AN ANALYSIS OF THE IMPACT OF TRADE AND EXCHANGE RATE ON ECONOMIC GROWTH: EVIDENCE FROM NIGERIA

Adam Abubakar Sulaiman
Department of Economics,
North-Eastern University,
Gombe State- Nigeria.
adam.abubakar@neu.edu.ng

Salisu Ahamad
Department of Economics,
North-Eastern University,
Gombe State- Nigeria.

Bilikis Modupeola Bello, *Ph.D*
Department of Accounting
and Finance,
North-Eastern University,
Gombe State-Nigeria

*Corresponding author:
Adam Abubakar Sulaiman
Department of Economics,
North-Eastern University,
Gombe State- Nigeria.
adam.abubakar@neu.edu.ng

ABSTRACT

Trade and Exchange Rate have impact on Economic Growth in Nigeria. To investigate the relationship between the variable, secondary data from Central Bank of Nigeria statistical bulletin and World Development Indicators were used. The study utilizes Autoregressive Distributed Lag (ARDL) model to analyses the relationships between key economic variables, specifically focusing on exports, imports, and economic growth. The findings indicate a significant long-run relationship among those variables, suggesting that changes in exports and imports have substantial implications for economic growth. The ARDL bounds testing confirms the existence of cointegration, which implies that despite short-run fluctuations, these economic indicators move together over the long run, indicating the importance of trade in influencing economic performance. Additionally, the diagnostic tests conducted, including the Breusch-Pagan-Godfrey test for heteroskedasticity and the Breusch-Godfrey Serial Correlation LM test, support the robustness of the model. The absence of heteroskedasticity and serial correlation in the residuals indicates that the assumptions underlying the regression analysis are met, enhancing the reliability of the estimated coefficients. This allows for greater confidence in the short-run and long-run results derived from the ARDL model, providing a solid foundation for policymakers to consider trade-related strategies for economic growth. The study recommends that the government should invest in infrastructure that supports export activities, such as transportation networks, logistics facilities, and ports. Improving these infrastructures can reduce costs and increase the competitiveness of local products in international markets.
Keywords: ARDL; Import; Export; Exchange rate; Gross Domestic Product

1.0 Introduction

Economists have long been attracted to factors which reason diverse countries to grow at different rates and wealth. Trade and exchange rates are the most important factors. Nigeria's economy is essentially open, with a sizable amount of its total production coming from foreign trade (Foye, V. O. 2022). Because of the tacit assumption that trade can boost incomes, create jobs, open up new markets, encourage competition, and spread knowledge, the Nigerian government, like many other developing nations, views trade and exchange rates as the primary drivers of its development strategies (Ezebunwo 2024).

However, international commerce may spur economic growth, there is no assurance that the combined advantages of this trade will be shared fairly among trading partners. Any commercial relationship has gainers and losers. Trading partners may experience varying degrees of income. The degree to which a nation may profit from a commercial partnership depends on a number of things. These include the conditions of commerce that a nation has with its trading partners, the exchange rate between the items traded internationally, and the exportable goods' market features (Foye, V. O. 2022).

Despite changes in the nature of trade over time, since the 1960s, economists, policy officials, and decision makers have all expressed interest in foreign trade. It makes it possible for nations to export their domestically produced items to other nations. International commerce is the interchange of capital, products, and services across international borders is a significant source of foreign exchange gains, the current account is crucial to long-term economic growth, particularly for emerging nations. Developing nations' reliance on trade that has grown over time as a result of several factors, including rising trade openness, technological advancements in Information and Communication Technology, shift in global trade paradigms, the surge in commodity prices, and the growing importance of developing nations in the global economy (Ezebunwo 2024).

To investigate the connection between trade balance, exchange rate, and economic development, going through the factors influencing Nigeria's current account is necessary. Exchange rates are important in international economic contacts, because of differing factor endowment, no country can continue to be an autarky (i.e., closed economy without foreign commerce) (Nwaolisa, 2017).

