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DOES CAPITAL FLIGHT AFFECT MACROECONOMIC PERFORMANCE IN NIGERIA?

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ABSTRACT

This Study examined the effect of capital flight on macroeconomic performance in Nigeria for the period 1981 to 2019. It also ascertained the determinants of capital flight in Nigeria for the period 1981 to 2019. The error correction model was used for this study because the unit root test revealed all variables were stationary at first difference. This study utilized secondary data obtained from the World Bank dataset. The findings showed that external debt in the current period and the first lag, external debt in the current period, foreign direct investment in the current period, current account balance in the current period, interest rate in the current period and reserves in the first lag are significant determinants of capital flight in Nigeria. Also, the study revealed that capital flight negatively affects economic growth and investment in Nigeria. The study therefore recommends amongst others that external debt and foreign direct investment should be used for productive purposes such that capital flight as a result of inflow of funds from abroad is impossible and that stable exchange rate policies should be adopted to avoid devaluation which is a determinant of capital flight in Nigeria.

KEYWORDS: Capital flight, Macroeconomic, Error Correction Model, Nigeria.

1. INTRODUCTION

According to Saheed (2012), capital flight is described as a movement of domestic saving from under developed economies away from financing domestic real investment for a foreign financial investment in developed economies of the world leaving the economic growth and development of the under-developed economies at base. The outflow of capital from under developed nations brings about declining in capital available for investment purposes that could promote economic growth and development. Moreover, where such phenomenon happens, developing nations are forced to obtain foreign borrowings to supplement their domestic funds in other to achieve economic development hence, the burden of debt servicing which may eventually plunge the nation to persistent bondage of poverty (Ayadi, 2008).

There is a general presumption in the literatures that capital movements from capital-scarce countries such as those in the developing world to higher-wage areas of advanced countries are unexpected and unusual. A reason for this labeling is that capital flight means loss of resources to the domestic economy, and therefore, loss of opportunities. It is paradoxical that resources are flowing out of developing countries rather than to them even though it is in the developing countries that resources are needed the most to stimulate economic growth and development. Capital flight also means loss of resources for debt servicing, thereby making the burden of external debt more substantial. Since in the developing countries, institutions are fragile or missing, the economic and social costs of capital flight can be large and affect the rest of society which carries a disproportionate burden of the external debt since capital flight usually undertaken by the elite. In fact, the elites are usually able to evade these costs because they are able to transfer their wealth overseas (Bakare, 2011).

Capital flight whether normal or abnormal has a damaging effect on the economy of the source or domestic country. It is generally known that shortage of funds to finance economic development is a major challenge confronting the African continent. Thus, encouraging the inflow of foreign capital through foreign investment cannot be overemphasized in order to bridge the existing resource gap in developing countries. Many developing countries have resorted to external borrowing as a means of bridging their saving-investment gap (Bredino et al, 2018).

In a low income nation like Nigeria where capital flight exists, the country is bound to experience macroeconomic instability. This instability can be in the form of budget deficits, current account deficits, hyperinflation as well as decreasing terms of trade. This will then lead to a contraction in economic activities and lack of opportunities for profitable investment in the country. Capital flight poses serious threats to economic growth in any country due to the fact that it increases unemployment rate, discourages both domestic and foreign investment and it leads to a rise in consumer prices. It is against this backdrop that this study aims at examining the determinants of capital flight in Nigeria as well as examining the effect of capital flight on macroeconomic performance in Nigeria. For the purpose of this study, Gross Domestic Product (GDP) and Domestic Investment are used as the macroeconomic performance indicators.

2. LITERATURE REVIEW

2.1 Theoretical Literature

2.2 The Tax Depressing Theory

This theory postulates that capital flight leads to potential loss of revenue because wealth held abroad are beyond the control of the domestic government and cannot be taxed. High expected tax rates might reduce the net expected returns to domestic investment and the volatility of the tax rates might raise investment risk which then leads to lower risk-adjusted returns to domestic investment

(Ndikumana and Boyce, 2002). The fall in government revenue will complicate the task of political and economic engineering to stimulate growth and development. This leads to a reduction in debt servicing ability of the government which causes an increase in the debt burden and constrains economic growth and development.

