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# REAL EFFECTIVE EXCHANGE RATE AND IMPORT OF GOODS AND SERVICES LINKAGE IN NIGERIA: AN IMPACT ANALYSIS

Grace Chinyere Eje<sup>1</sup> & Okereke J. Ugwu<sup>1</sup>

<sup>1</sup>Department of Banking and Finance, Ebonyi State University, Abakiliki, Nigeria

Corresponding Author: Grace Chinyere Eje Corresponding Author Email: <u>ejegracechinyere@gmail.com</u>

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# ABSTRACT

This paper assessed the influence of real effective exchange rate on import of goods and services in Nigeria over the period, 1986-2020. The Error correction model estimation was applied in estimating the multiple regression model. The findings showed that the real effective exchange rate is negative and statistically significant effect on the exports of goods and services in Nigeria. Expectedly, the convergence coefficient or error correction term (ECT) is negatively signed and significant, which suggests that last-period's deviation from a long-run equilibrium influences its short-run dynamics as is being corrected at a speed revealed by the parameter estimate. Thus, the speed of adjustment (or error correction term) shows that deviation from equilibrium relationship is corrected at the speed of 56% on annual basis. We recommend that we recommend that if the Nigeria wants to focus on import, the currencies should be devalued/depreciated because they are relatively elastic to changes in real exchange rate. **Keywords:** Exchange Rate, Error Correction Model, Imports, Goods, Nigeria.

# INTRODUCTION

Long after the Bretton Woods Monetary System of fixed exchange rate parities collapsed, many economies adopted floating exchange rate regimes, resulting in wide fluctuations in bilateral

exchange rates (Serenis and Tsouni, 2014; Sissoko, 2012). According to Dell' Ariccia (1999), these unpredictable movements have prompted renewed interest in exchange rates due to the potential negative effects on trade. McKenzie (1999) highlights the traditional school of thought's argument that when the risk associated with bilateral exchanges increases, exchange rate fluctuations may reduce the volume of trade, as risk-averse traders will eventually shift away from high-risk trading obligations and toward less risky alternatives (Senadza and Diaba, 2018). The risk portfolio, on the other hand, contradicts the traditional school, with the counter-argument that higher risk implies higher return. In other words, an increase in risk as a result of currency fluctuations may increase trade volume rather than decrease it (De Grauwe, 1996).

Exchange rate regimes in Sub-Saharan African countries, particularly Nigeria, have evolved over time and vary greatly. Recent IMF research on exchange rate regimes suggests that there is no single prescription, and that the appropriate regime for a country is determined by the macroeconomic challenges it faces as well as its unique circumstances (Ghosh, Ostry, and Tsangarides 2010)

Though the exchange rate plays an important role in a country's trade performance, whether determined by exogenous shocks or policy, the relative valuations of national currencies and their fluctuation frequently have significant ramifications for international trade (Nicita, 2013). Examining the impact of the exchange rate on international trade in an inflationary economy such as Nigeria, on the other hand, comes with its own set of complications. This issue has persisted in the vast body of existing literature on Nigeria and appears to have gone largely unnoticed. To our knowledge, none of the studies that assessed the exchange rate and international trade nexus in Nigeria used inflation adjusted exchange rate (or real effective exchange rate) in their discourses.

This study departs from previous research, particularly in the Nigerian context, by using the real effective exchange rate rather than the official exchange rate. The fact that Nigeria is an inflationary economy influences the choice of real effective exchange rate. Thus, adjusting the inflation effect from the official exchange rate before regressing against international trade variables should yield a nearly unbiased result. Furthermore, existing studies on Nigeria reveal a knowledge gap in terms of broadening/disaggregating international trade variables for Nigeria and assessing how they respond to changes in the real effective exchange rate, which motivates us to fill the knowledge gap by looking not only at import and export of goods and services, but also including balance of trade, trade openness, and external reserve in our respective models.

