

LIQUIDITY AND PERFORMANCE: EVIDENCE FROM THE DEPOSIT MONEY BANKS IN NIGERIA

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Abstract

The decline in financial performance and inability of some deposit money banks in Nigeria to meet the minimum threshold in liquidity requirements stimulated the interest to examine the possible effect of liquidity on performance of these banks. Hence, the study examined the performance of the banks from financial and operational dimensions. Secondary data was used for this study and the data was sourced from the audited financial reports of the sixteen quoted DMBs in Nigeria as at December 2018. The analytical method employed to analyze the data was the System Generalized Method of Movement (GMM) estimator. The empirical results showed that among the proxies for liquidity (liquidity ratio, cash reserve ratio, loan to deposit ratio), only cash reserve ratio was significant and consistent on both dimensions of performance. The results equally showed that size has a significant positive relationship on financial performance and negative relationship on operational performance. Thus, based on these findings, the study concluded that cash reserve ratio and size are major drivers of banks' performance. Consequently, this study recommended that the regulatory authority (CBN) can employ cash reserve ratio as a tool for controlling the flow of currency in circulation since its effect is consistent on both dimensions of performance. In addition, banks need to expand their operation by reaching out to more customers since size has a significant relationship on profitability.

KEYWORDS: Liquidity, Performance, Cash reserve ratio, DMBs

INTRODUCTION

The role banks play in the overall development of nations cannot be overemphasized as they serve as one of the main channels through which funds can be mobilized from those willing to save the funds they are not willing to utilize at the moment and give the same funds (with interest) to those willing to accept such funds in form of loans and advances. Banks are unique institutions because of their special capacity to generate funds to finance economic activities in form of providing loans and advances to individuals and corporate organizations that are ready and willing to receive it and to use it as money base on the terms agreed to by both parties (Bossone, 2001). In the course of performing the function of financial intermediation, it must however be noted that banks in turn stimulate their own performance and healthiness. The continuous growth in the overall performance of the banking sector particularly in the developing economy like Nigeria is very important to the economic development as they help mobilize savings for investment. Thus, the banking sector is well regulated. Bank performance may be influenced by different internal and external features. One of the internal factors that may influence performance is capacity of banks to meet their liquidity objectives. The capacity of banks to finance growth in assets and

meet commitments when the need arises is very important for the survival of the banking institution (Abubakar & Sanni, 2012). Since there is a nexus between the liquidity and reliability of banks, adequate liquidity decreases the likelihood of banks becoming bankrupt, consequently limiting the likelihood of liquidations (Noraini, 2012).

Some of the goals of business entity are to maximize profits, achieve high level of liquidity with the aim of ensuring organizations safety. The need for steady and improved performance in the banking sector is very important as it promotes confidence in the sector. Decline in liquidity reduces confidence in the sector, panic withdrawal by depositors (bank runs) etc. This is one of the reasons why regulatory authorities like Central Bank of Nigeria (CBN) have adopted some measures in ensuring that banks post a better performance by stipulating that banks should maintain a Cash Reserve Ratio of 27.5%, Liquidity Ratio of 30% and Loan to Deposit Ratio of 65%.

