ratio analysis approach). This study covers the critical financial ratios of six major Deposit Money Banks in Nigeria and compares their performances. Secondary data of Access Bank, First Bank, Guarantee Trust Bank (GTB), United Bank for Africa (UBA), Union Bank, and Zenith Bank were used for the study. Financial ratios were employed to measure the profitability, liquidity, and credit performance of these banks. The banks were ranked based on their performances; Zenith bank plc came first, followed by GTB. The ranking result can be used to analyze the strengths and weaknesses compared to its competitors.

METHODOLOGY

Research Design

In this study, the ex-post facto research design is adopted. Data for this study are elicited from the Central Bank of Nigeria Statistical Bulletin of 2019 under Financial Sector. The study period covers 1981 through 2019. Total assets of commercial banks in Nigeria within the scope of this study was utilized as the explained variable and also the proxy for commercial banks' productivity, while liquidity ratio, loan-to-deposit ratio, and cash reserve ratio were used as the explanatory variables and were also the proxy for (liquidity ratios). The model was estimated using Auto-Regressive Distributed Lag (ARDL) Model to ascertain the impact of liquidity ratios on Nigeria's commercial banks' productivity. Given our use of annualized time-series data and the long study period, efforts were to ensure our data set was not impaired by unit root; hence we tested for stationarity of the series by employing the Augmented Dickey-Fuller (ADF). The EView 9.0 econometric statistical software package was used for analysis.

Model Specification

This study adapts the Classical Linear Regression Model (CLRM) of

Saleem and Raheman (2011) the model is written in mathematical form thus :

$$RSF = f(CRRt, LDRt, LRt) \text{ ---------- } (1)$$

The mathematical model is transformed into an econometric model by the introduction of the constant term (β_0) and error term (μ)

$$RSFt = \alpha_0 + \alpha_1 CRRt + \alpha_2 LDRt + \alpha_3 LRt + \mu \text{ ---------- } (2)$$

Where :

RSF = Returns on Shareholders' Funds

CRR = Cash Reserve Ratio

LDR = Loan-to-Deposit Ratio

LR = Liquidity Ratio

α_0 = Constant Term

$\alpha_1 - \alpha_3$ = Coefficients of Predictors

μ = Error Term/Stochastic Variable

However, this study adapted the scholars' work by replacing return on shareholders' funds with total assets of commercial banks in Nigeria and transforming the scholars' work into a double log model. After that, the regression model is specified thus:

$$LogTAt = \beta_0 + \beta_1 LogLRt + \beta_2 LogLDRt + \beta_3 LogCRRt + \mu \text{ ------- } (3)$$

Where :

TA = Total Assets

β_0 = Constant Term

β_0 through β_3 = Coefficients of Predictors

Log = Logarithm

All other variables remain as defined above

Decision Rule for Acceptance or Rejection of Hypotheses

The decision rule is to reject the null hypothesis if the computed p-value is less than a 5% significant level. On the contrary, accept the null hypothesis if the computed p-value is higher than the 5% significant level.

A Priori Expected Results

The liquidity ratio is expected to have a negative impact on the total assets of commercial banks in Nigeria.

The loan-to-deposit ratio is expected to impact the total assets of commercial banks in Nigeria positively.

The cash reserve ratio is expected to impact the Total assets of commercial banks in Nigeria negatively.

DATA ANALYSIS AND INTERPRETATION OF RESULTS

Pre-Estimation Test Result (Unit Root Test)

Table 1

Pre-Estimation Test

Variables	Augmented Dickey-Fuller Test Statistic	Probability Value	Critical Value at 5%	Integration Order/ Inference
TA	-3.253075	0.0262	-2.960411	I(1)
LR	-3.591749	0.0106	-2.941145	I(0)
LDR	-4.026446	0.0035	-2.945842	I(0)
CRR	-3.457356	0.0378	-3.259808	I(1)

Source : Author's Analysis Using e-View 9 Out-put

The unit root test from Table 1 above shows that the integration order of the variables were stationary at a mixture of I(1) and I(0). As such, the appropriate estimation technique to employ for analysis is the Auto-Regressive Distributed Lag (ARDL) Model.