Furthermore, various studies have been conducted to investigate the relationship between the exchange rate and international trade, with mixed results. These opposing viewpoints have also been supported by empirical literature, yielding mixed results in terms of the effects of exchange rates on international trade. The purpose of this study is to investigate the impact of the real effective exchange rate on international trade in Nigeria.

# **REVIEW OF RELATED LITERATURE**

The impact of exchange rate volatility on India's international trade was explored by Arora and Rakhyani (2020). To investigate the impact of exchange rate volatility, inflation, and economic output on India's foreign trade, four models were built independently for exports of goods, imports of products, exports of services, and imports of services. The Auto Regressive Distributed Lag (ARDL) bounds test, which was done on monthly data from 2011 to 2020, found that growth in output had a positive long-term influence on trade in goods and services.

The impact of rising prices on goods exports is negative. A spike in volatility causes a drop in goods imports in the near term, but it has a beneficial influence on goods exports in the long run. The influence of a volatile exchange rate on service trade is negligible. Inflation causes a rise in goods imports in the short run, but it causes a drop in service trade in the long run.

Ikechi and Nwadiubu (2020) used the ARCH modeling approach, the VAR model, and the granger causality test to assess the influence of currency rate volatility on foreign commerce in Nigeria. The study is based on the assumption that exchange rate fluctuations have an impact on the amount of export and import trading activity. The study found a mixed result when it came to the variables under consideration. While some of the experiments didn't provide enough information to anticipate the relationship between exports, imports, and the real effective exchange rate, others did. In the current time, the VAR model estimates show an inverse association between Export, Import, and REER. In a given year, a unit increase in export and import results in a 0.9 percent and 0.4 percent fall in REER, respectively. According to a variance decomposition analysis, the shocks only explain a portion of the variation in REER, as well as exports and imports. Throughout the ten periods, the impulse response analysis shows a negative relationship between export and real effective exchange rate, but a substantial positive relationship for imports. Imports cause exports, but exports do not cause imports, according to the causal effect. According to the ARCH modeling method, there is a first-order Arch effect and a large GARCH term. Though the GARCH Coefficient in a mean term is negative, it produced a singular covariance that is not unique in and of itself. The findings demonstrate that REER clustering is volatile in Nigerian import and export trading activity. This might have major consequences for Nigerian growth, as a decrease in export growth would diminish the foreign exchange profits available to fund economic initiatives. A drop in imports, on the other hand, could have an impact on domestic production and consumption. It could also have a detrimental impact on Nigeria's balance of payments.

Apanisile and Oloba (2020) this paper investigated the asymmetric effect of exchange rate changes on cross-border trade in Nigeria. Results from the nonlinear autoregressive distributed lags showed that exchange rate appreciation had a statistically significant negative relationship with cross-border trade in Nigeria. The study concludes that the relationship between real effective exchange rate and cross-border trade is asymmetric. (Depreciation and appreciation of equal magnitude do not have the same effect on cross-border trade in Nigeria).

Mosbei, Samoe, Tisor, and Kipchoge (2021) looked studied the impact of currency rate fluctuation on intra-East African Community trade. The results of the unit root tests revealed that some of the variables were stationary at first, with all variables being I(1) and some being I(2) (0). To measure volatility, differenced panel data was fitted into a General Autoregressive Conditional Heteroscedasticity model. The fixed effect model was found to be appropriate by the Hausman test, and the currency rate, money supply, population, and foreign direct investment all play a role in intra-East African Community regional commerce. It was determined that exchange rate volatility exists in the Intra-East African region, and that exchange rates, money supply, population, and foreign direct investment all have a substantial impact on intra-EAC regional trade. To lessen the volatility of currency rates, EAC member states should establish policies that ensure exchange rate stability in the region. Policies should be put in place to ensure a sufficient supply of money and to attract foreign direct investment.

