

The Influence of Bank Liquidity on Lending Behaviour of Commercial Banks in Nigeria (2006-2020)

Ofonime O. Jeremiah
+2348038906190
Department of Accounting,
University of Uyo.
PMB 1017, Uyo
ofonimejeremiah@uniuyo.edu.ng,

Essien Akpanuko
+2348023223518
Department of Accounting,
University of Uyo.
PMB 1017, Uyo
essienakpanuko@uniuyo.edu.ng

&

Ikechukwu Acha
+2348036057080
Department of Banking and Finance,
University of Uyo.
PMB 1017, Uyo
ikechukwuacha@uniuyo.edu.ng

Abstract

The relevance of Commercial Banks and their lending activities in Nigeria necessitates concern about the liquidity condition of these banks. This is particularly pertinent, given the spate of recurring unpalatable incidences in the Nigerian banking sub-sector even after the 2005 consolidation. The objective of the study was to examine the influence of bank liquidity on the lending behaviour of Commercial Banks in Nigeria. Twelve (12) listed Commercial Banks were selected using the purposive sampling technique. The ex post facto research design was adopted and secondary data drawn from the sampled Commercial Banks from 2006 to 2020 were used for analysis. The data were analyzed using descriptive statistics and regression analysis. The results revealed that bank liquidity significantly influenced the lending behaviour of Commercial Banks. However, the loan-to-total assets ratio was found to exert the highest relative influence on the lending behaviour of Commercial Banks. It was recommended, among others, that Commercial Banks should prioritize the maintenance of a dynamic loan-to-total assets ratio. Also, the Central Bank of Nigeria and other regulatory bodies should be more proactive in ensuring Commercial Banks' liquidity and sustainability.

Keywords: Regulation, revenue, interest, loans and advances, BOFIA, non-performing loans

1. Introduction

Lending is one of the activities and sources of revenue generation for most banks in Nigeria (Imeokpararia, 2013). Besides this revenue generation objective, bank lending activities have strategic socio-economic relevance. This is because the granting of loans and advances by banks to individuals, business organizations and sometimes the government, helps to drive specific

investment and development activities which ultimately stimulate the overall economic well-being of the country (Aronu, Ogbogbo & Bilesanmi, 2013; Mamman & Hashim, 2014; Odeleye, 2014). The fact, therefore, remains that no economy, whether developed or developing, can expect to make meaningful progress without a virile banking sector which effectively and dynamically allocates financial resources through the lending mechanism.

Bank lending in Nigeria is regulated by statutory provisions such as the Prudential Guidelines, the Banks and other Financial Institutions Act (BOFIA) 2020, and other related provisions. These provisions specify, among other issues, guidelines on the liquidity and cash reserve requirements and other requirements expected of financial institutions (KPMG, 2021). In the lending business, certain parameters are considered before a decision is taken on whether or how much, to lend to an intending borrower. These decision parameters range from qualitative to quantitative considerations. While years in current business, physical observation of business, nature of business, and guarantor constitute some of the qualitative considerations on intending borrower's loanworthiness, the quantitative considerations are premised on financial determinants deduced from financial statement analysis.

It is unarguable that financial statements provide a vital and objective quantitative perspective on lending behaviour. This is because it contains information which facilitates periodic performance gauging and other entity-related assessments and decisions (Sultan, 2014). It is therefore reasonable at this juncture, to assert that in addition to other things, banks and other lenders rely much on their client's financial statements as a key basis of assessment for loan purposes. However, the bottom line is that beyond meticulously examining intending borrowers' records to ascertain the viability and other creditworthiness assessment indices; banks equally assess themselves to ensure that their lending decisions are in tandem with the realities of their liquidity capacity, to ensure financial sustainability.

There have been some unpleasant situations in the Nigerian banking sector over the years. Some banks, a few years after being designated as Systematically Important Banks (SIBs) or "too big to fail" banks in 2013, could not withstand the sustainability test and had to be salvaged out of financial crisis through consolidation (Atuanya, 2013). The cause of this crisis was prolonged liquidity problems that made the banks ceaselessly dependent on lending to remain in operation (The Guardian, 2018). According to Enyinnaya (2019), the CBN still grapples with recurring issues of inadequate bank liquidity caused by the inability to recover loan.

The unpalatable happenings in the banking sector raise concerns as to whether Commercial Banks objectively assess their liquidity capacity before deciding how much to lend. It is probable that once the intending borrower assessments present a positive outlook, the prospect of the possible interest returns derivable from granting such facility or the need to maintain competitive relevance, predispose banks to the temptation of over-optimistic lending. An unbridled lending spree which is devoid of an objective and prudent consideration of the bank's liquidity could culminate in financial "overstretching". Things could get even worse, where contrary to initial expectations, the loan becomes non-performing; leaving the bank to stand up to the ensuing implications of such default.

The focus of some previous studies conducted on bank lending behaviour issues was largely centred on the borrower's financial performance and position evaluation and issues bothering around adequate and reliable financial information disclosure by the intending borrower (Kitindi, Magembe & Sethibe, 2007; Donellson, Jennings & McInnis, 2017; Akin, 2020). To the best of the researcher's knowledge, not many studies in Nigeria have focused on the determinants of bank lending, from the lending banks' liquidity performance perspective (Olokoyo, 2011; Okoye & Richard 2013; Malede, 2014). The limited number of related studies carried out from the banks'

'lending worthiness' perspective in Nigeria, serves as the motivation for this study.

