AKSU JOURNAL OF MANAGEMENT SCIENCES (AKSUJOMAS)
VOLUME 7, Issues 1 & 2 (January – December, 2022) ISSN: 77753348

THE INFLUENCE OF BANK LIQUIDITY ON LENDING BEHAVIOUR OF DEPOSIT MONEY BANKS (DMBS) IN NIGERIA (2006-2020)

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The relevance of DMBs 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 lending behaviour of DMBs in Nigeria. Twelve (12) listed DMBs were selected using the convenience sampling technique. The ex post facto research design was adopted and secondary data drawn from the sampled DMBs 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 influences lending behaviour of DMBs. However, the loan to total assets ratio was found to exert the highest relative influence on lending behaviour of DMBs. It was therefore recommended that DMBs 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 DMBs' liquidity and sustainability.

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

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INTRODUCTION

Background to the Study

Lending is one of the activities and sources of revenue generation for most banks in Nigeria (Imeokparaia, 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 government help to drive specific investment and development activities which ultimately stimulate the overall economic wellbeing 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 loan-worthiness, 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 to lending decision. 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 viability and other credit worthiness assessment indices; banks equally assess themselves so as to ensure that their lending decisions are in tandem with the realities of their liquidity capacity, in order to ensure financial sustainability.

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Some unpalatable happenings in the Nigerian banking sector raises concern, as to whether banks, particularly Deposit Money Banks (DMBs) objectively assess their own 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 bank's own 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 decision issues were largely centred on the borrower financial performance and position evaluation and issues bothering around adequate and reliable financial information disclosure by the intending borrower (Danos, Holt & Imhoff, 1989; Kitindi, Magembe & Sethibe, 2007; Ahadiat, Pak & Salimi, 2001; Donellson, Jennings & McInnis, 2017; Akin, 2020). To the best of the researcher's knowledge, not very 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, makes this study significant, not only to DMBs and other lenders but also to government and the general public, as well as future researchers. The scope of this study was DMBs in Nigeria only and the period for the study was a period of 15 years spanning from 2006 to 2020. The decision to start the study period from 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 efficiency and soundness of banks in Nigeria (Acha, 2006; Okoye, Adetiloye, Erin & Evbuomwan, 2017).

The main objective of this study was to examine the influence of bank liquidity on the lending behaviour of DMBs in Nigeria. From this sub-objectives were extracted leading to the development of the following hypotheses:

Ho_1: Liquid asset to total asset ratio does not significantly influence the lending behaviour of DMBs in Nigeria.

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Ho_2: Loan to deposit ratio has no significant influence on the lending behaviour of DMBs in Nigeria

Ho_3: Loan coverage ratio does not significantly influence the lending behaviour of DMBs in Nigeria

Ho_3: Loan to total assets ratio does not significantly influence the lending behaviour of DMBs in Nigeria

Ho_4: 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 DMBs in Nigeria.

Literature Review

Liquidity refers to an organization's ability to settle its short term obligations as they fall due with 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, with respect to 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 in order to meet customer's demand for deposits and other short term maturing obligations. According to Boyte-White (2021), 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 is. It has been asserted that although banks fund their loans with mostly short term liabilities, their lending finances investments in assets that are relatively illiquid. Thus the challenge of ensuring its own liquidity under all reasonable conditions is 'a task that must be done' for every bank (Hummel, n.d).

Liquidity issues for DMBs becomes even more critical in these era of Treasury Single Account (TSA) policy. This is because the implementation of this policy over the last few years has resulted in the DMBs losing the large chunk of the deposits they used to get from domiciling various accounts of Ministries,

Departments and Agencies (MDAs) of government (Ndubuaku, Ohaegbu & Ninah, 2017). The implication of this is reality is that the tendency of an incautious DMB running into a liquidity problem is higher today than in the pre-TSA era.

Measurements indicators 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 measurements 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 deposit 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 portends both credit and liquidity risk while on the other hand, a lower ratio represents higher deposits than what is given out as credit (Alvarez, Fenandez, Garcia-Cabo & Posada, 2019).

(ii) Loan Coverage ratio:

This refers to the proportion of highly liquid assets that is 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 loans 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 more risky 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 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.

Lending Behaviour

Sayedi and 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 instance, the quality and implications of the decision taken is 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 deposit and the giving out of credit does not only generate a benefit but also entails a series of risks (Miguel, 2019). A prudent lending behavior that is guided by a careful consideration of these benefits and risk would more likely facilitate the attainment of a healthy balance for the lending bank and also some positive multiplier effect on the macro-economy.

Factors Affecting Lending Behaviour

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

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i. Interest Rate:

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 DMBs and other financial institutions, interest rate is an important factor which affects their earnings profile and of course, their lending decisions. 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 interest rate is high, it has effect on the borrowers and lenders of finance.

