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EFFECT OF CAPITAL ADEQUACY ON COMMERCIAL BANK'S FINANCIAL PERFORMANCE IN NIGERIA, 2010-2017

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Abstract:
This study investigated the effect of capital adequacy on Commercial Bank 's financial performance in Nigeria. The research was an x -post - facto research design which made use of secondary data covering the period of 2010-2017. Descriptive statistics was employed to check the trends, linearity or otherwise of the data. Regression model was applied in determining the extent of the effects exerted on Commercial Bonk Financial performance by Loans and Advances, Owners ' Equity and Total Deposits of commercial banks in Nigeria. The main theory that underpinned the research is the; "Liquidity Theory ". The result of the analysis shows that Owner's equity (OE has positive and no significant impact on Net interest Income (Nil) of Commercial Banks in Nigeria. This study also confirmed that Loans and Advances had a positive and significant relationship with Net Interest Income of Commercial Banks in Nigeria. The study further show that Total Deposits had negative and no significant effect on Net Interest Income of Commercial banks in Nigeria. In the light of above findings, the study concluded that loans and advances are the important and positive predictor of commercial Bank financial performance measured in terms of Net interest income. The study therefore recommended that management of Commercial Banks in Nigeria should adhere strictly to the provisions of the prudential guidelines in reviewing and reporting bank financial performance, particular/i' in the areas of credit portfolio classification and disclosures, provision for non-performing loan facilities, interest accruals, and classification of other assets and off balance sheet engagement.
Key Words: Capital Adequate, Bank financial performance. Owners Equity, Net Interest Income, Customers' Deposits.

Introduction

The financial sector is one of the mostly regulated sectors in an economy and banking by far the most heavily regulated industry. Regulatory authorities carry out their supervisory functions through hank examinations. Bank examination is understood as the examination of the hooks, records and affairs ofa bank for the purpose of finding out whether the affairs of the banks are conducted in a safe and sound manner with respect to adequacy of capital, asset quality, corporate governance, earnings, liquidity, adequacy of internal control, adequacy of accounting system and record keeping as well as compliance with both the individual hank's internal policies and prudential guidelines (Longe, 2003, lgbinosa and Aigboso. 2016).

The importance of the banking financial institution sector is based on the fact that banks arc the foremost channel of savings and allocation of credit in an economy (Abdul. 2017). The sector

facilitates financial intermediation task by transferring the money into productive investments. Banks serves as a bridge between small savers and big borrowers and executes all tasks related to the profitability and secure channeling of funds. Therefore to maintain the hope of the banking sector, the financial authorities have to ensure that banks play by the rule. A major form of rules of banks is the requirements for banks to maintain or have some - minimum amount of capital that is adequate for their level of operations.

Capital is a major asset of a bank's financial institutions strength. It supports bank operation by providing a buffer to absorb unanticipated losses from its activities and in the event of problem, enables the bank to continue to operate in sound and viable manner while the problems are being addressed or resolved (Igbinosa and Aigbovo. 2016)

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The Basel Committee introduced capital adequacy regulations in 1988. The regulations according to Bank of International Settlements (BIS) (2013), requires globally active banks to maintain a minimum capital of 8% of their risk adjusted assets, with capital consisting of Tier 1 capital (equity capital and disclosed reserves) and Tier 11 capital (Long-term debt, undisclosed reserves and hybrid instruments). It means that banks must maintain a capital adequacy at a specified minimum level in order to avoid risks and bankruptcy.

The maintenance of sound capital reserves by banks can enhance the hope on the financial soundness and stability of the bank by providing continued assurance of honouring its obligations to bank customers. A measure of the capital sufficiency of a bank is the capital adequacy ratio, which is the amount of a banks' regulatory capital expressed as percentage of its relation to their assets. The capital requirement set a framework on how much capital banks must have in relation to their assets. The major importance of capital adequacy in banking subsector of the Nigerian economy necessitated the enhanced study on the effect of capital adequacy on commercial banks financial performance in Nigeria. The main objective of the study is to investigate the effect of capital adequacy on commercial bank financial performance in Nigeria. The specific objectives are to; determine the effect of owner's capital on return on Net Interest Income of commercial bank financial performance in Nigeria, Ascertain the relationship between Loan and Advances of commercial banks and Net Interest Income of commercial bank financial performance in Nigeria. Examine the effects of Customers' Total Deposits of commercial banks on Net Interest Income of commercial banks in Nigeria. The remaining part of the paper is patterned as follows: Section 2.0 reviews the already written works in the area of study. section 3.0 states the methodology adopted for data collection and analysis. section 4.0 discusses the findings after data analysis, while section 5.0 concludes the study. 2.0 Review of Related Literature

Concept of Bank capital

Bank capital is seen as the shareholders' funds or net worth or owner's equity. They include the paid up capital, share premiums, statutory reserves, retained earnings (undistributed profit) general reserves, minority interest and other subsidiaries reserves excluding preference share and revaluation reserves. This can be got by deducting the total liabilities from total assets. (Nwankwo, 1991).

Bank Capital Adequacy:

CBN (2004) defines adequate capital/capital adequacy as a situation where the adjusted capital is sufficient to absorb all osses and fixed assets of the bank having enough surpluses for the current operations and future expansion. Central Bank of Nigeria adjusted capital is made up of ordinary share capital, statutory reserves, general reserves, net provisions for non performing accounts including other losses arising from frauds, forgeries, theft etc and loan capital that satisfies certain conditions How much capital is adequate? A bank is said to have adequate capital when the bank has enough funds to meet the stipulated amount and capital ratios for its level of business, ensure safe operation of the bank and retain public confidence, and enough to acquire the infrastructure needed for sound operations (Rose, et al, 2008)

Adequate capital creates an avenue for better standards in any business establishment. It spurs business exertion and a better performance. According to Olalekan and Adeyinka (2013), the minimum ratio of capital to total risk-weighted assets should remain at 10 per cent as prescribed in circular BSD/1 1/2003 issued on 4 August 2003. Further, at least fifty per cent ofa bank's capital should comprise paid-up capital and reserves, while every bank should maintain a ratio of not less than 1:10 between its adjusted capital funds and total credit net of provisions.

Consequently, commercial banks in Nigeria are encouraged to maintain a higher level of capital which is commensurate with their risk profiles. The existing definition of the constituents of capital, deductions from total qualifying capital and restrictions within and between primary (Tier 1) and supplementary (Tier 2) capital are generally consistent with the Basel Accord. Tier 2 capital is limited to 100 per cent of Tier I capital. The general provision was part of Tier 2 capital where a bank's specific provision for bad and doubtful debts was made to CBN's satisfaction. (Olalekan and Adeyinka, 2013)

However, such a general provision was restricted to a maximum of 1 .25 per cent of the risk weighted assets. Deferred tax assets are considered as intangible assets for capital adequacy purposes and should he deducted from total capital and reserves in arriving at total Tier I capital. Based on the Basel Accord's level ofcapital adequacy ratio as an acceptable limit, a commercial bank may be classified into under-capitalized; significantly undercapitalized; critically under-capitalized; and insolvent (Olalekan and Adeyinka, 2013).

CBN also mandated that all commercial banks should employ credit rating ratio agency to continuously update their credit on a daily basis at the close of each year and submitted to CBN.. Further, banks should also disclose their credit ratings prominently in their published annual reports (CBN, 2010).

The effcct of capital adequacy on banks' performance cannot be under-estimated since enough capital directly and automatically influences the amount of money available for loans, which will normally affects the level and degree of risk absorption. Gardner (I 981 in Hassan and Bashir, 2004) stresses that despite its many roles and diverse functions, it is clear that bank capital is acting as a protective cushion against losses precipitated by certain kind of uncertainties.