Descriptive Statistics

Table 2

Descriptive Statistics

	TA	LR	LDR	CRR
Mean	9493.653	47.14091	67.42452	19.86538
Median	1568.839	46.67880	68.62500	22.50000
Std. Dev.	13031.88	8.085903	12.32420	6.212478
Skewness	1.067869	0.394073	-0.639486	-2.228123
Kurtosis	2.560074	3.263676	2.810056	6.466251
Jarque-Bera	7.726735	1.122385	2.716755	51.79367
Probability	0.020997	0.570528	0.257077	0.000000
Observations	39	39	39	39

Source : Author's Analysis Using e-View 9 Out-put

The Mean of any distribution describes the average value for each data series in the model. At the same time, the Median explains the middle or center point for each data series in the model. The descriptive statistics presented in

Table 2 shows that TA has the highest mean value of 9493.7, followed by LDR, which has 67.4, while LR and CRR have 47.1 and 19.9, respectively. From the analysis, TA has the highest Standard Deviation. It recorded 13031.9, implying that it is the most volatile variable in the model as it has the highest percentage of dispersion from the mean. Skewness measures the asymmetry or symmetry of the distribution of the series around its mean. A Skewness of zero (0) depicts a symmetrical distribution.

On the other hand, a positive skew portrays an asymmetrical distribution with higher values; it has a long tail to the right. However, a negative skew illustrates an asymmetrical distribution with lower values, which has a long tail to the left. From Table 2, two variables, LR and LDR with 0.4 and 0.6 respectively, are skewed a little to the left, while TA and CRR, which have 1.07 and -2.2, are skewed to the right. In conclusion, LR and LDR meet the rule of thumb of not having skewness values greater than 1.0 and not less than -1.0. Thus, they have a normal distribution.

Kurtosis measures the peakedness or flatness of the distribution of a series. The kurtosis of a normal distribution is 3. If it exceeds 3, it means that the distribution is peaked or leptokurtic relative to the normal. Conversely, if it is less than 3, it shows that the distribution is flat or platykurtic relative to the normal. From Table 2, TA and LDR are platykurtic because they have 2.6 and 2.8, respectively, while LR and CRR are leptokurtic because they have Kurtosis values of 3.3 and 6.5.

Jarque-Bera (JB) tests whether the series is normally distributed or not. The test statistic measures the skewness and kurtosis of the series with those from a normal distribution. In JB statistic, the null hypothesis, which states that the distribution is normal, is rejected at a 5% significance level. From the results presented in Table 2, the Jarque-Bera statistic is 7.7 with a Probability of 0.02 for TA; 1.1 with a Probability of 0.6 for LR; 2.7 with a Probability of 0.3 for LD 51.8 with a Probability of 0.00 for CRR. Therefore, we reject the hypothesis of a normal distribution for TA and CRR. Nevertheless, the hypotheses of normal distributions are accepted in the cases of LR and LDR.

Although these skewness and kurtosis indicate a departure from normality, it is not strong enough to discredit the goodness of the dataset for the analysis in view. Observation of 39 depicts the scope of the study, which is 39 years.

4.3 Correlation Analysis

Table 3
Correlation Matrix

	TA	LR	LDR	CRR
TA	1.000000			
LR	0.039889	1.000000		
LDR	-0.143252	-0.101754	1.000000	
CRR	0.316133	-0.094871	-0.425318	1.000000

Source : Author's Analysis Using E-view 9 Out-put

From the correlation analysis in Table 3 above, all the variables are positively correlated with one another except for LDR, which recorded a negative relationship with every other variable. TA recorded a 3% positive correlation with LR, a 14% negative correlation with LDR, and a 32% positive correlation with CRR. LR recorded a 10% negative correlation with LDR and 9% negative correlation with CRR, while LDR recorded about 43% negative correlation with CRR.

Auto-Regressive Distributed LAG (ARDL) Model Result

Table 4
ARDL Model Result

Dependent Variable	:	LOG(TA)
Method	:	ARDL
Included Observations	:	33 after adjustments
Maximum Dependent Lags	:	6 (Automatic selection)
Model Selection Method	:	Akaike info criterion (AIC)
Dynamic Regressors (6 lags, automatic)	:	LOG(LR) LOG(LDR) LOG(CRR)
Fixed Regressors	:	C
Number of Models Evaluated	:	2058
Selected Model	:	ARDL(5, 6, 6, 6)

