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IMPACT OF EXCHANGE RATE FLUCTUATIONS ON DOMESTIC INVESTMENT IN NIGERIA (1986-2017)

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ABSTRACT

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The major objective of this study is to analyze the impact of exchange rate fluctuations on domestic investment in Nigeria, using annual data covering the period 1986–2017. Time series data on domestic investment, gross domestic product, interest rate, financial deepening and exchange rate were obtained from the Central Bank of Nigeria Statistical Bulletin 2017 edition. The technique of Autoregressive distributed lagged modeling (ARDL) is adopted to examine the time series data. Findings reveal that the relationship between exchange rate fluctuations and domestic investment in Nigeria is negative. However, exchange rate fluctuation has no significant impact on domestic investment in the long run p(t) value 0.6201> 0.05) and short run p(t) value 0.6244 > 0.05). The study suggests that monetary authorities in Nigeria should strive for currency swap agreements with other nations that trade heavily with Nigeria, for example, India, Turkey, United Kingdom. This would help in mitigating the effects of currency fluctuations in the foreign exchange market.

KEYWORDS: *Domestic investment, Exchange rate fluctuations, ARDL, GDP*

INTRODUCTION

Jongbo, (2014) states that exchange rate fluctuations can have two important effects on macroeconomic variables: first, in the short run, exchange rate volatility can impose large welfare costs. In such volatility reduces the level of international trade, affects investment decision, and hinders growth possibilities. In addition, such welfare costs are magnified in the case of prolonged and sustained exchange rate fluctuations, which can badly distort resource allocation. The negative effect of exchange rate fluctuation is more pronounced especially when exports are invoiced in the importers currency as is the case in all developing countries (Qian & Varangis, 1994). According to Olure, Gbadebo & Ajiteru (2015), the exchange rate situation in Nigeria has been plagued by various problems in the recent time some of which are instability in price of naira, balance of payments, low level of competition due to falling oil prices.

The government of Nigeria introduced the Structural Adjustment Programme (SAP) in 1986. The core component of SAP was what was known initially as Second–tier Foreign Exchange Market (SFEM) which was later transformed to the Foreign Exchange Market (FEM) in 1987 and now, Autonomous Foreign Exchange Market (AFEM). The policy thrust of 1995 was retained in 1996 while the dual exchange rate system crisis was retained in 1997 and 1998. However, all official transactions, except those approved by the Head of State were undertaken in the Autonomous Foreign Exchange Market (AFEM). Thus, transactions at the pegged official exchange rate were relatively slimmer. Owing to market imperfections and to sustained instability in the exchange rate of the Naira, the AFEM was replaced with an Inter-bank Foreign Exchange Market (IFEM) in October 1999 after an initial period of co-existence (Oladapo & Oloyede, 2014). The CBN has continued to fine tune the IFEM to make it more effective and efficient (Oladapo &Oloyede, 2014).

Despite various efforts by the government to maintain a stable exchange rate, the naira has depreciated throughout the 80's (Benson and Victor, 2012). It depreciated from N0.61 in 1981 to N2.02 in 1986 and further to N7.901 in 1990, all against the US dollar. The policy of guided or managed

deregulation pegged the Naira at N21.886 against the US dollar in 1994. Further deregulation pushed it to N86.322 = S1.00 in 1999 (Aliyu, 2011). It depreciated further to N120.97 in 2002 and N135.5 in 2004. Thereafter, the exchange rate appreciated to N132.15 in 2005 and later N118.57 in 2008. Towards the end of 2008 when the Global Financial Crisis took its toll, the naira depreciated to N150.0124 at the end of 2009. By 2013, naira depreciated to N160. By January 2015, parallel market exchange rate of naira to the dollar stands at N305.00 (CBN, 2015). This development shows that a depreciation of the naira has a role to play in Nigeria's recent inflationary trends (Enoma, 2011), domestic investment and economic growth. Studies on the impact of exchange rate fluctuations on domestic investment are scarce. Previous studies that sought to establish the impact of exchange rate fluctuations on domestic investment have suffered mostly from use of techniques that suffer from stationarity problems (see Bakare, 2011; Oniore, Gyang and Nnadi 2016). In addition, Oniore, Gyang and Nnadi (2016) failed to isolate pre and post SAP period in their data analysis. Having noted the SAP in Nigeria led to exchange rate fluctuations in Nigeria, this study chose the period 1986-2017 and used the Methodology of Autoregressive distributed lagged model to resolve the stationarity problems associated with the use of Ordinary Least Squares.