Despite the various measures put in place by the Central Bank of Nigeria in ensuring that banks post a better performance, the incidence of performance decline is still noticeable in the Nigerian banking sector. The 2017 financial results for the first quarter of the five banks (Wema bank, Ecobank, First City Monument Bank, Union bank & Fidelity bank) released in March 2017 by the Nigeria Stock Exchange shows that the profit before tax declined by 69 per cent to N77.65bn from N131.19bn in 2014. Equally, the collective profit after tax of the five banks declined considerably from N107.279bn in 2014 to N59.73bn in 2015, signifying a decline of 79.59 per cent. In addition to decline in profitability, some of the banks also showed they had liquidity challenges within this period as CBN had to quickly intervene in order to protect the depositors and the economy at large. For example, in July 2016, the CBN reorganized the board and management of Skye bank (Now Polaris Bank) for what they term as decisive measures because of the continuous and persistent inability of the bank to meet least requirements in serious liquidity requirements and other regulatory threshold, which eventually resulted in the bank's perpetual appearance at the CBN lending space. In particular, the bank (Skye bank) had been unable to meet with the liquidity ratios set by the CBN for quite a while (CBN, 2016). Similarly, the data made available by the CBN in 2019 showed that Deposit Money Banks (DMBs) through the CBN Standing Lending Facility borrowed 7.43 trillion Naira between July and December 2019 as against 4.5 trillion Naira borrowed in 2018, an increase of 65 percent. The increase in borrowing by Deposit Money Bank showed an increase in liquidity problems faced by banks. Consequently, the need arises to investigate if the decline in performance can be attributed to the liquidity issues. Thus, the study examined the effect of liquidity on the performance of deposit money banks in Nigeria.

Although, various studies (Molyneux & Thornton 1992; Bourke 1989; Agbada & Osuji 2013; Naceur & Kandil 2009; Bordeleau & Graham 2010) had been conducted on the nexus between liquidity and performance, not much has been done especially with regards to both the financial and operational performance of banks in Nigeria. The financial sector with banks been the mainframe in terms of activities is very central for the survival of the economy as they help mobilize savings for investment. In addition, unlike most of the existing studies that concentrated mainly on the financial performance of the banks, this study went further by looking at both the financial and operational performance of the deposit money banks in Nigeria. More so, some existing studies (Agbada & Osuji 2013; Naceur & Kandil 2009; Bordeleau & Graham 2010) use proxies like size, investment ratio, quick ratio, capital ratio, net credit facilities/total assets, liquid assets ratio, etc. as measure of liquidity. This study employed three specific variables that the regulatory authority (CBN) adopts in measuring the liquidity position of deposit money

banks in Nigeria. The variables are liquidity ratio, cash reserve ratio, and loan-to-deposit ratio. It is important to note here that the CBN required all deposit money banks in Nigeria to preserve a minimum of 27.5% for cash reserve ratio (CRR), 30% for liquidity ratio (LR) and 65% for loan-to-deposit ratio (LDR). Based on the foregoing, the study examined the relationship between liquidity and the performance of deposit money banks in Nigeria.

In achieving this objective, the study covers the fifteen quoted banks in Nigeria as at December, 2018. These banks have a very large customer base and branches all over Nigeria. The time-frame considered for the study is thirteen years (2006-2018). The justification for this period was the need to examine how bank liquidity fared in relation to performance especially after the 2005 recapitalization. As at the time of carrying out this research, banks were yet to publish their 2019 audited financial reports. The result of this study would serve as a guide to the management of banks in assessing how liquidity stimulates the performance of their banks. Secondly, it is equally important that investors should recognize that liquidity affect profitability of any bank which will equally affect their return on investment and hence they must not ignore the liquidity element when making investment decisions.

LITERATURE REVIEW

The theory underpinning this study is Hirigoyen theory. The theory was propounded by Hirigoyen Gerard in 1985. In his argument, he probed if the tradeoff between liquidity and productivity is effective in the medium and long-run. The theory went further to state that low liquidity would hinder firms' ability to take advantage that might arise in the normal cause of business. The theory equally argued that when opportunities arise and firms that is illiquid wants to take advantage, they might not be able to react quickly like firms that are very liquid. The theory also added that if illiquid firms becomes desperate and want to source for quick funds to finance their businesses, the cost of such funds might be expensive thereby increasing the operational cost of the firm and subsequently reduced the profit that would accrue to the firm.

In addition, the theory asserts that firms with low liquidity but higher profitability would eventually increase the rate at which they approach finance houses for quick loans which will ultimately lead to a rise in the overall cost of capital since the discounted sources of funds would have been expended. Similarly, with increase in the debt profile of a firm, the credit risks of the firm increases making it difficult for the firm to have access to cheaper sources of funds. The lending institutions will be forced to increase the interest rate charged to such firms and the suppliers will be forced to charge the firm at premium in view of the credit risk associated with such firm.