This view looks at capital as a constraint in avoiding defaults; capital also acts as a cushion for protecting owners of the fund and lenders against losses at the operating and liquidation stages. If deposits are going to grow, capital must grow alongside. Gardner affirms that the management discipline has an effect on capital. In his view capital constraints help avoid over-trading and curbing malpractices by the management. He further says that prudent guidelines of the capital adequacy system have an important effect on bank capital, profitability and costs. The importance of capital adequacy lies in the fact that it helps in spreading the cost of prudent business conduct and deters the criminally minded.

Unioh (1991) explains that a bank requires sound capital for the same reasons that other businesses require capital since banks deal with other people's money. Nwankwo (1991) emphasizes that the key element of capital is the only element common to all countries' banking systems. It is prominent in published accounts as it is the point for making market judgments about capital and it has a crucial bearing Ofl profit margins and banks' ability to compete. The need for sound capital for banks is a pressing problem not only in Nigeria but also to a reasonable extent in other countries worldwide.

Concept of Bank Performance:

Rose and Hudgins,(2008), says that performance refers to how adequately a financial firm meets the needs of its stockholders (owners), employees, depositors and other creditors and borrowing customers. Banks performance is of importance to investors because it determines both the returns on investment and it is a measure of economic stability and secured investment environment. Improvement in individuals, groups or organizations cannot be guaranteed except or unless there is a process of evaluation. Evaluation as a concept is therefore a process by which an organization or firm obtains a feedback on the way it has carried out its activities over time. Performance link

an organization's goal and objective with organization's decisions. It is important to note that before we can declare that an activity has improved, it must have been measured so that the extent of improvement can be determined and/or quantified. Measurement is therefore the first step in determining improvement.

Types of performance measurement:

Shaw (2009), in Abdulrasheed, Yahaya and Aliu, (2011), observe that performance can be grouped into two basic types:

Those that relate to result, output or outcome such as competitiveness, profit and

Those that focus on the determinants of the result such a prices or products

The above statements suggest that performance can be based on results and determinants. They further said that performance usually embraces the following interlinking fundamental areas:

Money; usually measured as profit or loss; Output/input relationship or productivity;

Customer emphasis: such as quality; Innovation and adaptation to change, and Human resource.

Measuring Bank Performance

The significant changes that have occurred in the financial sector of developing economy like Nigeria have increased the importance of performance analysis of modern banks. Performance analysis is an important tool used by various agents operating either internally in the bank or who form part of the bank's external operating environment. This is why investor in share and bond issued by banks consider the investment outcome before forming an opinion about the ability of its management.

Abdulkadir (2007) report that a good means of measuring the performance of banks and other business organization is the financial analysis. Financial analysis is therefore, the process of identifying the financial strengths and weakness of a firm by properly establishing relationship between the items of the balance sheet, the profit and loss account. In performing the analysis financial ratios are employed, which shows the relationship between items in the financial statement. These financial statements are prepared as general information models of an enterprise at regular period, normally each year.(Ajayi,2007).

Prem (2012) observes that unlike any other manufacturing or Service Company, a hank's accounts are presented in a different manner (as per banking regulations). The analysis of a bank account differs significantly from any other company. The operating and financial ratios, which an analyst would normally evaluate before invest in a company, may not be the same in all bank (for example, operating margins). The raw material for a bank is cash. The ability for bank growth in the long-term is therefore, depends upon the amount cash in the bank (i.e. capital adequacy ratio).

Capital comes primarily from total owner's equity. As a result, price to book value is important while analyzing banking stock rather than price/earnings (P/E). but deduct the net non- performing asset from net worth to get a true feel of the available capital for growth.

Key factors that influence bank's Performance

One of the key parameters used to analyze hank performance is the Net Interest Income (Nil). NIT is essentially that difference, between income and expenditure. This parameter indicates how effectively the hank conducts its business of receiving and giving to customers (in short, how to generate more from advances and spend less on deposits).(Nwankwo, 1991)

Interest Revenue interest earned on loan ± interest earned on investments + interest on deposits with CBN. Since banking activities mainly deal with "interest", current interest rates of an economy have a big role to play. So, in a high interest rate scenario, banks earn more on loans. But if interest rates are low, both corporate and retail classes will hesitate to borrow. But when interest rates are high, banks find it difficult to generate revenues from advances.

While deposit rate also fall, it has been observed that there is a squeeze on a bank when bank rate is soft. A bank cannot reduce interest rate on deposit significantly, so as to maintain its customer base, because there are other avenues of investments available to them (like mutual fund, equities, public savings scheme) (Abdulrasheed et al.20l I)

Since a bank normally give loans to both retail and corporate clients, interest accruals also depend upon factors that act on demand for money. Firstly, the business is heavily dependent on the economy. Obviously, government policies (say reforms) cannot be ignored when it comes to economic growth. In time of economic slowdown, corporate bodies tighten their purse strings and curtail spending (especially for new capacities), this means that they will borrow less, Prem (2012). Companies also become more efficient and so they tend to borrow lesser even for their day- to-day operations (working capital need). In period of good economic growth, credit off-take pick up as corporate bodies invest in anticipation of higher demand going forward. Similarly, growth drives for the retail segment are more or less similar to the corporate borrowers.

Owner's Equity

Owner's Equity is defined as the part of the total value of a firm's assets that can be claimed by its owners (sole proprietorship or partnership) and by its shareholders (if it is a corporation). It is calculated by deducting all liabilities from the total value or an asset (Equity = Assets — Liabilities). (Edvardsson, Johnson, Gustadsson and Stmdrik, 2000). The liabilities represent the current and non- current liabilities. Ctirrent liability is one paid on demand and also fall due within twelve months of the balance sheet date while non-current liabilities are those that will fall due after twelve months. They are the amount owed by the owner to lenders, creditors, investors and other individuals or institutions who contributed to the purchase of the asset. Owner's equity is defined as the amount of money invested by the owner in the business minus any money taken out by the owner of the business. For example: If a real estate project is valued at N500.000 and the loan amount due is N400,000, the amount of owner's equity is N 100,000 whether the business is tightly held (Owner's) or
widely held (Shareholder's).

https://corporatefincinceinstitute. corn/resources/knowledgo/valua tion/orvners-equity, 2018)

Equity and Owner's Equity

The term "equity" means the value of a property after all charges and debts has been paid. It can also mean ownership of something. In general terms, equity is considering the value of something and how much is owed on that value. Equity in real estate means the value of a piece of property that is not the loan amount. So, if a property is valued or appraised at N 100,000, and the loan amount is N80,000. the equity is N20,000. Owner's equity is an owner's ownership in the business, that is, the amount of the business assets owned by the business owner. Another way to look at this concept is to say that owner's equity in a business is the amount

the owner has invested iii the business minus any money the owner has taken out of the business in the form of a withdrawal— not as salary. You can find the amount of owner's equity in a business by looking at the balance sheet. On the left are assets, the value of what the business owns. On the right top are liabilities, what's owed by the business, and the owner's equity.

Equity Interest

An equity interest is an ownership interest in a business entity, from the concept of equity as ownership. Shareholders have equity interest their purchase of shares of stock in the corporation gives them a share of the ownership of the business. Equity interest is the opposite of creditor's interest from loans made by creditors to the business.

Loan and Advances

Loans and advances arc general descriptions of debt obligations companies owe and must show on their balance sheet as part of total liabilities. Formal contracted loans are typically known as "notes payable" on a balance sheet, whereas advances or purchases on credit are recorded as accounts payable. Overdraft facility allows customers to draw beyond the deposits of their current accounts, for a viable and ongoing business.

Total Deposit

Total deposit could be an amount paid by a customer to a company prior to the company providing it with goods or services. In other words, the company receives the money prior to earning it. The company receiving the money has an obligation to provide the goods or services to the customer or to return the money.