Exchange rate fluctuations impact a number of other economic indicators, including the money supply, unemployment, interest rates, and inflation rates (Gyamfi et al 2021). These data highlight how crucial exchange rates are to the financial health of any nation that allows for the interchange of goods and services with other nations. Because it links the price systems of two distinct nations, the exchange rate is significant because it allows for direct comparison of traded items in international trade (Moussa, N. (2016).

In the first quarter of 2021, Nigeria reported a current account deficit of 1750.64 USD million. According to Trading Economics (2022), the Nigerian Current Account is expected to exhibit a long-term trend of around -4000.00 USD Million in 2022 and - 4800.00 USD Million in 2023. Ogunniyi et al. (2018) looked at current account balances and economic growth in Egypt, Algeria, Nigeria, and South Africa. Gyamfi et al (2021), Nwaolisa (2017), and Oladipupo & Onotaniyohuwo (2011), studies current account balances and economic growth, it is still unclear which way the relationship between trade balance, exchange rate, and economic growth in Nigeria truly runs Due to a shortage of research on the topic live the open door.

Furthermore, no previous investigation has been able to determine how responsive the exchange rate is to its own news—good or bad—which shows when the exchange rate experiences more or less movement and becomes more or less volatile. Nigeria's currency rate and trade balance have a big impact on the country's economic growth. Apart from export and import with exchange rate in the same model as independent variables, economic growth indices or elements have not been articulated using current account balance as a proxy for balance of trade, despite research and demonstrations on trade balance, exchange rate, and economic performance.

There is a gap in the research and empirical data on this. Therefore, this study closes this gap by combining the components of export, import, Exchange rate and Credit provided by commercial banks, and economic

growth. The objective of this study is to investigate the impact of trade and exchange rate on economic growth in Nigeria.

2.1 Theoretical Framework

The theory of absolute cost advantage was propounded by Adam Smith in his famous book. "Wealth of Nation" 1776. The theory emerges as a result of the criticism levied against mercantilism. He advocated free trade as the best policy for the nations of the world. Smith argued that with free trade each nation could specialize in the production of those commodities in which it could produce more efficiency than the other nations, and import those commodities in which it could produce less efficiently. This international specialization of factors in production would result in an increase in world output, which would be shared by the trading nations. Thus, a nation need not gain at the expense of other nations, all nations could gain simultaneously. In other words, according to the theory, a nation should specialize in the production of export of commodities in which it has lower cost or absolute cost advantages over others. On the other hand, the same country should import a commodity in which it has higher cost or absolute cost disadvantage.

2.3 Empirical Review

Michael and Kingdom (2024) looked at Nigeria's trade balance, currency rates, and economic progress. Annual time series data for the years 1981 to 2021 were obtained from the Central Bank of Nigeria (CBN) statistics bulletin and the National Bureau of Statistics (NBS). The Heteroskedasticity Model was used in this investigation. The data suggest that the trade balance and currency rate are more sensitive to depraved broadcast. This demonstrates that exchange rate uncertainty has an important effect in pricing adjustments. According to the report, Nigeria's economic development is primarily based on external demand, with the significant devaluation of the indigenous currency serving as a growth stimulus. The research recommends that the government implement export-driven trade balance initiatives.

Adeniji, K.A. (2024) examined the impact of exchange rate variations on Nigerian commerce using time series analysis spanning 1990 to 2023. The autoregressive distribution lag model (ARDL) was used to investigate the short- and long-term relationships between trade and exchange rate fluctuations in Nigeria. The empirical results demonstrated that excessive exchange rate fluctuations have an impact on Nigeria's economic growth. According to the report, the government should eliminate wasteful spending on unproductive expenditures that provide little or no economic return.

