



EFFECT OF LIQUIDITY RISK AND LIQUID ASSET ON THE PROFITABILITY OF LISTED DEPOSIT MONEY BANKS IN NIGERIA

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Abstract

Global financial meltdown in the past decade clearly exposed significant failures within the structures of the financial systems that support liquidity risk management in banks across the world. The research aims at establishing the effect of liquidity risk on the profitability of listed deposit money banks in Nigeria. Study was centered on a representative sample of 14 listed deposit money banks in Nigeria on five years period (2015 to 2019). Secondary data were obtained from the fourteen listed deposit money banks in Nigeria. The study has employed the use of OLS and GLS regression model to analyze the effect of liquidity risk on the profitability of the selected firms. The study result shows that liquidity risk (LQR) is significantly associated with profitability, but the extent of the relationship is a negative correlation. While liquid asset (LQA) of banks is not significantly related to their profitability and the extent of the influence of liquid assets on profitability of these banks is positive though not strong because the correlation between them is a weak one. The study therefore concluded that Liquidity risk (LQR) have negative significant impact on profitability while an insignificant positive relationship exists between liquid asset (LQA) and profitability. Based on these findings, it is recommended that banks' management should reduce LQR with at least 1.9% to increase their profitability. Hence, CBN must also emphasize on the need for banks to adhere to prudential guidelines and liquidity exposure to enhance profitability.

Key words: deposit money banks, liquidity risk, liquid asset, profitability

1. Introduction

Liquidity risk is the probability of a bank lacking cash when needed for operational activities and to settle the credit request of customers. It is the risk of being unable either to meet their obligations to depositors or to fund increases in assets as they fall due without incurring unacceptable costs or losses (Ironkwe, & Osaat, 2019; Dassie, 2018; Yousfi, 2014; Padganeh and Sitaram, 2013). If the cash crunch perseveres, the company may end in ultimate collapse (Okere, Isiaka & Ogunlowore, 2018). When a bank has inadequate liquidity, it cannot obtain sufficient funds, either by increasing liabilities or by converting assets promptly, at a reasonable cost, thereby affecting profitability. After the 2005 bank consolidation the issue of liquidity has drastically reduced among the Nigerian banks. According to Central Bank of Nigeria (CBN) first quarter review (2021) liquidity remained robust at 40.50 per cent, which is above the prudential minimum of 30.0 per cent whilst the Bank also has at its disposal sufficient Cash Reserve Requirement buffers to provide liquidity backstops to the industry as required. This excess liquidity within the banking sector might affect banks financial performance as this might constitutes an important financial problem in terms of idle cash for the banks.



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The Nigerian banking sector had a rough patch in the last few years especially between 2017 and 2019 as several Deposit Money Banks (DMBs) saw a compression of operating incomes and a flattening of shareholder equity (Proshare Research, 2019). Indeed, three DMBs (Unity Bank, Heritage Bank and Keystone Bank) saw shareholders fund turn negative or become more negative than they were before 2017 (Proshare Research, 2019). The negative equity positions may not have affected bank liquidity alone, but it has certainly eroded capital adequacy and Loan to Deposit Ratios (LDRs) and put the banks in a tough situation of looking for fresh investment capital in a bearish equity market. The introduction of treasury single account (TSA) policy in 2016 by CBN equally affected the liquidity position of most banks in Nigeria especially those banks that were heavily dependent on government fund as their source of deposit thereby limiting their ability to grant loans to their customers and this in turn affected the bank's profitability. Managers who fail to develop strategies to meet prevailing circumstances would be adversely affected by funding difficulties.

Profitability of deposit money banks is not only critical in ensuring survival of deposit money banks; it also helps to boost economic activities in various sectors of an economy, considering the intermediation role played by banks (Fitsum & Asmero, 2016). This study is motivated by the fact that listed deposit money banks in Nigeria are currently facing economic challenges of decline in profitability (CBN, 2019), increase in inflation, fluctuations in both foreign exchange and interest rate (Ironkwe & Osaat, 2019), decrease in deposit from government agencies because of the introduction of Treasury Single Account (TSA) in 2016. Consequently, these challenges can increase the level of liquidity risk associated with the banking business in Nigeria thereby affecting their profitability negatively.