For example, Ace Manufacturing Co. might agree to produce an expensive, custom-made machine for one of its customers. Ace requires that the customer pay N50,000 before Ace begins to design and construct the machine. The N50,000 payment is made in December 2012 and the machine must be finished by June 30, 2013. The N50,000 is a down payment toward the machine's price of N400.000 (https://www. accountingcoach.coni./terms/C/custorner-deposits, 2018)

Theoretical Framework

The theoretical framework of this study is based on liquidity theory propounded by Holmstom and Tirole (1998). The theory provided liquidity in which intermediaries have borrowing frictions. It states that a government has an advantage over private markets because it can enforce repayment of borrowed funds while the private lenders cannot. They showed that availability of government provided liquidity leads to a Pareto improvement where there is aggregate uncertainty. They further argue that the role of the government is thus to correct any inefficiencies arising from externalities and private information and possibility of hidden trades.

Empirical Review

Bourke (1989) examined the effect of capital adequacy ratio on performance in a cross-country study of 12 banks from Europe, Australia and North America. He found a significant positive relationship between capital adequacy and profitability indicating that banks with higher capital ratio are more profitable than banks with less capital ratio. Berger and Bouwman (201 3) examined the impact of capital adequacy requirements on banks performance during financial crises by focusing on three dimensions of performance: survival, market share and profitability. Their sample is composed of all US banks from 1984-2009. They find that higher capital ratios help banks to survive and to increase their market shares and profitability. Osayande and Imafidon (2013) examined the relationship between regulation and performance of banks in Nigeria for the period 2006 to 2010. The study employed a panel regression model given that the data were a combination of cross-sectional and time-series in nature. The findings of the study were that bank regulation is negatively associated with performance.

3.0 Methodology

Research Design

The research utilized an ex-post fricto research design. Agburu (2001), posits that post facto research design known also as causal comparative research involves the ascertaining of past factor(s) or the present happening or event. The population of this study comprised quoted commercial banks in the Nigerian stock exchange (NSE).The sample size of the study consists of five (5) commercial banks selected using purposive sampling technique to enable the researchers choose the banks that possess the required information. These banks are: Diamond Bank, Eco Bank, UBN, Zenith Bank, First Bank, The study made use of data obtained from audited financial reports of the selected commercial banks for a period of 8years (2010-2017) Multiple regression model was

adopted for the analysis. The preliminary analysis involves the use of descriptive statistics and regression analysis.

Model Specification

This study is anchored on the model of Karernera (2013) with some modifications to suit this study. The functional relationship between the dependent variable, that is, selected commercial banks financial performance (proxy by Net Interest Income (NIT) and the independent variables (Owners' Equity. Loans and Advances and Total Deposits) are as follows;

$N1I1_{it}$ = f(OE, LA, TD) ……………………………………………….. (4)

The model is specified in econometric form as follows:

$NII_{it} = \beta_a + \beta_1 + \beta_2 LA_a + \beta_3 TD_{it}$……..£it ,, (5)

Where:

Nil1 Net interest Income of Bank i at OE = Owners' Equity of Bank i at

LA Loans and Advances of Bank i at

TD —Total Deposits of Bank i at

u Error term/unexplained variables

Apriori expectation = 32= 33> 0

Description of Variables

Net Interest Income (NIl)

Nil is essentially that difference between the bank's interest revenues and its interest expenses. This parameter indicates how effectively the bank conducts its lending and borrowing operations (hov1 to generate more from advances and spend less on deposits)

interest income/Revenue is computed as; Interest earned on loan interest earned on investments + interest on deposits with CBN.

Since banking operations basically deal with "interest", interest rates prevailing in the economy have a big role to play.

Owner's Equity

Owner's Equity is defined as the proportion of the total value of a company's assets that can be claimed by its owners (sole proprietorship or partnership) and 'by its shareholders (if it is a corporation). It is calculated by dedticting all liabilities from the total value of an asset (Equity = Assets — Liabilities).

The liabilities represent the amount owed by the owner to lenders, creditors, investors and other individuals or institutions who contributed to the purchase of the asset.

Loan and Advances

Loans and advances are general descriptions of debt obligations companies owe and must show on their balance sheet as part of total liabilities. Formal contracted loans are typically designed as "notes payable" on a balance sheet, whereas advances or purchases on credit are recorded as accounts payable. Overdraft facility allows customers to draw beyond the deposits of their current accounts, for a viable and ongoing business.

Total Customer Deposits

The Liability accounts on the books of company shows that receiving cash in advance of delivering goods or services to the customer. The entry on the books of the company at the time the money is receied in advance is a debit to Cash and a credit to Customer Deposits

A customer deposits could be an amount paid by a customer to a company prior to the company providing it with goods or services.

4.0 Data Presentation and Analysis

Table 4.0 Presentation of the variables, Net Interest income/Revenue, Loans and Advances, Total Deposit, Owner's Equity.

Variables	Net Interest Income (N'M)	Loan and Advances (N'M)	Total Deposits (N'M)	Owner's Equity (N'M)
Diamond Bank Plc				
2010	-1,994	590,797	1,270,409	153,025
2011	-6,801	605,627	1,445,822	150,940
2012	54,766	658,922	1,720,409	192,467
2013	51,345	146,456	149,567	166,655
2014	54,155	404,141	150,123	174,333
2015	42,375	606,616	124,650	186,829
2016	46,601	658,922	1,720,008	192,467
2017	47,907	937,620	2,161,182	235,026
ECO Bank Plc				
2010	29,982	1,340952	3,016,902	309,345
2011	32,396	1,465,037	2,247,200	309,345
2012	33,733	1,647,016	1,989,114	309,345
2013	45,486	1,474,486	2,283,426	309,345
2014	23,570	1,824,601	2,2634,262	309,345

2015	65,681	2,286,148	3,237,870	455,093
2016	73,041	2,420,654	3,609,218	455,093
2017	76,115	2,500,322	3,670,245	455,093
Union Bank Plc				
2010	9,878	164,716	528,796	217,286
2011	2,707	171,001	429,804	233,678
2012	-82,551	166,172	500,973	201,578
2013	3,951	156,375	522,443	219,790
2014	6,262	229,542	482,702	207,578
2015	26,827	312,797	527,617	221,528
2016	13,987	366,721	570,639	243,921
2017	14,700	401,689	601,567	267,870
Zenith Bank Plc				
2010	72,871	798,387	1,501,918	356,038
2011	50,223	813,415	1,662,039	320,172
2012	41,301	813,415	1,577,290	372,017
2013	95,803	895,354	1,802,008	438,003
2014	83,414	1,126,559	2,079,862	472,622
2015	99,455	1,729,507	2,537,884	512,707
2016	105,663	1,989,313	2,750,301	593,760
2017	110,456	2,147,200	2,537,311	702,543
First Bank Plc				
2010	23,298	1,296,303	1,423,673	420,129
2011	29,177	1,160,293	1,447,600	391,093
2012	18,636	1,252,153	1,951,011	401,209
2013	75,097	1,562,695	2,405,035	377,257
2014	66,451	1,562,695	2,405,035	381,261
2015	84,842	2,193,563	2,989,735	383,148
2016	93,302	2,250,577	3,009,592	463,017
2017	98,401	2,501,655	3,167,601	468,116

Source: CBN Statistical Bulletin various issues, 2017

Results and Discussion

The following section present and discusses the results of the study.

Table 4.1 Summary of Descriptive Statistics

	LNNII	LNLA	LNTD	LNOE
Mean	13.70743	10.55878	12.68265	14.12973
Median	13.96418	10.77702	12.67661	14.48386
Maximum	14.73246	11.61237	13.46246	15.11577
Minimum	11.89448	7.903596	12.02368	11.73327
Std. Dev.	0.871187	0.916652	0.370229	0.929060

source: E-view 9 computation 2018

Table 4.1 above is a descriptive statistical analysis of the variables in the study. In the case of independent variables the results reveals that the mean value for capital adequacy proxies, Loans and Advances, Total Deposits and Owner's Equity are 10.55, 12.68 and 14.12 respectively. The median value for net interest income, loan and advances, total deposit and owner's equity are 13.96, 10.77, 12.67 and 14.48 respectively. This show that their respective median value have some level of relationship with their mean values; an indication that much dissimilarities do not exist in terms of the values and structure of respective leverage and growth of the respective individual banks.