2.3 Empirical Review

Ogbenro(2019)examined the impact of capital flight on economic growth in Nigeria for the period 1990 to 2017. The ADF test was employed in testing for stationary of the time series. The ordinary least square (OLS) econometrics method of data analysis was used for this study. The T-test showed the existence of a positive relationship between the proxies of capital flight and GDP serving as proxy for economic growth. It was recommended that policy-makers and the relevant authorities should pay more attention to the issue of capital flight and foreign debt servicing in order to stem its counter-productive impacts on economic growth.

Igwemma (2016) investigated the effect of capital flight on the Nigerian economy from 1986-2016. Data for the variables of this study were sourced from the World Bank Development Index, CBN Statistical Bulletin and the Economic and Financial Crimes Commission Bulletins. The variables were found to be integrated of mixed order hence the Bounds test was used to test for co-integration. The simultaneous equation model reveals a negative and significant relationship between capital flight and economic growth. The implication of these findings is that capital flight had negatively affects Economic growth in Nigeria with Foreign Medical and educational Expenses and Looted Funds being the key channels through which huge capital leaves the country. It was recommended the government should ensure good governance and prosecution of corrupt officials in order to discourage capital flight and encourage domestic investment.

Obidike (2015) examined the effect of capital flight on the economic growth of Nigeria. Following the result of the Augmented Dickey-Fuller (ADF) test, the Autoregressive Distributed Lagged model (ARDL) was used in the study. The outcome of the Auto Regressive Distributed Lagged (ARDL) model revealed that capital flight has significant effect on economic growth. It was recommended that government should take serious steps to improve the security of life and property in the country as insecurity poses a problem to investment. Also, the public resource managers should partner with anti-graft agencies to ensure that all the channels through which money is laundered are stopped.

Ayodele (2016) examined the effect of capital flight on the economic growth of Nigeria. The simple linear regression model was employed to analyze the data and it was discovered from the analysis that there exists a very high and significant relationship between GDP and capital flight. It was therefore recommended that the Nigerian economic and political environment should be made investment friendly so as to attract investors.

Kabiru (2018) examined the effect of capital flight on investment in Nigeria from 1990 to 2014. The study used capital flight, foreign direct investment, current account balance, external debt, external reserves and real exchange rate as the variables for this study. The study revealed that there a negative and insignificant relationship between capital flight and real investment in Nigeria. The study then recommended that since a decrease in real investment causes an increase in capital flight, there is a need for the fiscal authorities to pursue policies that creates a favorable environment for investment.

Olawale et al (2015) examined the impact of capital flight on economic growth in Nigeria between 1980 and 2012.Ordinary Least Squares (OLS) and Error Correction Mechanism (ECM) as its main estimation techniques. The result revealed the existence of a long run relationship among the variables using co-integration. It was also discovered that capital flight had a negative impact on the economy. Based on these findings, it was recommended that the government should create an enabling environment for investment and offer investors attractive incentives in order to reduce the occurrence of capital flight from the country.

Umoru (2013) explored empirically the effect of capital outflows on the growth rate of GDP in Nigeria. The findings showed that capital flight adversely impacts the growth rate of GDP. There is therefore need for effective control of capital outflows and also a need to implement economic policies that will encourage domestic investment and discourage capital flight in Nigeria.

Ajayi (2012) provided evidence on the impact of capital flight on investment of Nigeria for 40 years (1970-2009). The study used co-integration and Error Correction Mechanism (ECM) as its main estimation techniques. It was discovered that capital flight has a negative impact on the Nigerian economy. It was recommended that funds from foreign sources should be judiciously used for productive purposes in Nigeria. It also recommended that the government should provide an enabling environment for businesses to thrive thereby encouraging foreign direct investment and discouraging capital flight.

Lionel (2019) examined the impact of capital flight on domestic investment in Nigeria between 1980 and 2017. Adopting the Auto Regressive Distributed Lag (ARDL) methodology, the study revealed that capital flight has a negative and significant impact on domestic investment. In particular, the long run impact of capital flight on domestic investment is more severe than its impact in the short run which implies that the continuous act of capital flight exerts a negative effect on domestic investment over time. The study recommended that the real sector of the economy must be grown to boost the value of the naira. This will reduce the occurrence of capital flight and attract investment in other sectors.

