Original Research Article

MACROECONOMIC DYNAMICS, BANK-SPECIFIC FACTORS AND DEPOSIT MOBILIZATION OF THE NIGERIAN BANKING SECTOR

Abstract

This study critically examined the nexus between macroeconomic dynamics, bank-specific factors and deposit mobilization of the Nigerian banking sectors. Macroeconomic dynamic was proxied by inflation rate, lending rate, exchange rate, government expenditure, unemployment rate and Gross domestic product (GDP) while bank-specific factors was proxied by deposit interest rate, branch network expansion and bank's liquidity. The study which is ex-post facto, relied mostly on secondary data which were collected through the Central Bank of Nigeria (CBN) and National Bureau of Statistics (NBS) statistical bulletin from 1985-2018. Multiple regression Ordinary Least Square (OLS) statistical tool was applied to establish the like fit to the observed data and the degree of relationship that exist between variables. Findings revealed among others that inflation rate measured by the consumer price index and deposit interest rate has negative and significant relationship with deposit mobilization in Nigeria. Exchange rate, unemployment rate and loan-to deposit ratio have negative and insignificant relationship. Lending rate and Government expenditure have insignificant positive relationship while it was only Gross domestic product and number of bank branches that have positive and significant relationship with deposit mobilization in Nigeria. It was recommended among others that deposit interest rate should be fixed based on the level of customer's deposit so as to act as compensation against the rising trend in inflation rate and also, banks should be more socially responsive by partnering with the Government and other private sectors in sponsoring various entrepreneurship and skill acquisition training programmes in the country that are employment driven. This will ensure that a good number of the unemployed persons are into paid employment and are earning. This will in turn boost their deposit base.

Keywords: Macroeconomic Dynamics, Bank-Specific Factors, Deposit Mobilization, Nigerian Banking Sector.

1.1 Introduction

The banking sector in any economy performs two major functions of mobilizing surplus funds from the various economic units such as Government, business and household units and then channeling them in the form of loans and advances to the deficit sectors of the economy for productive investment.

Deposit mobilization is an indispensable factor to increase the sources of the banks to serve effectively. Mobilization of deposit plays an important role in providing satisfactory service to different sectors of the economy. The Deposit Money Banks must tap deposits from urban and rural areas. [1] state that, the success of the banking sector greatly lies on the deposit mobilization. Performances of the bank depend on deposits, as the deposits are normally considered as a cost effective source of working fund.

However, certain factors affect the deposit mobilization efforts of the Nigerian banking sector. These factors can be either internal or external to the bank. The internal factors are those that are peculiar to banks and thus can be managed effectively to achieve the desired objective of increased deposit mobilization. Hence, the volume of deposit mobilized by a bank in a year may be a function of its internal characteristics such as deposit interest rate, branch network expansion, bank's liquidity and other internal factors, all of which may be said to fall though relatively within the control of the bank.

The external factors which are the macroeconomic factors are those that are beyond the control of the bank. They include inflation rate, lending rate, exchange rate, government expenditure, unemployment rate, Gross domestic product (GDP) and all other external factors that can only be managed by the government and regulatory agencies. The general performance of the economy is reflected by the macroeconomic aggregates including the gross domestic product (GDP), employment level, industrial capacity utilization, inflation, money supply and exchange rate [2]. Banks therefore adjust their deposit mobilization in response to the signals from these factors, such that positive signals make banks become more favourably disposed to attracting more deposit and vice versa.

It has been observed that the Nigerian economy has experienced series of macroeconomic fluctuations in recent times most especially in the area of inflation rate, exchange rate, interest rate and unemployment rate. Also, there has been failure of the macroeconomic policy makers to achieve a stable economic environment that will be conducive enough for banks to operate. [3] opined that in spite of the ongoing economic recovery, the macro environment in Nigeria remains in a period of significant uncertainty as the country continue to experience series of instability and volatility in macroeconomic factors. For instance, the inflation rate rose sharply from 7.9% in 2013 to 16.5% in 2017. There has been currency depreciation since 2010 in terms of exchange rate between naira and dollar such that it rose from ₦150.30/$1 in 2010 to ₦305.58/$1 in 2018. Also, the lending rate increased from 16.02% in 2011 to 17.58% in 2017 and the number of persons that are unemployed increased rapidly from 7.8% in 2014 to 23.1% in 2018 [4]. All these changes in macroeconomic conditions pose a serious challenge to the Nigerian banking sector in terms of deposit mobilization. On the other hand, there has been failure on the part bank management to effectively manage its internal factors in terms of branch distribution. Most banks in Nigeria have concentrated in opening up branches in the urban areas

80 at the expense of the rural areas. Hence, huge amount of cash are lying idle in the rural areas and
81 thus, being left out of the banking stream.

82 There has been growing empirical literature on the macroeconomic and bank-specific
83 determinant of bank lending in Nigeria and in other countries of the world. Its effect on deposit
84 mobilization has been neglected over the years and thus demands investigation. There are few
85 empirical literatures on the aspect of deposit mobilization bearing in mind that without deposit
86 mobilization, there will be no bank lending. Thus, it is against this backdrop that the researcher is
87 motivated to examine how changes in the macroeconomic and bank-specific factors affects
88 deposit mobilization of the Nigerian banking sector so as to complement the dearth in knowledge
89 on the few empirical literatures in the subject matter. The study will also improve on the
90 variables employed by other scholars by introducing unemployment rate as part of the
91 macroeconomic factors that affects deposit mobilization in Nigeria.