Sambo, Farouq and Isma'il (2021) provided empirical evidence of the link between the real exchange rate volatility and the trade balance in the light of financial development, confirming the assertion that the effect is significantly dependent on the country's level of financial development. The empirical estimation is based on the Nigeria's data set spanning the years 1980–2019, and it employs threshold autoregressive non-linear co-integration and non-linear ARDL estimation techniques. According to the findings, financial development magnifies the beneficial benefits of the real exchange rate on Nigeria's foreign trade. It also states that the uncertainty in foreign capital flows has a negative impact on Nigeria's international trade. The findings have broad policy implications, implying that in order to diversify and improve the economy's future growth and associated international trade, Nigeria's policymakers should promote adequate financial sector development, as financial shocks are amplified by poorly implemented credit markets.

Banik and Roy (2021) examine, empirically, the effect of exchange rate uncertainty on bilateral trade performance, focusing on eight SAARC member economies using the popular modified gravity model of trade. The paper includes eight SAARC members – Afghanistan, Bangladesh, Bhutan, Maldives, Nepal, Pakistan and Sri Lanka panel data set over the period 2005–2018. The authors consider both standardized value (standard deviation) and conditional variance model to determine volatility of exchange rate. Primarily, ordinary least squares, random effects and fixed effects estimation techniques are employed to investigate the impact of exchange rate volatility. Endogeneity and robustness of the findings have been tested using the simultaneity-adjusted model and dynamic panel data two-step system GMM estimation techniques. Findings – Empirical findings endorse the view that exchange rate uncertainty on trade is pretty small. The negative correlation between exchange rate volatility and bilateral trade remains consistent and significant after controlling of simultaneous causality, autocorrelation, year effects, country-pair heterogeneity and endogeneity irrespective of panel data estimation techniques and different measures of volatility.

Carrel and Wilfried (2021) examined the impact of exchange rate on trade in the case analysis of Congolese Partners using the GARCH model. The data used evaluates a series of exchange rates from January 2000 to December 2019, where export and import volumes are considered from the point of their determinants, including exchange rate volatility. The results for this Congolese case show that short run dynamics negatively discouraged with both export and import. This implies that Congolese should opt for direct domestic currency when trading with partners.

Chimhore and Chivasa (2021) reviewed the effect of exchange rates on exports in Zimbabwe using the Ordinary Least Squares (OLS) technique. Using secondary data from ZIMSTAT and World Bank, obtained results from a robust regression showed that South Africa's exchange rates (SAEXRT) were weakly significant at 10%, South Africa broad money supply (SAM2) was significant at 5% and imports (DDIMP) were important to Zimbabwe's export growth at 1% level of significance. To increase exports, there is a need for policy shift, shifting from overly focusing on foreign direct investment and increasing gross domestic product (GDP) because empirical results showed that FDI and gross domestic product were not significant in the model. Policies such as trade cooperation between South Africa and Zimbabwe may

increase exports given the impact of South Africa's broad money supply on Zimbabwe's exports.

The impact of the Ethiopian exchange rate and its volatility on foreign trade was explored by Nguse, Oshora, Fekete-farkas, and Tangl (2021). The research was based primarily on secondary time-series data from 1992 to 2019. The study investigated the long-term link between exchange rate level, volatility, and international trade performance using the Autoregressive Distributive Lag (ARDL) model. In the near term, an error correction model was utilized to estimate the variables. Foreign Direct Investment (FDI), Gross Domestic Product (GDP), and inflation were employed as control variables in the regression study. The study's findings suggest that the exchange rate level has a negative and considerable impact on international trade in the short and long term. Furthermore, the gross domestic product, foreign direct investment, and inflation all have a favorable short- and long-term impact on international trade.

Based on the panel data of 35 OECD countries from 2001 to 2019, Kong (2021) empirically analyzed the nonlinear effect of exchange rate on economic growth of countries through PSTR model. The results show that exchange rate appreciation has a certain role in promoting economic growth. When the value of the local currency is high, the exchange rate appreciation has a stronger effect on promoting economic growth; when the value of the local currency is low, the exchange rate appreciation has a weaker effect on economic growth. Further research shows that when the local currency value is low, the development of export trade has a strong positive impact on economic growth, while the inflow of FDI has a weak effect on economic growth is relatively weak, while the inflow of FDI shows a stronger promoting effect on economic growth is relatively weak, while the inflow of FDI shows a stronger promoting effect on economic growth is the comprehensive effect of exchange rate on economic growth is positive. It is the comprehensive effect of these channels.