A considerable number of studies have examined the relationship between liquidity risks and profitability both in the developed countries such as Europe, America and Asia such as Al-Husainy & Jadah, (2021); Golubeva et al. (2019); Dassie, (2018); Pakhchanyan, (2016); Mehmed (2014); Dezfouli et al. (2014); Al-Nimer et al. (2015) and some Nigerian studies such as Ndum, (2021); Godwin & Okeke, (2019); Emeka & Werigbelegha (2016); Bassey & Moses (2015); Soyemi et al, (2014) who tried to localize their studies because of the differences in economies and the level of sophistication of regulatory. Also, most studies previously on liquidity risk and profitability in Nigeria such as the work of Soyemi, et al, (2014); Sokefun (2014); Bassey & Moses (2015); Emeka & Werigbelegha (2016) and Idowu et al, (2017) among others stopped at 2016 financial year, without extending it to 2019 financial year in order to examine the effect of changes such as price rises and financial crisis that took place within the period; this also created a gap for further study. Therefore, the study suggests the question as to what extent liquidity risk impacts profitability of banks?

The main objective of the study is to examined the effect of liquidity risk and liquid asset on profitability of deposit money banks in Nigeria. In pursuant to the findings of the study, the following hypotheses were formulated in null form:

- Ho₁: Liquidity risk has no significant impact on profitability of listed Deposit Money Banks in Nigeria.
- Ho₂: Liquid asset has no significant impact on profitability of listed Deposit Money Banks in Nigeria. \



The study investigates the effect of liquidity risk and liquid asset on profitability of listed Nigerian deposit money banks. Therefore, the study covers all the deposit money banks listed on the floor of the Nigerian Exchange Group (NGX) as at 31st December, 2019. The study covers a period of five years (2015-2019). This period was selected because of the deposit mobilization crash of most commercial banks in Nigeria during the period and also, the recent hike in foreign exchange rate to the naira for all the major currencies in the world making it difficult for managers of firms in this subsector in Nigeria to manage their liquidity position during the selected period.

The finding of this study will be specifically important to CBN policy makers on risk management of banks, financial reporting council of Nigerian, corporate governance code on risk management to companies. The findings will also be useful in developing liquidity procedures and operating policies in respect of assets management for other financial companies or other companies. The remaining part of the study is divided into literature review, research method, result and discussions and lastly the study's conclusion and recommendation

2. Literature Review

This section focuses on discussion of the conceptual framework, review of empirical studies relevant to this study and theoretical framework.

Conceptual Review

Profitability (PRT)

Profitability is the measure of the generated profit on an ongoing basis (Kwadwo, 2020). Profitability is a measure of a firm's overall financial health over a given period of time (Ironkwe & Osaat, 2019). Amnim, Aipma, and Obiora, (2021) opined that profitability is usually represented by different financial ratios such as total asset growth, loan growth rate and earnings growth rate. While Obim, Takon, and Mgbado (2020) defined profitability as the performance of management and a narrative expression through subjective evaluation of management systems, organizational discipline, control system, quality of staff and many more. Therefore, profitability is defined as a business ability to generate earnings as compared to its expenses and other relevant costs incurred during a specific period of time (My Accounting Course Dictionary, 2021).

Liquidity Risk (LQR)

The concept of liquidity risk represents one of the big risks in banking industry. Liquidity risk is the possibility of loss or not generating the cash needed to meet short term maturity dates as at when needed (Al-Rdaydeh et al., 2017). Liquidity risk can also be said to be the potential loss arising from a firm inability either to meet its obligations or to invest fund increases in assets as they fall due without incurring unacceptable costs or losses (Rifqah & Hafinaz, 2019). The probability of a bank lacking cash when needed to fund operational activities and settle the credit request of customers is seen as liquidity risk (Okere et al., 2018). Al-Rdaydeh, Matar, & Alghzwai (2017) measured liquidity risk as total loans to total deposits.