LITERATURE REVIEW

Bakare (2011) analyzes the consequences of the foreign exchange rate reforms on the performances of private domestic investment in Nigeria. The analysis started with the test of stationarity and co-integration of Nigeria's time series data. The empirical study finds that the data were stationary and co integrated. The multiple regression results show a significant but negative relationship between floating foreign exchange rate and private domestic investment in Nigeria. Iyke and Ho (2017) differentiates the short-run impacts from the short run impact of exchange rate uncertainty on domestic investment using annual data for the period 1980-2015 in Ghana. They find that exchange rate uncertainty has differential impacts on domestic investment in the short run. That is, while the current level of uncertainty enhances investment, previous levels of uncertainty dampen investment. In the long run, exchange rate uncertainty has a positive impact on domestic investment.

Mbanasor and Obioma (2017) examine the impact of exchange rate fluctuations on foreign private investment in Nigeria. Two-stage least square (2LS) are Granger Causality are employed to test the causal relationship between exchange rate and major macro-economic variables. The exchange rate fluctuations has negative and non-significant impact on Nigeria's foreign private investment (coefficient of EXR = -0.015, t-value = -0.267). This indicates that a one percent increase in foreign private investment into Nigeria may be due to 0.015 percent decrease in exchange rate fluctuations. Oniore, Gyang and Nnadi (2016) analyze the link between exchange rate fluctuations and private domestic investment in Nigeria. Descriptive statistics and econometric method are employed. Thus, simple averages of descriptive statistics, and Error Correction Model (ECM) technique within the Ordinary Least Square estimation were employed to analyze the various trends in the data. The findings suggest that, the depreciation of the currency and interest rate does not stimulate private domestic investment activities in Nigeria.

Lawal, (2016) examines the effect of exchange rate fluctuations on manufacturing sector output in Nigeria from 1986 to 2014, a period of 28 years. Using ARDL, the study discovers that exchange rate fluctuations have a positive long run and short run relationship on manufacturing sector output. The result shows that exchange rate has a positive relationship on manufacturing sector output but not significant. Ilechukwu and Nwokoye, (2015) employ the use of the ordinary least square technique to examine the impact of exchange rate stability on industry output in Nigeria using annual time series data from 1980 to 2013. The result of the study shows that domestic capital, foreign direct investment, population growth rate, and real exchange rate were significant determinants of industrial output. The changes in external balance and inflation were of little or no consequences to industrial output. Simon-Oke and Aribisala, (2010) investigate the impact of exchange rate deregulation on industrial performance in Nigeria. The co-integration technique, chow breakpoint test and error correction model were considered as analytical tools. Result indicates that exchange and interest rates emerged as significant determinant of industrial productivity growth rate in Nigeria.

Having observed the defects and limitations imposed on non-stationary time series variables in many studies, one notable gap observed in this study is the absence of a study which breaks down the impact of exchange rate fluctuations on domestic in investment into the short and long run using the Bounds test approach. Such study was only done by Iyke and Ho (2017) in Ghana, whose economic structure is significantly different from Nigeria. Unlike Ghana, Nigeria is a mono-product economy (export of crude oil). Also, Lawal (2016) used the same model, but the study was only estimating manufacturing output, which is a segment of gross domestic investment as used in this present study. In addition, Oniore, Gyang & Nnadi included post SAP period in its analysis of the impact of exchange fluctuations on private domestic investment in Nigeria, whereas, this present study is a post-SAP analysis of the impact of exchange rate fluctuations on domestic investment in Nigeria. As a departure from previous studies, this present study uses ARDL to estimate the relationship between exchange rate fluctuations and domestic investment in Nigeria.

