

LIQUIDITY RISK MANAGEMENT AND FINANCIAL PERFORMANCE OF LISTED DEPOSIT MONEY BANKS IN NIGERIA

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ABSTRACT

Liquidity risk is one of the significant risks faced by deposit money banks in Nigeria. This risks result in to liquidity crises which ultimately leads to poor financial performance. Therefore, in order to have stable and better financial performance, deposit money banks should try to manage their liquidity by ensuring an effective liquidity risk management policies and strategies. This study examined the effect of liquidity risk management on financial performance of listed deposit money banks in Nigeria. The population of the study will be the entire 13 banks listed on the floor of Nigerian Exchange Group as at 31st July, 2025. Census sampling techniques were adopted to arrive at a sample size of 11 banks. Data for a period of 12 years (2013-2024) were collected using the secondary method of data collection from the annual reports and accounts of selected banks. Return on assets was used to proxy financial performance while Deposit to total assets, liquid asset to total asset, prime asset to total asset and market liabilities to total assets proxied liquidity risk management. Data for the study were analyse after conducting diagnostic and post estimation test using STATA 13 statistical software. The findings of the study revealed that deposit to total assets have negative insignificance effect on return on assets, liquid assets to total assets has positive significance effect on return on assets, prime assets to total assets have positive significance effect on return on assets and market liabilities to total assets has positive insignificance effect on return on assets. The study concluded liquidity risk management to have positive significance effect on financial performance of listed deposit money banks in Nigeria. Based its conclusion, the study recommended that banks should consider maintaining an adequate level of liquid assets relative to total assets. However, it's essential to strike a balance because excessively high liquidity might lead to underutilized resources. Banks should focus on optimizing their prime assets relative to total assets. Therefore, banks should continue investing in or expanding their prime asset portfolio while considering the associated risk.

Keywords: Liquidity, Risk Management, Liquidity Risk, Return on Assets, Deposit to Total Assets.

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INTRODUCTION

Banks are established with main objective of maximizing shareholders return and to serve as financial intermediary for channelling funds from the surplus to deficit sectors of the economy. The nature of their operations in the process of achieving their objectives of profit maximization expose them to so many risks which if not properly managed can result in to poor performance and ultimately preventing them from achieving their primary objective. One of these risks is the risk of managing and maintaining a stable liquidity position.

Managing liquidity is one of the top priorities of a financial institution's assets and liabilities management. In the context of banking, liquidity, or the ability to fund increases in assets and meet obligations as they come due, is critical to the on-going viability of the banking institution. Since there is a close association between liquidity and solvency of banks, sound liquidity management reduces the probability of banks becoming insolvent, thus reducing the possibilities of bankruptcies. Ultimately, prudent liquidity management as part of the overall risk management of the banking institutions ensures a healthy and stable banking sector.

Liquidity refers to the amount of capital that is available for investment (Obim et al., 2020). According to Hindibu (2025), liquidity simply refers to the ability of banks to meet the financial needs of their increased assets and meeting liabilities as and when due without incurring avoidable losses. Banks' liquidity is simply the ability of the bank to maintain sufficient funds to pay for its maturing obligations. It is the bank's ability to immediately meet cash, cheques, other withdrawals obligations and legitimate new loan demand while abiding by existing reserve requirements (Onyekwelu, 2018). Liquidity risk commonly refers to a low financial ability of a company to meet its commitments as they remain outstanding or become due, without having an adverse effect on their operations. Liquidity risk is the possibility that over a specific time period, the bank will become unable to settle its obligations with immediacy (Cavallino et al., 2025). Managing liquidity enables a company to meet its obligations and increase the viability position through a reduction in the probability of adverse financial misfortune (Effiong & Enya (2020).

The main operation of a bank is to smooth the flow of cash between its lenders and depositors. As per the classical point-of-view, banking sector deals in the flow of cash to and from people in the form of custodian or lenders. Therefore, liquidity is the first thing that banks take into account at the time of their establishment (Hakimi & Zaghdoudi, 2017). Liquidity risk can be seen as the risk of deposit money banks not meeting the short term needs of their customers. Liquidity risk can be described as a state when a bank is not able to meet all the depository needs of its customers partially or completely for a period of time (Okeke, 2024). Such a state of affairs for a bank is a red alarm as it may signal the market quite negatively which would in turn affect the share price, and eventually its profitability. There can be many reasons for liquidity risk in a banking company.

Liquidity risk can be caused if short-term liabilities are funded from long-term assets, which may result in a refinance of that short-term liability. Banks have advanced risk management systems in place which enables the banks to pay off their liabilities when they become due, thus reducing the chances of cash blockage and eventually liquidity crunch (Rafique et al., 2025). Apart from the foregoing maturity mismatch, liquidity risk arises due to recessionary economic conditions, causing less resource generation. This increases the demand of depositors creating liquidity risk. This may cause the failure of a given bank or even the entire banking system due to the Contagion effect it might cause. Liquidity risk may also arise due to

the break down or delays in cash flows from the borrowers. Equally, a study of liquidity provides both internal and external forecast and privilege to understand the close relationship existing in the daily operations of a business". It comprises of capital measurement of inflow and outflow of cash through the acquisition of a firm's product, periodic payments on purchases made and collection processes, with which asset can be transformed into cash without affecting other major liquid assets.

Financial performance on the other hand refers to how well the entity manages its assets to achieve shareholders objectives of profit and wealth maximization. It is the yard stick used in measuring managerial efficiency. Kalogiannidis et al. (2025) defined performance as a particular result obtained in management, economics, marketing etc. that express elements of competitiveness, efficiency and effectiveness of the organization and its procedural and structural components. In broader sense, financial performance means the degree to which financial goals are been attained. It is the practice of measuring the results of a firm's policies and operations in monetary terms. It is used to measure firm's overall financial health over a given period of time and can also be used to make comparisons of similar firms across the same industry or to compare industries or units in general.