3. METHODOLOGY

This study utilized time series data obtained from the World Bank Development Indicator for the period 1981 to 2019.

3.1 Model Specification

For model one (1): In order to ascertain the determinants of capital flight in Nigeria, the model is given in it log form as;

$$lnCF = \beta_0 + \beta_1 lnEXR + \beta_2 lnEDT + \beta_3 lnFDI + \beta_4 lnRES + \beta_5 INT + \beta_6 lnCAB + \mu \ldots\ldots\ldots\ldots\ldots\ldots (1)$$

It is expected that; $\beta_1>0$, $\beta_2<0$, $\beta_3<0$, $\beta_4<0$, $\beta_5 >/<0$, $\beta_6<0$

For model two (2): In order to examine the effect of capital flight on economic growth in Nigeria, the model is given in its log from as;

$$lnGDP = \beta_0 + \beta_1 lnCF + \beta_2 lnEDT + \beta_3 lnFDI + \mu \ldots\ldots\ldots\ldots\ldots (2)$$

It is expected that; $\beta_1<0$, $\beta_2>0$, $\beta_3>0$

For model three (3):fIn order to examine the effect of capital flight on investment in Nigeria, the model is given in its log from as;

$$lnINV = \beta_0 + \beta_1 lnCF + \beta_2 lnEDT + \beta_3 lnFDI + \mu \ldots\ldots\ldots\ldots\ldots (3)$$

It is expected that; β_1<0, β_2>0, β_3>0

Where; CF= Capital Flight, EXR= Exchange Rate, EDT= External Debt, FDI= Foreign Direct Investment, RES= Reserves, INT= Interest Rate, CAB= Current Account Balance and GDP= Gross Domestic Product.

4. RESULTS AND DISCUSSION

4.1 The Augmented Dickey Fuller (ADF) Test Result

From table below, the Augmented Dickey Fuller (ADF) test result shows that all variables are stationary only at first difference, which means the variables are integrated at order one. This is due to the fact that the probability values of the ADF test statistics are less than 0.05 and that the ADF test statistical values are greater than the MacKinnon critical value at 5 per cent significance level. Hence, the error correction method of estimation was adopted.

Table 4.1: Augmented Dickey Fuller (ADF) Test Result

Variables	ADF test statistics at level	Probability value	ADF test statistics at first difference	Probability value	Order of Integration
LNCF	-1.350699	0.5958	-8.334376	0.0000	I(1)
LNEDT	-2.018586	0.2779	-3.973671	0.0040	I(1)
LNEXR	-1.393597	0.9986	-4.263488	0.0018	I(1)
LNRES	-0.750634	0.8208	-5.758210	0.0000	I(1)
LNFDI	-1.526628	0.5095	-7.503496	0.0000	I(1)
LNGDP	-0.276452	0.9189	-3.607492	0.0104	I(1)
LNINV	-0.493755	0.9841	-3.218993	0.0272	I(1)
INT	-1.957090	0.3035	-3.692025	0.0088	I(1)
LNCAB	-1.948168	0.3076	-5.348573	0.0001	I(1)
5% Critical Value	-2.943427				

Source: Authors' Computation from E-views 9

4.2 Model One (1)Determinants of Capital Flight in Nigeria

4.2.1 Johansen Co-integration Test for model (1)

The Johansen co-integration test was used to test for the existence of a long run relationship among the variables in this model. The result of the co-integration test as presented in the table below shows that co-integration exists in this model.

Table 4.2.2: Johansen Co-integration Test for Model One (1)