METHODOLOGY

This research adopts the *Ex-Post Facto* research design. Neo-classical theory of investment by Jorgenson (1963) is adopted as the theoretical framework of the study. This work employed secondary quarterly time series data. The time series data for all the variables were obtained from the Central Bank of Nigeria. The period considered of the time series data covered in this study ranges from 1986-2017. The preliminary test for stationarity was done using the Augmented Dickey fuller Unit root test. The ADF equation is stated below:

$$\Delta y_t = \delta y_{t-1} + \sum_{i=1}^{p} \alpha i \Delta y_{t-i} + \mu_t \qquad (3.1)$$

The testing procedure follows an examination of the student-t ratio for δ. The critical values of the test are all negative and larger in absolute terms than standard critical t-values, so they are called DF and ADF statistics. If the null hypothesis cannot be rejected then the series Y_t cannot be stationary. The decision rule is to reject Ho, if the absolute DF or ADF t-statistic > 5% critical values. If otherwise, accept Ho.

This present study uses the autoregressive distributed lag (ARDL) Bound testing procedure to examine the

cointegration (long run) relationship between the dependent variables and the explanatory variables, as well as the short run dynamics. Bound test is preferred to Johansen techniques method of cointegration, (Pesaran, Shin & Smith, 2001) An F-test of the joint significance of the coefficients of the lagged levels of the variables was used to test the hypothesis of no cointegration among the variables against the presence of cointegration among the variables. The F-test has a nonstandard distribution irrespective of whether the variables are 1(0) or 1(1). Pesaran et al. (2001) put forward two sets of adjusted critical values that provide the lower and upper bounds used for inference. One set assumes that all variables are 1(0)and the other assumes that they are all 1(1). If the computed F-statistics falls above the upper bound critical value, thenthe null of no cointegration is rejected If the computed F-statistics falls above the upper bound critical value, then the null of no cointegration is rejected. If it falls below the lower bound, then the null cannot be rejected. Finally, if it falls between the lower and upper bound, then the result would be inconclusive. The researcher can go ahead to estimate the ARDL model if the variables are I(0) and I(1) (Chigusiwa et al., 2011; Nkoro & Uko, 2016)

Model Specification

Based on the Jorgenson's neoclassical approach, the following equation which specifies investment as a function of output, interest rate, financial deepening and exchange rate is formulated in the spirit of Akanbi (2010), where the long run form of the model is specified thus;

$$INV_t = \propto_0 + \propto_1 GDP_t + \propto_2 INT_t + \propto_3 FDP_t + \propto_4 EX_t + + \mu_t \qquad (3.2)$$

If cointegration exists, the short run dynamics of the autoregressive distributed lag model (ARDL) is therefore specified in equation 3.3.

$$\Delta INV_t = \propto_0 + \propto_{1i} \sum_{i=1}^{q} \Delta INV_{t-i} + \propto_{2i} \sum_{i=1}^{q} \Delta GDP_{t-i} + \propto_{3i} \sum_{i=0}^{q} \Delta INT_{t-i} + \propto_{4i} \sum_{i=0}^{q} \Delta FDP_{t-i} + \propto_{5i} \sum_{i=0}^{q} \Delta EX_{t-i} + \varphi ECM_{t-1} + \mu_t \qquad (3.3)$$

Where; Dependent variable: INV = Gross domestic Investment (proxy: gross fixed capital formation)

Independent Variables: GDP = Gross domestic product (proxy for output), INT = Interest rate (proxied by prime lending rate), FDP = Financial Deepening (Ratio of broad money supply, (M2) to GDP), EX = Exchange rate (average annual real exchange rate), $\propto_0$ - $\propto_4$ = Regression coefficients, φ_1 = Error term

A priori Expectations: $f(\propto_1) > 0$, $f(\propto_2) < 0$, $f(\propto_3) > 0$, $f(\propto_4) > 0$ *or* < 0