92 However, this study sets out to specifically examine, whether changes in the macroeconomic
93 environment proxied by inflation rate, lending rate, exchange rate, government expenditure,
94 unemployment rate and Gross domestic product (GDP) and also changes in bank-specific factors
95 proxied by deposit interest rate, branch network expansion and bank's liquidity impacts
96 positively or otherwise on the deposit mobilization of the Nigerian banking sector.

97 **2.1 Conceptual and Theoretical Literature Review**

98 According to Section 61 of the bank and other financial insitutions act no 25 of 1991 as
99 amended, deposits are money lodged with any person whether or not for the purposes of any
100 interest or dividend and whether or not such money is repayable upon demand, upon a given
101 period of notice or upon a fixed date. Deposit mobilization is related to the creation of credits in
102 which the banks would have special campaigns where they would interact with a lot of people
103 and invite them to make deposits with their bank. Deposit mobilization is defined by [5] as the
104 process of encouraging customers to deposit cash with the bank or attracting new clients to come
105 and open accounts with the bank.

106 Deposit mobilization is one of the oldest businesses of bankers. It is the earliest source from
107 which bankers got the funds they use for lending. Mobilization of deposits is one of the
108 important functions of banking business. It is an important source of working fund for the bank.
109 Deposit mobilization is an indispensable factor to increase the sources of the banks to serve
110 effectively. Mobilization of deposit plays an important role in providing satisfactory service to
111 different sectors of the economy. The success of the banking greatly lies on the deposit
112 mobilization. Deposit mobilization is depending on the cost of deposits. Mobilization of deposits
113 for a bank is as essential as oxygen for human being. To enhance profitability, banks take steps
114 to minimize the expenditure and are forced to mobilize low cost deposits. [6]. According to
115 Kutant [7], banks serve as intermediaries accepting commercial and individual deposits (saving)
116 and transferring them in the form of loans for investments.

117 To a bank, either operating conventional banking or Islamic banking, deposits is its main source
118 of finding for which it uses to produce income. Some literature has cited that deposits contribute
119 75 percent of a bank's total fund [8]. According to [9], bank uses customer's deposits mainly to
120 give out loans to deficit economic units or borrowers. Besides loans, bank also mobilize deposits
121 by purchasing trading securities, investments and maintain some as cash in hand to meet

122 withdrawals on demand. He maintained that the larger the amount of deposits a bank receives
123 from its customers, the better is its capacity to give out loans and the higher is the interest
124 income. Banks receive deposits on three major types of accounts, namely: demand deposit
125 account (current account), savings account and time (fixed) deposit account.

2.1.1 Relationship between Macroeconomic Dynamics and Deposit Mobilization

Inflation Rate and Deposit Mobilization

128 According to [10], inflation is described as a general and persistent increase in the prices of
129 goods and services in an economy. Inflation affects bank deposits in two ways. First is that it
130 reduces the purchasing power of money and hence leads to high cost of living implying that a
131 household can purchase very little with their available income and thus may be left with little or
132 nothing to deposit in the bank.

133 Secondly, in a situation when there is hyperinflation i.e rapid, excessive and out-of-control price
134 increases in an economy, cash or savings deposited in the banks decreases in value or becomes
135 worthless since the money has far less purchasing power. Thus, people may decide to convert
136 their deposits and cash into hoarding of goods with the expectation that prices may increase
137 further in future and hence might not deposit their money in the bank. [11], stressed that with
138 respect to the effect of inflation on savings, all individuals who save a part of their incomes in
139 banks are directly damaged by the inflation and their assets decreases in proportion with money
140 value decrease.

Lending Rate and Deposit Mobilization

142 The interest rate can be defined as the annual price charged by a lender to a borrower in order for
143 the borrower to obtain a loan and is usually expressed as a percentage of the total amount loaned
144 [12]. In manipulating the lending rate for increased deposit mobilization, banks tend to reduce
145 the rate of interest charged on loans in order to lure people to open an account and then deposit
146 money with them so as to borrow at a low interest rate. The borrowing could be in the form of
147 loans, advances or overdraft.

Exchange Rate and Deposit Mobilization

149 Exchange rate is the rate at which one currency is being converted into another currency.
150 Exchange rate changes can affect deposit mobilization as when the currency of one country
151 depreciates in value, most investors will withdraw their deposits in the bank in exchange for
152 currencies with higher value. According to [13] currencies depreciated in one country deposit
153 will be reduced since investors tend to withdraw deposit and exchanged to keep it by
154 appreciating currency (Hard currency) or invest in another form of investment rather than bank
155 deposit.

Government Expenditure and Deposit Mobilization

157 Government expenditures are those expenditures incurred by government in the course of
158 maintaining herself, the society and improving the economy. When government spends more on
159 recurrent expenditures such as wages and salaries, it puts more money into the hands of the
160 public which will invariable increase savings and bank deposit. Also, government expenditure on

161 various capital projects such as establishment of hospitals, ministries, schools, road
162 constructions, power projects etc. are bound to create more jobs which will increase income and
163 savings. [14] posits that expenditure that creates jobs ensures regular income and savings, hence,
164 bank deposits increase.