Mehtiyev, Magda and Vasa (2021) examined exchange rate impacts on international trade using correlation and multiple regression techniques. The research analyzes the correlation between inflation and devaluation and clearly states their impacts on trade balance. The case study about devaluation of the currency of Azerbaijan elaborates the impacts of currency volatility on exports which is illustrated and analyzed in this research. Moreover, inflation and devaluation correlations and their impacts on import level of a country are studied through correlation and multiple regression analyses based on the data exported from OECD and World Bank. The results conclude that exchange rate volatility significantly impacts the trade balance in terms of imports and exports. Given the results, exchange rate is a non-trade barrier and affects foreign trade

From 2004 to 2018, Tarasenko (2021) looked studied the effects of currency rate volatility on exports and imports of a variety of items between Russia and its 70 trading partners. The products in question are divided into eight categories: I agricultural raw materials; ii) chemicals; iii) food; iv) fuels; v) manufactured goods; vi) ores and metals; vii) textiles; viii) machinery and transportation equipment The standard deviation of the initial difference in the logarithmic daily nominal exchange rate is used to calculate exchange rate volatility. The report concludes that exchange rate volatility harmed agricultural raw materials, manufactured goods, and machinery

and transportation equipment exports. On the other hand, it was discovered to have a beneficial and considerable impact on fuel commerce as well as chemical and textile imports.

Rajković, Bjelić, Jaćimović and Verbič (2020) employed the FGLS estimation to examine the relationship between the real exchange rate and the foreign trade imbalance in both the Western Balkan (WB) and Central and Eastern European (CEE) countries. The aim of the research was whether exchange rate devaluation and/or depreciation are capable of effectively and fully eliminating the negative effects of the global economic crisis, as well as the consequent poor export performance and contracted economic activity. Our findings show that during an economic crisis those countries that use their own currency cannot substantially adjust their trade deficit by depreciating their currency. Moreover, it is suggested that during the global economic crisis, the balance of payments deficit is not impacted significantly by the exchange rate, any more. In such cases, other factors play a more significant role, like as government spending, followed by foreign demand and direct investments.

Abbas, Nguyen and Nguyen (2020) investigated the impact of China exchange rate policy on its trading partners by using a country multi-dataset GVAR model. The study used annual time series data over the period 1992 to 2017, and constructed currency misalignment index which provided some interesting features about the currency undervaluation and overvaluation. The results of the currency misalignment showed that China's Renminbi is structurally more undervalued over the sample period as compared to other countries, and fluctuation in major currencies effects the global trade around the world. The overall empirical results of the GVAR model indicate that RMB undervaluation affects the trade pattern and macroeconomic performance of China's trading partners. Overall, China's exchange rate undervaluation has mixed effects on trading partner's GDP, exports and imports. The devaluation of China's RMB efficiently stimulated China's exports and reduced imports. While, in some countries, this effect is reverse, the RMB undervaluation increases the GDP of partner countries and also increases their exports to China. The results confirm the strong and leading role of the Chinese Renminbi in the global trade.

Pasricha (2020) looked into the impact of currency rate fluctuations on India's overseas commerce. The study has been conducted on the annual values of foreign exchange rate of India and international trade of India covering the data from 1991 to 2019. The ordinary Least Square regression model has been used to establish the relationship between exchange rate and international trade of the country. The study has emphasized on finding out the impact of exchange rate on international trade of the country. A higher-valued currency makes imports of a nation less costly, and its international exports more expensive. A lower-valued currency makes imports costlier for a nation and international markets less costly for its exports. A higher exchange rate can be expected to worsen a country's trade balance whereas it can be expected to be boosted by a lower exchange rate.