Variable	Coefficient	Std. Error	t-Statistic	Prob.*
LOG(TA(-5))	0.767102	0.184831	4.150290	0.0060
LOG(LR(-2))	-0.245821	0.081607	-3.012245	0.0236
LOG(LDR(-6))	0.672885	0.106567	6.314211	0.0007
LOG(CRR(-3))	-11.80206	2.966687	-3.978193	0.0073
C	206.3663	55.79310	3.698778	0.0101

R-squared	0.999959	Mean Dependent Var	7.802975
Adjusted R-squared	0.999779	S.D. Dependent Var	2.265869
S.E. of regression	0.033680	Akaike Info Criterion	-4.012183
Sum squared resid	0.006806	Schwarz Criterion	-2.787768
Log-likelihood	93.20102	Hannan-Quinn Criter.	-3.600204
F-statistic	5570.221	Durbin-Watson Stat	3.009255
Prob(F-statistic)	0.000000		

*Note : p-values and any subsequent tests do not account for model selection.

Source : Author's Analysis Using E-view 9 Out-put

The result of the Auto-Regressive Distributed Lag (ARDL) Model in Table 4 above revealed the R-squared and adjusted R-squared to both be 99%. This signifies that 99% of variations in the explained variable (Total Assets) were caused by the explanatory variables (Liquidity Ratio, Loan-to-Deposit Ratio, and Cash Reserve Ratio). In comparison, the remaining 1% may be attributed to stochastic terms. A keen observation of the result revealed that Liquidity Ratio and Cash Reserve Ratio both had a negative impact on Total Assets. At the same time, the Loan-to-Deposit Ratio was observed to exert a positive impact on Total Assets. However, the result further revealed that a percentage increase in LOG (LR) would bring about an approximately 25% decrease in Total Assets of Commercial Banks in Nigeria. In contrast, a drop in LOG (LR) would bring about a reverse in the same proportion.

Similarly, a percentage increase in LOG (CRR) would bring about an 1180% decrease in Total Assets of Commercial Banks in Nigeria, while a reduction of LOG (CRR) would bring about a reverse in the same proportion. Furthermore, from the result, a percentage increase in LOG (LDR) would bring about a 67% increase in Total Assets of Commercial Banks in Nigeria. In contrast, a decrease in LOG (LDR) would bring about a reverse in the same proportion.

The F-statistic of 5570.221 and its corresponding P-value of 0.0000 confirmed that the model was a good fit with all variables represented. The Durbin-Watson stat of 3.009255 being greater than the accepted value of 2 indicates the presence of Auto-correlation amongst the variables.

Diagnostic Test

Test for Auto Correlation

Table 5

Test for Auto Correlation

Q-statistic probabilities adjusted for five dynamic regressors

Autocorrelation	Partial Correlation		AC	PAC	Q-Stat	Prob*
****| . |	****| . |	1	-0.506	-0.506	9.2414	0.002
.**| . |	*****| . |	2	-0.236	-0.662	11.322	0.003
. |*** |	***| . |	3	0.379	-0.370	16.848	0.001
. *| . |	.**| . |	4	-0.096	-0.282	17.214	0.002
. *| . |	***| . |	5	-0.181	-0.375	18.564	0.002
. |** |	. |*. |	6	0.338	0.111	23.464	0.001
.**| . |	. |*. |	7	-0.225	0.211	25.711	0.001
. *| . |	. | . |	8	-0.142	0.034	26.637	0.001
. |** |	. *| . |	9	0.294	-0.103	30.802	0.000
. *| . |	. *| . |	10	-0.070	-0.161	31.049	0.001
. *| . |	.**| . |	11	-0.179	-0.222	32.728	0.001
. |** |	. | . |	12	0.224	-0.024	35.485	0.000
. *| . |	. | . |	13	-0.127	0.024	36.420	0.001
. | . |	. | . |	14	-0.057	0.025	36.619	0.001
. |*. |	. | . |	15	0.199	0.025	39.168	0.001
. *| . |	.**| . |	16	-0.154	-0.207	40.783	0.001

* Probabilities may not be valid for this equation specification.

Source : Author's Analysis Using e-View 9 Out-put

This test is carried out to further test for auto-correlation and verify the result of Durbin Watson Stat. Correlogram Q-Statistic in Table 5 above suggests that the variables are not free from auto-correlation. The Durbin Watson Stat. is thus found to be accurate since all p-values were <5%, indicating that the model was not free from auto-correlation. N/B the presence of auto-correlation is not strong enough to render the result spurious.