RESULTS AND DISCUSSIONS

Unit Root Test of the Variable

Table 4.1: Result of ADF unit root test of the variables

	At level		First difference		
Variables	**ADF test statistics**	**5% critical value**	**ADF test statistics**	**5% critical value**	**Order of integration**
LINV	-1.567706	-2.960411	-4.366533	-2.963972	I(1)
LGDP	-3.594231	-2.960411			I(0)
LFDP	-0.581988	-2.960411	-4.993833	-2.963972	I(1)
LEX	-1.370714	-2.960411	-7.193392	-2.963972	I(1)
INT	-4.532298	-2.960411			I(0)

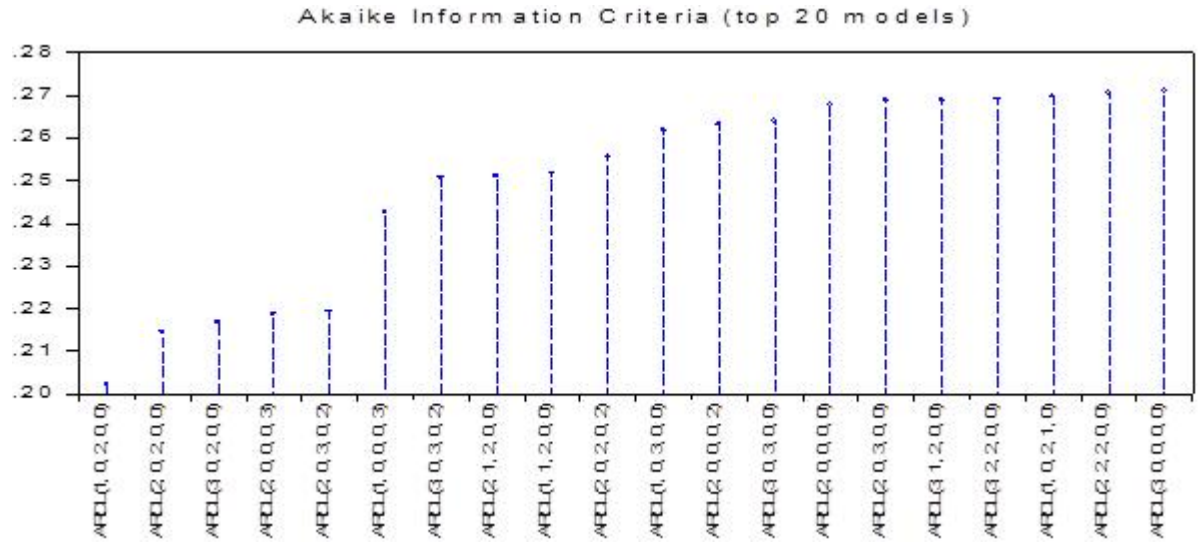
Source: Eviews 9 Output for the Result of ADF unit root test of the variables

Table 4.1 shows the result of ADF unit root test conducted. It could be observed that LGDP, and INT were found to be stationary in level while LINV, LFDP, and LEX were found to be stationary at first difference. This implies a mixture of I(0) and I(1) variables which invariably explains the method of cointegration test to be adopted.

Lag Length selection using AIC

The lag length for the autoregressive distributed lag model of objective one is done using Akaike Information. Since the study used Eviews 9, the researcher is given the chance to select lag lengths.

Figure 4.1: graph of lag ARDL lag length selection based on Akaike Information Criterion.



Source: Eviews 9 Output for model selection based on Akaike Information Criteria

The Autoregressive Distributed Lag (ARDL) model selection is presented in figure 4.1. The result of the lag length selection showed that after 4 evaluations, the selected ARDL (1,0,2,0,0) was found suitable model for our analysis.

4.2: Cointegration and Bond Test Approach

The results of the unit root test presented in table 4.2 show that the some of the variables are I(1) and some I(0). This informs the use of bound test approach to cointegration proposed by Pesaran and Shin (1999). The result is inconclusive when the t-statistic falls between the lower and upper bounds as in Table 4.4 below.