165 **Unemployment Rate and Deposit Mobilization**

166 Unemployment is a situation in which those who are able and willing to work at the prevailing
167 wage rate do not find job. Unemployment is one of the greatest macroeconomic factors that
168 affect the deposit mobilization efforts of banks as when people are unemployed, it means they
169 are not earning and as such will have nothing to deposit in the bank. There has been a rising
170 trend in the unemployment rate in Nigeria in recent times and this poses a serious challenge to
171 the banking sector in term of deposit mobilization.

172 **GDP and Deposit Mobilization**

173 GDP is the market value of all goods and services produced in a country over a period of one
174 year and are one of the primary indicators used to gauge the economic performance of a country.
175 Evidently, there is a positive relationship between the GDP growth rate and deposit mobilization.
176 During period of high economic growth, there is increase in the demand for goods and services
177 and as such there is potential for higher profits and producers will deposit more of their surplus
178 earnings in the bank and deposits are bound to increase while period of depression is associated
179 with lower earnings on investments which will invariably reduce bank deposits.

180 **2.1.2 Relationship between Bank-Specific Factors and Deposit Mobilization**

181 **Deposit Interest Rate and Deposit Mobilization**

182 Over the years, interest rates have remained a subject for critical assessment with diverse
183 implications for deposit mobilization and investment promotion. Interest rate is defined as the
184 rental payment for the use of credit by borrowers and return for parting with liquidity by lenders.
185 Banks pay interest on deposits on one hand and on the other hand they charge interest on loans
186 and advances lent to borrowers. Banks tend to adjust the interest rate paid on deposit upwards as
187 a way of mobilizing more deposit from the public.

188 [11] believed that one of the most effective factors for deciding to deposit in banking system is
189 the interest rate. [15] also mentioned interest as one of the determining factor for Deposit Money
190 Banks deposits. As to [16], Economists mainly conventional ones, believe that depositors are
191 attracted to deposit their money in banks because of the opportunity cost of holding cash in hand
192 is high when the interest rate is also high.

193 Savings or deposits, according to classical economists, are a function of the rate of interest. The
194 higher the rate of interest, the more money will be saved, since at higher interest rates, people
195 will be more willing to forego present consumption. Moreover, [15] said that low deposit rates
196 are discouraging saving mobilization.

197

198

Branch Network Expansion and Deposit Mobilization

Branch banking refers to a bank that is connected to one or more other banks in an area or outside of it with a head office overseeing the branches. Branch network expansion is one of the traditional and oldest methods used by banks for deposit mobilization. The branches are located nationwide in both the rural and urban area to allow for close proximity to both existing and prospective customers. The branch network would encompass the number of the bank branches and their geographical spread. Large branch network therefore is a distinctive advantage in successful mobilization of deposits. Thus, when a bank opens up a new branch, it draws new customers to the newly opened branch and deposit is bound to increase.

Banks generally take so many factors into consideration in opening branches. Among the factors are profitability, ability to mobilize deposits, targeted market, government requirements, infrastructure, etc. Since banks uses customer deposits to generate income, deposit mobilization is the paramount factor considered in locating a branch. This is the reason why banks are located in urban areas where there are abundant business opportunities and infrastructures for the banks. As at fourth quarter 2018, the total number of deposit money banks branches in Nigeria increased from 3231 in 2006 to 5299 in 2016 representing an increase in 64% [4].

This increase in the number of branches has led to the increase in the amount of deposit mobilized by banks. The branches are increased so that the bank would move closer to their customers to avoid long traveling for safety purpose.

Bank's Liquidity and Deposit Mobilization

Liquidity can be defined as a measure of the relative amount of asset in cash or which can be quickly converted into cash without any loss in value available to meet short term liabilities [14]. The loan to deposit ratio (LDR) is used to assess bank liquidity by comparing a bank's total loans to its total deposits for the same period. The LDR is expressed as a percentage. If the ratio is too high, it means that the bank may not have enough liquidity to meet customer's withdrawals and may discourage people from further depositing their money. Conversely, if the ratio is too low, the bank may not be earning as much as it could. Thus, a bank must strike a balance between liquidity and profitability so as to maintain public confidence and ensure regularity of customer deposits.

2.2 Empirical Review

[14] empirically examined the determinants of commercial banks deposit mobilization in Ethiopia for the periods 2000-2015. Different diagnostic tests (test for assumption of Homoscedasticity, Autocorrelation, Normality, average value of the error is zero and independent variables are non-stochastic) were conducted to check the appropriateness of the model. The results reveal that credit risk, exchange rate, and Bank Profitability are positively and statistically significant on bank deposit growth; whereas, Loan to Deposit ratio (Bank's Liquidity) and Money Supply influence is negatively and statistically significant on bank deposit growth. Deposit Interest Rate had insignificant positive influence on bank deposit growth. Whereas Inflation and Government Expenditure had insignificant negative influence on bank deposit growth.

239 [17] evaluated the effect of interest rate on commercial bank deposits in Nigeria covering period
240 of 2000 to 2013. Using the Ordinary Least Square (OLS) multiple regression techniques; the
241 study revealed that there is a negative relationship between the interest rates and the commercial
242 bank deposits suggesting that interest rates has not been responsible for customers deposits in
243 commercial banks in Nigeria.