Nyeche (2024) investigated the impact of the exchange rate on economic development in Nigeria from 1985 to 2021. The study used secondary data from the World Development Indicators (WDI) and the Central Bank of Nigeria (CBN). It used real GDP as a measure of economic growth. In addition to using the official exchange rate as a proxy for exchange rate dynamics, the study included other domestic characteristics that might influence economic development, such as trade openness and foreign reserves. The study used econometric approaches including unit root tests, cointegration, and autoregressive distributed lag (ARDL)/bound procedures. The results of the bound test revealed a long-run link between economic growth, exchange rate, trade openness, and foreign reserves.

Omoke and Opuala-Charles (2021) looked at the relationship between trade openness and economic development in Nigeria. The study, which took place between 1984 and 2017, employed three indicators of trade openness: total trade, import trade, and export trade. Using the ARDL limits testing method. According to the computations, export commerce greatly enhances economic growth while import trade significantly

slows it. According to the evidence, the negative long-term effects of import trade on Nigerian economic growth decrease as institutional quality, or governance quality, improves. The policy implications of these empirical findings for Nigeria are considerable.

Abdul-Razak Bawa et al. (2021) investigate the effects of Ghana's exchange rate volatility on international trade by designing import and export equations to estimate short- and long-run using the (GARCH) with (BEKK) specification developed by Engle and Kroner (1995) to ensure the findings' robustness. Monthly data from 1993 to 2017 on Ghana's real effective exchange rates with 143 trading partners were used to predict volatility using the GARCH and EGARCH models. Empirical data reveal that exchange rate volatility has a detrimental influence on export performance in the Ghanaian economy. Thus, the results demonstrate disparities in the direction of the influence of currency rate volatility on imports and exports in the context of the Ghanaian economy.

Adama et al. (2022) investigated the Empirical assessment of the impact of external reserves on economic growth in Nigeria. The researchers investigated how external reserves may assist developing countries in achieving Goal, which calls for the mobilization of extra financial resources from many sources. The study's findings support theoretical assumptions that labor quality has a positive and considerable effect on RGDP. Similarly, capital intensity was demonstrated to have a considerable negative influence on Nigeria's RGDP. To strengthen the economy through foreign direct investment (FDI) spillover effects, this study advises that Nigerian authorities increase capital intensity as part of their overall approach.

3.0 Methodology

3.1 Research Design

The research design adopted in this research is the ex-post facto research design. This is the type of research involving events that have already taken place, data exists as no attempt is made to control or manipulate relevant independent variables seemingly because these variables cannot accept manipulation

3.2 Source of Data

Data for the analysis in this study was annual data consists of 32 observations collected from the CBN and World Development Indicators (2023). The study employed various statistical and econometrics tools to investigate the relationship between trade, exchange rate and economic growth in Nigeria.

3.3 Model Specification

The model for this study is specified based on economic theory and previous research such as that of Cota, Erjavec & Bogdan (2017) we selected Gross Domestic Product (proxy for economic growth), Import, Export, Exchange rate and Credit provided by commercial banks.

$$G f(Y) \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots (1)$$

$$LG = F (IMP, EPX, EXR, CCB) \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots (2)$$

$$GRGDP = \beta_0 + \beta_1 IMP, + \beta_2 EPX, + \beta_3 EXR + \beta_4 CCB + U_t$$

Where:

GRGDP = Gross Domestic Product (proxy for economic growth)

IMP = Import

EPX = Export

EXR = Exchange rate

CCB= Credit provided by commercial banks

Ut = Functional notation

3.4 Estimation Technique

In order to achieved the stated objectives this study employed ordinary least square (OLS) method of parameters estimation technique using econometric views 12 (e-views 12) statistical package to run the regression of the data so as to find the level of relationship between the dependent and independent variables. The evaluation will be based on three criteria; economic criteria, statistical criteria and econometrics criteria.