Johansen Co-integration Test				
Series: CF CAB EDT EXR FDI INT RES				
Unrestricted Co-integration Rank Test (Trace)				
Hypothesized No. of CE(s)	Eigen-value	Trace Statistic	0.05 Critical Value	Prob.**
None	0.796328	181.3944	125.6154	0.0000
≤ 1 equation	0.750681	122.5184	95.75366	0.0002
≤ 2 equations	0.562677	71.12466	69.81889	0.0392
≤ 3 equations	0.328479	40.52260	47.85613	0.2043
≤ 4 equations	0.259291	25.78883	29.79707	0.1352
≤ 5 equations	0. 234387	14.68336	15.49471	0.0660
≤ 6 equations	0. 121701	4.801432	3.841466	0.0284
Trace test indicates 3 cointegratingeqn(s) at the 0.05 level				
Unrestricted Cointegration Rank Test (Maximum Eigenvalue)				
Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None	0.796328	58.87601	46.23142	0.0014
≤ 1 equation	0. 750681	51.39376	40.07757	0.0018
≤ 2 equations	0. 562677	30.60206	33.87687	0.1171
≤ 3 equations	0. 328479	14.73377	27.58434	0.7689
≤ 4 equations	0. 259291	11.10548	21.13162	0.6368
≤ 5 equations	0. 234387	9.881923	14.26460	0.2198
≤ 6 equations	0. 121701	4.801432	3.841466	0.0284
Max-eigenvalue test indicates 2 cointegratingeqn(s) at the 0.05 level				

Source: Authors' Computation from E-views 9

4.2.3 Error Correction Result for Model One (1)

The error correction coefficient is given as -0.711684 and its corresponding probability value is 0.0024. This means the ECM is negative and statistically significant which conforms to theoretical expectations. The R^2 is given as 0.765420 which means that about 77% of changes in the dependent variable, capital flight can be explained by the independent variables used in the model. The probability value of the F-statistic (0.000194) suggests that all the independent variables are jointly significant in determining changes in capital flight. Also, the Durbin-Watson statistics at 1.984100 indicate the absence of autocorrelation. The short run result revealed that exchange rate has a positive relationship with capital flight meaning that a depreciation of the naira leads to an increase in capital flight. This relationship conforms to apriori expectations and is similar to the findings of Ayodele (2016).External debt in the current period has a negative relationship with capital flight while in the first lag, external debt has a positive relationship with capital flight in Nigeria which is similar to the finding of Ameen*et al* (2016) and Chukwuemeka (2014). Foreign direct investment has a negative relationship with capital flight in the current period while in the first lag, the relationship is positive and insignificant which is similar to the findings of Saloum (2011). Current account balance has a negative relationship with capital flight indicating that a current account surplus will lead to a decline in capital flight in Nigeria. For interest rate, it has a negative and

significant relationship with capital flight in the current period. In the lagged period however, interest rate has a positive and statistically insignificant relationship with capital flight. Finally, the short run result indicated that reserves have a negative relationship with capital flight. This implies that an increase in reserves will lead to a decline in capital flight in the country.

Table 4.2.3: **Error Correction Result** (**Short Run Result) for Model One (1)**

Error Correction Result				
Dependent Variable: D(LNCF)				
Variable	Coefficient	Standard Error	t-statistic	Probability
C	0.211843	0.157126	1.348237	0.1927
D(LNCF(-1))	-0.248956	0.119430	-2.084531	0.0501
D(LNEXR)	0.461357	0.150914	3.057092	0.0058
D(LNEXR(-1))	0.205571	0.056849	3.616095	0.0015
D(LNEDT)	-0.057423	0.026997	-2.126977	0.0499
D(LNEDT(-1))	0.106741	0.068447	1.559486	0.1332
D(LNFDI)	-0.094304	0.023121	-4.078703	0.0005
D(LNFDI(-1))	0.553697	0.269348	2.055699	0.0531
D(LNCAB)	-0.100205	0.022874	-4.380837	0.0002
D(LNCAB(-1))	-0.216532	0.319524	-0.677671	0.5057
D(INT)	-0.020340	0.007949	-2.558655	0.0203
D(INT(-1))	0.553697	0.269348	2.055699	0.0531
D(LNRES)	-0.216532	0.319524	-0.677671	0.5057
D(LNRES(-1))	-0.070896	0.028725	-2.468090	0.0218
ECM(-1)	-0.711684	0.214269	-3.321453	0.0024
R-squared	0. 765420	F-statistic	6. 525880	
Adjusted R-squared	0. 648130	Prob(F-statistic)	0. 000194	