Table 4.4: Result of Bound test (cointegration of the variables)

Null hypothesis: No long run relationship exists

			Bound Test	
Test Statistic	Value	K	Lower bound	Upper bound
F-statistic	3.190543	4	2.86	4.01

Source: Eviews 9 Output for the Result of bound test (cointegration of the variables)

Table 4.4 shows that the value of F-statistic lies been the upper bound value of Paseran test statistic at 5% level of significance. This is an indication that the null hypothesis that there is no conclusion on long run association among the variables. Since the time series are I(0) and I(1), we go ahead and estimate the model Pesaran and Pesaran (1996a).

Regression Model
The long run Result

The existence of long run association among the variables in the model allows us to estimate the long run model and generate the error correction term which will be used to examine short run dynamics of the model. However, the result of long run estimation is given in table 4.5.

Table 4.5 Result of ARDL Long-run Model
Dependent Variable: LINV

Long Run Coefficients					
Variable		**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.**
LGDP		0.933405	0.143277	6.514678	0.0000
LFDP		1.975770	0.654392	3.019244	0.0063
LEX		-0.059128	0.117606	-0.502762	0.6201
INT		0.026677	0.040582	0.657357	0.5178
C		-7.314620	1.512197	-4.837082	0.0001
R-squared	0.990246	Akaike info criterion	0.182335		
Adjusted R-squared	0.987143	Durbin-Watson stat	1.616774		
S.E. of regression	0.237079				
F-statistic	319.0760				
Prob(F-statistic)	0.000000				

Source: Eviews 9 Output for the result of the long run model

Table 4.5 shows the result of long-run estimation of the model for objectives one. It could be observed that two explanatory variables out of the four variables were statistically significant. The result also showed that most of the variables assumed their a priori signs except for interest rate, which was found to exert positive influence on domestic investment in the long run.

Exchange rate liberalization programme in Nigeria owes its root to the emergence of the Structural Adjustment Programme since 1986. Exchange rate devaluation (fixed

exchange rate regime) or depreciation (deregulated regime) is deigned in theory to make domestic product cheaper and increase net export and domestic investment. Evaluating the impact of this, the result found a negative relationship between exchange rate fluctuations and domestic investment. The result further reveals that one per cent increase in exchange rate would lead to about 0.06 per cent decrease in domestic investment in Nigeria. This result indicates that the effort of the government in embarking on foreign exchange liberalization policies have yielding good result

The study observed that a one per cent increase in the value of gross domestic product would lead to about 0.93 per cent increase in the value of domestic investment. This attributes the growth in domestic investment to growth in national output in Nigeria. The result shows that one per cent increase in broad money supply per GDP would lead to about 1.98 per cent increase in domestic investment. This is not somewhat surprising as one would expect increase in financial sector liquidity to increase investment in the real and monetary sectors of the economy. Interest rate, assumed to be the cost of capital in the economy was observed to exert positive and non-significant impact on domestic investment. The study reveals that a one percent change in interest rate would lead to about 0.03 percent increase in domestic investment in Nigeria. The effect of rising interest rate on the real sector is such that domestic investors find it difficult to source funds for investment.

Lastly, on the basis of the general model, the study found that the explanatory variables in the model explained about 99.2 percent of the variation in growth rate of gross domestic product of Nigeria. The value of Durbin Watson (1.66) indicates there are signs of auto-correlation in the residual of the model. Also, the probability value of F-statistic (0.0000) shows that the entire model is robust.

Result of Short-run Estimation

The short run model explains the dynamics of the variables and the speed of adjustment of the model towards long run equilibrium. This model utilized information from the long run model to explain what happens in the short run adjustment. This is presented in table 4.6.