4.0   Results and Discussions

Descriptive Statistics Table 4.1: Summary Statistics

	RGDP	IMP	EPX	EXR	CCB
Mean	272.3124	6812282.	8165181.	149.2813	7602.865
Median	258.3579	3510236.	7817219.	130.5350	6310.050
Maximum	574.1838	27115109	27251572	397.0800	19818.38
Minimum	52.05818	89488.20	121535.4	9.910000	75.46000
Std. Dev.	168.7187	7449165.	7287989.	112.9014	7307.273
Skewness	0.108932	1.201093	0.665907	0.759920	0.368173
Kurtosis	1.554058	3.567514	2.632767	2.723827	1.547013
Jarque-Bera	2.850952	8.123423	2.544787	3.181584	3.537835
Probability	0.240394	0.017220	0.280160	0.203764	0.170517
Sum	8713.996	2.18E+08	2.61E+08	4777.000	243291.7
Sum Sq. Dev.	882445.7	1.72E+15	1.65E+15	395148.4	1.66E+09
Observations	32	32	32	32	32

Source: *Author Computation Eview 10 Software 2024*

Table 4.1 suggest that the mean Medium, minimum and maximum value of Real Gross Domestic Product in billions are   272.3124, 258.3579, 574.1838 and 52.05818 respectively, also mean, Medium, minimum and maximum value of import 6812282, 3510236, 27115109, and 89488.20 respectively, it is also reported on table mean medium, minimum and maximum value export are 8165181, 7817219, 27251572 and 121535.4; that mean medium, minimum and maximum value of Exchange are 149.2813, 130.5350, and 397.0800 that mean medium, minimum and maximum value of credit provided by commercial banks are 7602.865, 6310.050, 19818.38 and 75.46000. However, all the variables are positively skewed given their positive skewed valued. The Jarque-Bera value of all the distributions are normally distributed since their probability value is greater than five per cent level of significance except for exchange rate.

Correlation Matrix

Table 4. 2. Correlation Matrix.

	RGDP	IMP	EPX	EXR	CCB
RGDP	1				
IMP	0.8086135154237749	1			
EPX	0.8655968739193215	0.922234909235776	1		
EXR	0.7086750362875899	0.9264388046039442	0.863770567916517	1	
CCB	0.9153987053821582	0.9250328308245594	0.9113972625407172	0.8996576153304705	1

Source: Author Computation Eview 10 Software 2024

Table 2 presents a correlation matrix, which summarizes the strength and direction of linear relationships between five variables: The diagonal elements (1.000000) represent the perfect positive correlation of each variable with itself. RGDP exhibits a strong positive correlation with, IMP, EPX, EXR and CCB at coefficient value of 0.8086135154, 0.8655968739, 0.7086750362 and0.9153987053 respectively.

Unit Root Test

Table 4. 3 Augmented Dicker Fuller (ADF) Unit Root Test

VARIABLE	ADF statistics	5% CRITICAL VALUE	PROB	ORDER
CTBT	-4.475689	-2.963972	0.0013	I(I)
EXPT	-5.371238	-2.967767	0.0001	I(I)
IMPT	-3.981790	-2.963972	0.0046	I(I)
RGDP	-4.404836	-2.963972	0.0016	I(I)
EXR	-4.156118	-2.960411	0.0029	I(I)

Source: Author Computation Eview 10 Softwire 2024

Table 4. 4 Phillips-Perron Test Equation

VARIABLE	PP statistics	5% CRITICAL VALUE	PROB	ORDER
CTBT	-4.404147	-2.963972	0.0016	I(I)
EXPT	-3.574801	-2.963972	0.0126	I(I)
IMPT	-3.944056	-2.963972	0.0051	I(I)
RGDP	-4.298370	-2.963972	0.0021	I(I)
EXR	-4.256118	-2.760411	0.0020	I(I)

Source: Author Computation Eview 10 Software 2024

In order to examine the integrating level of variables, standard test such as Dickey and Fuller (1979) and Phillips-Perron Test. Table 2 and 3 shows the result ADF and PP test statistics Show that, RGDP, Export, Import, Exchange rate, and Credit by commercial banks have I(1) and this mean they are stationary at a first difference. The result reported that they are significant at 5 per cent level of significance.