The direct and indirect benefits derivable from a lending behaviour that is hinged on a pragmatic and objective performance evaluation of the lender make this study significant, not only to Commercial Banks and other lenders but also to the government and the general public, as well as future researchers. The scope of this study was Commercial Banks in Nigeria only and the period for the study was 15 years spanning 2006 to 2020. The decision to commence the study period in 2006 was premised on the fact that it was the first year after the 2005 consolidation of the Nigerian banking sector; an initiative that was meant to ensure the efficiency and soundness of banks in Nigeria (Acha, 2006; Okoye, Adetiloye, Erin & Evbuomwan, 2017). One limitation of the study is that the financial reports of 2006 to 2011 were prepared based on the Statement of Accounting Standards (SAS) while that of 2012 to 2020 were prepared using International Financial Reporting Standards (IFRS).

The main objective of this study was to examine the influence of bank liquidity on the lending behaviour of Commercial Banks in Nigeria. The sub-objectives were to:

- i. determine the influence of Liquid asset to total asset ratio on the lending behaviour of Commercial Banks in Nigeria.
- ii. ascertain the influence of loan deposit ratio on the lending behaviour of Commercial Banks in Nigeria.
- iii. find out the influence of loan coverage ratio on the lending behaviour of Commercial Banks in Nigeria.
- iv. determine how the loan to total assets ratio influences the lending behaviour of commercial banks in Nigeria.
- v. examine the influence of liquid assets to total asset ratio, Loan to deposit ratio, loan coverage ratio and loan to total assets ratio on the lending behaviour of commercial banks in Nigeria.

From these sub-objectives, the following hypotheses were developed in the null form:

Ho1: Liquid asset to total asset ratio does not significantly influence the lending behaviour of Commercial Banks in Nigeria.

Ho2: Loan to deposit ratio has no significant influence on the lending behaviour of Commercial Banks in Nigeria

Ho3: Loan coverage ratio does not significantly influence the lending behaviour of Commercial Banks in Nigeria

Ho4: Loan to total assets ratio does not significantly influence the lending behaviour of Commercial Banks in Nigeria

Ho5: Liquid assets to total asset ratio, Loan to deposit ratio, Loan coverage ratio and Loan to total assets ratio have no significant aggregate influence on the lending behaviour of Commercial Banks in Nigeria.

2. Literature Review

2.1 Conceptual Review

Liquidity refers to an organization's ability to settle its short-term obligations as they fall due to its current assets. Generally, liquidity is measured using the current ratio, the quick ratio and the capital ratio. According to Tsomocos (2003), there are three identified elements of liquidity: marketability, stability and conservatism. Marketability refers to the ease and quickness with which assets can be transferred or traded. Stability here implies price stability. Based on this characteristic, bank deposits and short-term securities are more liquid than equity investments. The reason is that the prices of the deposits and short-term securities are relatively more stable than that of the equity investments. Conservatism, concerning liquidity, is concerned with the recoverability of an asset's cost at the time of resale. These qualities define the liquidity,

particularly, of financial institutions.

In the banking circumstance, liquidity is a bank's ability to convert current assets to cash to meet customers' demand for deposits and other short-term maturing obligations. According to Boyte-White (2021), a bank's liquidity is determined by its ability to meet all of its anticipated expenses, such as funding new loans or fulfilling customer account withdrawals, using only liquid assets. This implies that the bigger the cushion of liquid assets relative to anticipated liabilities, the greater the bank's liquidity. It has been asserted that although banks fund their loans with mostly short-term liabilities, their lending finances investments in assets are relatively illiquid, thus the challenge of ensuring its liquidity under all reasonable conditions is a task that must be done for every bank (Hummel, n.d).

Liquidity issues for commercial banks become even more critical in this era of the Treasury Single Account (TSA) policy. This is because the implementation of this policy over the last few years has resulted in the Commercial Banks losing the large chunk of the deposits they used to get from domiciling various accounts of Ministries, Departments and Agencies (MDAs) of government (Ndubaku, Ohaegbu & Ninah, 2017). This reality implies that the tendency of an incautious commercial bank to run into a liquidity problem is higher today than in the pre-TSA era.

2.1.1 Measures of Bank Liquidity

Generally, liquidity is measured using simple ratios such as the current ratio, quick ratio and other variants of simple ratios. In literature, given the peculiarity of bank operations and their activities, some liquidity measures are deemed to be relatively more informative because they integrate some more relevant details than the basic simple ratios in measuring bank liquidity. Some of these include:

(i) Loan to Deposit Ratio: The relationship between the volume of deposits a bank receives and the volume of loans it gives out is very important. In terms of measurement, a loan-to-deposit ratio is used to assess the liquidity of a bank by doing a comparison between the total volume of its loans and its total deposits. A high ratio implies that the bank is lending more relative to what it receives as deposits which portend both credit and liquidity risk while on the other hand, a lower ratio represents higher deposits than what is given out as credit (Alvarez, Fernandez, Garcia-Cabo & Posada, 2019).

(ii) Loan Coverage Ratio: This refers to the proportion of highly liquid assets that are held by financial institutions, to ensure their ongoing ability to meet short-term obligations. Murphy, Boyle and Rathburn (2021) indicated that this ratio is essentially a generic stress test that aims to anticipate market-wide shocks and make sure that financial institutions possess suitable capital preservation, to ride out any short-term liquidity disruptions that may plague the market. The Loan Coverage ratio is calculated by dividing the high-quality liquid asset by the total net cash flow (Gocardless, 2020).