The challenges of inefficient liquidity management of banks in Nigeria were brought to the fore during the liquidation and distress era of the late 1980s and early 1990s. The negative cumulative effects of the banking system liquidity crisis from the 1980s and 1990s lingered up to the re-capitalization era in 2005 in which banks were mandated to increase their capital base from N2 billion to an astronomical N25 billion (Ndum, 2021). The significance of liquidity risk management as it affects the financial health of financial institutions such as banks in their business operations is enormous (Babarinde et al., 2020). The provision of maintaining adequate liquidity always to meets customer's obligation is an essential feature of banking. Therefore, banks must ensure that adequate provision of cash and other near cash securities is made available to meet daily withdrawals obligations and new loan demands by customers in need of liquidity (Wuave et al., 2020). Illiquidity of banks constitutes a risk, which is caused by cash flows mismatch or unexpected liquidity needs arising from contingency conditions (Babarinde et al., 2020). Liquidity danger is the present and potential danger to profits or resources resulting from a bank's failure to satisfy its liability without undue losses (Alqemzi et al., 2022).

In spite of the significance of proper liquidity risk management in bank performance, so many banks were still battling with managing their liquidity positions which engender their financial performance in both short and long run. Although there is an extensive study on the impact of liquidity position and liquidity risk on performance of banking sector in many countries, the results have been mixed for different regions (Chowdhury & Zaman, 2018). On the other hand, there is paucity of studies on the concept of liquidity risk management on bank performance in developing countries like Nigeria. As a result, this study examines the effect of liquidity risk management on financial performance of listed deposit money banks in Nigeria.

Objectives of the Study

Based on these, the study is therefore set to achieve the following specific objectives.

- To examine the effect of deposit to total asset on financial performance of listed deposit money banks in Nigeria.

- To assess the effect of liquid assets to total assets on financial performance of listed deposit money banks in Nigeria.
- To examine the effect of prime assets to total asset on financial performance of listed deposit money banks in Nigeria.
- To examine the effect of market liabilities to total asset on financial performance of listed deposit money banks in Nigeria.

Hypotheses

To achieved the objectives of the study, the researchers formulate and tests the following hypotheses

- Deposit to total asset has no significance effect on financial performance of listed deposit money banks in Nigeria.
- Liquid asset to total assets has no significance effect on financial performance of listed deposit money banks in Nigeria.
- Prime asset to total asset has no significance impact on financial performance of listed deposit money banks in Nigeria.
- Market liabilities to total asset has no significance effect on financial performance of listed deposit money banks in Nigeria

CONCEPTUAL REVIEW

One of the topmost priorities of every organization be it financial or non-financial, is the adequacy in managing its assets and liabilities. Where resources are judiciously managed, investors' confidence in the security of their investments is enhanced and goes further to shape the decision status of prospective ones (Effiong & Enya, 2020). Liquidity is the ability of a bank to fund increases in assets and meet obligations as they come due, without incurring unacceptable losses while effective liquidity risk management helps ensure a bank's ability to meet cash flow obligations, which are uncertain as they are affected by external events and another agents' behaviour (Wuave et al., 2020). The concept of liquidity is also intrinsically linked to both sides of a bank's balance sheet. It relates to the mix of assets a bank holds and the various sources of funding for the bank, in particular, the liabilities which must in due course be repaid. Liquidity risk is a risk of loss to a bank arising from the bank not having adequate funds to meet deposit withdrawals and Loan demands (Workneh, 2015).

Liquidity management refers to a bank's programs or strategies to be able to meet deposit and loan demands. Examples of such strategies include holding of short-term financial assets (Treasury bill and certificates) which are highly marketable, maintaining avenues for short-term accommodation from the Central Bank or other banks and by bidding for a greater volume of deposits (Ndum, 2021). According to Babarinde et al. (2020), liquidity management is the process, techniques as well as strategies of planning, organising, directing and controlling the resources of an organisation in such a manner that it has adequate liquid assets in stock as well the effective, speedy, and economic transformation of the said assets into cash immediately when the need arises. The proper planning, containment, curtailment and control of risk arising from illiquidity of a firm is called liquidity risk management. Liquidity management is a very important factor that determines the performance of a bank. Adequate liquidity, i.e., the ability of

a bank to fulfill the obligations of its depositors, is positively proportional to the bank's profitability (Qureshi et al., 2024). So, banks need to maintain appropriate levels of liquidity in order to be profitable. Liquidity can be measured through a number of ratios, among which total deposit to total assets and total advances to total assets are the most common ratios (Shrestha, 2024).

The importance of financial stability ranges from enabling an organization to have sufficient fund for quality service delivery, maximizing the potential of service delivery, ability to meet short term obligation as and when due and maintenance of good credit risk. This makes financial performance an important area of concern that has attracted the attention of researchers, organizational managers, government and the public at large (Al-Hashimy et al., 2022). In banking, financial performance is a set of measures used to assess the healthiness of banks including some form of risk assessment (Quarshie, 2020), and it is used as a key internal performance measure for every bank entity (Saeidi et al., 2015).

Profitability is the degree to which a business will produce income for investors. In determining a company's financial position and efficiency, profitability is understood as a predictor. A high degree of profitability indicates that the business works efficiently to ensure that it delivers high profits for customers, such that customers who will raise stock values have a pleasant feeling (Alqemzi, 2022). There have been several fundamental measures on banks' performance over the years. Many banks in attempt to evaluate financial performance employ several indicators such as: return on assets (ROA), return on equity (ROE), net interest margin (NIM) (Ndum, 2021).