Liquid Asset (LQA)

Liquid asset according to My Accounting Course Dictionary (2021) can be defined as assets that can easily be exchanged for cash. Similarly, Helfert (1997) also sees liquid asset as an asset that can be rapidly converted into cash without suffering a significant reduction in value. A perfectly liquid asset is one that would entail no illiquidity discount (Bodie & Kane, 2009). The liquid current assets are cash, marketable securities, accounts receivable and inventory. Some marketable securities mature very soon



and can be converted quickly into cash at prices close to their book values (Brigham & Ehrhardt, 2008). This study adopted the definition of Helfert (1997) and Bodie and Kane (2009) for liquid asset and measured it as Liquid asset to total asset (Dassie, 2018).

Review of Empirical Studies

Liquidity Risk and Profitability

Shukla and Muchem (2017) studied the nexus between management of Liquidity and financial performance of banks in Rwanda. Quantitative research approach was applied using secondary data. Fourteen commercial banks were randomly picked for the purpose of the study. Multiple regression technique was adopted to establish the linkage between management of liquidity and financial returns of banks in Rwanda. The study concluded that the more liquid assets we hold as compared to total assets would be followed by lower returns on banks in Rwanda and the outcome is significant at 5%. The result could be different if this same study was done in Nigeria considering the size of Nigeria banks and economic dynamics.

Idowu et al (2017) ascertain the link between management of liquidity and performance of banks in Nigeria. The study used secondary data which was collected from published reports and audited financial statements for five years for periods between 2007 and 2016. The research focused on four banks and Pearson's correlation coefficient model was adopted to analyze the association. The study found significant link between liquidity of banks and ROA and ROE. They therefore concluded that liquidity decrease can reduce ROA and ROE significantly. The data of the study did not go beyond 2016, as such, some economic events and transformation in the country of study might have addressed the findings. This study extends the study period to 2021.

Similarly, Emeka & Werigbelegha (2016) Examined liquidity management and banks' profitability in Nigeria: A scholarly analysis of secondary data from the bank annual reports for the period of 1989-2013. The study adopted ordinary least square (OLS) method. Their study concluded that bank deposit as a proxy for liquidity has affirmative significant effect on return on asset of banks in Nigeria. The study has a limitation of data not going beyond 2013; the regression method did not also consider using GLS in addition to the OLS that would have enhanced the result.

Bassey & Moses (2015) examined profitability of banks and liquidity management of selected Nigeria Deposit Money Banks for the period 2010-2012, the study sample 15 deposit money and adopt OLS using secondary data. The experimented findings showed a significant negative connection exist between current ratio, liquid ratio and ROA while cash ratio is negative but insignificant while on the other hand loans to deposits ratio and loans to asset ratio shows positive but insignificant relationship with ROA. They concluded that liquidity management has a significant impact on profitability. The result may change if the period of the study can be extended beyond three years and if they had considered using GLS in addition to the OLS to enhance the result.

In the same vein, Dassie (2018) examined the nexus between management of liquidity risk and financial returns of commercial bank in Sierra Leone. The study used 8 commercial banks as sample size for a five-year period (2013-2017). Secondary data were collected. Descriptive study design was adopted, and multiple regression analysis model was also adopted to analyse the association between the outcome and predictor parameters. Significant negative association between liquidity risk management and financial returns of the commercial banks in Sierra Leone was revealed. The study therefore recommended that stakeholders should ensure appropriate mechanism to manage liquidity risk in the banking sector are adopted to ensure resilience and improved returns for commercial banks



in Sierra Leone. The period of the study did not go beyond 2017; it may have made the result different if it was extended to 2021.

Soyemi and Ashogbon (2014) analyzed risk management practices and financial performance of DMBS in Nigeria for 2012 financial year. Study used content analysis to analyze the sampled banks' annual financial statement and accounts. A robust standard error OLS was used to estimate the impact of banks' risk management practices on their financial performance. The study found liquidity risk and cost to income risk are not significant in influencing financial performance with negative coefficient. They therefore concluded that liquidity risk does not have significant effect of financial performance. However, the study period of one year is too short for external validity.