(iii) Loan to Assets Ratio: The loans to assets ratio is a measure of the total loans outstanding as a percentage of the bank's total assets. A higher loan-to-assets ratio indicates that the bank is loaned up and its liquidity is low. This ratio is computed by dividing the bank's total loans by the value of its total assets. The higher the ratio, the riskier a bank may be to higher defaults (US Business Reporter, 2022).

(iv) Liquid Asset to Total Asset Ratio: The liquid asset to total assets ratio can be employed to compare the net liquid assets to the total assets of a bank. This could be computed by dividing the bank's liquid assets by the value of its total assets. Essentially, the ratio is an indicator of short-term solvency. This ratio can provide some insight into the liquidity status of a firm since the ratio can reveal the percentage of the remaining liquid assets compared to the firm's total assets (Financial Analysis Hub, 2022). Thus the higher the ratio, the higher the ability of the firm to meet its obligations in the short term.

2.1.2 Lending Behaviour

Sayedi & Ringim (2019) defined bank lending as loans and advances given to a customer by a bank which may be pledged with collateral security. In the context of this study, lending behaviour refers to how banks increase or decrease the volume of loans and advances they give based on some observed realities. According to Independent Banking Consultants (2015), the decision on whether to lend or how much to lend at a given point in time is a crucial decision that can determine the sustainability or otherwise of any lending institution. In each of such decision instances, the quality and implications of the decision taken are essentially a function of the thoroughness and all-inclusiveness of the decision-making process. A bank borrows in the short term (deposits) and lends in the long term (credits). The management of the time mismatch between the receipt of the deposit and the giving out of credit not only generates a benefit but also entails a series of risks (Miguel, 2019). A prudent lending behaviour that is guided by careful consideration of these benefits and risks would more likely facilitate the attainment of a healthy balance for the lending bank and also some positive multiplier effect on the macroeconomy.

2.1.3 Factors Affecting Lending Behaviour

Apart from the evaluation of the creditworthiness of intending borrowers, there are several bank-specific circumstances as well as exogenous influences in the economic environment which are believed to exert a significant effect on the lending behaviour of Commercial Banks in Nigeria. These include interest rate, inflation, loan performance, bank size and volume of deposit.

- 1. Interest Rate:** The interest rate is a percentage rate charged on money lent or borrowed and it is influenced by the monetary policy (Hansen, 2007). Given the nature of operations of Commercial Banks and other financial institutions, the interest rate is an important factor which affects their earnings profile and of course, their lending behaviour. A cursory look at the financial statement of a financial institution reveals that interest income, less interest expense is a first-line source of their revenue. When the interest rate is high, it affects the borrowers and lenders of finance. Khatat and Veyrune (2019) pointed out that interest rate fluctuations can affect the liquidity management of Commercial Banks. They assert that the difference arising from interest rate changes often leads to unexpected changes in the cash flows of Commercial Banks. Such differences also affect the earnings spread among assets, liabilities and off-balance sheet instruments of similar maturities.
- 2. Inflation:** Another important macroeconomic factor is inflation. Inflation is defined as a sustained increase in the general price level and is measured in rates (Awan, 2014). Thus the inflation rate is the rate by which the general price level increases. It has been established that high inflation increases business uncertainty while a decline in inflation, increases the real rate of return (Blanchard, 2009). That ultimately results in a reduction in the return on equity and the return on investment (Khan, Shahil, Anam, Shehzad & Siddique, 2014).
- 3. Loan Performance:** Every loan attracts stipulated interest and principal repayment expectations. Where these expectations are serviced and met as and when due, such a loan is described as a “performing loan” but where due to controllable or uncontrollable factors, the opposite ensues (that is, the borrower defaults in his obligation), the loan is tagged “non-performing”. Such loans no longer earn income and full repayment of principal and interest becomes doubtful (Paulin, 2018). This results in financial stress which increases the lender's risks.
- 4. Bank Size:** This is defined from the standpoint of the total assets of the bank. Though there are stipulated regulatory benchmarks, the fact remains that larger banks have a stronger asset base than smaller size banks. Thus, larger banks are expected to grant more

loans than smaller ones *ceteris paribus*. This is because their relatively stronger asset base provides them with a better cushion as compared to banks that are relatively smaller in size.

- 5. The volume of Deposit:** This is the amount of deposits a bank receives from all its depositors. It has been noted that the volume of deposits plays a very important role in enhancing banking intermediation functions (Akinyomi, 2014). Thus it is believed that an increase in the volume of deposits in a given period may affect its behaviour in terms of how much it is willing to lend.

2.2 Theoretical Framework

The theory of bank liquidity requirements provides a theoretical basis for this study. The theory was propounded by Charles W. Calomiris, Floriam Heider and Marie Hoerova in 2014. The theory states that because cash is both observable and riskless, greater cash holdings improve bank incentives to manage risk in the remaining, non-cash portfolio of risky assets (Calomiris, Heider & Hoerova, 2015). This implies that the volume of cash (and its equivalents), which for banks, majorly come from deposits of its individual and institutional customers, is an important variable in the equation of bank liquidity. It also implies that the more liquid assets a bank holds relative to other assets, the more effective and efficient it would likely be in managing those other assets and the associated risks that may ensue from the handling of such assets. The theory seems to lend credence to the importance of banks' liquidity to total assets ratio as a credible indicator of assessing a bank's liquidity position.