Source: Authors' Computation from E-views 9

4.2.4 Residual Diagnostic Test Result

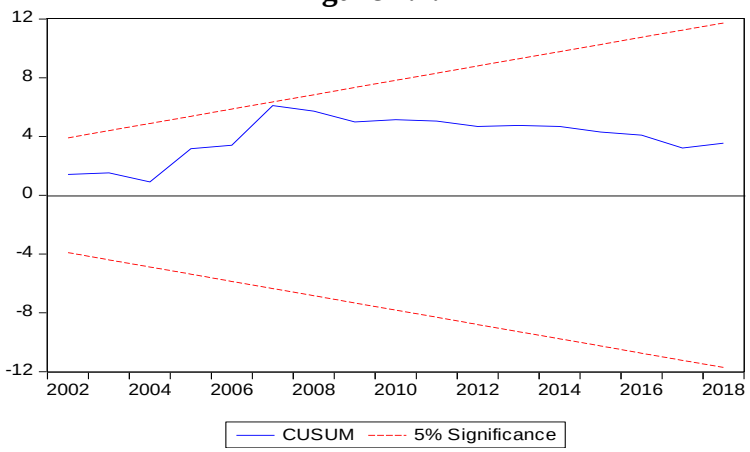
From the residual diagnostics test result presented in the table below, it is clear that the errors in this model are normally distributed and there is an absence of serial correlation and heteroscedasticity in the model. The CUSUM test result also shows that the variables are stable in the long run.

Table 4.2.4: Residual Diagnostic Test Result for Model (1)

Residual Diagnostic Test	**STATISTICS**	**PROBABILITY**
Jarque-Bera normality test	3.914827	0.141223
Breush-Godfrey Serial correlation LM test	2.508681	0.1149
Heteroskedasticity : Breush Pagan Godfrey	0.752045	0.6794

Authors' Computation from E-views 9

Figure 4.2.4



4.3 Effect of Capital Flight on Economic Growth (Model Two)

4.3.1 The Johansen Co-Integration Test for Model (2)

The Johansen co-integration test was used to test for the existence of a long run relationship among the variables in this model. From the result of the co-integration test as presented in the table 4.3.1 below shows that, the Trace test and the Max-Eigenvalue test shows that co-integration exists in this model.

Table 4.3.1: The Johansen Co-Integration Test Result for Model (2)

Johansen Co-integration Test				
Series: LNGDP LNFDI LNEDT LNCF				
Unrestricted Cointegration Rank Test (Trace)				
Hypothesized No. of CE(s)	Eigen value	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.572703	48.94183	47.85613	0.0394
At most 1	0.236267	18.33187	29.79707	0.5417
At most 2	0.157205	8.628522	15.49471	0.4009
At most 3	0.066347	2.471402	3.841466	0.1159
Trace test indicates 1 cointegratingeqn(s) at the 0.05 level				
Unrestricted Cointegration Rank Test (Maximum Eigen value)				
Hypothesized No. of CE(s)	Eigen value	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None *	0.572703	30.60997	27.58434	0.0198
At most 1	0.236267	9.703343	21.13162	0.7720
At most 2	0.157205	6.157120	14.26460	0.5931
At most 3	0.066347	2.471402	3.841466	0.1159
Max-Eigen value test indicates 1 cointegratingeqn(s) at the 0.05 level				

4.3.2 Error Correction Model for Model Two (2) (Short Run Analysis)

The error correction term has a coefficient given as -0.136009 and its corresponding probability value is 0.0000. This means the ECM is negative and statistically significant at the 5% level of significance, thereby conforming to theoretical expectations. The value of the R^2 is given as 0.889096 which means that about 89% of changes in the dependent variable, GDP can be explained by the independent variables used in the model. The probability value of the F-statistic (0.00000) suggests that all the independent variables are jointly significant in determining the GDP. Also, the Durbin-Watson statistic has a value of 1.837050 which signifies that there is no autocorrelation.

The short run result shows that GDP in the past period determines GDP in the current period. Capital flight in the current period and the first lag has a negative and significant relationship with GDP. It implies that as capital flight increases, economic growth declines. This relationship conforms to apriori expectations and is similar to the findings of Igwemma (2016), Bakare (2011) and Ayoola (2018) where a negative relationship was found to exist between capital flight and economic growth in Nigeria. External debt also has a negative relationship with capital flight. Its relationship is however statistically insignificant. The coefficient of -0.255434 means that if external debt increases by one per cent, GDP will decline by about 26%. External debt in the lagged period has a positive and significant relationship with capital flight which implies that a one per cent increase in external debt will increase GDP by about 12%. FDI has a positive and statistically significant relationship with GDP in the current period while in the first lag; FDI has a negative and insignificant relationship with reserves. This is due to the fact that the FDI inflow is used for unproductive purposes which do not contribute to economic growth and also because of corruption and conversion of these funds for personal use.