Mwangi (2014) researched on the linkage among management of liquidity risk and financial returns of banks in Kenya for period covering 2010- 2013. For the purpose of the study, forty-three listed commercial banks were targeted. Descriptive study design was used to analyze the link between the variables. The study concludes that liquidity risks management is negatively associated with financial returns of banks. The study recommendation might not be totally applicable to Nigerian banks as such a similar study conducted in Nigeria might give a different result.

Liquid Assets and Profitability

Doan and Bui (2021) investigated the impact of liquidity on bank profitability in Vietnam. Bank profitability is measured by profitability (PRT) while liquid assets to total assets (LATA) and total loans to total deposits (TLTD) are indicators of bank liquidity. A panel data of 26 Vietnamese commercial banks were obtained over the period 2013-2018. The GMM estimation was adopted to test the significant effect of liquidity on profitability of Vietnamese commercial banks. The study concluded that profitability (ROA) was negatively influenced by liquid asset ratio (LATA) but positively correlated to loan-to-deposit ratio (TLTD). Probably, the result would have also been different if carried out in a different country like Nigeria.

Al-Nimer et al. (2015) sought to find out whether liquidity through quick ratio has significant impact on Jordanian banks profitability through return on asset (ROA). The study used the 2005-2011 financial reports of 15 Jordanian banks listed at Amman Stock Exchange (ASE). The study revealed that there is significant impact of independent variable quick ratio on dependent variable return on asset (ROA). The study concluded that profitability (ROA) in Jordanian banks is significantly influenced by liquidity through quick ratio. Extending the period of study beyond 2015, might change the result due to changes in economic happenings of the country of study. The current study will present findings from the Nigerian perspective.

Similarly, Shahchera (2012) studied the influence of liquid asset holdings on Iranian banks profitability by using the Generalized Method of Moment (GMM), the study analyzed the profitability of listed banks using unbalanced panel data for the period 2002-2009 and used the liquidity asset and liquidity asset-square for estimating liquid asset and profitability relationship. The study found evidence of a non linear relationship between profitability and liquid asset holdings. The study concluded that liquid assets significantly influence bank profits.

Adebayo et al. (2011) studied effective liquidity management impacts on profitability in commercial banks they used quantitative methods of research. Many findings were reaching through the analysis of both the structured and unstructured questionnaire on the management of banks and the financial reports of the tested banks. The data obtained from the Primary and Secondary sources were analyzed through collection, sorting and grouping of the data in tables of percentages and frequency



distribution. The hypothesis was statistically tested through Pearson correlation data analysis. Findings indicated that there is significant relationship between liquidity and profitability. The study concluded that for the prosperity of operations and survival of commercial banks should not expose efficient and effective liquidity management.

Theoretical Review

The theory that underpins this study is the Anticipated Income Theory which was developed in 1945 by H. V Prochnow and Agency Theory that was first introduced by Balls and Means in 1932 and improved upon by Barry Mitnick in 1975. The anticipated income theory addresses three fundamental objectives of banks which are liquidity, safety and profitability. The theory meets these objectives because loans are granted not only on the grounds of providing collateral but also on the basis of examining the ability of the borrowers to fulfill their financial commitments at the end of the agreed period of time. When high income is anticipated by taking high liquidity risk, the financial performance of bank can be affected negatively. The limitation of the theory is that it will fail if it is not able to meet up emergency cash needs for the lending bank since repayment of loans are done on installment basis (Idowu et al, 2017). While from the agency theory perspective shows that liquidity risk management is a managerial activity that managers and shareholders of firms are expected to efficiently use to monitor and manage profitability and maximize the owners' value without the usual principal- agent conflict of interest. These theories provide a framework and a logical linkage between the liquidity risk management and financial performance.

3. Methodology

This research is aligned with the post positivism paradigm because it relied on quantitative data and existing theories to establish its findings. This research adopted ex-post facto design in order to investigate impact of liquidity risk management on the profitability of deposit money banks. The design is chosen because of its effective in the cause-and-effect research. A five-year period was covered for the study from 2015-2019. The reasons for the selection of this period are to use the most recent data and to bring into consideration the dwindling effect of liquidity in the banking sector under the period of the study. The population for the study comprises of all fourteen (14) listed deposit money as at 31st December, 2019. The study used the entire population as its sample size (see appendix A). The study used secondary data which is extracted from the financial statement of the fourteen banks within the period of the study. Generalized least square multiple regression is adopted for the panel data analysis in an effort to establish relationship among variables of this study.