244 [18] investigated the structural determinants of deposits level of commercial banks in Malaysia,
245 using cointegration techniques. The results suggest that determinants such as rates of profit of
246 Islamic bank, rates of interest on deposits, Base Lending Rate, Kuala Lumpur Composite Index,
247 Consumer Price Index, Money Supply and Gross Domestic Product have significant impact on
248 deposits.

249 [19] aimed to identify and evaluate those factors affecting bank deposit in general by taking
250 Commercial Bank of Ethiopia as evidence. Estimation was done using Ordinary Least Squares
251 technique by E-views7 statistical package. The results from economic analysis showed that all
252 the explanatory variables were positively correlated with the explained variable. Among these
253 variables, branch opening is an important strategy for deposit mobilization, it is highly
254 significant than others. Individual remittances from diasporas is also next to branch opening is
255 significantly affects CBE's deposit. The others are affects positively and can increase CBE's
256 deposit.

257 [20] investigated the determinants of deposit mobilization in private commercial banks of
258 Ethiopia using panel data of six private commercial banks from year 2002 to 2012. The study
259 used both quantitative and qualitative research approach. Secondary financial data are analyzed
260 using multiple linear regressions models for the six bank's deposit. Fixed or random effect
261 regression model was applied to investigate the impact of bank branches, exchange rate, Real
262 Gross domestic product, Capital Adequacy and Liquidity on private commercial banks deposits.
263 The empirical results from regression analysis showed that bank branches, exchange rate, and
264 real gross domestic product affects deposit of the bank positively whereas, capital adequacy and
265 liquidity affects the deposit of the private banks negatively.

266 [21] examined factors influencing deposits mobilization in financial institutions in Tanzania,
267 employed a quota sampling technique, where 120 customers and 40 bank staff were sampled,
268 revealed that information communication technology, varieties of services offered and location
269 of the bank are among the most important factors to facilitate deposit mobilization.

270 [22] critically examined inflation rate in Nigeria with the view of ascertaining its effect on the
271 deposit mobilization in Banks. The population for the study included selected numbers of banks
272 i.e. deposit money bank in Nigeria from 1994 – 2014. Multiple regression Ordinary Least Square
273 (OLS) statistical tool was applied to establish the like fit to the observed data and the degree of
274 relationship that exist between variables. Findings reveals among others that there exist a
275 significant and negative relationship amongst demand, savings and time deposit with inflation in
276 Nigeria, and that interest rate impacted significantly and positively on saving and time deposit.

277 From the above empirical review, this study has not been widely investigated in Nigeria and
278 also, this study is an improvement to previous empirical studies as it introduced unemployment
279 rate as an important macroeconomic variable that affects the deposit mobilization of the banking
280 sector. This will however form the basis of the research gap.

281 **Methodology of the Study**

282 **3.1 Research Design**

283 The study adopts an *expost facto* research design. There are two variables: independent and
284 dependent. The dependent variable is customer deposits in Nigeria which is a proxy for deposit
285 mobilization. The independent variables are the macroeconomic factors and bank-specific
286 factors. Macroeconomic factors were proxied by inflation rate, lending rate, exchange rate,
287 government expenditure, unemployment rate and Gross domestic product (GDP) while bank-
288 specific factors were proxied by deposit interest rate, branch network expansion and bank's
289 liquidity.

290 **3.2 Sources of Data**

291 Based on the nature of the study, data collection will be based on secondary data. The study will
292 source data from Statistical Bulletin of the Central Bank of Nigeria (CBN) and National Bureau
293 of Statistics (NBS). The source of data for the study will cover for the period between 1985 and
294 2018.

295 **3.3 Model Specification**

296 The model for this study is a modified version of [3] which is stated as follows

297 TCD= f(CPI, LR, EXGR, GOVEXP, UER, GDP, DINTR, NBB, LDR) ……………… (1)

298 Transforming equation 1 above to econometric method, we have:

299 TCD= β_0 + β_1CPI + β_2LR + β_3EXGR+ β_4GOVEXP+ β_5UER + β_6GDP+ β_7DINTR +
300 β_8NBB + β_9LDR+ µ ……………………………………………………………….. (2)

301 **Where:**

302 TCD = Total Customer Deposits (A Proxy for Deposit Mobilization)
303 CPI = Consumer Price Index (A measure of Inflation Rate)
304 LR = Lending Rate
305 EXGR = Exchange Rate
306 GOVEXP = Government Expenditure
307 UNER = Unemployment Rate
308 GDP = Gross Domestic Product
309 DINTR = Deposit Interest Rate
310 NBB = Number of Bank Branches in Nigeria
311 LDR = Loan-to-Deposit Ratio (A Proxy For Bank's Liquidity)
312 µ = Error Term
313 β_1 – β_9 = Coefficient of Independent Variables to the Dependent Variable
314 β_0 = Regression Intercept.
315 **3.4   A Priori Expectations**

316 This refers to the supposed relationship between and or among the dependent or independent
317 variables of the model. Table 1 shows the expected signs of the independent variables in the
318 models.