Table 4.3.2: Error Correction Model for Model Two (2)

ERROR CORRECTION RESULT				
Dependent Variable: D(LNGDP)				
Variable	Coefficient	Standard Error	T Statistic	Probability
C	-0.001000	0.032229	-0.031042	0.9755
D(LNGDP(-1))	0.932324	0.254491	3.663483	0.0015
D(LNCF)	-0.620928	0.261576	-2.373797	0.0238
D(LNCF(-1))	-0.977641	0.272983	-3.581328	0.0016
D(LNEDT)	-0.255434	0.186232	-1.371587	0.1854
D(LNEDT(-1))	0.116303	0.048039	2.420990	0.0215
D(LNFDI)	0.927793	0.132954	6.978299	0.0000
D(LNFDI(-1))	-0.103206	0.059212	-1.742978	0.0967
ECM(-1)	-0.136009	0.025462	-5.341659	0.0000

R-squared	0. 889096	F-statistic	34.35791
Adjusted R-squared	0. 863219	Prob(F-statistic)	0. 000000
Durbin-Watson statistic	1. 837050		

Source: Author's computation from Eviews 9 (2021)

4.3.3: Residual Diagnostic Test Result

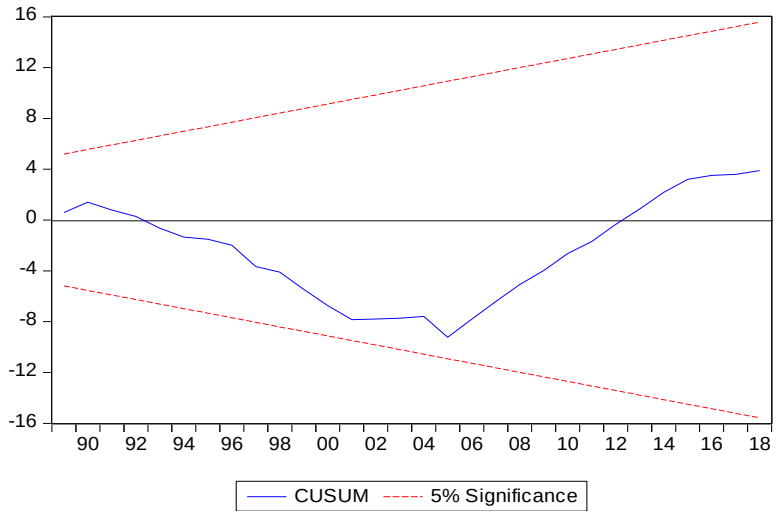
From the residual diagnostics test result presented in the table 4.3.2 , it is clear that the errors in this model are normally distributed and there is an absence of serial correlation and heteroscedasticity in

the model. The CUSUM test result also presented in the in figure 4.3.2 shows the variables are stable in the long run.

Table 4.3.3: Residual Diagnostic Test Result for Model (2)

Residual Diagnostic Test	STATISTICS	PROBABILITY
Jarque-Bera normality test	1.322880	0.516108
Breush-Godfrey Serial correlation LM test	0.463228	0.6374
Heteroskedasticity : Breush Pagan Godfrey	0.830510	0.6212

Figure 4.3.3



4.4 For Model Three (3) Effect of Capital Flight on Investment

4.4.1The Johansen Co-Integration Test Result for Model Three (3)

In examining the effect of capital flight on investment in Nigeria, the Johansen co-integration test was used to test for the existence of a long run relationship among the variables since the variables are stationary at first difference. From the co-integration result presented in table 4.4.1 below, the Trace test as well as the Max-Eigen value test indicated the presence of one co-integrating equation each, which confirms the existence of a long run relationship among the variables.