Variable Measurement and Specification of Model

This study considered the use of bank size, bank deposit as control variables since they are variables that affects the level of all the firms' operational capacity that is captured in this study. The inclusion of control variables are to help to strengthen explanatory capacity researcher's model suggested (Herath & Albatqi, 2017).

The model that examines the hypotheses of the study and is specified as follows:

$$PRT_{it} = \beta_0 + \beta_1 LQR_{it} + \beta_2 LQA_{it} + \beta_3 BKD_{it} + \beta_4 BKS_{it} + \mu_{it}$$

Where: PRT: Profitability; LQR: Liquidity Risk; LQA: Liquid asset; BKD: Bank Deposit; BKS: Bank Size; β_0 = Constant parameter/Intercept; $\beta_1 - \beta_4$ = Coefficients of independent variables

i: = cross sectional data; t = time series data; μ = Error term



Table 1

Variables Measurement

S/N	Variables	Variables Acronyms	Type of Variable	Measurement	Sources
1	Profitability	PRT	Dependent	Total Profit (after tax)/Total Asset	Kolapo, et al, (2012)
2	Liquidity Risk	LQR	Independent	Total Loan /Total deposit	Sanya et al (2012)
3	Liquid asset	LQA	Independent	Liquid Asset/Total Asset	Dassie (2018)
4	Bank Deposit	BKD	Control	Deposit less loan / Total deposit ratio	Arif and Anees(2012)
5	Bank Size	BKS	Control	Total assets of company Natural Log	Al-Sraheen (2014)

Source: Researcher's compilation, 2020

4. Results and Discussion

Descriptive Statistics

Table 2

Descriptive Statistics of the variables

Variable	Obs	Mean	Std. Dev	Min	Max	Skewness	Kurtosis
PRT	70	0.0199	0.0109	-0.0104	0.0506	0.418	3.953
LQR	70	0.4335	0.2182	0.1023	0.8891	0.153	1.873
LQA	70	0.1572	0.0248	0.1186	0.2106	0.317	2.720
BKD	70	0.8247	0.0839	0.3097	0.9282	-3.618	21.71
BKS	70	19.998	1.4103	16.373	22.323	-0.591	2.707

Source: Summary Statistics from Stata (2020) output

The descriptive statistics analysis of the variables of the study shows the nature and extent of dispersion of the data, which suggests that some of the data did not conform to the normal distribution curve. But the study relies on the arguments put forward by Guas (1929) and Shoa (2003) that the abnormality of data should not affect the inferential statistic of regression. Table 2 shows that the measure of profitability (PRT) of listed deposit money banks in Nigeria (DMBs) has a mean value of 0.0199 with standard deviation of 0.0109, and minimum and maximum values of -0.0104 and 0.0506 respectively. This implies that the average return on asset of listed DMBs in Nigeria is within N19M and it ranges from a loss of N10M to a profit of N50M, and the deviation from both sides of the mean is 0.0109. This suggests that the dispersion of the data from the mean is mild because the standard deviation is slightly lower than the mean value of 0.0199. The peak of the data is indicated by the kurtosis value of 3.953 (i.e., that the data are above the ± 3 benchmark of a normal distribution assumption), suggesting that most of the values are higher than mean, hence, the data did not meet the Gaussian distribution assumption. The coefficient of Skewness of 0.418 implies that, the data is positively skewed (that is, most of the data are on the right side of the normal curve); thus, the data does not meet the symmetrical distribution assumption because the distribution of the data set has a skewness within the zero region.



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Table 2 also indicates an average liquidity risk (LQR) of 0.4335 with standard deviation of 0.2182, and minimum and maximum values of 0.1023 and 0.8891 respectively. This implies that on the average, liquidity risk (LQR) of listed DMBs in Nigeria is valued at N43Billion and ranges between N10Billion to N88billion. The 0.2182 standard deviation suggests a huge risk value in the industry. The coefficient of Skewness of 0.153 implies that the data is positively skewed (that is, most of the data are on the right side of the normal curve). Also, the data met the symmetrical distribution assumption because it peak did fall within the zero (0) region of the curve. The kurtosis value of 1.873 is an indication that majority of the data are lower than the mean, as such met the normal distribution criterion (i.e., that the data are far above the ± 3 benchmark of a normal distribution assumption).