As Workneh (2015) pointed out, the ROA has emerged as key ratio for the evaluation of bank profitability and has become the most common measure of bank profitability. Most authors and researchers also used ROA as a measure of bank profitability (performance). The ROA reflects the ability of a bank's management to generate profits from the bank's assets. It shows the profits earned per naira of assets and indicates how effectively the bank's assets are managed to generate revenues, although it might be biased due to off-balance-sheet activities. Basically, the higher ROA means better performance and vice-versa (Ndum, 2021)

Empirical Review

Abdullah et al. (2025) investigated the effect of liquidity risk management on the profitability of commercial banks in Iraq during the time period (2020-2021) using a descriptive survey design. The population consist of Iraqi commercial banks, where (4) Iraqi commercial banks were selected as the sample size. Using multiple regression analysis technique, the study revealed that an increase in the liquidity ratio of leads to an increase in profitability. Furthermore, the findings illustrate that liquidity risk has a positive significant association with bank profitability. The researchers recommend, that there is a need for optimum utilization of the available liquidity in various aspects of investment in order to increase the banks' profitability. However, the study was limited to only 4 commercial banks in Iraqi, future study could expand this study sample.

Ogundele and Nzama (2025) examined the effect of risk-management practices and disclosures on the financial performance of Nigerian commercial banks using a longitudinal and ex post facto research designs. The population of the study comprised 13 Nigerian commercial banks, of which 12 were purposively chosen, subject to data availability. The data analysis technique used was panel regression analysis, which was further extended to the generalized method of moments in a bid to account for potential endogeneity. Using EViews 12 software the

results reveal that liquidity risk disclosure and firm size had significant and positive effects on financial performance. The study recommended that banks should strengthen their credit risk assessment framework and enhance transparent risk reporting to improve performance and financial stability. Future study could expand to other financial sectors such as the insurance sectors in establishing the relationship.

Akporhwarho and Onuorah (2024) examined the analysis of the effect of liquidity risk management on financial performance of microfinance banks in Nigeria from the period of 1990 to 2022 using an Ex-post facto research design. Data were collected from secondary sources such as CBN Statistical Bulletin, CBN Annual Report and CBN Bank Supervisory Annual Report from 1990-2022. The study used multiple regression analysis to assess the research hypotheses. The findings revealed that Current Ratio and Quick Ratio has a positive significant effect on ROA while Maturity Gap and Liquid Asset to Total Asset Ratio has insignificant effect on ROA of microfinance banks in Nigeria. The study recommended that managers of financial institution should from time-to-time train customers with regard to ATM, its benefits, risk exposure, physical and electronic security to avoid financial loss in the hands of hackers, trainings should be held for bank staff in short periods to acquaint them with modern developments of the sophisticated technology in changing times to improve the financial inclusion in Nigeria. Further studies should incorporate corporate governance effect in mediating or moderating the relationship.

Edwin et al. (2023) examined effect of liquidity risk management on the financial performance of Kenyan commercial banks incorporating both explanatory and longitudinal research designs. The study's target population consisted of 32 Commercial Banks in Kenya. The study utilized panel data consisting of time series and cross-sectional data spanning a decade from 2010 to 2019. Using Eviews, regression analysis was used to analyze the collected data. The study found out that Liquidity risk management had an insignificant negative relationship with ROE & ROA. The study concludes that liquidity risk management has a negative effect on financial performance measure either in ROA or ROE. The study recommended that commercial banks should keep this parameter as minimum as possible so as not involve in loss making. However, the study did not reveal any statistic significance; future study could examine the relationship using risk committee variables as mediator or moderator in establishing the relationship.

Hacini et al. (2021) analyzed the impact of liquidity risk management on the financial performance of selected conventional banks in Saudi Arabia for the period of 2002-2019. Liquidity risk is measured with the loan to deposit ratio (LTD) and cash to deposit ratio (CTD). Financial performance is measured by the Return on Equity (ROE). Equity to total asset ratio (ETA) is used as the control variable. The study uses the panel data method (Pool, Fixed-effects and Random-effects) for testing the study hypothesis. The results show that liquidity risk has a significant negative impact on the financial performance measured by Saudi Arabian banks.

Takon and Mgbado (2020) examined the impact of liquidity on banks' profitability using liquid assets, bank deposit, treasury bills, and return on asset as proxies. Secondary data was source from the Central Bank of Nigeria statistical bulletin. The study employs Ordinary least square using multiple regression techniques. The study finds that there is a: positive and insignificant impact between bank deposit and return on asset; negative and insignificant impact between liquid asset and return on asset; and positive and insignificant impact between treasury bills and return on asset. The study recommends that appropriate measures should be taken to prevent undesirable market development that may negatively impact on bank deposit; and also

the recruitment of competent and qualified personnel to manage and maintain optimal level of liquidity.

Terseer et al. (2020) studied the effect of liquidity management on financial performance of banks in Nigeria for the period 2010 to 2018. The study uses secondary data from five banks listed bank on the stock exchange in Nigeria. The proxies employ for liquidity management are; Liquidity ratio (LQR), Loan to deposit ratio (LDR), Cash reserve ratio (CRR) and deposit ratio (DR), while return on assets (ROA), return on equity (ROE) and return on net interest margin (NIM) are proxies for financial performance (Profitability). The study uses panel regression analysis in estimating the model and Hausman test while making a choice between fixed effect and random effect model. The study finds that liquidity ratio (LQR) have positive and significant effect on financial performance of DMB as measured by return on assets (ROA), return on equity (ROE) and net interest margin(NIM).It therefore recommends that banks in Nigeria should establish sound governance and risk management systems by developing strategies, policies for liquidity management that is well integrated into its risk management practices as well as establish a contingency funding plan to address any liquidity shortfall during periods of stress or emergency while ensuring that active monitoring liquidity funding needs to avert any liquidity challenge that could trigger crisis in the banks is promptly addressed.