Zhao (2020) analyzed the influence and impact on the exchange rate from several aspects. Firstly, the primary factors influenced by the exchange rate, export, the prices and costs are introduced in this paper. Productivity refers to the increase because the local currency strengthens. Then, it indicates that the exchange rate affects productivity. The last part about influential factors is the effect on the number of tourists. After analyzing the impact of the exchange rate, some suggestions about exchange rate policies are put forward. The exchange

rate is an essential element, and it requires to attach importance to both the logical operation and the appropriate use of policy.

Karahan (2020) analysed the role of exchange rate changes on economic growth. Using the quarterly data between 2002-Q1 and 2019-Q1, the relationship between exchange rate and economic growth was examined by employing Johansen cointegration test, Granger causality test and Innovation Accounting Techniques. Empirical findings suggest that there is a negative causal relationship between exchange rates and economic growth, as claimed by structuralist economists. In terms of policy implications, it can be argued that, even under the inflation targeting regime in Turkey, both price and exchange rate stability should be provided together.

#### **DATA AND METHOD**

Data for the study are basically secondary data and were obtained from the World Bank Development Indicators and Central Bank of Nigeria Statistical Bulletin, 1986-2020. We collated data on Real effective exchange rate, exports of goods and services (in ratio of GDP), imports of goods and services (in ratio of GDP), Balance of trade (as a ratio of GDP), GDP growth rate and broad money supply (as a ratio of GDP) over the period, 1986-2020.

Modeling and estimation of our respective hypotheses are based on the Error Correction Model (ECM) approach which directly estimates the speed at which a response variable returns to equilibrium after a change in the explanatory variables. The notion of an Error Correction Model is considered to be a very powerful organising principle in applied econometrics and has been applied widely. Alogoskoufis and Smith (1991) suggest that estimating structural model is founded on practical applications where the error correction formulation provides an excellent framework within which it is possible to apply both the data information and the information obtainable from economic theory.

In the course of our estimation, we first determined the stationarity of our variables using the Augmented Dickey Fuller unit root test. A series is said to be stationary if its mean and variance are constant over time. The ADF model is expressed thus:

$$\Delta y_t = \mu + \alpha_{t-1} + \sum_{i=1}^{\nu} \gamma_i \Delta \gamma_{t-j} + \varepsilon_t$$
(1)

Where  $\mu$  is a vector of deterministic terms (constant, trend etc.) and  $\varepsilon$  is the stochastic error term. The differencing operator is denoted by  $\Delta$ . The *p* lagged difference terms,  $\Delta y_{t-j}$ , are used to approximate the Autoregressive Moving Average (ARMA) structure of the errors, and the value of *p* is set so that the error  $\varepsilon_t$  is serially uncorrelated. The error term is also assumed to be homoskedastic. The specification of the deterministic terms depends on the assumed behaviour of y<sub>t</sub> under the alternative hypothesis of trend stationarity. Under the null hypothesis, y<sub>t</sub> is I(1) which implies that  $\varphi = 1$ .

Secondly, if all our variables are found to be stationary after first differencing, we may test for a long-run relationship among the variables using the Johansen cointegration test. The nature of relationship which Johansen cointegration test is bound to determine was modeled in Atemnkeng, et al., (2011) but modified and expressed for our purpose thus,

$$\Delta \gamma_t = \lambda \gamma_t - 1 + \sum_{i}^{k} \delta i \gamma_t - i + \mu_t (2)$$

 $\gamma$ = vector of variables whose dynamics are studied.

 $\lambda = a$  matrix number

 $\delta$  = A matrix whose rank explains the number of cointegrating equations.