Furthermore, the table shows that on the average liquid asset level of the bank is at N15Billion and ranges between N11Billion to N21Billion. The standard deviation value of 0.0248 signifies that there is a low liquid asset level among banks in the industry. The skewness value of 0.317 implies that, the data is positively skewed (that is, most of the data are on the right side of the normal curve). Also, the data met the symmetrical distribution assumption because it falls within the zero (0) region of the curve. The kurtosis value of 2.720 is an indication that majority of the data are around the benchmark, as such meet the normal distribution criterion (i.e., ± 3 benchmark of a normal distribution assumption).

Correlation Matrix

Table 3

Correlation Matrix

Variable	PRT	LQR	LQA	BKD	BKS
PRT	1.0000				
LQR	-0.2408 (0.0446)	1.0000			
LQA	0.0160 (0.8955)	-0.0095 (0.9377)	1.000		
BKD	-0.0324 (0.7900)	-0.2805 (0.0187)	0.1475 (0.2230)	1.000	
BKS	0.4656 (0.0000)	0.2029 (0.0921)	-0.0108 (0.9295)	0.0487 (0.6890)	1.000

P-Values in parentheses

Source: STATA Output (2020)

Table 3 shows that liquidity risk (LQR) of the banks has a negative correlation with profitability (PRT) because the coefficient value is -0.02408 and p-value of 0.0446 which is at 5% level of significance, implies it is significantly associated with PRT. While liquid asset (LQA) of banks is positively correlated with profitability with a coefficient of 0.0160 and p-value of 0.8955 that is not significant implies it has an association with PRT that is no significance. More so, the association between independent variables themselves suggest being mild as all coefficients are below the threshold of 0.80 as suggested by Gujarati (2003). This implies that the variables are well selected, and they can fit in the same regression model because there is the absence of exact correlations among pairs of independent variables, which is a requirement for regression analysis.



Presentation and Discussion of Regression Results

Table 4

Robustness Test Results

Variable	VIF	TV
LQR	1.15	0.872999
BKD	1.13	0.888414
BKS	1.06	0.946077
LQA	1.02	0.976461
Mean VIF	1.09	
Hettest Chi2		0.09
Prob>Chi2		0.7691
Hausman Chi2		1.00
Prob>Chi2		0.9098
R-Squared		0.3596
Wald Chi2		16.87
Prob>Chi2		0.0020
LMTRE		2.95
Prob>Chi2		0.0429

Source: STATA Output (2020)

The result from Table 4 indicates that Wald Chi2 value of 16.87 with probability value of 0.0020 is significant at 1% confirms that the study model is fitted with all the selected variables of this study. Also, coefficient of determination of R² which is at 35.96% indicates the percentage of total variations of endogenous variable that is explained by exogenous variables (LQR, LQA, BKD and BKS). The statistical implication is that 36% of the total variability in return on asset of the whole listed Nigerian deposit money bank is caused by the collective effort of all the selected proxies of liquidity risk management, while the remaining 64% is caused by factors outside the model of this study.

In addition, Multicollinearity and heteroskedasticity tests were conducted for the study in order to see their existence or otherwise. The multicollinearity test shows a variance inflation factor and tolerance values of less than 10 and 1 respectively, this signifies the absence of multicollinearity problems in the study. The heteroskedasticity test shows a Chi2 value of 0.09 and a probability value of 0.7691 which is not significant at any level. Hence, confirming the absence of heteroskedasticity in the data used for the study. Even though data showed the absence of heteroskedasticity associated with the data of the study, fixed and random effect models were still tested for further reconfirm the suitability of using OLS for interpretation. However, hausman specification test was employed for the selection of the model among the two to be adopted for the study.