Table 4.6 Result of ARDL Short-run Model
Dependent Variable: ? LINV

Variable	Coefficient	Std. Error	t-Statistic	Prob.
? (LGDP)	0.461092	0.150411	3.065550	0.0057
? (LFDP)	0.341545	0.499885	0.683247	0.5016
? (LFDP(-1))	-0.873365	0.482377	-1.810546	0.0839
? (LEX)	-0.029208	0.058811	-0.496646	0.6244
? (INT)	0.013178	0.019264	0.684086	0.5011
ECM(-1)	-0.493989	0.138118	-3.576563	0.0017

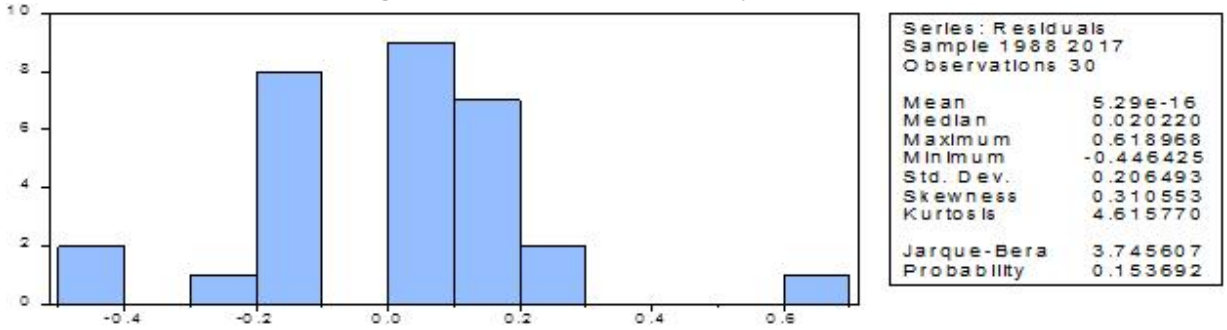
Source: Eviews 9 Output for the result of the short run model

Table 4.6 shows the result of the short run dynamics of the impact of exchange rate fluctuations on domestic investment in Nigeria. It could be observed that most of the variables assumed their a priori signs except interest rate which was found to be positive. Exchange rate fluctuation, say depreciation, is expected to lead to increase in output and next export in an emerging economy. The effect of exchange rate fluctuation on domestic investment in this study is found to be negative, but not statistically significant at 5 percent level. The study found that a one per cent increase in exchange rate of the naira to the dollar would lead to about 0.03 per cent decline in domestic investment.

The study found that a one per cent increase in current year GDP would lead to about 0.46 per cent increase in domestic investment in Nigeria. Indeed, this is not surprising as improvement in national output is expected to exert spill-over effect into the investment sector. The analysis shows that a one per cent increase in the financial deepening would lead to about 0.34 per cent increase in domestic investment in Nigeria. Although it was observed that the one per cent increase in financial deepening the previous year leads to a fall in domestic investment by 0.87 per cent. A one percent change in interest rate would lead to about 0.013 percent increase in domestic investment in Nigeria. Rising interest rate hinders the ability of investors in the real sector to secure funds for short run investments.

Lastly, the error correction term which measures the speed of adjustment of the short-run model toward long-run equilibrium was found to be negative and statistically significant. This in fact, is in line with theoretical postulations. The result therefore shows that in one year about 49.39 percent of the fluctuations in the short-run would be corrected towards long-run equilibrium.

Post Estimation Tests
Normality Test
Figure 4.2 Result of Normality Test.



It could be seen figure 4.2 that the null hypothesis that the variables are normally distributed is not to be rejected since the probability value of Jarque-Bera is above than 0.05.

Serial correlation LM test of the selected ARDL Model

Serial correlation test was conducted using the Breusch-Pagan Serial correlation LM test.

Table 4.7: Result of Serial Correlation LM Test

Breusch-Godfrey Serial Correlation LM Test:			
F-statistic	1.535451	Prob. F(2,20)	0.2397
Obs*R-squared	3.993214	Prob. Chi-Square(2)	0.1358

Source: Eviews 9 Output for Breusch-Godfrey Serial Correlation LM Test

From table 4.7 above, it can be seen that the probability Chi-Square (0.1358) is greater than 0.05 at 5% significant level. In that we cannot reject the null hypothesis that there is no serial correlation in the residual of the short-run model and conclude that the residual in our short-run ADRL model is not serially correlated.