With all these challenges, the firm would be faced with liquidity problems which will eventually reduce firms' profitability as well as the ability to take advantage of cheaper source of funds. With this analogy, firms that are illiquid might see a decline in profitability both in the short and medium run while firms that are very liquid will see a rise in its profitability. The theory therefore concluded that one of the major determinants of firm survival especially in a highly competitive market is liquidity and profitability. Hence, the incorporation of both (liquidity and profitability) would result in achieving the goal of flexibility. In line with this theory (Hirogeyen), this study hypothesizes that higher liquidity would lead to higher profitability.

Empirical Evidence

Most of the empirical evidence on liquidity and bank performance came up with different results. While some came up with positive findings, others came up with negative results. Other stream of studies came up with mixed findings. Thus the empirical review in this study is divided into three categories based on the outcomes of prior studies.

Using unbalanced pooled dataset from banks in Greece from 1990-2002, Kosmidou (2008) examined those factors that can stimulate bank performance. The results from the findings indicated that illiquid banks have lower return on assets (ROA). The findings is in line with prior evidence like Bourke (1989) whose study established that bank profitability is positively influenced by liquidity risks. Other studies (Berger 1995; Kosmidou, Tanna, & Pasiouras 2005; Bagheri 2007; Heibati, Nourani & Dadkhah, 2009; Bordeleau & Graham 2010; Alper & Anbar 2011; Havrylchyk & Emilia 2011; Adler, 2012; Lartey, Antwi, & Boadi, 2013; Moein, Nayebzadeh, & Pour, 2013) established that the proportion of liquid assets to clients and capital in the short-run is positively correlated to ROA and equally important both in the short and medium run. They asserted based on their results that banks that are very liquid have competitive advantage over those that are not because of their perceived advantage in the money market as well as their ability to further lower their cost of capital. Additionally, they reported a substantial favourable connection between liquidity and bank profits. Some studies in Nigeria (Adebayo, Adeyanju, & Olabode 2011; Olagunju, David & Samuel 2012; Agbada & Osuji 2013; Ejoh, Okpa, & Egbe 2014; Ibe 2013; Ajibike & Aremu 2015) equally reported that there is a favorable and substantial association between holding liquid assets and profitability. In addition, these studies resolved that by-directional link exists between liquidity and profitability where the profitability in banks is meaningfully influenced by liquidity and other way round.

Using a of sample 12 nations, Bourke (1989) empirically established that there exists a significant and constructive association between holding near-money assets and increase in bank profitability. Nevertheless, some studies (Miller & Noulas 1997; Barth, Nolle, Phumiwasana, & Yago 2003; Chirwa 2003; Goddard, Molyneux, & Wilson 2004) do not agree with earlier studies that established that there is a positive relationship between liquidity and bank profitability. Based on their findings, they established that there is a negative relationship between bank liquidity and profitability. They argued that holding liquid assets reduces bank opportunities to make profits in the long run.

In the empirical findings from the study of Molyneux and Thornton (1992), it was established that there is negative connection between bank profitability and liquidity. They ascribed this to the statutory obligation of banks to hold liquid assets as a responsibility to the statutory role levied on banks by the supervisory authorities as parts of the requirements for the banks to operate effectively. Though postulating that banks mainly held easily disposable assets so as to meet up with the threshold established by regulatory authorities, then, the study might have failed to look at other reasons why banks probably hold liquid assets. This is because banks equally keep easily disposable assets for reasons other than the regulatory requirements. One of the earliest study (Tobin, 1958) on the reasons why liquid assets are held opined that banks usually hold liquid assets for either transactional purposes or to take advantage of opportunities that may arise as a result of having liquid assets. Based on Tobin's argument, one can infer that the findings are a wider clarification of Keynes' liquidity preference theory. According to Keynes (1936), monies are required for transaction, speculative, and precautionary reasons. Thus, it can be inferred from Keynes liquidity preference theory that banks holds assets that are easily disposable beyond the regulatory requirements for reasons that are not limited to meeting the regulatory requirements.