319 **Table 1: Expected Signs of the Independent Variables in the Models**

Symbol	Meaning	What it Substitutes for	Economic Theory	Expected Sign
CPI	Consumer Price Index	Inflation Rate	Inflation rate reduces the purchasing power of money and results to high cost of living and thus reduces bank's deposit. This summarizes to a negative relationship inflation rate and deposit mobilization.	Negative (-)
LR	Lending Rate	Macroeconomic Dynamics	When a bank reduces the rate of interest charged on loans, it encourages people to open an account and then deposit money with it so as to borrow at a low interest rate. Thus, it is expected that a negative relationship exist between lending rate and deposit mobilization.	Negative (-)
EXGR	Exchange Rate	Macroeconomic Dynamics	When the currency of one country depreciates in value, most investors will withdraw their deposits in the bank in exchange for currencies with higher value or invest in another form of investment rather than bank deposit. This summarizes to a positive relationship between exchange rate and deposit mobilization.	Positive (+)
GOVEXP	Government Expenditure	Macroeconomic Dynamics	An increase in government expenditures such as wages and salaries injects money into the hands of the public which will invariable increase savings and bank deposit. This summarizes to a positive relationship between government expenditure and deposit mobilization.	Positive (+)
UNER	Unemployment Rate	Macroeconomic Dynamics	When people are unemployed, it means they are not earning and as such will have nothing to deposit in the bank. Thus, it is expected that a negative relationship exist between unemployment rate and deposit mobilization.	Negative (-)
GDP	Gross Domestic Product	Economic Growth	During period of high economic growth, there is increase in the demand for goods and services and as such there is potential for higher profits and producers will deposit more of their surplus earnings in the bank and deposits are bound to increase while period of depression is associated with lower earnings on investments which will invariably reduce bank deposits. Hence, a positive relationship exists between GDP and deposit mobilization.	Positive (+)
DINTR	Deposit Interest Rate	Bank-Specific Factors	Higher interest rate on deposit attracts people to deposit more money in the bank. This summarizes to a positive relationship between deposit interest rate and deposit mobilization.	Positive (+)
NBB	Number of Bank Branches	Branch Network Expansion	When a bank open up a new branch, it draws customers to the newly opened branch and more deposit are mobilized. Thus, a positive relationship exists between branch network expansion and deposit mobilization.	Positive (+)
LDR	Loan-to-Deposit Ratio	Bank's Liquidity	If the loan-to-deposit ratio is too high, it means that the bank may not have enough liquidity to meet customer's withdrawals and may discourage people from further depositing their money. This summarizes to a negative relationship between bank's liquidity and deposit mobilization.	Negative (-)

320 **Source:** Researcher's Computations

321 **4.1 Data Analysis and Interpretations**

322 **Stationarity Test**

323 The time series properties of our data were examined by conducting the unit root test of
324 stationarity using the Augmented Dickey-Fuller (ADF) test. The results for the stationarity test
325 using Augmented Dickey-Fuller (ADF) test are presented in table 2 below:

326
327
328

Table 2: ADF Test Result

	TCD	CPI	LR	EXGR	GOVEXP	UNER	GDP	DINTR	NBB	LDR
T-ADF	-5.3274	-4.6451	-4.2244	-4.0427	-3.9728	-5.8685	-4.4397	-9.6569	-3.9727	-4.1494
Lag length	2	2	2	2	4	2	2	2	2	2
5%	-2.9678	-2.9571	-2.9540	-2.9571	-2.9763	-2.9571	-2.9678	-2.9640	-2.9571	-2.9604
Prob	0.0002	0.0008	0.0023	0.0038	0.0052	0.0000	0.0015	0.0000	0.0045	0.0029
Order of Integration	1(2)	1(1)	1(0)	1(1)	1(2)	1(1)	1(2)	1(2)	1(1)	1(0)
Decision	Stationary	Stationary	Stationary	Stationary	Stationary	Stationary	Stationary	Stationary	Stationary	Stationary

Source: Computed by the Researcher using E-views 10 Econometric Software

From the above unit root test result, only lending rate and loan-to-deposit ratio were stationary at level and were integrated of order zero. Those of consumer price index, exchange rate, unemployment rate and number of bank branches were stationary at first difference and were integrated of order one. While that of total customer deposits, Government expenditure, Gross domestic product and deposit interest rate were stationary at second difference. The maximum lag of the variables is 2 except that of Government expenditure which is 4 and was based on Akaike info criterion.

Table 3 Multiple Regression Output

Dependent Variable: TCD
Method: Least Squares
Date: 07/14/19   Time: 08:41
Sample: 1985 2018
Included observations: 34

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	507.4021	735.6072	0.689773	0.4970
CPI	-25.02641	4.246055	-5.894038	0.0000
LR	10.56295	27.97127	0.377636	0.7090
EXGR	-3.515263	4.675601	-0.751831	0.4595
GOVEXP	0.042010	0.335853	0.125083	0.9015
UNER	-18.79961	22.83125	-0.823416	0.4184
GDP	0.206918	0.016655	12.42383	0.0000
DINTR	-91.48170	35.20341	-2.598660	0.0158
NBB	0.636208	0.170584	3.729594	0.0010
LDR	-4.726848	6.533612	-0.723466	0.4764

R-squared	0.997515	Mean dependent var		5496.064
Adjusted R-squared	0.996583	S.D. dependent var		7352.696
S.E. of regression	429.8034	Akaike info criterion		15.20446
Sum squared resid	4433544.	Schwarz criterion		15.65339
Log likelihood	-248.4758	Hannan-Quinn criter.		15.35756
F-statistic	1070.395	Durbin-Watson stat		1.807584
Prob(F-statistic)	0.000000			