ARDL Bound Test

Table 4.5 Cointegration Test

F-Bounds Test			Null Hypothesis: No levels relationship	
Test Statistic	Value	Signif.	I(0)	I(1)
			Asymptotic: n=1000	
F-statistic		10%	2.2	3.09
K	4	5%	2.56	3.49
		2.5%	2.88	3.87
		1%	3.29	4.37
Actual Sample Size	30		Finite Sample: n=30	
		10%	2.525	3.56
		5%	3.058	4.223
		1%	4.28	5.84

Source: Author Computation Eview 10 Software 2024

The ARDL Bounds Test is used to determine if there is a long-run cointegrating relationship among the variables. The null hypothesis is that there is no cointegration. The calculated F-statistic of 21.21875 is greater than the upper bound critical value of 3.45. When the F-statistic exceeds the upper bound critical value, it provides evidence to reject the null hypothesis of no cointegration at the chosen significance level (e.g. 5%).

Long Run ARDL Result

Table 4.6 Long Run ARDL Result

Levels Equation				
Case 2: Restricted Constant and No Trend				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
IMP	-2.25E-05	1.74E-05	-1.298207	0.2090
EPX	4.01E-05	2.08E-05	1.928830	0.0681
EXR	0.002330	0.902749	0.002581	0.9980
CCB	0.025016	0.014761	1.694674	0.1057
C	311.7560	128.1820	2.432136	0.0245

EC = RGDP - (-0.0000*IMP + 0.0000*EPX + 0.0023*EXR + 0.0250*CCB +

Source: Author Computation Eview 10 Software 2024

The coefficient of Import indicates a very small negative relationship between imports and the dependent variable in the regression model. This suggests that for each unit increase in the independent variable (which could be a measure such as GDP, income, etc.), imports decrease by 0.0000225 0.0000225 units, holding all other variables constant. Statistical Significance p-value: The p-value of 0.2090 is greater than the

conventional significance level of 0.05. This means that the result is not statistically significant. In practical terms, we fail to reject the null hypothesis, which implies that the relationship observed between imports and the independent variable may not be reliable or meaningful in the context of the model. This is in line with the results of Omoke and Opuala–Charles (2021) show that the negative long-term effects of import trade on economic growth increase when institutional quality in Nigeria becomes less pronounced. This study emphasizes the necessity of raising the level of governance in the nation. The benefits of trade openness can be directed toward initiatives that promote economic growth with the support of strong institutions and good governance.

The coefficient of 4.01 indicates a strong positive relationship between exports and the dependent variable in the regression model. This suggests that for each unit increase in the independent variable (which could be a measure such as GDP, income, etc.), exports increase by 4.01 units, holding all other variables constant. Statistical Significance p-value: The p-value of 0.0681 is slightly greater than the conventional significance level of 0.05. This means that the result is not statistically significant at the 5% level. However, it is close to being significant at the 10% level. In practical terms, we can say that there is some evidence against the null hypothesis, implying that the relationship observed between exports and the independent variable may be meaningful in the context of the model, but more data or analysis would be needed to draw a stronger conclusion.

Many studies justified this among are Tetteh (2015) found that in Ghana, the Johansen cointegration test demonstrated long-term connections between real GDP, exports, gross capital creation, and labor in the country. Ugochukwu and Chinyere (2013) found that oil exports had a significant and positive impact on Nigeria's economy over the time period studied. Additionally, non-oil exports had a considerable influence on GDP, according to a study. Onuorah (2018) results/findings revealed that the independent variables: DOP. INF. FDI. BOT and NEXP have positive significant impact on GDP while EXR and BOP shows a negative impact. Okeowo and Aregbesola (2018) Agbo, Agu & Eze (2018) reviewed the impact of international trade on the economic growth of Nigeria in Enugu, Nigeria. The results of the study showed that there is a significant impact of export trade on the Nigerian economic growth. The study also revealed that there is no significant impact of import trade on the Nigerian economic growth.