There are other empirical evidence that find mixed results of both negative and positive relationship between liquidity and performance. Demirgüç-Kunt and Huizinga (1999), Haron (2004) Almazari (2014), and Marozva (2015) had inconclusive findings. Based on their empirical findings, they argued that a positive relationship exists between credits to total assets and the net interest margins. They equally established an inverse connection between the net interest margin and before tax profits. Shen, Chen, Kao, and Yeh (2010) opined that in an economy where the financial system is driven by the forces of demand and supply, the risks of holding liquid assets is positively related to net interest margin. This implies that banks holding a higher volume of illiquid assets receive higher interest income. Opposing to their prior results on the nexus with net interest margin, they found out that liquidity risk is inversely related to return on average assets and equally negatively related to return on average equity. The study (Shen, Chen, Kao & Yeh, 2010) also asserted that banks suffered from additional charge in the market if they hold higher volume of assets that cannot be easily converted to cash as they had to recourse to the financial market so as to raise the funds required to fill the gap created by not been able to meet up with their financial obligation. Naceur and Kandil (2009) in their study equally reported mixed findings. They established that liquidity influences bank performances in the short-run. They equally argued that banks holding on to liquid assets might not be able to generate enough profits in the long run as they will fail to take advantage of opportunities available in the capital markets as well as long term financing.

Research Gap

Various studies (Bourke, 1989; Molyneux & Thornton, 1992; Naceur & Kandil, 2009; Adebayo *et al.* 2011; Agbada & Osuji, 2013; Ibe, 2013) that have been conducted to identify how liquidity affects bank performance came up with different conclusions. Unlike most of the existing studies that concentrated mainly on financial performance, this study went further by looking at both the financial and operational performance as prior evidence (Staikouras, Mamatzakis & Koutsomanoli-Filippaki, 2007) has proven that operational performance also affects bank profitability. More so, the study employed three specific variables (LR, CRR & LDR) used by the regulatory authority (CBN) to proxy the liquid state of the banks as opposed to liquid asset ratio, investment ratio, board size, debt etc. commonly employed by prior studies.

METHODOLOGY

The population for this study consisted of the sixteen quoted DMBs in Nigeria as at December 31st 2018. These banks were selected because they have been in existence after the 2005 recapitalization though some of the bank names have changed from the name adopted after the 2005 recapitalization as a result of ownership changes. The entire population was covered in the study because of the availability of data for all the banks and the fact that the population was not large enough to justify the exclusion of some banks. The study covers a period of thirteen years (2006-2018). The justification for this period is because of the need to examine how their liquidity fared after the 2005 recapitalization exercise and as at the time of carrying out this research, the 2019 audited financial reports are not fully available. Secondary data was adopted for this study and the data were extracted from the financial reports of all the fifteen banks. The study employed the *ex-post facto* (after-the-fact) research design. *Ex-post factor* research design is a study after the happening had taken place and the data was already available. Unbalanced panel data was used for the analyses and the dependent variables (ROA and OPP) were lagged in the regressor in other to introduce dynamism into the model. The justification for the inclusion is because bank performance has a tendency to depend on its historical performance (Alzookan 2014; Ajibike & Aremu, 2015). System generalized method of movement (GMM) was employed as the estimating technique because it is designed for panels with few time series observations per individual and large sample in cross-section

dimensions. In addition, when applied to panel data models, it takes care of the problem of probable endogeneity of all explanatory variables, measurement errors and misplaced variables.

Model Specification

The model for the study was formulated in line with prior studies (Bourke, 1989; Demirgüç-Kunt & Huizinga, 1999; Haron, 2004; Kosmidou, 2008) on liquidity and bank performance and the theory (Hirigoyen) underpinning this study. Two models were formulated for the study. While the first model caters for the financial performance of banks, the latter took care of the operational performance.