Source: Computed by the Researcher using E-views 10 Econometric Software

Results

The multiple OLS results in table 4 shows that consumer price index and deposit interest rate were negative and significantly impacted on deposit mobilization in Nigeria. This is confirmed by their beta coefficient of (-25.02641 and -91.48170) with a probability of (0.0000 and 0.0158) respectively. This implies that a 1% increase in these variables brings about 25.02641 and 91.48170 percent decrease in deposit mobilization in Nigeria. Consumer price index was in line with the a-priori expectation of the study and confirms the findings of [22] that there exist a significant and negative relationship amongst demand, savings and time deposit with inflation in Nigeria while that of deposit interest rate was contrary to the a-priori expectation of the study and hence did not support the works of [14] who found out that Deposit Interest Rate had positive influence on bank deposit growth.

Also, fluctuations of exchange rate, unemployment rate and loan-to deposit ratio have insignificant negative impact on deposit mobilization in Nigeria. This is confirmed by their coefficient and probability as follow: EXGR (- 3.515263 and 0.4595), UNER (-18.79961 and 0.4184), LDR (-4.726848 and 0.4764). This evidence suggests that 1% rise in these variables (EXGR, UNER and LDR) reduces the deposit mobilization efforts of banks in Nigeria. Exchange rate was contrary to the a-priori expectation of the study and thus did not agree with the findings of [20] who found out that exchange rate has positive influence on bank deposit. Unemployment rate and loan-to-deposit ratio exacted a negative relationship with bank deposit and was in tandem to the a-priori expectation of the study. This negative relationship between LDR and TCD agrees with the findings of [20 and 14].

On the other hand, changes in lending rate and Government expenditure have insignificant positive impact on deposit mobilization in Nigeria. This is confirmed by their coefficient and probability as follow: LR (10.56295 and 0.7090), GOVEXP (0.042010 and 0.9015). This evidence suggests that a 1% increase in these variables (LR and GOVEXP) increases the deposit mobilization efforts of banks in Nigeria. Lending rate was not in line with the a-priori expectation of the study and thus, did not support the findings of [18] while that of Government expenditure was in conformity to the a-priori expectation of the study and hence did not support the works of [14] who found out that government expenditure had negative influence on bank deposit.

Finally, changes in Gross domestic product and number of bank branches have significant positive impact on deposit mobilization in Nigeria. This is confirmed by their coefficient and probability as follow: GDP (0.206918 and 0.0000), NBB (0.636208 and 0.0010). This evidence suggests that a 1% rise in these variables (GDP and NBB) increases the deposit mobilization efforts of banks in Nigeria. Both variables agree with the a-priori expectation of the study and hence, confirm the findings of [20].

However, a look at the global statistic result shows that the coefficient of determination is 0.996583. This means that 99.7% of variation in deposit mobilization is explained by the macroeconomic dynamics and bank-specific factors in Nigeria leaving only 0.3% to the error term. This relationship is significant at 5% level since the F-statistic of 1070.395 falls outside the critical region of + (-) 0.000000.

385 **Stability Diagnostic Test**

386 **Table 4 Ramsey Reset Specification Results**
387

Ramsey RESET Test
Equation: UNTITLED
Specification: TCD C CPI LR EXGR GOVEXP UNER GDP DINTR NBB LDR
Omitted Variables: Squares of fitted values

	Value	df	Probability
t-statistic	0.648627	23	0.5230
F-statistic	0.420717	(1, 23)	0.5230
Likelihood ratio	0.616309	1	0.4324

388 **Source:** Computed by the Researcher using E-views 10 Econometric Software

389 The Ramsey Reset Test determines the fitness of the model, whether it was properly specified or
390 not. The null hypothesis of Ramsey Reset specification is that the model is well specified as
391 there is no omitted variables. If the p-value of F-statistic is greater than conventional significance
392 level of 0.05%, the null hypothesis of correct specification would not be rejected. On the other
393 hand, if the p-value of F-statistic is significant at 0.05, the null hypothesis is rejected. From Table
394 5 above, the p-value of F-statistic is insignificant at 5% signifying that our model does not suffer
395 from endogeinity causing biased coefficient estimates.

396 **Co-integration Test**

397 **Table 5 Johansen Co-integration Test Results**
398

Date: 07/14/19   Time: 10:51
Sample (adjusted): 1987 2018
Included observations: 32 after adjustments
Trend assumption: Linear deterministic trend
Series: TCD CPI LR EXGR GOVEXP UNER GDP DINTR NBB LDR
Lags interval (in first differences): 1 to 1

Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.995842	672.0289	239.2354	0.0000
At most 1 *	0.989096	496.5846	197.3709	0.0001
At most 2 *	0.979088	351.9879	159.5297	0.0000
At most 3 *	0.951358	228.2300	125.6154	0.0000
At most 4 *	0.769712	131.4854	95.75366	0.0000
At most 5 *	0.662046	84.49589	69.81889	0.0022
At most 6 *	0.573760	49.78085	47.85613	0.0326
At most 7	0.396749	22.49278	29.79707	0.2719
At most 8	0.168178	6.319266	15.49471	0.6578
At most 9	0.013252	0.426906	3.841466	0.5135