Table 4.4.1: The Johansen Co-Integration Test Result for Model Three (3)

Series: LNINV LNCF LNEDT LNFDI				
Unrestricted Cointegration Rank Test (Trace)				
Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.615202	48.44946	47.85613	0.0439
At most 1	0.433047	20.75338	29.79707	0.3732
At most 2	0.135597	4.296508	15.49471	0.8782
At most 3	0.002436	0.070727	3.841466	0.7903
Trace test indicates 1 cointegratingeqn(s) at the 0.05 level				
Unrestricted Cointegration Rank Test (Maximum Eigenvalue)				
Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob.**

None *	0.615202	27.69608	27.58434	0.0484
At most 1	0.433047	16.45687	21.13162	0.1993
At most 2	0.135597	4.225781	14.26460	0.8348
At most 3	0.002436	0.070727	3.841466	0.7903
Max-eigenvalue test indicates 1 cointegratingeqn(s) at the 0.05 level				

4.4.2. Error Correction Model Result for Model Three (3) (Short Run)

From the short run result, the value of the R-squared is 0.912941 meaning that changes in investment can be attributed to changes in the independent variable by about 91%. The probability value of the F-Statistic which is 0.000000 implies that the independent variables adopted are jointly significant in determining investment. Also, the Durbin Watson statistic is 1.543314indicating the absence of autocorrelation in the model. The coefficient of the error correction term is given as -0.121754 and its corresponding probability value is 0.0312. This means the ECM is negative and statistically significant at 5% level of significance, thereby conforming to theoretical expectations.

The short run results further shows that investment in the lagged periods has a positive and insignificant relationship with investment in the current period. This means that investment in the past years have a positive effect on present value of investment. Capital flight in the current period as well as its one year lag period has a negative and statistically significant relationship with investment. This implies that as capital flight increases, investment decreases by about 62 per cent in the current period and by about 12 per cent in the first lag. This relationship conforms to apriori expectations and is similar to the findings of Kabiru (2018) and Ajayi (2012). External debt in the current year has a negative and insignificant relationship with investment in Nigeria. This means that as external debt increases, investment decreases. In the one period lag however, external debt has a positive and significant relationship with investment which is similar to the findings of Ameen*et al* (2011). Foreign direct investment in the current year as well as the one period lag has a positive and significant relationship with investment in Nigeria. This relationship conforms to apriori expectations and implies that an increase in foreign direct investment into the country leads to a corresponding increase in investment in Nigeria.

Table 4.4.2: Error Correction Model Result for Model Three (3) (Short Run)

Dependent Variable: D(LNINV)				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.023074	0.033849	0.681677	0.5029
D(LNINV(-1))	0.280962	0.344784	0.814891	0.4243
D(LNINV(-2))	0.108009	0.218330	0.494705	0.6259
D(LNCF)	-0.620928	0.261576	-2.373797	0.0238
D(LNCF(-1))	-0.116475	0.041677	-2.794725	0.0096
D(LNEDT)	-0.368000	0.210527	-1.747997	0.0951
D(LNEDT(-1))	0.091592	0.044147	2.074706	0.0467
D(LNFDI)	0.306786	0.102304	2.998753	0.0052
D(LNFDI(-1))	0.821454	0.066162	12.41579	0.0000
ECM(-1)	-0.121754	0.052887	-2.302148	0.0312

R-squared 0.912941	F-statistic	78.64851
Adjusted R-squared 0.901333	Prob(F-statistic)	0.000000
Durbin-Watson stat 1.543314		

Source: Author's computation from Eviews9 (2021)

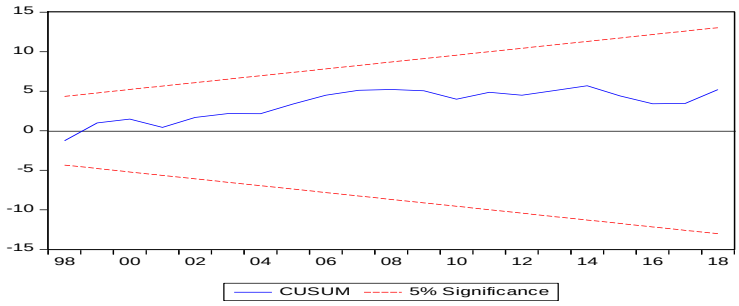
4.4.3Residual Diagnostics Test Result for Model Three (3)

The residual diagnostics test result presented in table 4.4.3 below shows that the residuals are normally distributed, there is an absence of heteroscedasticity and serial correlation in the model and that the variables are stable in the long run given the CUSUM test result.