Model for bank financial performance is expressed as:

$$ROA_{it} = \beta_0 + \beta_1 ROA_{it-1} + \beta_2 LR_{it} + \beta_3 CRR_{it} + \beta_4 LDR_{it} + \beta_5 LEVERAGE_{it} + \beta_6 SIZE_{it} + \Sigma_{it} \dots \dots (1)$$

Where:

ROA_{it-1} = Lagged Return on Asset

ROA_{it} = Return on Assets

LR_{it} = Liquidity Ratio

CRR_{it} = Cash Reserve Ratio

LDR_{it} = Loan to Deposit Ratio

$LEVERAGE_{it}$ = Debt Ratio

$Size_{it}$ = Size

Σ = error term

i = Bank i

t = time period

$\beta_0 \beta_1 \beta_2 \beta_3 \beta_4 \beta_5 \beta_6$ = regression coefficient or parameters

Model for bank operational performance is expressed as:

$$OPP_{it} = \beta_0 + \beta_1 OPP_{it-1} + \beta_2 LR_{it} + \beta_3 CRR_{it} + \beta_4 LDR_{it} + \beta_5 LEVERAGE_{it} + \beta_6 SIZE_{it} + \Sigma_{it} \dots \dots (2)$$

Where:

OPP_{it} = Operational performance and it is measured as Operating Expenses/Total Assets

OPP_{it-1} = lagged operational performance

LR_{it} = Liquidity Ratio

CRR_{it} = Cash Reserve Ratio

LDR_{it} = Loan to Deposit Ratio

$LEVERAGE_{it}$ = Debt Ratio

$Size_{it}$ = Size

Σ = error term

i = Bank i

t = time period

$\beta_0 \beta_1 \beta_2 \beta_3 \beta_4 \beta_5 \beta_6$ = regression coefficient or parameters

Description of Variables of the Study

S/N	Variable	Symbol	Measure/Proxy	Source
1	Return on Assets	ROA	PAT/Total Assets	Ajibike & Aremu (2015), Marovza (2015)
2	Operational performance	OPP	Operating expenses/Total Asset	Staikouras, Mamatzakis & Koutsomanoli-Filippaki (2017)
3	Past performance	ROA _{it-1}	Lag of ROA	Ajibike & Aremu (2015), Alzoogan (2014)
4	Liquidity ratio	LR	Total liquid asset/current liabilities * 100	CBN (2011), Omesa (2015), Ajibike & Aremu (2015)
5	Cash reserve ratio	CRR	Cash balance/demand deposit * 100	CBN (2016)
6	Loan-to-deposit-ratio	LDR	Total loans/total deposit*100	CBN (2016), Alzoogan (2014)
7	Leverage	Leverage	Debt/equity * 100	Omesa (2015), CBN (2016), Mannch & Naser (2015)
8	Size	Size	Logarithm of total asset	Ajibike & Aremu (2015)

Source: Author's computation (2019)

The *A priori* expectation is as follows: β_4 , and $\beta_5 < 0$ while β_1 , β_2 , β_3 , and $\beta_6 > 0$

RESULTS AND DISCUSSIONS

Summary Statistics

The descriptive and inferential statistics are presented in the tables below.

Table 4.1 presents the summary statistics of the variables used in this study.

Statistic	ROA (%)	OPP (%)	LR (%)	CRR (%)	DEBT (%)	LDR (%)	SIZE
Mean	5.802667	5.323333	41.556	17.02067	79.87733	58.33867	20.28516
Minimum	-30	0.5	6.3	5.5	49.7	14.2	18.487
Maximum	58.9	14.2	97.9	98.8	116.1	98.7	22.33952
Observation	160	160	160	160	160	160	160

Source: Authors' computation (2019)