2.3 Empirical Review

Akinyomi (2014) studied the effects of deposit volume on banks' lending behaviour in the Nigerian Post-Consolidation Era. The study spanned a period from 2006-2012. Data were obtained from the annual report of 22 Deposit Money Banks (DMBs) and the regression analysis was used to test the hypothesis. The findings revealed that there was a positive relationship between the volume of deposits and banks' lending behaviour. The researcher recommended that further studies should be carried out to investigate other factors apart from the deposit which may affect the lending behaviour of banks in Nigeria. One of those factors suggested for further studies was liquidity which is the focus of this present study. The study period covered only seven years (2006-2012) and so it would be more beneficial to extend the study period to more recent times, particularly after the adoption of IFRS.

Churchill (2014) pointed out that in addition to the bank's size, deposit base, credit policy and other internal characteristics, the volume of loans granted by a bank in a year may also depend on its liquidity. That view didn't differ from that of Olokoyo (2011) who had earlier indicated that banks' decision to lend may not only be influenced by its prestige/public recognition, the prevailing interest rate, volume of deposits, the level of its domestic and foreign investment, but also by the bank's liquidity ratio.

Berhe (2020) examined the determinants of commercial banks' lending behaviour in Ethiopia. The dependent variable was lending behaviour while the interest rate, capital adequacy ratio, liquidity ratio, volume of deposits and asset quality were the independent variables. Secondary data were sourced from audited financial reports of 10 banks covering a period of 7 years (2011-2017). Correlational and regression analyses technique were employed to test the hypothesis. The result showed that liquidity ratio, credit rate and asset quality have a significant effect on lending behaviour. The researcher recommended the need for closer consultation and cooperation between banks and the regulatory authorities so that regulatory measures can take cognizance of the key determinants of lending behaviour.

Alhassan, Owusu & Asamoah (2013) examined the relationship between bank lending behaviour and bank asset quality. The ratio of loans and advances to total assets was used as a proxy for bank lending behaviour. Secondary data in respect of 25 banks were drawn for the period spanning 2005 and 2010. The random effects model was employed for the analysis and the results indicated among others, that bank deposit mobilization, intermediation spread and equity influence the lending behaviour of banks.

Obamuyi (2013) analysed the deposits and lending behaviours of banks in Nigeria. The study was based on secondary data obtained from the annual report of seven banks for 6 years spanning between 2006 and 2011. The data were analysed using descriptive statistics of trend analysis, and percentage growths. It was found that lending and deposits relate together because faster deposit growth signals growing demand for loans. It was also highlighted that there is a need to positively influence the liquidity position of banks to influence their lending behaviour.

Alper, Hulagu & Keles (2012) did an empirical study on liquidity and bank lending. The 10-year Panel dataset (2002 -2011) was collected quarterly for the study. Descriptive statistics and regression analysis were employed to analyse the study data. The results indicated that bank-specific liquidity is an important consideration for banks in determining lending.

Dang (2019) carried out a study to ascertain the impact of funding liquidity on bank lending in Vietnam. Secondary data covering a period of 15 years (2003-2017) were drawn for 31 sampled commercial banks in Vietnam. Funding liquidity was proxied by the deposit ratio while the loan growth rate was used as a proxy for bank lending. The result of the analysis revealed that banks that have higher funding ability tend to lend more than banks that have lower funding ability. It was recommended that bank managers and policymakers should be guided to improve the banking regulatory and operational framework for more efficiency.

Dahir, Mahat, Razak & Bany-Ariffin (2019) also examined the effect of funding liquidity, and bank loan growth in emerging economies. The period covered by the study was from 2006 to 2015 and the Dynamic Least Squares Dummy Variable Corrected (LSDVC) approach was adopted. Contrary to the findings of Dang (2019), this study revealed that the higher the funding liquidity, the lower the bank loan growth. These conflicting findings necessitated further research. By employing a different set of bank liquidity measures as proxies of bank liquidity, this study sought to ascertain the influence of bank liquidity on their lending behaviour, particularly in the Nigerian context.

3. Methodology

The ex post facto research design was adopted for this study. The population of the study consisted of all the 16 Commercial Banks listed on the Nigerian Exchange Group as of December 2021. The conditional sampling technique was adopted to select 12 Commercial Banks for the study. The banks selected were those that had been in existence in 2006 and remained in operation till 31st December 2020. Data were obtained from secondary sources including published annual reports of the listed banks as well as other CBN publications. Using a content analysis of the audited financial reports of the years under review, data were extracted from the Statement of Profit or Loss and Other Comprehensive Income (Income Statement), and Statement of Financial Position, of the sampled Commercial Banks.

The linear regression analysis technique was employed for the analysis of collected data and the test of the study hypotheses. The description of the study variables, their measurement, and apriori expectations are presented in Table 3.1.