Otekunrin et al. (2019) studied the performance of selected quoted money banks in Nigeria and liquidity management of 17 banks listed on the Nigerian Stock Exchange (NSE) between 2012 and 2017, the study extracted secondary data from the financial statements of 15 quoted banks for six years and analysed it using Ordinary Least Square (OLS) method. Capital ratio, current ratio and cash ratio were the proxies for liquidity management while performance proxies were return on assets. The study found that liquidity management and banks' performance are positively related. It was concluded that liquidity management is an essential factor in business operations and consequently leads to business profitability. It was therefore recommended that, proper liquidity management would help in solving the problem of agency costs that arise when control of companies is separated from the ownership.

Obi-Nwosu et al. (2017) analyzed the effect of liquidity on the performance of deposit money banks in Nigeria from 2000 to 2015. The result of the study revealed that liquidity mechanism is not significantly related to deposit money banks (DMBs) performance in the short run and long run. The granger result proves that liquidity mechanism hinder DMBs performance within the period under review in the study. Workneh (2015) examined the impact of liquidity on the performance of commercial banks in Ethiopia from 2009 to 2014. The study used quantitative research approach and secondary financial data which was analyzed by multilevel linear regressions models for the three major bank performance measures. The empirical results show that the performance (profitability) measure, NIM has significant relationship with liquidity measures of LDR, LAR and LADR. The other performance measure, ROE has positive and significant relationship with LADR; but ROA has positive and significant relationship with LADR.

Mwizarubi et al. (2015) determined the relationship between banks profitability and liquidity within the period of 2006 and 2013. Using Hausman test and thereafter fixed effects approach, all the models revealed that there is no statistically significant relationship between banks profitability and liquidity. Bassey and Effiong (2015) examined the liquidity-profitability trade off of deposit money banks in Nigeria. The study covered a panel data of 2010 to 2012. Two models were specified and estimated using Ordinary Least Squares (OLS) technique. The empirical results revealed that there is a statistically significant relationship between bank

liquidity measures-current ratio, liquid ratio, cash ratio, loans to deposit ratio, loans to asset ratio-and return on equity. However, when return on asset was used as proxy for profitability, the relationship became statistically insignificant.

Ajibike and Aremu (2015) examined the impact of liquidity on Nigerian Bank Performance. They discovered that Nigerian banks experienced a tremendous growth in the early 2000s, but these recorded growths were eroded by the global financial crisis in 2008. This issue raised the understanding of the role of liquidity on the performance of commercial banks in Nigeria. Using a Generalized Method of Moments (GMM) estimation technique for a panel of 13 banks from the period of 2004 to 2012, the study found a positive relationship between liquidity and bank performance.

Kamau and Njeru (2016) examined the effect of liquidity risk on financial performance of six insurance companies listed at Nairobi Securities Exchange for the periods 2012-2015. The risks studied include operational risk, market risk and credit risk. The study was descriptive in nature. It was established that operational, market and credit risks have negative effects on financial performance. The study recommended that measures should be put into place to hedge these risks and hence maintain a healthy performance.

Otieno and Nyagol (2016) assessed the relationship between liquidity risk management and financial performance of microfinance banks in Kenya. Longitudinal research design utilizing panel data covering the period from 2011 to 2015 was used. The findings indicated that liquidity risk management with FGR and CAR parameters had a strong positive correlation.

Olarewaju and Adeyemi (2015) examined the casual relationship between liquidity and profitability of quoted banks in Nigeria. A sample size of 15 banks were selected from the existing 19 quoted banks. The study employed Pairwise Granger Causality to test the presence and direction of causality between the banks' liquidity and profitability. The study found that there was no causal relationship between liquidity and profitability of the sampled banks. The study recommended that the Central Bank of Nigeria should ensure close supervision and monitoring and ensuring that banks maintain adequate liquidity to supporting and strengthen financial sector stability.

Theoretical Review

The risk theory of governance will be used to underpin this study. This is justified based on the fact that the theory focus on the risk that usually affect firm performance which includes the liquidity risk, credit risk and market risk. Halling et al. (2006) stated that a bank must understand the nature of liquid assets it holds. Thus, commercial banks need to balance between holding more risky and less risky assets (Berríos, 2013). By understanding the level of liquidity risks various securities pose, commerce banks are able to time when to convert the liquid assets to money and when not do (Acerbi & Scandolo, 2008). Commercial banks will assess the risky levels of its liquid assets. The risks may be operational, legal, credit or interest rate related. It will then make an inventory of risk level of each of the liquid assets and make proper timing when to convert them into money or continuing holding for higher interest.

Risk management can be defined as the procedure that a bank adopts to manage the uncertainty in its financial exposure. Risk management is executed through a number of steps that include identification of risk, assessment, monitoring and control (Bikker & Metzmakers, 2005; Buttmer, 2001). According to researchers, an identified risk is less dangerous than an unidentified risk. Risk can have many dimensions and is often linked with other aspects of daily

operations. So instead of dreading its existence risk should be managed (Jorion, 2009). Banks focus on their more risk-prone areas and build strategies to counter the risk in those areas. Risk managers are continuously trained to develop their skills to identify and mitigate risk. Therefore, banks have specialized risk management frameworks to analyse and reduce the level of risk (De Juan, 2013).