Trace test indicates 7 cointegrating eqn(s) at the 0.05 level
* denotes rejection of the hypothesis at the 0.05 level
**MacKinnon-Haug-Michelis (1999) p-values

Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None *	0.995842	175.4443	64.50472	0.0000
At most 1 *	0.989096	144.5967	58.43354	0.0000
At most 2 *	0.979088	123.7580	52.36261	0.0000
At most 3 *	0.951358	96.74454	46.23142	0.0000
At most 4 *	0.769712	46.98954	40.07757	0.0072
At most 5 *	0.662046	34.71504	33.87687	0.0397
At most 6	0.573760	27.28807	27.58434	0.0545
At most 7	0.396749	16.17351	21.13162	0.2149
At most 8	0.168178	5.892360	14.26460	0.6271
At most 9	0.013252	0.426906	3.841466	0.5135

Max-eigenvalue test indicates 6 cointegrating eqn(s) at the 0.05 level
* denotes rejection of the hypothesis at the 0.05 level
**MacKinnon-Haug-Michelis (1999) p-values

399
400 **Source:** Computed by the Researcher using E-views 10 Econometric Software

401 The results of the Johansen co-integration test presented above indicate at least seven and six co
402 integration equations for trace and max-eigen statistics respectively. The result, therefore,
403 confirms the existence of co-integration among the variables. Consequently, we can conclude
404 that there exists a long run equilibrium relationship between macroeconomic dynamics, bank-
405 specific factors and deposit mobilization of the Nigerian banking sector.

406 **Granger Causality Test**
407 Having established the long run relationship between the variables, the study further determines
408 the direction of relationship between macroeconomic dynamic, bank specific factors and deposit
409 mobilization. The result of this estimate is presented in table 6 below
410
411 **Table 6: Pairwise Granger Causality Tests Result**
412

Pairwise Granger Causality Tests
Date: 07/14/19   Time: 11:58
Sample: 1985 2018
Lags: 2

Null Hypothesis:	Obs	F-Statistic	Prob.
CPI does not Granger Cause TCD	32	6.01234	0.0069
TCD does not Granger Cause CPI		7.17076	0.0032
LR does not Granger Cause TCD	32	0.05919	0.9427
TCD does not Granger Cause LR		1.96593	0.1596
EXGR does not Granger Cause TCD	32	3.71037	0.0377
TCD does not Granger Cause EXGR		2.40760	0.1091
GOVEXP does not Granger Cause TCD	32	9.34324	0.0008
TCD does not Granger Cause GOVEXP		1.90659	0.1681

UNER does not Granger Cause TCD	32	4.81200	0.0163
TCD does not Granger Cause UNER		1.31967	0.2839
GDP does not Granger Cause TCD	32	8.74458	0.0012
TCD does not Granger Cause GDP		1.21116	0.3135
DINTR does not Granger Cause TCD	32	1.09820	0.3479
TCD does not Granger Cause DINTR		0.01675	0.9834
NBB does not Granger Cause TCD	32	1.67717	0.2058
TCD does not Granger Cause NBB		3.18719	0.0572
LDR does not Granger Cause TCD	32	2.47074	0.1034
TCD does not Granger Cause LDR		0.42581	0.6576

Source: Computed by the Researcher using E-views 10 Econometric Software

H0: No Granger Causality

H1: Null hypothesis is not true

Decision Criteria: Reject null hypothesis if the prob-value of the F-statistics is < 0.05 otherwise accept H0.

The result of the granger causality test shows that
1. Consumer price index granger causes total customer deposits (P-value: 0.0069 < 0.05)
2. Lending rate does not granger causes total customer deposits (P-value: 0.9427 > 0.05)
3. Exchange rate granger causes total customer deposits (P-value: 0.0377 < 0.05)
4. Government expenditure granger causes total customer deposits (P-value: 0.0008 < 0.05)
5. Unemployment rate granger causes total customer deposits (P-value: 0.0163 < 0.05)
6. Gross domestic product granger causes total customer deposits (P-value: 0.0012 < 0.05)
7. Deposit interest rate does not granger causes total customer deposits (P-value: 0.3479 > 0.05)
8. No. of bank branches does not granger causes total customer deposits (P-value: 0.2058 > 0.05)
9. Loan-to-deposit ratio does not granger causes total customer deposits (P-value: 0.1034 > 0.05)

Thus, it can be deduced that bank-specific factors does not granger cause deposit mobilization while macroeconomic dynamics except lending rate granger causes deposit mobilization of the Nigerian banking sector within the period of the study.

Discussion

The result of the analysis has shown that inflation rate measured by the consumer price index and deposit interest rate has negative and significant relationship with deposit mobilization in Nigeria. Exchange rate, unemployment rate and loan-to deposit ratio have negative and insignificant relationship with deposit mobilization in Nigeria. Lending rate and Government expenditure have insignificant positive relationship with deposit mobilization in Nigeria. However, it was only Gross domestic product and number of bank branches that have positive and significant relationship with deposit mobilization in Nigeria.