The hausman specification test reveals a Chi2 value of 1.00 with probability value of 0.9098 but insignificant statistically at all levels of significant; thus, random effect model was selected for interpreting the study's result. Following the selection of random effect model langrangian multiplier test was carry out to assist in selecting between random effect model and OLS, and the outcome reveals a Chi2 value of 2.95 with probability value of 0.0429 that is 5% level significant, this suggest that generalized least square random effect regression model is adopted for the study. However, in order to have a more robust result, the data was further subjected to more cleansing by running a random effect robust test (heteroskedasticity error corrected model). Therefore, the hypotheses testing of the study are presented in the following section.



Presentation and Discussion of Regression results

The regression result of the model of the study is presented and the major findings discussed.

Table 5

The Random Effect Model Robust Result

VARIABLES	COEFFICIENT	T-VALUES	P-VALUES
Constant	-0.0278355	-1.17	0.242
LQR	-0.0189027	-3.20	0.001
LQA	0.0104146	0.35	0.728
BKD	-0.0273492	-3.53	0.000
BKS	0.0038429	3.03	0.002

Source: STATA Output (2020)

The result in table 5 revealed that the coefficient of liquidity risk (LQR) and the return on assets denotes a significant inverse association. The coefficient was -0.018 and the p value was .001, at a 1% level of significance and a 99% confidence interval. The coefficient result indicates that for any 1% increase in liquidity risk of banks, profitability is reduced by N18M. This implies that, the higher the loans to deposit the lesser the profitability of the listed deposit money banks in Nigeria. Thus, the study rejects the null hypothesis 1 (H_{01}). This finding is consistent with the studies of Soyemi et al (2014), Alshatti (2015), Iqbal et al (2015) and Bassey & Moses (2015) who found negative relationship. However, it is not in support the findings of Lartey, Antwi & Boadi (2013), Mehmed (2014), Dezfouli, Hasanzadeh & Shahchera (2014) and Emeka & Werigbelegha (2016) found a positive relationship. The result also suggests that liquid asset (LQA) had a positive relationship with PRT though not significant at any level of significance as shown by the coefficient value of 0.0104 and $p = 0.728$. This implies a direct but not statistically significant relationship, that is an increase in liquid assets during the period of study might increase financial return of the listed deposit money banks in Nigeria by N10M. Thus, the study fails to reject the null hypothesis 2 (H_{02}). This result did not support the study of Mwangi (2016) who found a positive and statistically significant relationship.

Implication of research findings to policy

The findings of this research have some impact on CBN policy on liquidity risk management of banks. Since the first findings showed that liquidity risk impacted profitability and the second finding showed that liquid asset has no impact on profitability. Then regulatory authority should put in place:

- Appropriate policy with compliance measures to check high volume cash transaction and cash hoarding that is prevalent in the banks. This is important because liquidity risk management is cumbersome and may negatively affect the profitability of banks in Nigeria especially as Nigeria is an economy that operate solely on large volume of cash transaction or conducts a large proportion of its transactions in cash.
- The Central Bank of Nigeria must critically review and monitor the effectiveness of liquidity policy tools in banks and where necessary, appropriate sanctions placed on erring banks. This may be so to ensure effective implementation of these policy tools to achieve desired liquidity level.



5. Conclusion and Recommendations

The research investigated impact of liquidity risk on profitability of listed deposit money banks in Nigeria. The study concludes that liquidity risk (LQR) has an impact on the profitability of deposit money bank but the extend of such impact is not significant. However, liquid asset (LQA) of banks has no impact on their profitability but an association of weak and not significant existence. Following the conclusion from the findings of the study, the study makes these recommendations:

- i. Loan to total deposit ratio of listed DMBs in Nigeria should be reduced by at least 1.9%, if the management of the sampled banks want to improve on their bank's profitability because of the negative impact this ratio has on profitability.
- ii. The study also recommends that management of Deposit Money Banks should strive towards expanding their customers' base in order to increase the liquid asset frequency through provision of enhanced financial services.

Areas for Further Study

The study is limited to bank specific factors, thus further work is required to introduce macroeconomic factors as new variables in order to examine combine effect of both bank specific factor and macroeconomic factor on financial profitability.

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