The coefficient of 0.002330 indicates a very small positive relationship between the exchange rate and the dependent variable in the regression model. This suggests that for each unit increase in the exchange rate, the dependent variable increases by 0.002330 units, holding all other variables constant. p-value: The p-value of 0.0998 is slightly greater than the conventional significance level of 0.10 (10%). This means that the result is not statistically significant at the 10% level. However, it is very close to being significant at this level. In practical terms, we can say that there is some evidence against the null hypothesis, implying that the relationship observed between the exchange rate and the dependent variable may be meaningful in the context of the model, but more data or analysis would be needed to draw a stronger conclusion.

The coefficient of 0.025016 indicates a positive relationship between the credit provided by commercial banks and economic development. Specifically, this suggests that for each unit increase in bank credit, economic development (measured by the dependent variable in your model) increases by approximately 0.025016 units, holding all other factors constant. p-value: The p-value of 0.1057 is greater than the

conventional significance level of 0.05, indicating that the result is not statistically significant at the 5% level. However, it is close to the 10% significance level. This implies that while there is some evidence to suggest a positive impact of commercial bank credit on economic development, we do not have strong enough statistical evidence to confidently reject the null hypothesis, which posits that there is no significant impact. The coefficient of 311.7560 represents the expected value of the dependent variable when all independent variables in the model are set to zero. In practical terms, this constant can be seen as the baseline level of the dependent variable, indicating that even in the absence of any influence from the independent variables, the dependent variable is expected to be approximately 311.76. p-value: The p-value of 0.025 is less than the conventional significance level of 0.05. This indicates that the constant is statistically significant, meaning there is strong evidence against the null hypothesis (which posits that the coefficient is equal to zero). Therefore, we can conclude that the constant value is significantly different from zero, suggesting that it plays a meaningful role in the model.

Short Run ARDL Result

Table 4.7 Short Run ARDL Result

Selected Model: ARDL (1, 0, 2, 1, 1)

Variable	Coefficient	Std. Error	t-Statistic	Prob.*
RGDP(-1)	0.862929	0.084422	10.22158	0.0000
IMP	-3.09E-06	1.51E-06	-2.051882	0.0535
EPX	3.06E-06	1.58E-06	1.937232	0.0670
EPX(-1)	-1.17E-06	1.68E-06	-0.696749	0.4940
EPX(-2)	3.60E-06	1.65E-06	2.183140	0.0411
EXR	-2.522159	0.236331	-10.67215	0.0000
EXR(-1)	2.522478	0.303274	8.317494	0.0000
CCB	-0.009129	0.003792	-2.407527	0.0258
CCB(-1)	0.012558	0.003596	3.492288	0.0023
C	42.73282	12.35536	3.458647	0.0025

R-squared	0.994148	Mean dependent var		286.7470
Adjusted R-squared	0.991515	S.D. dependent var		164.2544
S.E. of regression	15.13041	Akaike info criterion		8.532492
Sum squared resid	4578.588	Schwarz criterion		8.999558
Log likelihood	-117.9874	Hannan-Quinn criter.		8.681911
F-statistic	377.5189	Durbin-Watson stat		1.994108
Prob(F-statistic)	0.000000			

*Note: p-values and any subsequent tests do not account for model

Source: *Author Computation Eview 10 Software 2024*

The Coefficient Value: The negative coefficient of -0.09 implies that for every unit increase in imports, real GDP decreases by 0.09 units. This suggests that imports may be exerting a downward pressure on the

economy, potentially due to several factors such as increased competition for local industries, which can lead to reduced domestic production and job losses. Probability Value: The probability value of 0.053 is just above the conventional significance level of 0.05. This indicates that while the result is not statistically significant at the 5% level, it is close enough to suggest that there may be a meaningful relationship worth further investigation. The proximity to significance suggests that policymakers should consider the impact of imports on economic growth seriously.