The capital adequacy proxies loan and advances, total deposits and owner' equity maximum values are 07.903596, 12.02368, and 11.73327 respectively. The standard deviation value for net interest income, loan and advances, total deposits and owner's equity are 0.871187, 0.916652, 0.370229 and 0.929060 respectively. The standard deviation figures for the independent variables indicate that most of the banks are not in the same range of capital adequacy. All the independent variables exhibit negative skewness, while the kurtosis values for the independent variables are 4.048 103, 2.077779 and 3.5489 10. The probability corresponding to Jarque- Bera (JB) shows that all the independent variables were normally distributed.

Table 4.2 Regression Analysis

Dependent Variable: LNNTI

Method: Least Squares

Date: 11/25/18 Time: 16:17

Sample (adjusted): 3 40

Included observations: 37 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob,
C	-0.069080	4.229761	-0.016332	0.9871
LNLA	1.041973	0.252691	4.123512	0.0002
LNOE	0.117292	0.491980	0.238408	0.8130
LNTD	-0.363948	0.223356	-1.629452	0.1127

R-squared	0.550595	Mean dependent var	10.55878
Adjusted R-squared	0.509740	S.D. dependent var	0.916652
S.E. of regression	0.641826	Akaike info criterion	2.052808
Sum squared resid	13.59406	Schwarz criterion	2.226962
Log likelihood	-33.97695	Hannan-Quinn criter.	2.114205
F-statistic	13.47681	Durbin-Watson stat	1.116968
Prob(F-statistic)	0.000007		

Source: E-view 9 computation, 2018

Nil — -0.069080 - 1.041973 + 0.117292 0.363 948 SE = (4.229761) (0.252691) (0.491980) (0.223356)

Interpretation of Regression coefficient, Durbin-stat and coefficient of determination (R2)

The regression coefficient shows that a 1% increase in loan and advances will lead to a decrease in net interest income (NIl) by -0.069080. The regression also shows that a 1% increase in Owner's Equity (OE) will lead to an increase in NIT by 0. 117292. Also a I O,/ increase in Total Deposit (TD) will lead to a decrease in Nil by -0.363948. The result shows that loan and advances has positive and significant relationship with Net Interest Income. Owner's Equity has positive and no significant effect on Net interest Income of commercial bank performance in Nigeria. Total deposit has negative and no significant impact on Net interest Income of commercial banks in Nigeria.

The coefficient of determination which was captured with adjusted R-square shows that the value of adjusted R-square yielded 0509740. This means that about 51% of the variations of Net Interest income are explained by changes in the specified independent variables. This entails that about 49% of changes in Net Interest Income is explained by other variables outside the model. The Durbin-Watson which yielded 1.116968 shows a positive presence of serial correlation in the time series data.

5.0 Summary of findings, Conclusion and Recommendations Summary of findings

I. Loan and advances had a positive and significant relationship with Net Interest Income of the sampled Commercial Banks in Nigeria

2. Total Deposits had negative and no significant effect on Net Interest Income of the sampled Commercial Banks in Nigeria

3. Owner's Equity had a positive and no significant impact on Net Interest Income of Commercial Banks in Nigeria.

Conclusion

This study investigated the effect of capital adequacy on financial performance of Commercial banks in Nigeria for the period 20 10- 20 17. The capital adequacy variables considered in this work include loan and advances, customers' total deposits and owner's equity. The specified model was estimated using ordinary least square OLS.

The Descriptive statistics and regression analysis were used to investigate the standard tests for the significance of the overall regression. The regression analysis was used for estimating the relationship among variables, It was concerned with the study of the dependency of one variable (dependent variable) on one or more other explanatory or independent variables with a view of finding out the mean or average value of the former in terms of known or repeated values of the latter. It was therefore concluded that loans and advances and owners equity are the important and positive predictor of deposit money banks financial performance in Nigeria

Recommendations

Management of Commercial Banks in Nigeria should adhere strictly to the provisions of prudential guidelines in reviewing and reporting bank financial performance, particularly in the areas of credit portfolio classification and disclosure, provision for non-performing loan facilities, interest accruals, and classification of other assets and off balance sheet engagement. Amendment to prudential guidelines of deposit money banks in Nigeria should be in line with the Basel Accord of 2004.

Commercial Banks authorities should maintain programmes aimed at continuous liberalization of the financial system in favour of the poor, reduce the number of adult Nigerians excluded from formal financial services, promoting deposit collection and promoting financial inclusion and sustain the country's development which hinges on ensuring that adults population have access to affordable financial services in Nigeria.

Commercial Bank authorities should ensure the maintenance ofhigh level of equity financing. High level of equity financing reduces external funding and also will ensures high financial performance by deposit money banks in Nigeria.

References

Abdul, J.M. (20l7. Impact of Capital Adequacy on the Performance of Nigerian Banks using the Basel Accord Framework. East Africa Research Papers I Business, Entrepreneurship and Management. Jonkoping Sweden Retrieved online from /iJ.py'/ji'wlv.ju.se/earp

Abdulrasheed, A. Yahaya, KA.and Aliu, O.A (2011) Determinants of performance among bank in Nigeria: A cross generational Analysis, Ilorin: Department of Accountancy and Finance Retrieved from http: us. rnsc] 1447. ,nail.vahoo. coin

Angbazo. L. (2012). Commercial Bank Interest Margins, default risk, interest-rate risk and off-balance sheet banking. Journal n/Banking and Finance 21(1) 55-87

Bank of International Settlements (2010). "Base! Committee Reaches Agreement on Neis' capital Issue", Business releases 10. International Business School (JIBS)

Bergcr.A. (1995). The relationship between capital and earnings in the banking sector. Journal Money, Credit and Banking, 27(2). 432-456

Central Bank of Nigeria (2010). Measurement of capital adequacy along international standard. Lagos: CBN Publications.

Hassan, M. K. and Bashir, A.H. (2004). 'Determinants of Islamic Banking Profitability" Paper presented at International Seminar on Islamic Wealth Creation on 7- 9 July 2003. organized by IRTI-Islamic Development Bank and Centre for Middle Eastern and Islamic Studies, University of Durham, United K::ii,. h ttps://corporate/inanceinstitute. com/resources/knouledoc . .wicai tion/owners-eguity,20] 8 https.//www. accoun tin gcoach. com/terms/C/custonier-dep :: 2018

Igbinosa, SO, and Aigbovo, 0. (2016). Capital regulations ana performance of deposit money banks in \oeria. Research Journal of financial sustainabiliti. Reourring. Department ojAccountancy ESUT, Enugu 1(2) 2-.'s3

Karemera, J.M.V. (2013) The relationship between regulation and financial performance of Rwanda Commercial Banks, An M.Sc Thesis submitted to the department of Business Administration, University of Nairobi, Kenya

Longe, A.A. (2003). Au overview of the regulatory reports on banks in Nigeria: CBN training Centre, Lagos.

Myers, J.K. and Majiluf, 1 (2014). Impact of Asymmetric Information on Firms' Choice for source of funds, University libre de Tuni's Working Papers, 11(3) 317- 319

Nwankwo, 0.0. (1991). Bank Management, Fri nciples and Practice. Lagos: Malt house Press Ltd.

Olalekan, A. and S. Adeyinka (2013). "Capital Adequacy and Banks' Profitability: An Empirical Evidence from Nigeria", A inerican International Journal of Contemporary Research, 87-93.

Oluyemi, S.A. (1996). "The implications for banks' profitability on implementing the risk based Capital requirements", Lagos: NDIC Quarterly.

Prem, B. (2012). Key Parameters for Analyzing Bank Stock, the finance concept, retrieved from http://www.thefmance concepts.com

Rose, P.S and Hudgins, S.C. (2005) Bank Management and Vong,A.P.J. and Anna, P.1. (2010). Determinants of Bank

financial serices edition, New York, McGraw- Profitability in Macao, Macau, University of Macau
Hill/Irwin Companies Press

Umoh. P.N. (1991). "Capital and Bank Deposit Insurance Scheme", Lagos: NDIC Quarterly.