Conclusion and Recommendations

From the findings of this study, it can be concluded that macroeconomic factors such as inflation rate and unemployment rate and bank-specific factor such as loan-to-deposit ratio negatively affects deposit mobilization of the Nigerian banking sector. This shows that the inflation rate and unemployment rate in Nigeria has been on the increase and as such poses serious threat to the banks in terms of mobilizing more deposits from the public. Thus, the management of the Nigerian banking sector should adjust to changes in these macroeconomic conditions and also manage its internal factors most especially the loan-to-deposit ratio in the most effective and efficient manner so as to remain in the business of banking. From the above conclusion, the study therefore recommends that;

1. Banks should fix the deposit interest rate based on the level of customer's deposit such that customer's who deposit more of their surplus income should earn higher interest rate. This will encourage people to save more and will act as compensation against the rising trend in inflation rate.

2. Banks should be more socially responsive by partnering with the Government and other private sectors in sponsoring various entrepreneurship and skill acquisition training programmes in the country that are employment driven. This will ensure that a good number of the unemployed persons are into paid employment and are earning. This will in turn boost their deposit base.

3. Banks should strike a balance between liquidity and profitability by maintaining an optimum level of liquidity that will enhance public confidence that will invariably ensure regularity of customer deposits.

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509

510

511

512 **APPENDIX 1**

513 **Table Showing the Dependent Variable and the Independent Variables for the Study**

Year	TCD (₦'billion)	CPI (%)	LR (%)	EXGR (₦/$)	GOVEXP (₦'billion)	UNER (%)	GDP (₦'billion)	DINTR (%)	NBB	LDR (%)
1985	17.6	1.9	9.25	0.89	13.04	6.1	192.27	9.5	1290	66.9
1986	18.14	2.15	10.5	2.02	16.22	5.3	202.44	9.5	1360	83.2
1987	23.09	2.36	17.5	4.02	22.02	7	249.44	14	1476	72.9
1988	29.07	3.8	16.5	4.54	27.75	5.3	320.33	14.5	1659	66.9
1989	27.17	5.5	26.8	7.39	41.03	4.5	419.2	16.4	1849	80.4
1990	38.78	5.7	25.5	8.04	60.27	3.5	499.68	18.8	1934	66.5
1991	52.41	7	20.01	9.91	66.58	3.1	596.04	14.29	2018	59.8
1992	75.04	10.42	29.8	17.3	92.8	3.4	909.8	16.1	2269	55.2
1993	110.45	16.8	18.32	22.05	191.23	2.7	1,259.07	16.66	2352	42.9
1994	142.54	29.7	21	21.89	160.89	2	1,762.81	13.5	2397	60.9
1995	178.96	45.03	20.18	21.89	248.77	1.8	2,895.20	12.61	2362	73.3
1996	214.36	51.47	19.74	21.89	337.22	3.4	3,779.13	11.69	2402	72.9
1997	269.84	56.73	13.54	21.89	428.22	3.2	4,111.64	4.8	2402	76.6
1998	314.3	63.49	18.29	21.89	487.11	3.2	4,588.99	5.49	2180	74.4
1999	476.35	63.63	21.32	92.69	947.69	3	5,307.36	5.33	2180	54.6
2000	702.1	72.87	17.98	102.11	701.05	18.1	6,897.48	5.29	2188	51
2001	947.2	84.9	18.29	111.94	1,018.00	13.7	8,134.14	5.49	2188	65.63
2002	1,157.10	95.2	24.85	120.97	1,018.18	12.2	11,332.25	4.15	3005	62.78
2003	1,337.30	117.9	20.71	129.36	1,225.99	14.8	13,301.56	4.11	3242	61.85
2004	1,661.50	129.7	19.18	133.5	1,426.20	11.8	17,321.30	4.19	3487	68.63
2005	2,036.10	144.7	17.95	132.15	1,822.10	11.9	22,269.98	3.83	3487	70.8
2006	3,412.03	157.1	17.26	128.65	1,938.00	13.7	28,662.47	3.14	3231	63.6
2007	5,357.20	167.4	16.94	125.83	2,450.90	14.6	32,995.38	3.55	4193	70.78
2008	8,702.01	89.7	15.14	118.57	3,240.82	14.9	39,157.88	2.84	4944	80.93
2009	9,989.00	102.2	18.99	148.88	3,452.99	19.7	44,285.56	2.68	5434	85.66
2010	10,837.14	114.2	17.59	150.3	4,194.58	21.1	54,612.26	2.21	5807	74.2
2011	12,330.00	126	16.02	153.86	4,712.06	23.1	62,980.40	1.41	5452	44.77
2012	14,386.00	141.1	16.79	157.5	4,605.39	24.7	71,713.94	1.7	5562	42.31
2013	16,772.00	152.3	16.72	157.31	5,185.32	10	80,092.56	2.17	5638	37.97
2014	18,021.00	158.8	16.55	158.56	4,587.39	7.8	89,043.62	3.38	5525	64.24
2015	17,514.00	170.51	16.85	193.28	4,988.86	13.9	94,144.96	3.58	5468	69.58
2016	18,590.00	213.6	16.87	253.49	5,858.56	14.2	101,489.49	3.75	5568	79.95
2017	19,383.59	246.4	17.58	305.29	6,456.70	18.1	113,711.63	4.13	5712	72.84
2018	21742.79	274.6	16.91	305.58	7,813.74	23.1	127,762.55	4.07	5299	60.16

514 **Source:** *Central Bank of Nigeria (CBN) and National Bureau of Statistics (NBS) Statistical Bulletins, 2018*