For business organisations in need of borrowed funds, increase in interest rates amount to increase in cost of borrowing. Conversely, the implication of such economic situation is that lenders earn more from the provision of credit. That may suggest that there is a direct relationship between the interest rate and the earnings of lending institutions. However, apart from this, Khatat and Veyrune (2019) pointed out that interest rate fluctuations can affect the liquidity management of DMBs. They assert that the difference arising from interest rate changes often lead to unexpected changes in the cash flows of DMBs. Such differences also affect the earnings spread among assets, liabilities and off-balance sheet instruments of similar maturities.

ii. Inflation:

Another important macro-economic factor is inflation. Inflation is defined as a sustained increase in the general price level and it is measured in rate (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).

iii. Loan Performance:

Every loan attracts stipulated interest and principal repayment expectations. Where these expectations are serviced and met as and at when due, such 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

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income and full repayment of principal and interest becomes doubtful (Paulin, 2018. This results in financial stress which increases the lender's risks.

iv. Bank Size:

This is defined from the standpoint of 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 give 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.

v. Volume of Deposit:

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

Theoretical Review

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.

Empirical Review

Akinyomi (2014) studied on the effects of deposit volume on banks' lending behavior in the Nigerian Post-Consolidation Era. The study spanned a period of 2006-2012. Data were obtained from the annual report of 22 DMBs and the regression analysis was used to test the hypothesis. The findings revealed that there is a positive relationship between volume of deposit and banks' lending

behaviour. The researcher recommended that further studies should be carried out to investigate other factors apart from deposit which may affect lending behavior 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 time, 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 apparently didn't differ from that of Olokoyo (2011) who had earlier also 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 behavior in Ethiopia. The dependent variable was lending behavior while the interest rate, capital adequacy ratio, liquidity ratio, volume of deposit 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 significant effect on lending behavior. 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 behavior.

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 deposit ratio while 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 policy makers should be guided to improve the banking regulatory and operational framework for more efficiency.

Dahir, Mahat, Razak and 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

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Dummy Variable Corrected (LSDVC) approach was adopted for the study. Contrary to the findings of Dang (2019), the findings of this study revealed that the higher the funding liquidity, the lower the bank loan growth. This conflicting findings necessitated further research. By employing 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 Nigeria context.

Methodology

The ex post facto research design was adopted for this study. The population of the study consisted of all the 15 DMBs listed on the Nigerian Stock Exchange as at December 2021. The conditional sampling technique was adopted to select 12 DMBs for the study. The banks selected were those that had been in existence as at 2006 and still remained in operation as at 31st December 2020. Data were obtained from secondary sources. This include 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: Statement of Profit or Loss and Other Comprehensive Income (Income Statement), Statement of Financial Position, of the sampled DMBs.

The linear regression analysis technique was employed for the analysis of collected data and test of the study hypotheses. The independent variable of the study (liquidity) was measured by the loan to deposit (LDEP) ratio, Liquidity Coverage Ratio (LCVR), liquid assets to total assets (LQTA) ratio, as at the beginning of the year while growth rate of bank loans and advances in the current year (LGRWT)was the proxy for the dependent variable (lending behaviour). In order to enhance the robustness of the model, bank size (BSIZE) and interest rate (INTR) were included in the model as control variables. The econometric models for the study are specified thus:

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

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

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

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

$LGRWT_t = a_0 + b_1 LQTA_{t-1} + b_2 LDEP_{t-1} + b_3 LCVR_{t-1} + b_4 LNTA_{t-} + b_5 BSIZE_{t-1} + b_6 INTR_t + e$ ----(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 a_0 = Constant term
b_1, b_2…., b_6 = Coefficient of the independent variables and control variables
e = Error term

Results and Discusssion 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.

Descriptive and Collinearity Statistics

Descriptive Statistics				Collinearity Statistics	
Variable	Mean	Std. Deviation	N	Tolerance	VIF
LGRWT	.312989	.3843014	180		
LQTA	.153690	.1048943	180	0.972	1.029
LDEP	.608326	.2228458	180	0.505	1.979
LCVR	.654900	4.5604696	180	0.965	1.037
LNTA	.389219	.1335013	180	0.491	2.036
BSIZE	13.655660	1.1786695	180	0.888	1.127
INTR	7.215750	4.9514242	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) (.389219) while the highest of them was that of loan coverage ratio (LCVR). This mean

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value implies that the average liquidity position of DMBs 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 0.654900. Similarly, the LGRWT mean value (.312989) depicts that the average growth rate of lending by DMBs was about 31.3% approximately. 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.

Liquid Assets to Total Assets ratio and Lending Behaviour of DMBs

Ho_1: Liquid asset to total asset ratio does not significantly influence the lending behaviour of DMBs in Nigeria.