Table 3.1: Variables Description

Table 3.1: Variables Description

Variable Name	Variable Type	Measurement	<i>apriori</i> expectation
Lending behavior (LGRWTH)	Dependent	The percentage difference between loans and advances in preceding year with the subsequent year	
Loan to deposit ratio (LDEP)	independent	Amount of Loan divided by total assets	Negative
Liquidity Coverage Ratio (LCVR)	Independent	Liquid asset divided by the total net cash flow	Positive
Liquid assets to total assets ratio (LQTA)	Independent	Liquid Asset divided by Total Asset	Positive
Bank Size (BSIZE)	Control	Natural log of the total assets	Negative
Interest rate (INTR)	Control	lending interest rate adjusted for inflation as measured by the GDP deflator	Negative

Source: Researchers’ Compilation (2022)

The econometric models for the study are specified thus:

$$LGRWT_t = a_0 + b_1 LQTA_{t-1} + b_2 BSIZE_{t-1} + b_3 INTR_t + e \text{-----(i)}$$

$$LGRWT_t = a_0 + b_1 LDEP_{t-1} + b_2 BSIZE_{t-1} + b_3 INTR_t + e \text{-----(ii)}$$

$$LGRWT_t = a_0 + b_1 LCVR_{t-1} + b_2 BSIZE_{t-1} + b_3 INTR_t + e \text{-----(iii)}$$

$$LGRWT_t = a_0 + b_1 LNTA_{t-1} + b_2 BSIZE_{t-1} + b_3 INTR_t + e \text{-----(iv)}$$

$$LGRWT_t = a_0 + b_1 LQTA_{t-1} + b_2 LDEP_{t-1} + b_3 LCVR_{t-1} + b_4 LNTA_{t-1} + b_5 BSIZE_{t-1} + b_6 INTR_t + e \text{-----(v)}$$

Where:

LGRWT_t = Growth rate of bank loans at the end of the year

LQTA_{t-1} = Liquid Asset to Total Asset ratio at the beginning of the year

LDEP_{t-1} = Loan to deposit ratio at the beginning of the year

LCVR_{t-1} = Loan Coverage ratio at the beginning of the year

LNTA_{t-1} = Loan to total assets ratio at the beginning of the year

BSIZE_{t-1} = Bank size at the beginning of the year

INTR_t = Interest rate in the year (lending interest rate adjusted for inflation)

a₀ = Constant term

b₁, b₂..., b₆ = Coefficient of the independent variables and control variables

e = Error term

4. Results and Discussion of Findings

The results of the descriptive and inferential analyses are presented and discussed in this section. Inferences were drawn at a 95% confidence level.

Table 4.1 Descriptive and Collinearity Statistics

Variable	Descriptive Statistics				Collinearity Statistics		
	Min.	Max.	Mean	Std. Deviation	N	Tolerance	VIF
LGRWT	-0.534	1.052	0.313	0.384	180		
LQTA	0.008	0.415	0.154	0.105	180	0.972	1.029
LDEP	0.032	1.184	0.608	0.223	180	0.505	1.979
LCVR	-9.202	8.673	0.655	4.560	180	0.965	1.037
LNTA	0.030	0.757	0.389	0.135	180	0.491	2.036
BSIZE	10.510	16.772	13.656	1.177	180	0.888	1.127
INTR	-3.374	18.180	7.216	4.951	180	0.951	1.051

Source: Researchers' Computation using SPSS 25.0

The descriptive statistics in Table 4.1 shows that the study comprised a total of 180 observations. This number of observations was deemed reasonably adequate to provide a basis for the research inferences made in this study. The lowest mean among the means of the focal independent variables (LQTA, LDEP, LCVR and LNTA) is that of loan to total assets (LNTA) (.389) while the highest of them was that of loan coverage ratio (LCVR). This mean value implies that the average liquidity position of Commercial Banks during the study period was relatively higher in terms of their loan coverage ratio than that of other ratios as its average LCVR stood at about 0.655. Similarly, the LGRWT mean (.313) depicts that the average growth rate of Commercial Banks lending was approximately 31.3%. The Tolerance values in Table 4.1 are all below 1 and the Variance Inflation Factor (VIF) are all below 3. These imply the absence of multi-collinearity problems.

4.1 Liquid Assets to Total Assets ratio and Lending Behaviour of Commercial Banks

Table 4.2: Model Summary on LQTA and LGRWT of Commercial Banks

Model	R	R ²	Adjusted R ²	Std. Error	Durbin-Watson	F	Sig.
1	.464 ^a	.215	.202	.343	1.633	16.068	.000 ^b

a. Predictors: (Constant), INTR, LQTA, BSIZE, b. Dependent Variable: LGRWT

Source: Researchers' Computation using SPSS 25.0

The coefficient of correlation (0.464) shown in Table 4.2 indicates that the LQTA has a 46.4% correlation with the LGRWT of Commercial Banks in Nigeria. The Durbin-Watson value (1.633) suggests there are no significant autocorrelation problems. The coefficient of determination (R²) value of 0.215 depicts that only 21.5% of the variation in the lending behaviour of Commercial Banks in Nigeria is accounted for by the variation in its liquid asset to total asset ratio (LQTA). In other words, if the variance explained by interest rate and bank size are controlled for a 1% improvement in the liquid asset to a total asset (LQTA) ratio can induce Commercial Banks to lend up to 21.5% higher than they did in the previous period. In Table 4.2, the p-value of the F-test (0.000) is significant because it is less than 0.05. This implies that the lending behaviour of commercial banks in Nigeria is significantly influenced by their liquid asset to total asset ratio. The null hypothesis (H₀₁) is therefore not supported. This finding corroborates the finding of previous studies by Dang 2019. It however contradicts that of Dahir et al (2019).