Heteroscedasticity Test: This test was conducted using the Breusch-Pagan LM test.

Table 4.8: Heteroscedasticity Test

Heteroskedasticity Test: Breusch-Pagan-Godfrey			
F-statistic	**1.267099**	**Prob. F(7,22)**	**0.3111**
Obs*R-squared	8.619808	Prob. Chi-Square(7)	0.2811
Scaled explained SS	8.380525	Prob. Chi-Square(7)	0.3002

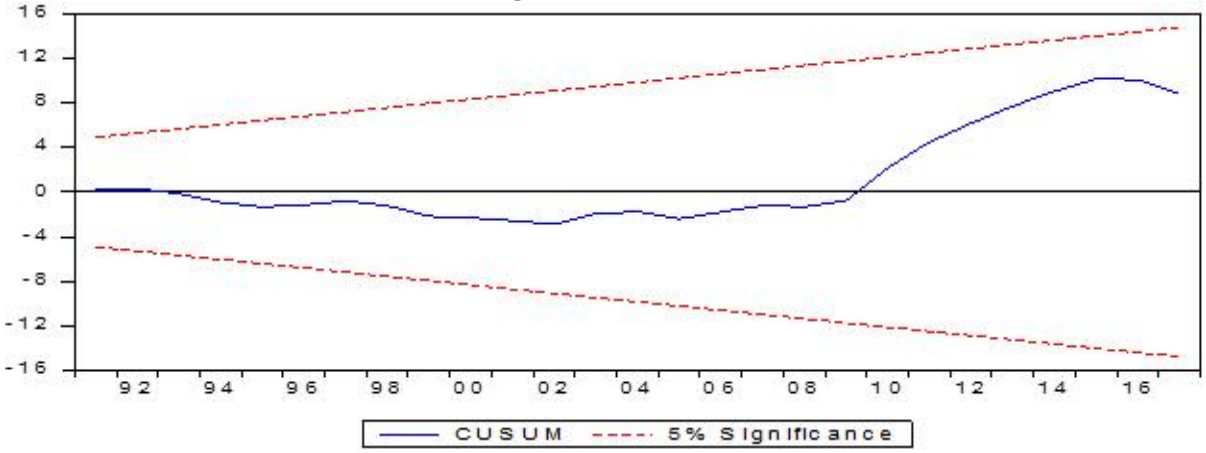
Source: Eviews 9 Output for Heteroscedasticity Test

The result of table 4.8 shows that the probability of the . . . . . *0.2811*) is greater than 0.05. In that, we do not reject the null hypothesis of homoscedasticity or constant variance of the residual.

Stability Diagnostic Test

Stability of the short run model was tested using CUSUM test.

Fig 4.3: CUSUM test



Source: Eviews 9 Output for Stability test of Estimated Model

The result of the CUSUM test shows that the blue lines lies inside the dotted red line which indicates that the model is dynamically stable.

Ramsey Reset Test

This test is a specification test that helps to check if the model estimated was correctly specified.

Table 4.9: Result of Ramsey Reset Test

	Value	**Df**	**Probability**
t-statistic	0.236891	24	0.8148
F-statistic	0.056117	(1, 24)	0.8148
Likelihood ratio	0.072400	1	0.7879

Source: Eviews 9 Output for Ramsey Test

Table 4.9 shows that the probability value of F-statistic is greater than 0.05 indicating that the null hypothesis is not to be rejected at 0.05 level. This implies that the model estimated was correctly specified.

CONCLUSION AND RECOMMENDATIONS

Based on the results of the data investigation in this study, it is concluded that the relationship between exchange rate fluctuations and domestic investment in Nigeria is negative. However, exchange rate fluctuations have no significant impact on domestic investment in the long run (p(t) value 0.6201> 0.05) and short run (p(t) value 0.6244 > 0.05). The study hereby recommends that currency depreciation and/or devaluation of exchange rate are good options to increase domestic investment in Nigeria. Secondly, the currency swap agreement with China is a move in a right direction. Monetary authorities in Nigeria should strive for similar bilateral agreement with other nations that trade heavily with Nigeria, for example, India, Turkey, United Kingdom. This would help in mitigating the effects of currency fluctuations in the foreign exchange market.