Table 4.2: Model Summary on LQTA and Lending Behaviour(LGRWT) of DMBs

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson	F	Sig.
1	.464[a]	.215	.202	.3433820	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 liquid asset to total asset ratio (LQTA) has a 46.4% correlation with the lending behaviour (LGRWT) of DMBs in Nigeria. The Durbin Watson value of 1.633 suggests that there are no significant autocorrelation problems. The coefficient of determination (R square) value of 0.215 depicts that only 21.5% of the variation in lending behaviour of DMBs 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 total asset (LQTA) ratio can induce DMBs 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 DMBs in Nigeria is significantly influenced by their Liquid asset to total asset ratio. The null hypothesis (Ho_1) is therefore not supported. This finding corroborates the finding of previous studies by Dang 2019. It however contradicts that of Dahir, Mahat, Razak and Bany-Ariffin (2019).

Loan to Deposit ratio and Lending Behaviour of DMBs

Ho_2: Loan to deposit ratio has no significant influence on the lending behaviour of DMBs in Nigeria

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Table 4.3: Model Summary on LDEP and Lending Behaviour (LGRWT) of DMBs

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson	F	Sig
1	.469[a]	.220	.207	.3422101	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 Loan to deposit ratio (LDEP) and the lending behaviour (LGRWT) of DMBs in Nigeria. The R square is 0.220 implying that 22% of the variation in lending behaviour of DMBs 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 DMBs' lending behaviour is deemed significant. Thus the null hypothesis which stated that Loan to deposit ratio has no significant influence on the lending behaviour of DMBs in Nigeria is not supported. This result is in line with the views of Alvarez, Fenandez, Garcia-Cabo and Posada (2019).

Loan Coverage ratio and Lending Behaviour of DMBs

Ho_3: Loan coverage ratio does not significantly influence the lending behaviour of DMBs in Nigeria

Table 4.4: Model Summary on LCVR and Lending Behaviour (LGRWT) of DMBs

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson	F	Sig.
1	.421[a]	.177	.163	.3515645	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 DMBs in Nigeria. That means that a 1% change in the loan coverage ratio of DMBs will induce a change magnitude of DMB lending by as much as 17.7%. The null hypothesis (Ho_3) 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 DMBs in Nigeria. This finding corroborates the opinions of Murphy, Boyle and Rathburn (2021) concerning the importance of this ratio.

Loan to Total Asset ratio and Lending Behaviour of DMBs

Ho_3: Loan to total assets ratio does not significantly influence the lending behaviour of DMBs in Nigeria

Table 4.5: Model Summary on LNTA and Lending Behaviour (LGRWT) of DMBs

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson	F	Sig.
1	.533[a]	.284	.272	.3279794	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 that an above average (53.35%) relationship exists between the loan to total assets ratio and their lending behaviour (LGRWT). Also at least 28.4% of the variation in lending behaviour of DMBs in Nigeria is accounted for by the variation in their loan to deposit ratio. More specifically, this results denotes that if the loan to deposit ratio of a DMB changes by 1%, such DMB is likely to alter its volume of lending by as much as 28.4%, given that the influence of interest rate and bank size has been controlled for. The result is significant given a p-value of 0.000 ($p < 0.05$). Given this result, the null hypothesis which stated that Loan to total assets ratio does not significantly influence the lending behaviour of DMBs in Nigeria, is not supported.

Aggregate influence of Bank Liquidity variables on Lending Behaviour of DMBs

Ho_4: 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 DMBs in Nigeria.

Table 4.6: Model Summary on LQTA, LCVR, LDEP, LNTA and Lending Behaviour of DMBs

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson	F	Sig.
1	.561[a]	.315	.291	.3235588	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 lending behaviour (LGRWT) of DMBs (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 DMBs. The implication of this R square value is that 68.5% of the variation in lending behaviour of DMBs 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 .05 threshold. 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 DMBs in Nigeria. This finding agrees with the view of Olokoyo (2011) and Churchill (2014) among others.

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 DMBs than the other variables. In line with the views of US Business Reporter (2022), the negative sign portends that higher loan to total assets ratio is risky for DMBs. This is closely followed by LQTA (.177)

Conclusion

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 DMBs was examined using data of DMBs in Nigeria drawn from 2006 to 2020. It was found out that all these bank liquidity variables, individually and jointly influence lending behaviour of DMBs. It was however observed that among all of them, loan to total assets ratio appeared to have the highest influence on lending behaviour of DMBs 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). DMBs 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). DMBs should moderate their lending spree by ensuring that they are not only interest-motivated but also liquidity–conscious and sustainability-oriented.

(iii). More importance should be attached to interim financial reports to ensure more regular assessment of DMB liquidity status to avert unpleasant surprises.

(iv). The CBN and other regulatory authorities should be more proactive than reactive by not only specifying DMB 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 shore-up interventions to salvage endangered DMBs.

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