Test for Serial Correlation

Table 6
Serial Correlation

Breusch-Godfrey Serial Correlation LM Test :

F-statistic	6.817796	Prob. F(2,4)	0.0514
Obs*R-squared	25.51514	Prob. Chi-Square(2)	0.0000

Source : Author's Analysis Using e-View 9 Out-put

In line with the rules, the Breusch-Godfrey Serial Correlation LM Test Table above shows that the probability values of 0.0514 and 0.0000 are statistically significant at a 5% significance level. Thus, the model is said to be not free from serial correlation. Same as in Auto-correlation, the presence of serial correlation amongst the variables can not distort the overall significance of the results elicited.

Test for Heteroskedasticity

Table 7
Test for Heteroskedasticity

Heteroskedasticity Test : Breusch-Pagan-Godfrey

F-statistic	0.538032	Prob. F(26,6)	0.8735
Obs*R-squared	23.09447	Prob. Chi-Square(26)	0.6276
Scaled Explained SS	0.940049	Prob. Chi-Square(26)	1.0000

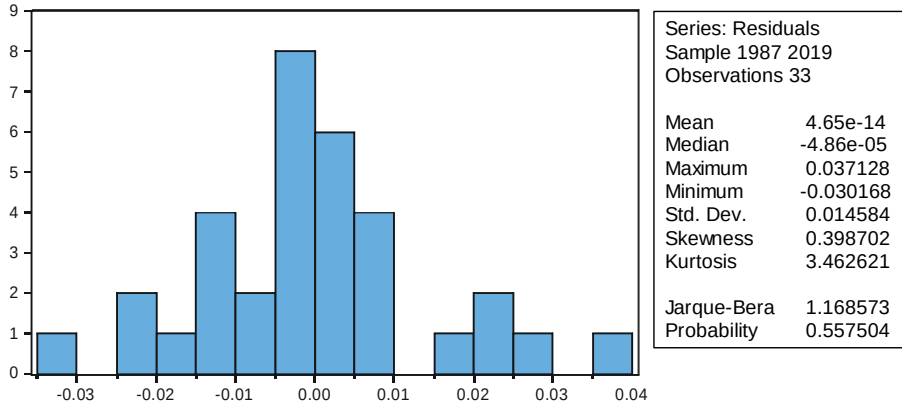
Source : Author's Analysis Using e-View 9 Out-put

The Heteroskedasticity test above indicates the absence of Heteroskedasticity since the p-values of F-stat. and Obs*R-squared of 0.8735 and 0.6276 respectively are >5% significance level. The p-value further strengthens this outcome explained SS (1.000), suggesting the absence of Heteroskedasticity.

Test for Normality

Figure 1

Normality Chart



Source : Author's Aanalysis Using e-View 9 Out-put

This test is conducted to ensure that the data employed in this study are normally distributed. Observing from the normality diagram in figure 1 above, the Jaque Bera value of 1.2 and its p-value of 0.56, which is >5% significant level, confirm the normally distributed data.

The skewness value of approximately 0.4 is moderately skewed since its value falls between 0.5 and 1. The kurtosis value of approximately 3.35 supports that the variables are normally distributed since the kurtosis value revolves around 3.

TEST OF HYPOTHESES

Test of Hypothesis One

HO_1 : Liquidity Ratio has no impact on Total Assets of commercial banks in Nigeria.

Since the p-value for Liquidity Ratio LOG (LR) of 0.0236 (2.4%) is <5% level of significance, the null hypothesis that Liquidity Ratio has no impact on Total Assets of commercial banks in Nigeria is hereby rejected. (See Table 4).

Test of Hypothesis Two

HO_3 : Cash Reserve Ratio has no impact on Total Assets of commercial banks in Nigeria.

Since the p-value for Cash Reserve Ratio LOG (CRR) of 0.0073 (0.73%) is <5% level of significance, the null hypothesis that Cash Reserve Ratio has no impact on Total Assets of commercial banks in Nigeria is hereby rejected. (See Table 4).

Test of Hypothesis Three

HO_3 : There is no impact of Loan-to-Deposit Ratio on Total Assets of commercial banks in Nigeria.