REFERENCES

1. Akanbi, O. A (2010). Role of Governance in Explaining Domestic Investment in Nigeria. Working Paper Number 168.Department of Economics, University of Pretoria, South Africa.
2. Aliyu, S.R.U. (2011). Impact of Oil Price Shock and Exchange Rate Volatility on Economic Growth in Nigeria: An Empirical Investigation, Research Journal of International Studies, Issue 11, July.
3. Bakare, A. S. (2011). The consequences of foreign exchange rate reforms on the performance of private domestic investment in Nigeria. International Journal of Economics and Management, 1 (1) 25-31
4. Benson , U.O and Victor, E.O (2012). Real Exchange Rate and Macroeconomic Performance: Testing for the Balassa-Samuelson Hypothesis in Nigeria. International Journal of Economics and Finance: 4 (2), 127-134.
5. CBN, (2015). Central Bank Statistical Bulletin online edition
6. Chigusiwa, L., Bindu, S., Mudavanhu, V., Muchabaiwa, L. & Muzambani, D. (2011). Export-Led Growth Hypothesis in Zimbabwe: Does Export Composition Matter? International Journal of Economic Resources, (2): 111-129.
7. Enoma, I.A. (2011). Exchange Rate Depreciation and Inflation in Nigeria (1986–2008). Business and Economics Journal, 28:1-11.
8. Ilechukwu, I. N.& Nwokoye, E. S. (2015). Long Run Impact of Exchange Rate on Nigeria's Industrial Output, IOSR Journal of Economics and Finance , 6, (5)75-86
9. Jongbo, O. C. (2014). The Impact Of Real Exchange Rate Fluctuation On Industrial Output In Nigeria, Journal of Policy and Development Studies 9(1)268-278
10. Jorgenson, D. (1963). Investment Vol. 1: Capital theory and investment behavior, MIT Press, 55 Hayward Street, Cambridge, MA 02142 – 1315 USA
11. Lawal, E.O (2016) Effect of Exchange Rate Fluctuations on Manufacturing Sector Output in Nigeria, Journal of Research in Business and Management, 4(10): 32-39
12. Mbanasor, C. O. & Obioma, J. ().Exchange rate fluctuations and foreign private investments in Nigeria, IIARD International Journal of Economics and Business Management, 3(8)1-23
13. Nkoro, E & Uko, A. K. (2016). Autoregressive Distributed Lag (ARDL) cointegration technique: application and interpretation, Journal of Statistical and Econometric Methods, 5(4): 63-91
14. Oladapo, F. & Oloyede, J. A. (2014). Foreign Exchange Management And The Nigerian Economic Growth (1960 – 2012), European Journal of Business and Innovation Research, 2, (2)19-31,
15. Olure-Bank A. M., Gbadebo S., & Ajiteru T. (2015). Falling Oil Price, Exchange Rate Volatility and Marcoeconomic Variables in Nigeria, Journal of Investment and Management, 4(1): 25-33
16. Oniore, J. O., Gyang, E. & Nnadi, K. U. (2016).The impact of exchange rate fluctuations on private domestic investment performance in Nigeria. IOSR Journal of Economics and Finance. 7(3) I: 07-15 www.iosrjournals.org
17. Pesaran, M.H., Y. Shin and R. Smith (2001): Bounds testing approaches to the analysis of level relationships. In: Journal of Applied Econometrics 16 (3): 289-326.
18. Qian, Y. and P. Varangis. 1992. Does exchange rate volatility hinder export growth? International Economics department, The World Bank Working Papers on International Trade. WPS 9 11, May
19. Simon-Oke, O. O.& Aribisala, S.E. (2010). Exchange Rate Deregulation and Industrial Performance: An Assessment (1975 – 2006), African Research Review, Vol. 4 (2) 236-251)