4.2 Loan to Deposit ratio and Lending Behaviour of Commercial Banks

Table 4.3: Model Summary on LDEP and LGRWT of Commercial Banks

Model	R	R ²	Adjusted R ²	Std. Error	Durbin-Watson	F	Sig.
1	.469 ^a	.220	.207	.342	1.519	16.580	.000 ^b

a. Predictors: (Constant), INTR, BSIZE, LDEP b. Dependent Variable: LGRWT

Source: Researchers' Computation using SPSS 25.0

The results in Table 4.3 depicts a 46.9% correlation between LDEP and LGRWT of Commercial Banks in Nigeria. The R² is 0.220 implying that 22% of the variation in lending behaviour of Commercial Banks in Nigeria is explained by the variation in the bank's Loan to deposit ratio (LDEP). The implication of this result is that after controlling for the variance explained by

interest rate and bank size, a 1% increase in the loan to deposit ratio (LDEP) ratio can have a 22% effect on loan growth in the subsequent period, and vice versa. The p value (.000) is less than the 0.05 threshold and as such the influence of Loan to deposit ratio on Commercial Banks' lending behaviour is deemed significant. Thus the null hypothesis that Loan to deposit ratio has no significant influence on the lending behaviour of Commercial Banks in Nigeria is not supported. This result is in line with the views of Alvarez et al (2019).

4.3 Loan Coverage ratio and Lending Behaviour of Commercial Banks

Table 4.4: Model Summary on LCVR and LGRWT of Commercial Banks

Model	R	R ²	Adjusted R ²	Std. Error	Durbin-Watson	F	Sig.
1	.421 ^a	.177	.163	.352	1.597	12.629	.000 ^b

a. Predictors: (Constant), INTR, LCVR, BSIZE; b. Dependent Variable: LGRWT

Source: Researchers' Computation using SPSS 25.0

According to the results depicted in Table 4.4, a 42.1% correlation exists between the dependent variable (Lending behaviour) and the independent variable (Loan coverage ratio). There are no autocorrelation concerns as the Durbin Watson is just 1.597. The coefficient of determination indicates that variation in the loan coverage ratio informs 17.7% of the variations in the lending behaviour of Commercial Banks in Nigeria. That means that a 1% change in the loan coverage ratio of Commercial Banks will induce a change magnitude of Commercial bank lending by as much as 17.7%. The null hypothesis (Ho3) is not supported because the p-value of the F test is less than 0.05. This result depicts that the loan-to-coverage ratio significantly influences the lending behaviour of Commercial Banks in Nigeria. This finding corroborates the opinion of Murphy et al (2021) concerning the importance of this ratio.

4.4 Loan to Total Asset ratio and Lending Behaviour of Commercial Banks

Table 4.5: Model Summary on LNTA and LGRWT of Commercial Banks

Model	R	R ²	Adjusted R ²	Std. Error	Durbin-Watson	F	Sig.
1	.533 ^a	.284	.272	.328	1.431	23.252	.000 ^b

a. Predictors: (Constant), INTR, BSIZE, LNTA; b. Dependent Variable: LGRWT

Source: Researchers Computation using SPSS 25.0

The R (0.533) in Table 4.5 implies an above-average (53.35%) relationship between the LNTA and LGRWT. Also, at least 28.4% of the variation in the lending behaviour of Commercial Banks in Nigeria is accounted for by the variation in their loan-to-deposit ratio. More specifically, this result denotes that if the loan-to-deposit ratio of a commercial bank changes by 1%, such a Bank is likely to alter its lending volume by as much as 28.4%, given that the influence of interest rate and bank size has been controlled. The result is significant given a p-value of 0.000 ($p < 0.05$). Given this result, the null hypothesis that loan to total assets ratio does not significantly influence the lending behaviour of commercial banks in Nigeria is not supported.

4.5 Aggregate influence of Bank Liquidity variables on Lending Behaviour of Commercial Banks

Table 4.6: Model Summary on LQTA, LCVR, LDEP, LNTA and LGRWT of Commercial Banks

Model	R	R ²	Adjusted R ²	Std. Error	Durbin-Watson	F	Sig.
1	.561 ^a	.315	.291	.324	1.460	13.253	.000 ^b

a. Predictors: (Constant), INTR, LQTA, BSIZE, LCVR, LDEP, LNTA; b. Dependent Variable: LGRWT

Source: Researchers Computation using SPSS 25.0

The results show that taken jointly, all the bank liquidity variables in this study (INTR, LQTA, BSIZE, LCVR, LDEP, and LNTA) correlate significantly with the LGRWT of Commercial Banks (0.561). The Durbin-Watson value of 1.460 suggests that there are no significant autocorrelation problems. The R square value of 0.315 depicts that these bank liquidity variables explain only 31.5% of the variance in lending behaviour (LGRWT) of Commercial Banks. This R square value implies that 68.5% of the variation in the lending behaviour of commercial banks, is accounted for by other variables outside this model. The ability of these bank liquidity variables to explain their lending behaviour is indicated by the p-value of .000, which is less than the .05 thresholds. On this basis, the null hypothesis is not supported. Hence, liquid assets to total asset ratio, loan to deposit ratio, loan coverage ratio and loan to total assets ratio have a significant aggregate influence on the lending behaviour of commercial banks in Nigeria. This finding agrees with the view of Olokoyo (2011) and Churchill (2014) among others.