Table 4.4.3: Residual Diagnostics Test Result for Model Three (3)

Residual Diagnostic Test	STATISTICS	PROBABILITY
Jarque-Bera normality test	3.812192	0.148660
Breush-Godfrey Serial correlation LM test	0.394763	0.6792
Heteroskedasticity : Breush Pagan Godfrey	0.521359	0.8427

Figure 4.4.3



4.5 Discussion of Results

The results from this study revealed that exchange rate positively affects capital flight. That is, a rise in exchange rate which is depreciation will lead to an increase in capital flight. It also shows that an increase in external debt and foreign direct investment will lead to a decline in capital flight. Furthermore, an increase in the current account balance will lead to a decline in capital flight by about 10 per cent in the present period. Interest rate has a negative relationship with capital flight implying that an increase in the deposit rate of interest will cause capital flight to decrease. It is also evident from the results that an increase in reserves will lead to a decline in capital flight in Nigeria. In examining the effect of capital flight on economic growth in Nigeria, the study found out that capital flight negatively affects economic growth. It also shows that external debt negatively affects economic growth in Nigeria while foreign direct investment has a positive relationship with economic growth. On the effect of capital flight on investment, empirical results from this study revealed that capital flight negatively affects investment and that external debt also negatively affects investment in Nigeria. Foreign direct investment on the other hand has a positive relationship with investment in Nigeria.

5. CONCLUSION AND RECOMMENDATIONS

This study examined the effect of capital flight on macroeconomic performance in Nigeria and found out that exchange rate is a positive determinant of capital flight while external debt in the first lag, interest rate in the current period, reserves in the first lag, foreign direct investment in the current period, current account balance in the current period and current account balance in the first lag are negative determinants of capital flight in Nigeria. The study also found out that capital flight negatively affects economic growth and investment in Nigeria. This means that capital flight is not beneficial to the Nigerian economy as it slows down economic growth. Capital flight also affects investment which impedes economic growth and development.

It was recommended that a stable exchange rate policy should be adopted to avoid devaluation of the local currency which is a determinant of capital flight in Nigeria. Authorities should pursue policies that create favorable environment for both domestic and foreign investment while discouraging capital flight. Also, foreign investors can be offered attractive incentives in order to encourage investment in the country. External debt and foreign direct investment should be used for productive purposes such that capital flight as a result of inflow of funds from abroad is impossible.

External debts can also be reduced given the fact that external debt is a determinant of capital flight in Nigeria. There should be restrictions on external borrowing by all levels of governments, agencies and private bodies. In addition, Policy-makers as well as the relevant authorities should pay more attention to the issue of capital flight. This study revealed capital flight has a negative effect on economic growth and investment. This means as capital flight increases, the economy gets worse and investment is discouraged. Therefore, provisions should be made to discourage the movement of funds abroad which can be used to grow the economy and encourage investment.

DECLARATIONS

1. **ETHICS APPROVAL AND CONSENT TO PARTICIPATE:** Not applicable

2. **CONSENT FOR PUBLICATION:** Not application

3. **AVAILABILITY OF DATA AND MATERIAL:**
   Dataset used and/or analyzed during the current study are available on World Bank databank

4. **COMPETING INTERESTS:** Authors declared that, they have no competing interest.

5. **FUNDING:**
   Authors' are responsible for the funding of all the research processes, while Afe Babalola University, Ado-Ekiti (ABUAD) will be responsible for the payment of the publication fee.

6. **AUTHORS' CONTRIBUTIONS**
   Danladi, D. Jonathan- He analyzed the dataset of variables under consideration
   falaye, M.H. - she interpreted the analyzed dataset
   Ogundipe A.- he gather the theoretical literature and Proofreading of the manuscript
   Ferdinard, Y. Gather the theoretical literature and final proofreading of the manuscript
   All the authors read and approved the final manuscript

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8. AUTHORS' INFORMATION: Not applicable

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