Once the condition of stationarity at first differencing, and cointegrated equations are met, an error correction model, then, is the best alternative to model the problem since it consists of a dynamic equation with a steady-state solution that is compatible with the equilibrium (Lebo and Kraft, 2017). Additionally, the error correction model includes the other specifications as special cases and the error correction parameter. Against this backdrop, we consider the following general Error Correction Model specification:

$$\Delta Y_t = \delta + \gamma \Delta X_{t-1} + \alpha \lambda_{t-1} + \varepsilon_t \tag{3}$$

Where  $\varepsilon$  is the error term, and the parameter of interest is  $\gamma$ . It measures the movements of saving and investment in response to shocks that affect the economy. The error correction term  $\lambda_{t-1}$  captures the speed of adjustment towards long-run equilibrium relationship.

Our variants estimation is patterned after the above model in modified and expanded form thus.

$$\Delta IMP_{t} = \beta_{0} + \sum_{i=0}^{n} \beta_{1} \Delta IMP_{t-1} + \sum_{i=0}^{n} \beta_{2} \Delta logREER_{t-1} + \sum_{i=0}^{n} \beta_{3} \Delta GDPGR_{t-1} + \sum_{i=0}^{n} \beta_{4} \Delta BMS_{t-1} + \beta_{5}ECT_{t-1} + \varepsilon_{t}$$
(5)

Where,

IMP	=	Import of goods and services (% of GDP)
LogREER	=	the log of Real effective exchange rate
GDPGR	=	GDP growth rate (% annual growth)
BMS	=	Broad money supply (% of GDP)
β0	=	Constant term
β1-β5	=	Coefficients
3	=	error term.
ECT	=	error correction term
$\Delta$	=	differencing operator

#### **RESULTS AND DISCUSSION**

#### **Descriptive Statistics**

Table 1 shows the trend of our variables. It is description of the measures of central tendency, deviation and probabilities of our dependent and independent variables.

Descriptive Statistics of the Panel Series					
Statistics	REER	IMP	GDPGR	BMS	
Mean	110.26	14.38	4.20	15.81	
Median	99.56	13.18	4.23	13.09	
Maximum	272.92	22.81	15.33	24.90	
Minimum	49.73	3.89	-2.04	8.46	
Std. Dev.	54.66	4.70	3.96	5.41	
Skewness	1.82	-0.06	0.47	0.40	
Kurtosis	5.57	2.60	3.27	1.52	
Jarque-Bera	28.97	0.25	1.40	4.13	
Probability	0.00	0.88	0.50	0.13	
Sum	3859.24	503.19	147.11	553.21	
Sum Sq. Dev.	101597.10	749.74	533.58	994.76	
Observations	35	35	35	35	

Table 1				
Descriptive	<b>Statistics</b>	of the	Panel	Serie

Table 1

Source: Researcher's Compilation, 2021

Table 1 presents the descriptive statistics of our model variables. The results revealed that average real effective exchange rate was 110.26 to the US dollar between 1986 and 2020. The highest level of IMP was 22.81% while IMP averaged 14.38% between 1986 and 2020. The normality in the variable description is based on the skeweness of the variables, all of which are rightly skewed. The results indicate that the probability value of the Jarque-Bera (J-B) statistics for each of the variables is greater than 5% conventional level of significance, and entails that we cannot reject the null hypothesis that our variables are normally distributed.

# **Tests for Stationarity**

Table 2

The results of our variables' stationarity tests are shown in Table 2 below. It demonstrates the consistency of time series data and its utility in predicting.

Unit Root Test Results					
Variable	ADF-Statistic	5% critical value	P-value	Order of Integration	
LogREER	-6.222870	-2.954021	0.0000	I(1)	
IMP	-7.453582	-2.954021	0.0000	I(1)	
GDPGR	-3.939693	-2.960411	0.0050	I(1)	
BMS	-5.329842	-3.845006	0.0001	I(1)	
		0 1 1 2 0		2021	

Source: Author's Computations, 2021

Table 2 presents the result of the unit root test which indicates that all the variables included in the model are all stationary at first differencing. Thus, the stationarities so attained are all at order one, 1(1), and are therefore integrated at same order. This result now allows us to run the Johansen cointegration test to establish if the variables move along together in the long-run. This further satisfies the condition for estimating the Error Correction Model (ECM) and informs our choice of the ECM as the most efficient and unbiased estimator for our analysis. Restatement of Hypothesis in null and alternate Forms:

Real effective exchange rate did not have significant impact on imports of goods and **H**<sub>01</sub>: services in Nigeria.