From Table 4.1, it can be seen that the mean value of return on assets (ROA) for the 15 quoted deposit money banks (DMBs) is 5.80%, thus indicating that the quoted DMBs were relatively profitable over the period under review. Among the banks, the minimum and maximum value for ROA is -30% and 58.9% respectively and this is an indication that there is a variance of 28.9%, which is considerably large. Operational performance (OPP) has a mean value of 5.32% with a minimum value of 5% and maximum value of 14.2%. This implies that on the average, the quoted DMBs have been efficient and there is a relatively low variation in efficiency among the banks. The mean value of liquidity ratio (LIQ) is 41.56% and it is higher than the minimum liquidity ratio of 30% set by CBN. This implies that the quoted DMBs are relatively liquid. There is considerable gap between the minimum and maximum liquidity ratio. The minimum value of 6.3% is an indication of illiquidity while the maximum value of 97.9% indicates excessive liquidity. The mean value of debt-equity ratio (DEBT) is 79.88 % with a minimum and maximum value of 49.7% and 116.1% respectively. This indicates the quoted DMBs use more debt capital relative to equity capital to finance their operations. Cash reserve ratio (CRR) has a mean value of 17.02 with a minimum value of 5.5% and maximum value of 98.8%. Loan-deposit ratio (LDR) has a mean value of 58.34% and this indicates that quoted DMBs have been able to mobilize sufficient deposits to meet their lending function. It is also an indication that the quoted DMBs have been relatively stable. The logarithm of the quoted DMBs' total assets which measure bank size (SIZE) has a mean value of 20.39 with a minimum value of 18.49 and maximum value of 22.34%. There is a slight margin between the minimum and maximum value of SIZE which connotes that the quoted DMBs are comparatively similar in size.

Test for Multicollinearity

Multicollinearity is defined as a phenomenon in which a variable in a model can be linearly predicted from other variables with a high degree of accuracy, that is, they are highly correlated. The variance inflation factor (VIF) was used to determine the presence of multicollinearity among the independent variables. The rule of thumb for the VIF test states that the VIF must be less than 10 to confirm that the variable is not heavily collinear (Anuj, 2017).

Table 4.2. Result of multicollinearity Test

VARIABLES	VIF	1/VIF
LR	1.38	0.72
CRR	1.09	0.92
LDR	1.06	0.94
SIZE	1.48	0.68
DEBT	1.31	0.76
Mean VIF = 1.26		

Source: Authors' Computation (2019)

Table 4.2 shows that all the variables have a VIF value less than 10, thus indicating that the level of multicollinearity is within the acceptable standard. The mean of the VIF (1.26) is equally low indicating

that the variables are not heavily collinear. Gujarati (2009) established that the closer the value of I/VIF to zero, the higher the level of multicollinearity and vice versa. In table 4.2, The I/VIF results in the table are not closer to zero. This thus validates that the variables in the model are not heavily collinear.

System GMM Estimation Results

Table 4.3 presents the System Generalized Method of Moments (GMM) results from the estimation of the model.

Table 4.3: System GMM Estimation Results

	Model 1		Model 2	
	DV=ROA		DV=OPP	
	Coefficient	p-value	Coefficient	p-value
Constant	-38.35025	0.057***	15.47507	0.003*
DV	0.8947282	0.000*	0.459812	0.001*
LR	-0.0203236	0.488	0.0118714	0.118
CRR	-0.0520719	0.021**	-0.0548806	0.014**
LDR	0.033928	0.370	0.0046617	0.718
DEBT	-0.0186709	0.665	0.0260154	0.083***
SIZE	1.990462	0.057***	-0.7385861	0.004*
Model Diagnostics				
AR (1)	-1.83	0.067***	-2.21	0.027**
AR (2)	0.98	0.325	-1.05	0.294
Hansen J-statistic	2.87	0.579	5.37	0.135
Wald χ^2	404.17	0.000*	158.16	0.000*

Notes: DV denotes Dependent Variable and *, ** and *** indicate statistically significant at 1%, 5% and 10% significance level respectively.

Source: Author's computation, (2019).