As banks are a business of money, liquidity risk is faced by the banks due to availability of liquid assets and cash to run their operations. Money, in the form of liquid assets and pure purchasing power, is necessary to finance expenditures and as a cushion for any future uncertainty. However, when it comes to banking sector, high liquid assets in the form of cash mean low returns and increased opportunity costs for holding money. So, if not otherwise mandated by the regulatory authority, banks may not keep a lot of liquid cash. However, another reason to hold cash is that it ensures stability of the financial system (Chowdhury & Zaman, 2018).

METHODOLOGY

The study adopted a quantitative research design. The population of the study is made up of the entire listed deposit money banks in Nigeria which stands at 13 as at 31st July 2025. Census sampling techniques were adopted to select the sample size using filter. For bank to be part of the sample size it must be listed on or before 1st January 2012 and remain listed till 31st July 2025. Based on this criterion the study arrives at a sample of 11 banks. Data were collected for a period of twelve years (2013-2024) using the secondary method of data collection from the annual reports and accounts of sample banks. The study adopts descriptive statistics and inferential method of data analysis using STATA 13 statistical software. The study adapts an econometric model used by Hacini et al. (2021) and Chuwdhury and Zaman (2018) with little modifications. The study model was presented below:

$$ROA_{it} = \beta_0_{it} + \beta_1(DEPTOTA_{it}) + \beta_2(LASSETTOTA_{it}) + \beta_3(PASSETSTOTA_{it}) + \beta_4(MKTLTOTA_{it}) + \varepsilon_{it}$$

Where:

β_0 = constant intercept, β_1 -4 = coefficient of independent variables, ε_{it} = error term, i = firm, t = year.

ROA = Return on assets measured as net profit after tax divided by total assets (Tauhid et al., 2020).

DEPTOTA = Deposit to total assets measured as deposit divided by total assets (Hacini et al., 2021).

PASSETSTOTA = Prime Assets to Total Assets measured as prime assets divided by total deposit Hacini et al., (2021).

LASSETTOTA = Liquid assets to total Assets measured as Liquid assets divided by total assets Chuwdhury and Zaman (2018); Salim and Bilal (2016).

MKTLTOTA = Market Liabilities to Total assets measured as market liabilities divided by total assets.

DATA PRESENTATION AND ANALYSES

This section includes the presentation and discussion of the result of data analyses. This includes descriptive analyses, correlation matrix, diagnostic and post estimation test, regression analyses, discussion of findings and test of hypotheses.

Table 1: Descriptive Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
ROA	132	.0437555	.0887743	-.1929164	.6981014
DEPTOTA	132	1.158489	1.509607	.2865362	7.481955
LASSETTOTA	132	.2716062	.5524033	.0001454	3.256388
PASSETSTOTA	132	.1145909	.2317382	.0010403	2.287973
MKTLTOTA	132	.1788558	.2714825	0	1.623702

Source: STATA 13 OUTPUTS, (2025)

Table 1 shows the descriptive results of the independent and dependent variables of the study. The Table shows a mean value of 0.0437555 for ROA. This value represents the average return on assets of the banks for the period under study. This implies that on average, the assets generate a return of approximately 4.38%. The Standard Deviation stood at 0.0887743 which shows a low variability or dispersion from the average of the returns on assets. Moreover, the Minimum value of -0.1929164 indicates that, at the lowest point, the assets experienced a negative (loss) on the return of approximately -19.29%. Whereas, the Maximum Value stood at 0.6981014 showing the highest return generated by the firm, which is approximately 69.81%. The table further showed a Mean value of 1.158489 which represents the average value of the deposit to total asset. In this case, the average deposit to total assets ratio is approximately 1.1585. while the Standard Deviation of 1.509607 indicates a moderate's variability from the mean. The Minimum Value 0.2865362 is the lowest observed value for the deposit to total assets ratio. Whereas, the Maximum Value as shown was 7.481955 for the deposit to total assets ratio. It represents the highest deposit to total assets ratio of the sampled banks.

The table also shows the descriptive results for the ratio of liquid assets to total assets for listed deposit money banks a mean value of 0.2716062 which indicates the average proportion of liquid assets to total assets. The standard deviation of 0.5524033 suggests that there is low variation in this ratio among the listed banks. Moreover, the minimum value of 0.0001454 represents the bank with the lowest ratio, while the maximum value of 3.256388 represents the firm with the highest ratio. This result is useful for assessing the liquidity and financial health of selected banks.

The Table also shows the descriptive results of prime assets to total assets for the listed deposit money banks in Nigeria with a mean value of 0.1145909 which represents the average ratio of prime assets to total assets among the sampled banks. On average, prime assets make up approximately 11.46% of the total assets for these banks. The standard deviation however, stood at 0.2317382 which shows a low deviation from the mean, suggesting that there is a low variation in this ratio among the sample banks. The Minimum Value was 0.0010403 observed for

the ratio of prime assets to total assets in the sampled banks which indicates that at least some banks from the sampled banks has a very low proportion of prime assets relative to its total assets. Whereas, the maximum value of 2.287973 is the largest observed ratio of prime assets to total assets in the sampled banks. This suggests that at least some banks in the sample have a very high proportion of prime assets relative to its total assets.