Table 4.7: Coefficients of the Study Variables

Model	Standardized Coefficients		
	Beta	t	Sig.
(Constant)		6.900	0.000
LQTA	0.177	2.779	0.006
LDEP	0.017	0.195	0.845
LCVR	-0.006	-0.088	0.930
LNTA	-0.348	-3.881	0.000
BSIZE	-0.304	-4.548	0.000
INTR	-0.039	-0.607	0.545

Source: Researcher’s Computation using SPSS 25.0

It is also noteworthy that, of the four (4) focal bank liquidity variables in this study, the loan to total asset ratio (LNTA) with a standardized beta coefficient of -.348 makes a relatively stronger individual contribution to explaining the lending behaviour (LGRWT) of commercial banks than the other variables. This implies that a 1% decrease in loan to total assets ratio could increase loan growth by 34.8%. In line with the views of US Business Reporter (2022), the negative sign portends that higher loan to total assets ratio is risky for Commercial Banks. This is closely followed by LQTA (.177)

5. Conclusion and Recommendations

In this study, the influence of bank liquidity variables such as liquidity to total assets ratio, loan coverage ratio, loan to deposit ratio and the loan to total assets ratio on lending behaviour of commercial banks were examined using data from commercial banks in Nigeria, from 2006 to 2020. It was found that all these bank liquidity variables, individually and jointly influence lending behaviour of commercial banks. It was however observed that among all of them, loan to total assets ratio appeared to have the highest influence on lending behaviour of commercial banks in Nigeria. It was therefore concluded that the liquidity of banks, particularly their loan to total asset ratio, significantly influences their lending behaviour. Based on this conclusion, the following recommendations are pertinent:

- (i). Commercial banks should strive to maintain a healthy dynamic equilibrium especially between volume of lending and their total assets as well as between their liquid assets and their total assets.
- (ii). Commercial banks should moderate their lending spree by ensuring that they are not only interest-motivated but also liquidity-conscious and sustainability-oriented.
- (iii). The CBN and other regulatory authorities should be more proactive than reactive by not only specifying commercial banks' liquidity benchmarks but also more regularly checking up to ensure that such stipulated benchmarks are adhered to. This would help in averting recurring instances of CBN's shore-up interventions to salvage endangered Commercial Banks.

References

- Acha, I. A. (2006). Bank consolidation is not a panacea. *Journal of Business Management*, 1(2), 108 – 121.
- Agency Report (2018, August 23). Bank loans to Nigeria's private sector reduce N601bn in six quarters-NBS. *Premium Times*. <https://www.premiumtimesng.com/news/headlines>
- Alhassan, A., Owusu, F. B. & Asamoah, M. E. (2013). Does asset quality persist on bank lending behaviour? Empirical evidence from Ghana. MPRA Paper 48177, University Library of Munich, Germany.
- Alper, K., Hülügü, T. & Kelen, G. (2012). An Empirical study on liquidity and bank lending. central bank of the Republic of Turkey Working PaperN0: 12/04
- Akin, J. (2020, July 3). What is creditworthiness? [https://www.experian.com/blogs/ask-experian/what-is-creditworthiness/#:~:text=Lenders%20evaluate%20%creditworthiness%](https://www.experian.com/blogs/ask-experian/what-is-creditworthiness/#:~:text=Lenders%20evaluate%20%creditworthiness%20).
- Akinyomi, O. J. (2014). Effect of deposit volume on banks' lending behavior in the Nigerian post-consolidation era. *International Journal of Innovation and Scientific Research*, 4(1), 21-25.
- Álvarez, A., Fernández, A., García-Cabo, J., & Posada, D. (2019). Liquidity funding shocks: The role of banks' funding mix. *International Finance Discussion Papers* 1245. <https://doi.org/10.17016/IFDP.2019.1245>
- Aronu, C. O., Ogbogbo, O. & Bilesanmi, A. (2013). Determining the survivorship of commercial banks in Nigeria. *American Journal of Economics*, 3(4), 185 – 190
- Atuanya, P. (2013, November 14). Central bank of Nigeria designates 8 Nigerian banks as too big to fail. *Business Day* .
- Awan, M. (2014). The impact of liquidity, leverage, and inflation on firm's profitability: An empirical analysis of food sector of Pakistan. *IOSR Journal of Business and Management*, 16(1), 104-112.
- Berhe, T. G. (2020). Determinants of commercial banks' lending behaviour: A case study of selected Commercial Banks in Ethiopia. *International Journal of Sciences: Basic and Applied Research*, 53(1), 194-211.
- Blanchard O. (2009, April). The crisis: Basic mechanism and appropriate policies. *International Monetary Fund*. (Working Paper No. WP/09/80).
- Boyte-White, C. (2021). Liquidity vs liquid assets: What's the difference? <https://www.investopedia.com/ask/answers/052515/what-difference-between-babks-liquidity-and-its-liquid-assets.asp>
- Calomiris, C. W., Heider, F. & Hoerova, M. (2015). A theory of bank liquidity requirements. *Columbia Business School Research Paper* No. 14-39. <https://ssrn.com/>
- Churchill, R. Q. (2014). Macroeconomic instability and bank lending behavior in Ghana. *European Scientific Journal*, 10(10), 397-414.