The positive coefficient of 3.06 suggests that for every unit increase in exports, real GDP is expected to increase by 3.06 units. This strong positive relationship implies that exports play a significant role in driving economic growth, potentially due to increased foreign exchange earnings, job creation, and enhanced production capacities. Probability Value: The probability value of 0.06 is marginally above the conventional significance level of 0.05, indicating that while the result is not statistically significant at the 5% level, it is close to being significant. This suggests that there is a reasonable likelihood that the relationship between exports and GDP is meaningful, warranting further investigation. Coefficient Value: The negative coefficient of -2.522 suggests that a 1% depreciation of the exchange rate (i.e., a decrease in the value of the domestic currency relative to foreign currencies) is associated with a 2.522% decrease in real GDP. This implies that exchange rate depreciation has a contractionary effect on the economy. Probability Value: The probability value of 0.041 is less than the conventional significance level of 0.05, indicating that the result is statistically significant at the 5% level. This means that there is a high degree of confidence that the negative relationship between exchange rate and GDP is not due to chance.

Coefficient Value: The negative coefficient of -0.009 suggests that for every unit increase in credit provided by commercial banks, real GDP decreases by 0.009 units. This indicates that an increase in bank credit is associated with a slight decline in economic output. Probability Value: The probability value of 0.0258 is less than the conventional significance level of 0.05, indicating that the result is statistically significant. This suggests a high level of confidence that the negative relationship observed is not due to random chance. The constant coefficient of 42.72382 indicates that when all independent variables (imports, exports, exchange rate, and credit from commercial banks) are equal to zero, the expected value of real GDP is approximately 42.72. This serves as a baseline level of economic output in the model. Probability Value: The probability value of 0.0025 is significantly below the conventional threshold of 0.05, indicating that the constant term is statistically significant. This suggests that the constant is unlikely to be zero and that it plays a meaningful role in the model.

Diagnostics Test
Table 4.8 Post Estimation Diagnostics Test
Breusch-Godfrey Serial Correlation LM Test:

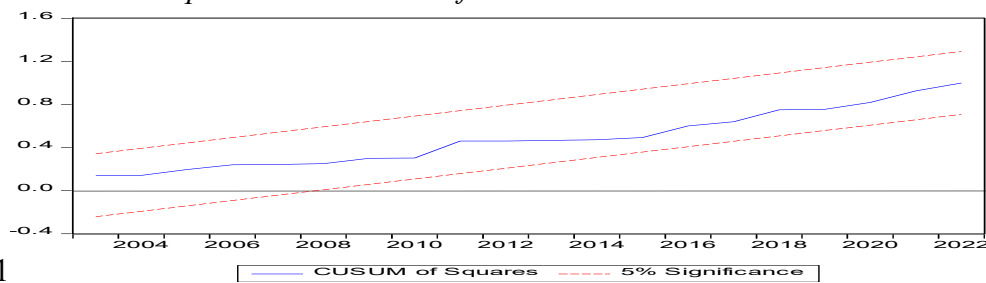|			
F-statistic	1.555950	Prob. F(2,18)	0.2381
Obs*R-squared	4.422009	Prob. Chi-Square(2)	0.1096
F-statistic	0.782953	Prob. F(9,20)	0.6345
Obs*R-squared	7.816050	Prob. Chi-Square(9)	0.5528
Scaled explained SS	4.102606	Prob. Chi-Square(9)	0.9045

Source: Author Computation Eview 10 Software 2024

Fig 4.1

The Breusch-Godfrey Serial Correlation LM Test results suggest that there is no significant serial correlation in the residuals of the regression model. The F-statistic of 1.555950 and the p-value of 0.2381 indicate that the residuals are likely independent, which is a desirable property for the validity of regression results. This implies that the model's assumptions regarding the residuals are met, enhancing the reliability of the regression analysis.