The descriptive results further showed the ratio of market liabilities to total assets for listed banks with a Mean value of 0.1788558 which indicates the average market liabilities to total assets ratio for the listed banks. On average, these Banks have liabilities that are approximately 17.89% of their total assets. The standard deviation of 0.2714825 signifies a low variability or dispersion in the market liabilities to total assets ratio among the listed banks indicating that some banks have significantly low ratios compared to the mean. The minimum value of 0 means that at least some listed banks in the sample has no market liabilities and thus a market liability to total assets ratio of 0%. This could indicate that some banks operate with minimal or no debt. Whereas, the maximum value of 1.623702 represents the highest market liabilities to total assets ratio among the listed banks for the period. This suggests that at least some banks have a significant amount of market liabilities compared to its total assets, with liabilities accounting for 162.37% of its assets. This could indicate a high level of leverage for that sampled banks.

Table 2: Correlation Matrix

	ROA	DEPTOTA	LASSETTOTA	PASSETSTOTA	MKTLTOTA
ROA	1.0000				
DEPTOTA	0.0706	1.0000			
LASSETTOTA	0.2276	-0.0112	1.0000		
PASSETSTOTA	0.2810	0.2527	0.1512	1.0000	
MKTLTOTA	0.1093	0.7471	0.1073	0.1508	1.0000

Source: STATA 13 OUTPUTS, (2025)

Table 2 shows the correlation result for the study. A correlation coefficient of 0.0706 between deposit to total assets and return on assets for listed banks is positive suggesting that as the deposit to total assets ratio increases, the return on assets tends to increase as well. This means that there may be some tendency for banks with higher deposit ratios to have better returns on their assets. However, a correlation coefficient of 0.0706 is relatively close to zero, this indicates a weak correlation. This means that the relationship between deposit to total assets and return on assets is not very strong. The table also shows a coefficient of 0.2276 which indicates a positive correlation between liquid assets to total assets and return on assets for listed banks. In other words, as the proportion of liquid assets (such as cash or assets that can be quickly converted to cash) in relation to total assets increases, there is a tendency for return on assets to also increase.

This suggests that listed banks with a higher proportion of liquid assets relative to their total assets tend to generate better returns on their investments. Furthermore, a correlation coefficient of 0.2810 between prime assets to total assets and return on assets for listed banks suggests a positive but relatively weak linear relationship between these two variables. This indicates that as prime assets to total assets increase, return on assets tends to increase as well. In other words, there is a tendency for banks with a higher proportion of prime assets relative to their total assets to have higher returns on those assets. However, the coefficient of 0.2810 is less than 50%, which suggests a relatively weak correlation. This means that while there is a positive

relationship between these variables, it's not particularly strong. The table also shows a correlation coefficient of 0.1093 between market liabilities to total assets and return on assets for listed banks suggesting a relatively weak positive correlation between these two variables. In other words, as market liabilities to total assets increase, there is a tendency for return on assets to also increase, but the relationship is not strong.

The Table also shows the results between independents variables. It shows a correlation coefficient of 0.0112 between liquid assets to total assets and deposit to total assets for listed banks suggests a very weak positive linear relationship between these two variables. Which means that as liquid assets to total assets increase, there is a tendency for deposit to total assets to also increase, but the relationship is not strong. Its further shows a correlation coefficient of 0.2527 between prime assets to total assets and deposit to total assets for listed banks suggesting a positive, but relatively weak, linear relationship between these two variables which signifies as prime assets to total assets increase, deposit to total assets tends to increase as well, and vice versa. Additionally, the tables show a correlation coefficient of 0.1512 between prime assets to total assets and liquid assets to total assets for listed banks as positive but relatively weak correlation between these two variables. Meaning that as prime assets (potentially long-term, less liquid assets) as a proportion of total assets increase, there is a tendency for liquid assets (highly liquid assets) as a proportion of total assets to also increase, but the relationship is not very strong.

Moreso, a correlation coefficient of 0.7471 between market liabilities to total assets and deposit to total assets for listed banks suggests a strong positive relationship between these two variables. Which implies that as market liabilities to total assets increase, deposit to total assets also tends to increase, and vice versa. This correlation result implies that listed banks with higher market liabilities relative to their total assets tend to have a higher proportion of their assets in the form of deposits. It could be indicative of the firm's financing and capital structure decisions, as well as its reliance on deposits as a source of funding. The table further revealed a correlation coefficient of 0.1073 between market liabilities to total assets and liquid assets to total assets for listed banks suggesting a weak positive correlation between these two variables, which means that as market liabilities as a proportion of total assets increase, liquid assets as a proportion of total assets also tend to increase. However, the strength of this relationship is relatively weak.

Lastly, a correlation coefficient of 0.1508 between market liabilities to total assets and prime assets to total assets for listed banks suggests a positive but relatively weak correlation between these two variables. This means that as market liabilities (such as debt or other financial obligations) increase relative to total assets, there tends to be a slight increase in the proportion of prime assets (high-value assets) relative to total assets. However, the correlation is not very strong, indicating that the relationship between these variables is not highly dependent on each other.

Table 3: Shapiro-Wilk W test for normal data

Variable	Obs	W	V	z	Prob>z
ROA	132	0.55083	46.860	8.663	0.00000
DEPTOTA	132	0.39479	63.139	9.335	0.00000
LASSETTOTA	132	0.41036	61.515	9.276	0.00000
PASSETSTOTA	132	0.41548	60.980	9.256	0.00000
MKTLTOTA	132	0.64245	37.301	8.149	0.00000

Source: STATA 13 OUTPUTS (2025)

Table 3 shows the result of Shapiro Wilk test for normality. The assumption of normality test is that the data sets are not normally distributed. From the table, all variables have p-value of .000 which are all significant at 5% level of significance and as a result the data set are said not be normally distributed. This problem is being cure by using robust standard error instead of normal standard error.