H <sub>a1</sub> :	Real effective exchange rate had significant impact on imports of goods and services in
	Nigeria.

PRESENTATION AND ANALYSIS OF RESULTS

Table 3					
Results of ECM Estimations					
Dependent Variable: D(IMP)					
Method: Least Squares					
Sample (adjusted): 1987	7 2020				
Included observations: 3	34 after adjust	ments			
Variable	Coefficient	Std. Error	t-Statistic	Prob.	
D(INREER)	-7.909407	4.178902	-3.092700	0.0021	
D(GDPGR)	-0.039764	0.151735	-0.262061	0.7951	
D(BMS)	0.197296	0.337704	0.584227	0.5636	
ECT(-1)	-0.562456	0.141323	-3.979939	0.0004	
C	0.349838	0.623892	0.560735	0.5793	
R-squared	0.780100	Mean dependent var S.D. dependent var Akaike info criterion Schwarz criterion		0.373044	
Adjusted R-squared	0.694596			4.257569	
S.E. of regression	3.575861			5.521342	
Sum squared resid	370.8166			5.745807	
Log likelihood	-88.86281	Hannan-Q	5.597891		
F-statistic	4.445431	Durbin-W	atson stat	1.973071	
Prob(F-statistic)	0.006344				

Source: Author's Compilation, 2021.

From the Table 3 above, it can be observed that Log of real effective exchange (LogREER) rate has negative and significant impact on import of goods and services (IMP) in Nigeria. This was explained by the negative coefficient value of our explanatory variable REER and the corresponding probability value 0.0021<0.05. The coefficient of the independent variable is - 7.91, which entails that when real effective exchange appreciated by one-unit, imports decreased by 7.91 units. This is consistent with a priori expectation that exchange rate depreciation brings about a decline in import of goods and services.

Expectedly, the convergence coefficient or error correction term (ECT) is negatively signed and significant, which suggests that last-period's deviation from a long-run equilibrium influences its short-run dynamics as is being corrected at a speed revealed by the parameter estimate. Thus, the speed of adjustment (or error correction term) shows that deviation from equilibrium relationship is corrected at the speed of 56% on annual basis.

The coefficient of determination (R2) is 0.78, indicating that changes in the explanatory variables account for 78 percent of the variance in the IMP, while factors not included in the model account for 22 percent. The F-statistic (4.45) indicates that the independent variables are jointly significant in explaining the response variable, with a probability value of 0.0000.05. The Durbin-Watson statistic is around 2, which is greater than R2, indicating that the results are not false and free of autocorrelation issues.

# CONCLUSION

During the study period, we discovered that the real effective exchange rate is negatively and strongly related to imports of goods and services in Nigeria. This entails that exchange rate depreciation caused a decline in import of goods and services. The negative coefficient value

of our explanatory variable REER, as well as the related probability value 0.00210.05, explained this. The independent variable's coefficient is -7.91, implying that when the actual effective exchange rate increased by one unit, imports declined by 7.91 units. This is in accordance with the a priori anticipation that depreciation of the currency will result in a decrease in imports of goods and services. The convergence coefficient, also known as the error correction term (ECT), is expectedly negative and significant, implying that the last period's deviation from a long-run equilibrium effects its short-run dynamics as it is corrected at a rate determined by the parameter estimate. On an annual basis, the speed of adjustment (or error correction term) reveals that the departure from equilibrium connection is corrected at a rate of 56 percent. Based on the findings of the study, we recommend that if the Nigeria wants to focus on import, the currencies should be devalued because they are relatively elastic to changes in real exchange rate.

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