Discussion of Findings

From Table 4.2, Model 1, among the proxies for liquidity (cash reserve ratio, liquidity ratio, loan to deposit ratio), cash reserve ratio (CRR) is significantly related to return on asset (ROA) as 1% increase in CRR will cause ROA to decrease by 0.0520719. This implies that if the CBN increases the CRR, the profit of the banks would drop as they would have less funds to give out as loan and advances which is where the bulk of their profitability comes from. The result is consistent with the findings of Molyneux and Thornton (1992), Barth *et al.* (2003), Miller & Noulas (1997) and Tobin (1958) but contradict Bourke (1989), Kosmidou (2008), Olagunju *et al.* (2012) and Ibe (2013). The result supports Hirigoyen, (1985) that low liquidity would hinder firms ability to take advantage that might arise in the normal cause of business.. Loan to deposit ratio (LDR) is positively related to ROA but not significant as 1% increase in LDR would cause an increase of 0.033928 in ROA. This implies that an increase in the loan to deposit ratio by the regulatory authority above the current requirement (65%) would not have a significant effect on banks profitability.

Liquidity ratio (LIQ) is also not significant on ROA as 1% increase in LIQ will cause ROA to decrease by 0.0203236. The implication is that if the CBN decides to increase the liquidity ratio above the present 30%, the bank's profitability would not be adversely affected. Among the proxies of liquidity employed, only cash reserve ratio supports the Hirigoyen argument while others negate it. Size has a significant positive relationship on ROA as 1% increase in size would cause an increase of 1.990462 in ROA which implies that banks would generate more profits through expansion. The result is consistent with the findings of Bourke (1989), Kosmidou (2008) and Olagunju *et al.* (2012) but contradict Molyneux and Thornton (1992), Barth *et al.* (2003), Miller and Noulas (1997) and Tobin (1958). From the result, debt is also not significant on bank profitability. By implication, if banks choose to finance their operation through debt rather than equity, it would not have a significant effect on their profitability. The Hansen J statistic is not statistically significant, thus indicating that the null hypothesis of overidentifying restrictions is not rejected. This implies that the instruments used for the estimation of the model are valid. The Wald χ^2 indicates that the model is statistically significant at 1% significance level, meaning that the model has a good fit.

Model 2 estimates show that cash reserve ratio is significantly related to operational performance (OPP). This implies that an increase of 1% in cash reserve ratio, would cause operational performance to decrease by 0.0548806 implying that an increase in cash reserve ratio by the regulatory authority (CBN) would cause a significant decrease in the operational performance of the banks. Liquidity ratio and loan to deposit ratio are not significant on operational performance. However, size has a significant relationship on operational performance as 1% increase in size causes 0.7385861 decrease in the operational performance. The implication of this is that as bank expands its operations, the operational expenses increases. The effect of debt is also not significant on the operational performance of the banks. The null hypothesis of first order autocorrelation is rejected at 5% significance level while the second order autocorrelation fails to be rejected. The Hansen J statistic is not statistically significant, thus indicating that the null hypothesis of over identifying restrictions is not rejected. This implies that the instruments used for the estimation of the model are valid. The Wald χ^2 indicates that the model is statistically significant at 1% significance level, meaning that the model also has a good fit. The effect of cash reserve ratio is consistent on both dimensions of performance. This is an indication of its importance among the proxies for liquidity.

CONCLUSION AND RECOMMENDATIONS

In line with results, the study concluded that cash reserve ratio is a significant proxy of liquidity due to its consistent impact on both dimensions of performance. The study infers further that banks' profitability will improve through expansion. Thus, cash reserve ratio, and size are major drivers of banks' performance.

In line with the findings, the study recommended that the regulatory authority (CBN) can use cash reserve ratio as a tool to control the flow of cash in circulation since its effect is consistent on both dimensions of performance. This study also recommended that proper liquidity management should be entrenched in banking activities. Finally, banks need to expand their operation by reaching out to more customers so as to maximize their profit.

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