Table 4: VIF Test for Multicollinearity

Variable	VIF	1/VIF
DEPTOTA	2.44	0.409198
MKTLTOTA	2.35	0.425120
PASSETSTOTA	1.10	0.905125
LASSETTOTA	1.06	0.940783
Mean VIF	1.74	

Source: STATA 13 OUTPUTS (2025)

The results of the VIF (Variance Inflation Factor) test for multicollinearity suggest that there is relatively low multicollinearity among the independent variables in the study model. DEPTOTA has a VIF of 2.44, which indicates that it has a moderate correlation with the other independent variables. Also, MKTLTOTA has a VIF of 2.35, also indicating moderate correlation with other independent variables. Furthermore, PASSETSTOTA has a low VIF of 1.10, suggesting it has minimal correlation with the other variables. Additionally, LASSETTOTA has a similarly low VIF of 1.06, indicating low correlation with the other variables. The mean VIF for all variables is 1.74, which is below the commonly accepted threshold of 5. This indicates that multicollinearity is not a significant issue in the regression model.

Table 5: Hausman Specification Test for Fixed effect

	(b) fe	(B) re	(b-B) Difference	sqrt(diag(V_b-V_B)) S.E.
DEPTOTA	-.0061752	-.0051649	-.0010103	.0023604
LASSETTOTA	.0476832	.0410083	.0066749	.0075064
PASSETSTOTA	.0730172	.0783173	-.0053001	.0077926
MKTLTOTA	.0434832	.039452	.0040312	.0119183
chi2(4)	1.98			
Prob>chi2	0.7402			

Source: STATA 13 OUTPUTS (2025)

This test shows the test statistic is 1.98, and the p-value (Prob>chi2) is 0.7402. Since the p-value is greater than the common significance levels (e.g., 0.05), you fail to reject the null hypothesis. This suggests that there is no systematic difference in coefficients between the Fixed Effects (FE) and Random Effects (RE) models, and both models are consistent in estimating the coefficients for the study variables. In simpler terms, either the FE or RE model can be used for the analysis because the choice between them does not significantly impact the results based on this test.

Table 6: Breusch and Pagan Lagrangian multiplier test for random effects

	Var	sd = sqrt(Var)
ROA	.0078809	.0887743
E	.0058992	.0768065
u	.0017724	.0420998
chibar2(01)	18.34	
Prob > chibar2	0.0000	

Source: STATA 13 OUTPUTS (2025)

Table 6 shows the result for Breusch and Pagan Lagrangian multiplier test to assess the presence of random effects in a panel data model. Since the p-value is 0.0000 which is significance at 5% level of significance the study accept the null hypothesis. This suggests that the random effects model is not appropriate and as a result ordinary least square regression model (OLS) will be used.

Table 7: Regression Analyses

ROA	Coef.	Std. Err.	t	P>t	[95% Conf. Interval]
DEPTOTA	-.0041026	.007658	-0.54	0.593	-.0192563 .0110512
LASSETTOTA	.028439	.0138021	2.06	0.041	.0011272 .0557508
PASSETSTOTA	.0981547	.0335423	2.93	0.004	.0317804 .1645289
MKTLTOTA	.0339468	.041778	0.81	0.418	-.0487244 .1166179
_cons	.0234649	.0101677	2.31	0.023	.0033448 .0435849
F(4, 127)	4.28				
Prob > F	0.0028				
R-squared	0.1187				

Source: STATA 13 OUTPUTS (2025)

The regression result was shown in Table 7. From the table, the fitness of the model was measured by an F-statistics value of 4.28 which is greater than the minimum acceptable value of 3. This is supported by a p-value of 0.0028 which is significance at 5% and as a result indicates that the ROA model is fit. This implies that the variables in the model were carefully selected and can be used to assess the effect of liquidity risk management on financial performance of listed deposit money banks in Nigeria. The Table also shows an R-Squared value of 0.1187 which explains that about 11.87% of variations in ROA of listed deposit money banks is caused by their liquidity risk management strategies.

The regression result shows the relationship between "deposit to total assets" and "return on assets" in listed banks. The coefficient value of -0.0041 indicates that for a one-unit increase in "deposit to total assets," there is an expected decrease of 0.0041 units in "return on assets," assuming all other factors remain constant. However, since the p-value (0.59) is greater than the significance level (0.05), we fail to reject the null hypothesis which states that "there is no significant relationship between deposit to total assets and return on assets of the listed banks". This implies that the coefficient for "deposit to total assets" in the regression model is not statistically significant at the 5% level of significance. In other words, there isn't enough evidence to conclude that there is a significant linear relationship between "deposit to total assets" and "return on assets" in listed banks based on the sampled data in the model.

The regression result shows the relationship between liquid assets to total assets and return on assets for listed banks, with a coefficient value of 0.028 and a p-value of 0.041. This implies that 0.028 coefficient suggests that, on average, for each one-unit increase in the ratio of liquid assets to total assets, there is a 0.028 increase in return on assets. However, the p-value of 0.041 is less than the significance level of 0.05 (5%). This suggests that the coefficient for liquid assets to total assets is statistically significant at the 5% level. The null hypothesis typically states that “there is no significant relationship between liquid assets to total assets and return on assets of listed banks”. However, since the p-value is less than 0.05, we reject this null hypothesis in favor of the alternative hypothesis, which suggests that there is a statistically significant relationship between the two variables for listed banks.