- Dahir, A. M., Mahat, F., Razak, N. H. A. & Bany-Ariffin, A. N. (2019). Capital, funding liquidity, and bank lending in emerging economies: An application of LSDVC approach. *Bosnia Istanbul Review*, 19(2), 139-148.
- Dang, V. D. (2019). Funding liquidity and bank lending: Evidence from Vietnam. *Business and Economic Horizons*, 15(2), 205-218.
- Donnelson, D. C., Jennings, R. & McInnis, J. (2017). Financial statement quality and debt contracting: Evidence from a survey of commercial lenders. *Contemporary Accounting Research*, 34(4), 2051-2093.
- Enyinnaya, C. (2019). CBN and challenges of bank regulation. <https://guardian.ng/opinion/columnists/cbn-and-challenges-of-bank-regulation/>
- Financial Analysis Hub (2022). Working capital to total assets definition and explanation. <https://financialanalysishub.com/working-capital-to-total-assets/>
- Gocardless (2020). What is the liquidity coverage ratio? <https://gocardless.com/guides/posts/liquidity-coverage-ratio/>
- Hansen (2007). *Academics dictionary of accounting*. Academic (India) Publishers.
- Hummel, W. F. (n.d.). Bank liquidity – Money what it is and how it works. wfhummel.net/bankliquidity.html
- Imeokpararia, L. (2013). Loan management and the performance of Nigerian Banks: An empirical study. *International Journal of Management*, 2(1), 1-21.
- Independent Banking Consultants (2015). How and why lending decisions go wrong and what to do about it. <http://www.independentbankers.co.uk>
- Khan, W., Shahil, M., Bari, R., Anam, W., Shehzad, N. & Siddique, S. (2014). The impact of inflationary trends on Banks' performance (large bank segment) in Pakistan. *International Journal of Accounting and Financial Reporting*, 4(1), 296-306
- Khatat, M. E. & Veyrone, R. M. (2019, February). Liquidity management under fixed exchange rate with open capital account. (Working Paper No. WP/19/58).
- Kitindi, E. G., Magembe, B. A. S. & Sethibe, A. (2007). Lending decision making and financial information: The usefulness of corporate annual reports to lenders in Botswana. *Asian Network for Scientific Information*, 55-66. <http://www.scialert.net/jindex.php?issn=1919-0886>
- KPMG (2021). BOFIA 2020: Impact on the financial services industry. <https://assets.kpmg/pdf/tax>
- Malede, M. (2014). Determinants of commercial banks' lending: Evidence from Ethiopian Commercial Banks. *European Journal of Business and Management*, 6(20), 109-117
- Mamman, A. & Hashim, Y. (2014). Impact of bank lending on economic growth in Nigeria. *Research Journal of Finance and Accounting*, 5(18), 174-182
- Miguel, R. C. (2019). LCR and NSFR, What do these liquidity ratios stand for? <https://www.google.com/amp/s/www.bbva.com/en/lcr-and-nsfr-what-do-these-liquidity-ratios-stand-for/amp/>

- Murphy, C. B., Boyle, M. J. & Rathburn, P. (2021). Liquidity Coverage ratio. <https://www.investopedia.com/terms/l/liquidity-coverage-ratio.asp>
- Ndubuaku V. C., Ohaegbu O. K. & Ninah N. M. (2017). Impact of treasury single account on the performance of the banking sector. *IOSR Journal of Economics and Finance*, 8(4), 8-15.
- Obamuyi, T. M. (2013). An analysis of the deposits and lending behaviours of Banks in Nigeria. *International Journal of Engineering and Management Sciences*, 4(1), 46-54.
- Odeleye, A. T. (2014). Pre-consolidation and post-consolidation of Nigerian banking sector: A dynamic comparison. *International Journal of Economics and Financial Issues*, 4(1), 27-34
- Okoye, L. U., Adetiloye, K. A., Erin, O. & Evbuoman, G. O. (2017). Impact of banking consolidation on the performance of the banking sector in Nigeria. *Journal of Internet Banking and Commerce*, 22(1), 1-16. <http://www.icommerceland.com>
- Okoye, V. & Eze, O. R. (2013). Effect of bank lending rate on the performance of Nigerian Deposit Money Banks. *International Journal of Business and Management Review*, 1(1), 33-43.
- Olokoyo, F. O. (2011). Determinants of commercial banks' lending behavior in Nigeria. *International Journal of Financial Research*, 2(2), 61-72
- Paulin, N. M. (2018). Factors affecting financial sustainability of microfinance institutions in Democratic Republic of Congo: The Case Study of MFIs in the City of Kindu [MBA Research Project Report, United States International University]. United States International University, Africa.
- Sayed, S. N. & Ringim, K. J. (2019). Effect of bank lending on economic growth of Nigeria. *Journal Kemanusiaan*, 17 (1) , 1 - 1 8 . <https://jurnalkemanusiaan.utm.my/index.php/kemanusiaan/article/view/246/267>
- Sultan, A. S. (2014). Financial Statements analysis- Measurement of performance and profitability: applied study of Bagdad soft drink industry. *Research Journal of Finance and Accounting*, 5(4), 49-56.
- The Guardian (2018, October 12). What happened to Skye Bank? <https://guardian.ng/opinion/what-happened-to-skye-bank/>
- Tsomocos, D. P. (2003). Equilibrium analysis, banking and financial instability. *Journal of Mathematical Economics*, 39(5-6), 619-655
- US Business Reporter (2022). Understanding banking ratios. http://www.activemediaguide.com/busedu_banking.htm#:~:text=The%20loans%20to%20assets%20ratio,may%20be%20to%20high...