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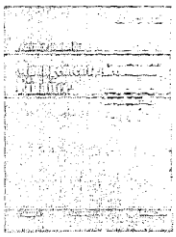

EFFECT OF MACROECONOMIC VAR1ABLES FLUCTUATtON ON PRIVATE DOMESTIC 1NVESTMENT IN NIGERIA, i986-2O17

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Abstract

This study investigated the effect of selected microeconomic variables fluctuation on private domestic investment in Nigeria. Specifically the study sought to; (i) evaluate the long-run effect of interest rate on private domestic Investment in Nigeria (ii) ascertain the responsiveness of exchange rate to private domestic Investment in Nigeria (iii) determine the impact of inflation rate on private domestic investment in Nigeria.. The researcher adopted time series data from 1986 to 2017 which were drawn from Central Bank of Nigeria (CBN) statistical bulletin various issues. The data obtained were subjected to advanced econometric technique, the Augmented Dickey Fuller (ADP) unit root test, the Johansen co-integration residual test. The Co-integration result variables, Exchange Rate, Interest indicated that there are three () co-integrating equations which indicate that rate, Inflation rate, Private there is a long—run relationship between the dependent and the independent Domestic Investment, variables. The result of ADF reveals that the variables are integrated of different order. The regression result indicates that exchange rate exerts positive and significant response to private domestic investment in Nigeria. While inflation rate and interest rate have negatively affected the growth of Private Domestic Investment in Nigeria. The study recommends that an effective foreign exchange rate management is expected to break the dominance of the oil sector, and give more opportunities to other sectors of the economy such as the manufacturing, agriculture, solid mineral mining etc and ultimately improve its balance of payment. Also, exchange rate policies should not be tied to external factors like changes in oil price because it has chain reaction on other sectors of the Nigerian economy.

1.0 Introduction

Investment determines the long-run economic sustainability of any nation. In some years back, there has been mounting debate on the importance of domestic investment to economic development especially in developing economies. According to OECD (2001), a country's economic performance over time is determined to a large extent by its governance performances (i.e. political, institutional, and legal environment). It is generally accepted that long-term economic growth of a country will lead to a significant improvement in the standard of living of its citizens. A reduction in the widcsprcad poverty which is a major feature of the Nigeria economy can be achieved through a sustained increase in domestic investment.

A closer look at the pattern of domestic investment in Nigeria is imperative in order to be able to achieve sustained growth. Over the years, the Nigerian economy has gone through periods of economic and political instability, which have hindered domestic investment into the country. The stability of a country's socioeconomic and political system reflects the soundness of its level of governance and this is seen as a major factor in decision making by investors.

Also, the downward trend in private investment can be attributed to policy inconsistency over time in Nigeria. Exchange rate, interest rate and inflation rate are the economic indicators which directly affect investment. This gives credence to why the public sectors, foreign investor and private individual pay lots of attention to the macroeconomic variables variations. The exchange rate for example is among the most watched, zed and government manipulated macroeconomic indicators. Since September 1986, en the market determined exchange rate system

:Ls introduced via the second tier foreign exchange market, the naira exchange rate has exhibited the features of continuous depreciation and instability (Oniore, Gyang & Nnadi, 2016).

People have not been investing due to exchange rate volatility high interest and inflation rates. This instability and continued depreciation of the naira in the foreign exchange market for example has resulted in decline in investment, standard of living of the populace, increased cost of production which also leads to cost push inflation. It has also tended to undermine the international competitiveness of non— oil exports and make planning and projections difficult at both micro and macro levels of the economy. This study, therefore, tends to contribute to the existing literature on the effect of macroeconomic variables fluctuation on Domestic Private Investment in Nigeria.

1.2 Statement of the Problem

A good number of small and medium scale enterprises have been strangled out as a result of low dollar/ naira exchange rate, high interest and inflation rate fluctuations and so many other problems resulting from fluctuations in macroeconomic variables (Adelowokan, Adesoye & Balogun, 2015). The frequent appreciation of the dollar against the naira has led to sharp drop in private domestic investment in the country.

Political instability has also made the climate for private saving and investment hostile and dull in Nigeria. In spite of various structural changes and reforms in Nigeria, the country remains entangled with a number of economic maladies such as corruption, which so far has proven to he overwhelming against the nation (Oniore, et al, 20163.

Among these difficulties are high unemployment aim poverty levels. The planned withdrawal of the government from the investment scene, and leaving it to the private sector to play its function has not been too promising for the nation. Nigeria's macroeconomic indicators show the pitiable performance of private investment in Nigeria for the period 1986 to date (CBN, 2010). For example, private investment declined from 12.3% of GDP in 1991 to 8.3% o 01W in 1992, this may be partly due to the reduced public investment, which fell during the same period. Private investment then increased to 12.5% in 1993 and to 16% in 1994. Later, it fell continuously to 8.p% in 1996. Between 2001 and 2005, the ratio averaged 13%; it peaked at 16.2% in 2002 but fell again to 12% in 2005 (CBN, 2010). It was found from the CBN statistical bulletin that the growth rate of domestic investment in 1980 was 133.1% while gross fixed capital formation was 11.7%. In the same year, the gross domestic product growth rate was 18.2%. This implies that the growth rate of domestic investment was greater than GDP growth rate while GD? Growth rate was greater than gross fixed capital formation (GFCF). In 1990, the growth rate of domestic investment (1.6%) was still greater than GDP growth rate (23.7%) while GDP growth rate was still less than gross fixed capital formation (38.8%). 1-lowever, it was observed that between 1980 and 1990, GDP growth rate and gross fixed capital formation were on the increase while domes tic investment growth rate was on the decrease and the trend had continued unabated till date (Nweze, 2017). Therefore, this study investigated the effect of macroeconomic variables fluctuation on private domestic investment in Nigeria.

1.2 Objectives of the study

The main objective of the study is to investigate the effect of macroeconomic variables fluctuation on Private Domestic Investment in Nigeria. The specific objectives are to;

Evaluate the long-run effect of interest rate fluctuation on Private Domestic Investment ik Nigeria.

Ascertain the responsiveness of real exchange rate fluctuation to Private Domestic Investment in Nigeria

o Determine the impact of Inflation rate fluctuation

on Private Domestic Investment in Nigeria.

1.3 Research Questions

To what extent does interest rate fluctuation positively and significantly affected Private Domestic Investment in Nigeria in the long-run?

How far real exchange rate fluctuation does positively and significantly responded to Private Domestic Investment in Nigeria?

What are the impacts of Inflation Rate fluctuation on Private Domestic Investment in Nigeria?

2,0 Review of Related Literature

2.1 Conceptual Framework

Macroeconomic Tariab1es

Macroeconomic variables refer to factors that, are pertinent to the broad economy at the regional or national level and affect a large population rather than a few select individuals. Macroeconomic factors such as economic output, unemployment, inflation, savings and investment are key indicators of economic performance and are closely monitored by governments, businesses and consumers (Khalid et al, 2012).

Fischer (1993) posits that the interplay or relationship between various macroeconomic factors is the subject of a great deal of study in the field of macroeconomics. While macroeconomics deals with the economy as a whole, microeconomics is concerned with the study of individual agents such as consumers and businesses and their economic decision-making.

The macroeconomic factors are; real GDP, the unemployment rate. the inflation rate, the interest rate, the level of the stock market, and the exchange rate Juma,, 2014). The five common macro-economic factors: rate of inflation — affects prices for inputs and outputs in the short run and interest rates over the longer run in an economy rates of 3 , interest — affects cost of capital which is the interest expenses hence property values, rate unemployment — affects available income and hence disposable income for investments since this is an important source of internal equity capital, rate of growth in GDP — affects the domestic demand for national output and rate of foreign exchange — affects the value of t currency relative to international currency hence affecting property values where different currencies are involved well as the export demand for outputs.