The regression result indicates a relationship between Prime Assets to Total Assets and Return on Assets as a coefficient value (0.0982) which implies that for each one-unit increase in the Prime Assets to Total Assets ratio, there is an estimated increase of 0.0982 units in Return on Assets of the sampled banks. The p-value stood at 0.004 suggesting that the coefficient is statistically significant. With a coefficient value of 0.0982 and a p-value of 0.004, we can conclude that there is a statistically significant positive relationship between Prime Assets to Total Assets and Return on Assets for listed banks at 5% significance level suggesting that an increase in the proportion of Prime Assets to Total Assets tends to be associated with an increase in Return on Assets for these banks. However, since the p-value is less than 0.05, we reject this null hypothesis which state that “there is no significant relationship between liquid assets to total assets and return on assets of listed banks” in favor of the alternative hypothesis, which suggests that there is a statistically significant relationship between the two variables for listed banks.

The regression result further shows a coefficient value of 0.034 for "market liabilities to total assets" when predicting "return on assets" suggesting a positive relationship between the variables, which implies that for each one-unit increase in the market liabilities to Total Assets ratio, there is an estimated increase of 0.034 units in Return on Assets of the sampled banks. However, since the p-value (0.42) is greater than 0.05, we would typically fail to reject the null hypothesis at the 5% significance level. This suggests that, based on your data and the regression analysis of the sampled listed banks, there is not enough evidence to conclude that "market liabilities to total assets" significantly predicts "return on assets" for listed banks.

The study conducted was to investigate the effect of the independent variables (deposit to assets, liquid to total assets, prime to total asset and market liabilities to total assets) on the dependent variable (return on asset). The findings revealed that there is a significant and positive relationship between liquid assets to total assets and prime assets to total assets on return on assets (ROA) of listed banks, this means the positive relationship implies that as the proportion of liquid assets to total assets increases or as the proportion of prime assets to total assets increases, the return on assets (ROA) of listed banks tends to increase as well. This suggests that banks with higher levels of liquid assets or prime assets relative to their total assets are more likely to generate higher returns.

Additionally, the significance of this relationship indicates that it is not by random chance but rather a meaningful and statistically supported association. This suggests that the effect of liquid assets and prime assets on ROA is not negligible and has practical implications for financial performance. Also, a higher proportion of liquid assets can contribute to financial stability and liquidity for a firm. This can be advantageous in meeting short-term obligations and taking advantage of investment opportunities. Similarly, a higher proportion of prime assets indicates a focus on valuable, income-generating assets, which can contribute positively to

profitability. Furthermore, for decision-makers in listed banks, this finding underscores the importance of managing and optimizing the composition of assets on the balance sheet. It may be beneficial to maintain an appropriate level of liquid assets and invest in prime assets strategically to enhance ROA.

The study's findings also revealed an insignificant and negative relationship between deposits as a proportion of total assets and return on assets (ROA) in listed banks can have implications like the fact that the relationship is found to be statistically insignificant implies that changes in the deposit-to-total-assets ratio do not have a measurable impact on ROA. In other words, variations in the proportion of deposits held by these banks do not appear to be a key determinant of their profitability. Also, the negative relationship suggests that, on average, as the proportion of deposits relative to total assets increases, ROA tends to decrease. However, because this relationship is statistically insignificant, it's crucial to exercise caution when drawing strong conclusions from this negative correlation. Lastly, banks may not need to be overly concerned about the proportion of deposits in their total assets when assessing their ROA. Other strategic factors and financial decisions may have a more substantial impact on profitability.

Lastly, the study found an insignificant and positive relationship between market liabilities to total assets and return on assets (ROA) of listed banks. The fact that the relationship is deemed "insignificant" suggests that changes in market liabilities as a proportion of total assets do not have a statistically significant impact on ROA. In other words, variations in market liabilities are not associated with consistent or predictable changes in ROA across the listed banks in your analysis. Whereas, the positive direction of the relationship indicates that, on average, an increase in market liabilities as a proportion of total assets tends to be associated with higher ROA. However, this relationship is not strong enough to be statistically significant, meaning it may not hold consistently across all banks or may be influenced by other unaccounted factors. The findings suggest that market liabilities alone may not be a reliable predictor of ROA for the listed banks in your study. Other factors, such as operational efficiency, market conditions, or management decisions, may play a more significant role in determining a firm's ROA. It's essential to consider these additional factors when analyzing or making decisions based on this relationship.

Conclusion and Recommendations

The study was conducted to examine the effect of liquidity risk management on financial performance of listed deposit money banks in Nigeria. Based on its findings and test of hypotheses, the study concludes that liquidity risk management significantly influence financial performance of listed deposit money banks in Nigeria. Based on the conclusion, here are some recommendations for the listed banks in Nigeria:

- Banks should consider maintaining an adequate level of liquid assets relative to total assets. This positive relationship suggests that having higher liquidity can positively impact ROA. However, it's essential to strike a balance because excessively high liquidity might lead to underutilized resources. Banks should aim for an optimal level of liquid assets that aligns with their operational needs and risk tolerance.
- Banks should focus on optimizing their prime assets relative to total assets. This positive relationship indicates that a higher proportion of prime assets can lead to improved ROA.

Prime assets often refer to high-quality, income-generating assets. Therefore, banks should continue investing in or expanding their prime asset portfolio while considering the associated risk.

- While the relationship between deposits and ROA is found to be insignificant and negative, it's important not to jump to conclusions that banks should continue managing deposits efficiently but should also explore other sources of funding or income-generation to mitigate any negative impacts on ROA.
- Since there is no significant relationship found between market liabilities and ROA, banks may not need to make substantial changes in response to this factor. However, it's always prudent to monitor market liabilities and their potential impact on financial stability.

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