Since the p-value for Loan-to-Deposit Ratio LOG (LDR) of 0.0007 (0.07%) is <5% level of significance, we reject the null hypothesis that there is no impact of Loan-to-Deposit Ratio on Total Assets of commercial banks in Nigeria. (See Table 4)

SUMMARY OF FINDINGS

The correlation analysis revealed that Total Asset recorded a 3% positive correlation with Liquidity Ratio, 14% negative correlation with Loan-to-Deposit Ratio, and about 32% positive correlation with Cash Reserve Ratio. Liquidity Ratio recorded a 10% negative correlation with Loan-to-Deposit Ratio and a 9% negative correlation with Cash Reserve Ratio. In comparison, Loan-to-Deposit Ratio recorded about a 43% negative correlation with Cash Reserve Ratio.

The Auto-Regressive Distributed Lag (ARDL) Model revealed that Liquidity Ratio and Cash Reserve Ratio had a negative impact on Total Assets. At the same time, the Loan-to-Deposit Ratio was observed to exert a positive impact on Total Assets.

The results also revealed that the Liquidity Ratio had a significant negative impact on commercial banks' total assets in Nigeria. In the same vein, Cash Reserve Ratio also had a negative and significant impact on Nigeria's commercial banks' total assets. With the Loan-to-Deposit Ratio, a positive and significant impact was reported on commercial banks' total assets in Nigeria. This finding concurs with that of Kurotamunobaraomi, Giami, and Obari (2017). However, this study was slightly in disagreement with the study conducted by Saleem and Rehman (2011).

It is important to note that profit alone should not be the only index for measuring the productivity or performance of a commercial bank. Other variables like Total assets, capital adequacy tests, Assets Quality Reviews, and Basel accord compliance tests can serve just as well. This assertion is in agreement with the study conducted by (Richard and Steve, 2018).

CONCLUSION

The broad objective of this study was to investigate the impact of liquidity ratio on the productivity of commercial banks in Nigeria. For this study, we adopted the Auto-Regressive Distributed Lag (ARDL) model to analyze data for the variables obtained from the Central Bank of Statistical Bulletin of 2019. Total assets of commercial banks in Nigeria served as the dependent variable and proxied commercial banks' productivity. Three variants for measuring liquidity were utilized for the independent variables: the liquidity ratio, the cash reserve ratio, and the loan-to-deposit ratio. The results elicited from this model suggested that liquidity, as measured in this study, significantly impacted the productivity of commercial banks in Nigeria within the scope of this study. Several diagnostic tests were also carried out and confirmed the reliability and validity of the results obtained.

RECOMMENDATIONS

This study recommends the following :

1. Given the inverse relationship between the liquidity ratio and Banks' total assets, we recommend that Nigerian commercial banks negotiate a reduced Liquidity Ratio with the Central Bank of Nigeria to improve and enhance their productivity while maintaining adequate liquidity to meet up its day to day demands for liquidity.
2. Our results show a positive relationship between the Loan-to-Deposit Ratio and the total assets of commercial banks. Commercial banks in Nigeria should extend the benefits of this positive relationship by boosting marketing efforts by providing healthy, efficient, and riskless credit facilities to investors.
3. Results from this study show an inverse relationship between the Cash Reserve Ratio and the total assets of commercial banks. One option is for Nigerian commercial banks to negotiate a reduced Cash Reserve Ratio with the Central Bank of Nigeria to improve lending capacity, enhance economic activity and productivity.

CONTRIBUTIONS TO KNOWLEDGE

This study contributes to knowledge by way of currency. This study is more recent and contributes to the literature on the subject matter debate.

This study has also contributed to knowledge by introducing a new and practical approach to measuring Commercial Banks' productivity in Nigeria by utilizing Total Assets of Commercial Banks' in Nigeria as a proxy for Commercial Banks' Productivity.

SUGGESTION FOR FURTHER RESEARCH

Many studies have been carried out on liquidity ratios and commercial bank profitability or performance in Nigeria. This study suggests that further studies should be undertaken to further focus on examining the impact of liquidity ratio as it affects non-bank sectors of the economy, such as the Manufacturing Sector and Agricultural Sector in Nigeria.

LIMITATIONS OF THE STUDY

It is uncommon in a research study to not have certain factors that may militate against its accuracy. The major limitation encountered in the process of this study was data inconsistencies, as different sources gave different figures but this was overcome by picking figures that are the same and some their averages were taken.

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