Domestic Investment

Domestic investment is described as expenditures on capital goods to be used for productive activities in the domestic economy that are undertaken by the business sector during a given time period, after deducting capital depreciation. More specifically net private domestic investment is found by subtracting the capital consumption adjustment from gross private domestic investment. Its primary function is to measure the net increase in the capital stock resulting from investment (Economic Glossary, 2008)

Gross private domestic investment is the measure of physical investment used in computing GDP in the measurement of nations' economic activity. This is an important component of GDP because it provides an indicator of the future productive capacity of the economy. It includes replacement purchases plus net additions to capital assets plus investments in inventories. From 20 02-2011 it amounted to 14.9% of US GDP, and from 1945- 2011 was 15.7% of GDP (BEA, USDC, 2013). Net investment is gross investment minus depreciation. Of the four categories of GDP (investment, consumption, net experts, and government spending on goods and services) it is by far the least stable. (Investment https://www.inves,topedia.corn/term s/i/investment.asp#ixzz5LaCSBy3P. 2018)

Why Private Domestic Investments?

Importance is attached with investment activity for overall economic performance of countries in long run perspectives, endogenous growth theory gives more emphasizes for investment activities for long run economic performances. It creates an employment opportunities, enhances technical progress and introduces new techniques of production and facilitates economic growth. Thus, investment determines productivity in the long run through the accumulation of capital stock.

Exchange Rate: In finance, an exchange rate is the rate at which one currency will be exchanged for another. It is also regarded as the value of one country's currency in relation to another currency (CAF, 2018)

Exchange Rate fluctuation

A market-based exchange rate will change whenever the values of either of the two component currencies change. A currency becomes more valuable whenever demand for it is greater than the available supply. It will become less valuable whenever demand is less than available supply (this does not mean people no longer want money, it just means they prefer holding their wealth in some other form, possibly another currency) (Asaleye, 2016)

Increased demand for a currency can be due to either an increased transaction demand for money or an increased speculative demand for money. The transaction demand is highly correlated to a country's level of business activity, gross domestic product (GDP), and employment levels. The more people that are unemployed, the less the public as a whole will spend on goods and services. Central banks typically have little difficulty adjusting the available money supply to accommodate changes in the demand for money due to business transactions.

Speculative demand is much harder for central banks to accommodate, which they influence by adjusting interest rates. A speculator may buy a currency if the return (that fs the interest rate) is high enough. In general, the higher a country's interest

rates, the greater will be [he demand for that currency. It has been argued that such speculation can undermine real economic growth, in particular since large currency speculators may deliberately create downward pressure on a currency by shorting in order to force that central bank to buy their own currency to keep it stable. (When that happens, the speculator can buy the currency back after it depreciates, close out their position, and thereby take a profit.) (CAP, 2018) Inflation etc

A country's rate of inflation drives its interest rates. And interest rates tend to affect how foreign capital flows in and out of a country. "If inflation is consistently rising in any one country, the central bank will control that and they do that through raising interest rates," (McGrath,2o18)

Higher interest rates can stimulate the amount of foreign investors and their capital coming into the marketplace, causing the demand for the country's currency to increase. 1-laying a higher currency value then lowers the price of imported goods for citizens of that country.

"Interest rates for currencies are the main driving force behind a currency's valuation. "If people expect interest rates in a certain country to go up, it's going to have a positive effect on that country's currency.

Interest Rate:

Interest rate is the amount charged, expressed as a percentage of principal, by a lender to a borrower for the use of assets Interest rates are typically noted on an annual basis, known as the annual percentage rate (APR)

Datta and Kumar (2011) define interest rate as the reward for not hoarding cash, but for parting with liquidity for a specific period of time. This focuses more on the lending rate.

lyoha, (2012) define interest rate as the return or yield on equity or the opportunity cost of deferring current consumption in the future. Some examples of interest rate include the saving rate, lending rate, and the discount rate. Engle and Granger (2007) define interest as the price which equates the supply of credit or savings plus the net increase in the amount of money in the period, to the demand for credit or investment plus net hoarding in the period. This definition implies that an interest rate is the price of credit, which like other price is determined by the forces of demand and supply; in this case. the demand and supply of loanable funds (Lipsey, 2012).

Dakwat, (2010) defines interest rates, as the rental payment for the use of credit by borrowers and return for parting with liquidity by lenders. Like other prices, interest rates perform a rationing function by allocating limited supply of credit among the many competing demands.

2.2 Theoretical framework Simple Accelerator Model

The basic idea of accelerator theory states that investment responds to the changing demand conditions, thus net investment is given by the change in the desired output: As demand (income) increase, investment made by firms also increases. Thus, when output is expected to increase, capital stock increases consistent with the given level of output. Investment is a function of the difference between the existing and desired capital stock and replacement capital needed to replace worn out of the existing capital stock.

Assumption: During these relationship aiming at the role of demand in the formulating investment function, k- Y ratio is nearly constant (Clark 1917)**.**

Investment t = [Kt - Kt-i]k [Vt - Vt-i] (i)

Where Yt is demand (aggregate), Kt capital stock at time t, and RI-i capital at a previous period (1-i) and k = k/Y. It leads the role of demand in the investment function.

Critics: When deiTland changes the level of actual and desired capital kept constant by the level of investment, may not always be true. Since the cost of capital and technology varies, the desired capital-output varies as a well.

2.3 Empirical Review:

The paper of Greene and Villanueva (1991) looks at the {ic effects and macroeconomic environments on the response of private investment in LDCs during 1975-87 and t: concluded that real and per capita GDP level and public investment positively effects private sector investments interest rate, external debit and debit service and tile incidence of high inflation has negatively associated with private investment rates.

As Pfefferrnann and Madarassy (1993) summarizes what determines private investments in developing countries and it is stimulated by the growth of demand in the economy. Likewise, credit obtained from banks, which helps to finance investment projects are directed to public and private firms and when the public sector needs highest proportion of it leaves negative impact on the amount required by the private sector investments. Moreover, fiscal deficit adversely affects the availability of finance to the private sectoj' firms. Similarly, exchange rate movements and the existence of inflation affect private investments negatively as of distorting effects on the relative prices of items.

High inflation in the economy associated with the devaluation of currency leads to increase the price of imported goods and items and affects the private sector investment negatively.

Chum and Gooduon (2000) confirmed that private investment in LDCs has positively associated with real GDP growth, investment activity by government and improvement of financial intermediation.

Aiiyu (2011) affirmed that appreciation of exchange rate brings about increased imports and reduced exports while depreciation would expand export and discourage import. Also, depreciation of exchange rate is likely to cause a shift from foreign goods to domestic goods. Thus, it leads

to diversion of income from importing countries to countries exporting through a shift in terms of trade, and this tends to have impact on 11w exporting and importing countries' economic growth.

Bahmani and Harvacy (2011) investigated exchange rate volatility and industry trade between the US and Malaysia. The results pointed that exchange rate volatility: has short- run effect on 70% of goods traded between two countries and in tile long run it affected 38 affected goods and 10 imported goods. Exchange rate volatility on commodities that have little share in the trade. one of the important factors that were influential in the trade between the two countries was the countries income level.

Recently, Bahmani, Harvey and Hegerty (2014) investigated exchange rate volatility and Spanish- American commodity trade flows over the period from 1962 to 2009, for 131 U.S. export industries and import industries. The authors found that that exchange rate volatility has short-run and long-run effects in only a fraction of the cases, but that exports responds more to increased uncertainty than imports do.

Green and Villanueva (1991), estimated the effect of :n:c-recmomic variables and policies including i::-n'-ct races on private investment on a group of developing countries. Their results showed that private investment-GDP ratio is positively related to 45P growth level of per capita income and rate of 1 setor investment, while interest rate, domestic inflation negatively affect private investment ratio.

Ologunde et al (2006) examined the relationships between stock market capitalization rate and interest rate in Nigeria.

They used the ordinary least-square (OLS) regression method and they found that the prevailing interest rate exerts positive influence on Stock market capitatiza0on rate.

3.0 METHODOLOGY

:3.1 Research Design

Because of the quantitative nature of this research, tire researcher employed ex-post-fcicto research design approach. The use of ex-post-facto is deemed appropriate becaise it will enable the researcher to gain some determination, evaluation and explanation of past events, which are vital for better and more reliable prediction o the future outcomes. To bring out the changes, the independent variables are causing on the dependent variables. Multiple regressions of the Ordinary Least Square (OLS) are tire estimation technique that is employed in determining the effects of macroeconomic variables, proxy, real exchange rate, interest rate and inflation rate fluctuations have on Private Domestic Investment.

4.0 DATA PRESENTATION

4.0 DATA PRESENTATION

Table 4.1 Private Domestic Investment, Interest Rate, Real Exchange Rate and Inflation Rate

Year	PDI '0000'	INTR %	REXCR%	INFR%
1986	735.8	10.5	2.0706	5.40
1987	2452.8	17.5	4.0179	10.20

The model contalos the dependent variable denoted by Y, which represents Private Domestic Investment and the indenencien i/explanatory variables X,, X2

which represents the real exchange rate. interest rate, and inflation rate respectively. Put mathematically,

have

PDI =f(REXCR, INTR, INFR) equation

(1)

From the above functional relationship, the econometric

model is specified below;

Y = IL + f3,X, + (LX2 ± + p (2)

Where;

Y = Dependent variable

X1, X2, X Xn = the explanatory or independent variables

Br, 132, 33 13n = the coefficient of the parameter estinrate or the slope

i= Error or disturbance term

: 'aiating Pete Un tifle study;

PDI =f(REXCR, INTR, INFR) ()

Relating it in econometric form and the variables

linearised, it will appear thus;

PDI 13° + 131 LnINTR + (32 LnREXCR + (33 LnINFR

I' (-i)

Where;

PDI =

LnREXCR

LnINIR

LnINFR

Private Domestic Investment Real Exchange Rate

= interest Rate

= Inflation Rate

p = Disturbance /Error term

f3 = Intercept

— 133 = Coefficient of the Independent Variables.

A priory expectation: It is expected that (31 — (3 > 0

1988	1718.2	16.5	4.5367	38.30
1989	13877.4	26.8	7.3916	40.90
1990	4686	25.5	8.0376	7.50
1991	6916.1	20.01	9.9095	13.00
1992	14463.1	29.8	17.2984	44.50
1993	29675.2	18.32	22.0511	57.20
1994	222292.2	21	21.8861	57.00
1995	7594.6	20.18	21.8861	72.80
1996	111295	19.7	21.8861	29.30
1997	1104452.7	13.5	21.8861	8.50
1998	80750.35	18.3	21.8861	10.00
1999	92792.47	21.32	92.6934	6.60
2000	115952.2	17.98	102.1052	6.90
2001	132433.7	18.29	111.9433	18.90
2002	225224.8	24.85	120.9702	12.90
2003	258338.6	20.71	129.3565	14.00
2004	2482246.6	19.18	133.5004	15.00
2005	654193.2	17.95	132,1470	11.60
2006	624520.7	17.26	128.6516	8.20
2007	759380.4	16.94	125.8331	6.60
2008	970789.5	15.14	118.5669	15.10
2009	127418	18.36	148.8802	12,10
2010	909212	17.50	150.2980	11.80
2011	1360234	16.02	153.8600	10.40
2012	1113419	16.79	157.500	12.00
2013	875109.9	16.72	157.310	7.90
2014	736768	16.28	158.5600	8.01
2015	603476.3	16.85	217.7900	9.60
2016	1170529	17.09	253.4923	9.60
2017	1220419	17.20	365.125	9.80

Source: CBN statistical Bulletin various years, 2018

4.2 DATA ANALYSIS AND DISCUSSION OF RESULTS

Table 4.2 Summary of Descriptive Statistics

	LNEXCR	LNINFR	LNINTR	LNPDI
Mean	4.207124	2.645340	2.912545	11.78608
Median	4.717992	2.451005	2.887590	12.32485
Maximum	14.09426	4.287716	3.394508	14.72467
Minimum	0.727838	1.686399	2.351375	6.600958
Std. Dev.	2.308883	0.724152	0.199410	2.314282
Skewness	2.361407	0.959471	0.050479	-0.742682

Kurtosis	12.00559	2.714186	4.474271	2.305043
Jarque-Bera	133.5656	4.861869	2.820570	3.473640
Probability	0.000000	0.087955	0.244074	0.176079
Sum	130.4209	82.00553	90.28890	365.3684
Sum Sq. Dev.	159.9282	15.73190	1.192930	160.6770

Source-view, 9.0 software data, 2018

The summary of the descriptive characteristics of the variables are presented in table 4.2 above, The mean values are exchange rate — 4.207124, inflation rate — 2.645340, interest rate- 2.912545, private domestic investment-

11.78608. The median variables which measures the centrality of variables are distributed in the following pattern; EXCR (4.717992), INFR (2.451005), INTR (2.887590) and PDI (12.32485) respectively. The probability corresponding to Jarque-Berra (JB) shows that exchange rate variable was normally distributed while other variables like, inflation rate, interest rate and private

domestic investment are not normally distributed. The pvalues of inflation rate, interest rate and PDI are significantly greater than 0.05, while exchange rate is significantly less than 0.05. The variables like exchange rate, inflation rate, interest rate are positively skewed towards normality as evidenced by the positive sign of tile skewness, while private domestic investment is negatively skewed towards normality as evidenced by the negative sign of the skewness. The kurtosis that measured the peakdness of the distribution of each variable is, 12.00559, 2.714186,

4.474271 and 2.305043 respectively.

Table 4.3 Regression Analysis

Dependent Variable: LNPDI

Method: Least Squares

Date: 10/24/18 Time: 21:55

Sample: 1986 2017

Included observations: 31

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	12.88264	5.043177	2.554470	0.0166
LNINFR	-0.399439	0.531738	-0.751194	0.4590
LNINTR	-0.893231	1.878845	-0.475415	0.6383
LNEXCR	0.608887	0.148768	4.092868	0.0003
R-squared	0.440695	Mean dependent var		11.78608
Adjusted R-squared	0.378550	S.D. dependent var		2.314282
S.E. of regression	1.824397	Akaike info criterion		4.160290
Sum squared resid	89.86745	Schwarz criterion		4.345321
Log likelihood	-60.48450	Hannan-Quinn criter.		4.220606
F-statistic	7.091396	Durbin-Watson stat		1.463911
Prob(F-statistic)	0.001155			

Source: F-view 9.0 software Data, 2018 Rogression &ua1ion:

P1)1= 12.88264 -o.3pq -0.893231 + 0.608887 PIE = (5.043177) (0.531733) (1.878845) (0.148768)

Interpretation of Regression coefficient, DurbinWatson stat and coefficient of determination (R2) The regression coefficient shows that a 1% increase in inflation rate will lead to an increase in P1)1 by 12.88264. The regression also shows that a i% increase in interest rate will lead to a decrease in P1)1 by -0.893231. The result shows that inflation rate and interest rate has negative and no significant impact on P1)1. A i% increase in exchange rate will lead to an increase in P1)1 by 0.60887. This result shows that exchange rate has positive and significant effect on PDI in a long-run, while inflation rate and interest rate responded negatively to the growth of PDI. The coefficient of determination which was captured with adjusted Rsquare shows that the value of adjusted R-square yielded

0.378550. This means thaf about 37% of the variations of P1)1 are explained by changes in the specified independent variables. This also entails that about 63% of changes in PDI is explained by some other variables outside the model. The Duibin-Watson which yielded 1.463911 shows a negative presence of serial correlation in the tivie series data

AIDE Unit Root Fet:

The unit root test was performed to ascertain the stationrity of the time series data under study so as to avoid running a spurious regression. Augmented Dickey fuller method was used in tile process. In considering the levels the data could be integrated of, Augmented Dickey fuller (ADF) test statistics was compared with the critical values at 5% level of significance. A situation whereby the (ADF) test statistics is greater than the critical values with consideration on the absolute values, the data at tile tested order will be said to be stationary.

Table 4.4: Summary Result of Unit Root Test.

S/N	Variables	ADF t-stat	5% critical value	Order of Integration	Trend
1	PDI	-7.019661	-2.967767	1(1)	With intercept
2	EXR	-9.046911	-2.963972	1(1)	With intercept
3	INTR	-4.939313	-2.960411	1(0)	With intercept
4	INFR	-3.227726	-1.966270	1(0)	With intercept

Source: E-view 9 computation

Table 4.4 shows the summary of ADF Unit root test of stationality of the time series variables. Tile result shows that all the variables are not stationary at the same order. The rejection of null hypothesis was based on the ADF-stat being more negative than the critical value at % level of

significance. This informs the choice of the ARDL because it accommodates a combination of (r) and i(o) order of integration and it is also very efficient in the face of a small sample.

Table 4.5: Result of Johansen Co-integration Test

Series: PDI, EXCR, INTR, INFR				
Lags interval (in first differences): 1 to 1				
Hypothesized		Trace	0.05	
No. of CE(s)	Eigen value	Statistic	Critical Value	Prob**
None*	0.818950	77.20558	47.85613	0.0009
At most 1*	0.480969	31.06308	29.79707	0.0331
A most 2	0.271159	13.35668	15.49471	0-0892
At most 3*	0.163386	4.816588	4.816588	0.0947

Trace test indicates 3 co-integrating eqn. (s) at 0.05 level of significance

Table 4.5 was used to estimate the Johansen co-integration to establish a long run relationship of the variables. The result indicates the presence of three () co- integrating equations at 5% level of significance. The trace statistic values of 77.20 and 31.06 exceed the 5% critical values of 47.85 and 29.79 which show that co-integration exists.

5.0 SUMMPJY OF FINDINGS, CONCLUTIION AND RECOMMENDATIONS

Summary of findings

In line with our objectives of the study, the following findings were made;

1. Exchange rate fluctuation exerts positive and significant effect on Private Domestic Investment in Nigeria on the long—run.
2. Interest rate fluctuation had a negative and insignificant response to Private Domestic Investment in Nigeria.
3. inflation rate fluctuation has negative and. insignificant impact on Private Domestic Investment in. Nigeria.

Conclusion

The general objective of this study is to investigate the link existing among macroeconomic variables fluctuation and private domestic investment, while the specific objectives are to; evaluate the long-run effect of exchange rate fluctuation on private domestic investment in Nigeria within 1986 and 2017, examine the responsiveness of interest rate to Private Domestic Investment in Nigeria and to ascertain the impact of inflation rate on private domestic investment in Nigeria within the period under study.

The study employed ex-post facto research design using Nigeria's data obtained from Central Bank of Nigeria (CBN) of various issues (1986-2017). The empirical results were on Augmented Dickey Fuller test. In the second step, Johansen Co integration Test was conducted. The presence of long run equilibrium found led to the use of Error Correction Mechanism (ECM). It was found that private domestic investment cause economic growth in Nigeria within the period

under study,

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An effective foreign exchange rate management is expected to break the dominance of the oil sector, and give more opportunities to other sectors of the economy such as the manufacturing, agriculture, solid mineral mining etc and ultimately improve its balance of payment.

o Exchange rate policies should not be tied to external factors like changes in oil price because it has chain reaction on other sector of the Nigeria economy.

o Private domestic investmenL can be improved through the maintenance of macroeconomic and fiscal stability measures. which constitute important precondition for the success of any policy related to investment. This also means that effort should be made to see that interest rate do not go beyond the threshold of 30% of GDP required to increase private domestic investment in Nigeria. This recommendation is in agreement with Nwakoby and Alajekwu, (2016)

REFERENCES

Adelowokan, CA, Adesoye, A.B. and Balogun, CD. (2015). Exchange Rate Volatility on Investm eat and Grouth in Nigeria. An Empirical Analysis. GlobaZ Journal of Management and Business Research 5(1CJ

Aliyu, M. Yusuf, A.H. (2015). Impact o Prxate Investment Sector credit on the real sector of Niteria of Nigeria.

International Journal of Business and Sociczi Research 3(5

Asaleye, A. (2016) Exchange Rate Fluctuation and the Nigerian Economic Growth. Euro Economica 35(2).
Online Journal. Unw— clomibius.index.php.euroeconoinica/article/uiew.

Atuma, E., Odo, S.I and Nweze, P.N. (2017). Domestic Investment, Capital Formation and Economic
Growth in Nigeria. International Journal of Research in Social Sciences 7(2)
41-65

Bahmani, 0. M and Harvaey, H. (2011). Exchange Volatility and industry trade between the U and Malaysia:
Research in international Business and finance 25(1) 127-155

CAF (20,8). Global fovarding hRyti//en.wikipedia.org/wiki/exchanc,c-raleiiitc _uccziion—in Exchange i-ale

Clark, J.M. (1917) 'Business Acceleration and the Law of Demand: A Technical Factor in Economic Cycles'. The Journal of Political Economy: 25(1): 217-235.

Dakwat, S. (2010). Effects of Inflation on Structural Adjustment Programme" Onitsha: African Fep Publica Lions.

Datta, K. & Kumar, C. (2011). Relationship between Inflation and Economic Growth in Malaysia. .In tcrna tionul conference on Economics and Finance Research IPER, 4 (2) 415-16

Edeh, C.N., Udeh, S.0. and Obiapuna,E.E. (2015). Impact of Insurance Sector Development on Economic Growth in Nigeria. ESUT Journal of Accountancy.ESUT, Enugu. 6(2) 67-78

MCcGrath, 3. (2018) Currency AdjustmenL factor Academic DicLionaries and Encyclopedia

Fischer, S. (1993). The Role of Macroeconomic Factors in Growth. journal of Monetary Economics, 32(3)
0-4o-51

lyoha, M. (2012). Budget of Economic Growth and Development. Bullion Publication of cBN, 26

Rhalid. Z., Iqtidar, A. S., 3luhanlnlad, M., K., Mehboob, A., (2012) Macroeconomic factors determining FDI impact on Pakistan's growth", Soot/I Asian Journal of Global Business Research, 1 (i), 79 — 95.

Greene, J. and D. Villanueva (1991) 'Private Investment in Developing Countries: A Empirical Analysis', Staff at Papers-International ivlonelary Fund: 38(1): 33-

Ghura, D. and B. Goodwin (2000) 'Determinants of Private Investment: A Cross—Regional Empirical 1121 estigation', Applied Economics 32(14):1819— 1829. IMF: Washington, D.C.

McKinnon, R. (,g). Money and Capital in Economic Development, Washington, D.C. The Brooking Instl Lute

Mundell, K. (1962). Capital Mobility and Stabilization Policies under fixed and flexible Exchange Rate. Canadian Journal of Economic and Political Science 29(1) 475-8

Nwakoby, C and Alajelcwu, U.B (2010). Effect of Private Sector Investment on Economic Growth in Nigeria. N-G Journal of Social Development 5(4) 150-16

OECD (2001). The well-being of Nation: The role of Human and Social Capital. OECD Paris.

Oniore, J.O., Gyang, E. and Nnadi, KU. (2016). The Impact of Exchange Rate Fluctuation of Private Domestic Investment Performance in Nigeria. IOSR Journal of Economic and Finance (IOSR-JEF) 7-15.

Pfeffermann, G.P. and A. Madarassy (1992) 'Trends in Private Investment in Developing Countries: International Finance corporation: The World bank, Washington D.C.