The Breusch-Pagan-Godfrey test results suggest that there is no significant heteroskedasticity in the residuals of the regression model. The F-statistic of 0.782953 and the p-value of 0.6345 indicate that the residuals are likely homoskedastic, meaning that the variance of the residuals is constant across all levels of the independent variables. This is a desirable property for regression analysis, as it supports the validity of the model's assumptions and enhances the reliability of the estimated coefficients. Further the stability of the ARDL model's is assessed using the CUSUM and CUSUMSQ test

5.1   Summary

The regression analysis provides valuable insights into the relationships between the variables of interest. The short-run ARDL results indicate the immediate impacts of changes in the independent variables on the dependent variable. Significant coefficients in the short-run model suggest direct influences on the dependent variable in the near term. This allows for an understanding of the dynamics between variables over shorter time horizons. Complementing the short-run findings, the long-run ARDL analysis reveals the equilibrium relationships that persist over time. If the long-run coefficients are significant, it implies a stable relationship between the variables that is maintained in the long term. For example, a positive and significant

coefficient for exports in the long-run model would indicate that an increase in exports is associated with economic growth in the long run. Examining both short-run and long-run relationships provides a comprehensive view of the overall dynamics.

The ARDL bounds test results are crucial in determining if there is a long-run cointegrating relationship among the variables. A calculated F-statistic that exceeds the upper bound critical value provides evidence to reject the null hypothesis of no cointegration. This finding signifies that despite short-term fluctuations, the variables move together in the long run. Cointegration reinforces the importance of considering both short-term and long-term relationships to fully comprehend the model's behavior. Diagnostic tests, such as the Breusch-Pagan-Godfrey test for heteroskedasticity and the Breusch-Godfrey Serial Correlation LM test, are essential for ensuring the validity of the regression results. A low F-statistic and high p-value from the Breusch-Pagan-Godfrey test indicates no significant heteroskedasticity, confirming constant variance of the residuals across observations. Similarly, the Breusch-Godfrey test results suggest no serial correlation in the residuals, supporting the independence assumption. Meeting these key assumptions enhances confidence in the reliability of the estimated coefficients from both the short-run and long-run ARDL models.

5.2 Conclusion

The study utilizes the Autoregressive Distributed Lag (ARDL) model to analyze the relationships between key economic variables, specifically focusing on exports, imports, and economic growth. The findings indicate a significant long-run equilibrium relationship among these variables, suggesting that changes in exports and imports have substantial implications for economic development. The ARDL bounds testing confirms the existence of cointegration, which implies that despite short-term fluctuations, these economic indicators move together over the long term, reinforcing the importance of trade in influencing economic performance. Additionally, the diagnostic tests conducted, including the Breusch-Pagan-Godfrey test for heteroskedasticity and the Breusch-Godfrey Serial Correlation LM test, support the robustness of the model. The absence of heteroskedasticity and serial correlation in the residuals indicates that the assumptions underlying the regression analysis are met, enhancing the reliability of the estimated coefficients. This allows for greater confidence in the short-run and long-run results derived from the ARDL model, providing a solid foundation for policymakers to consider trade-related strategies for economic growth.

5.3 Recommendations

Based on the findings of the study, the following operational recommendations can be made to enhance economic development through effective trade policies:

1. Enhance Export Promotion Strategies: The government should invest in infrastructure that supports export activities, such as transportation networks, logistics facilities, and ports. Improving these infrastructures can reduce costs and increase the competitiveness of local products in international markets.

2. Support for Export-Oriented Industries: Implement targeted support programs for industries with high export potential. This could include financial incentives, tax breaks, and access to training programs that enhance the skills of the workforce in these sectors and Market Diversification

3. Import Regulation and Monitoring: Develop policies to monitor and regulate imports to prevent excessive reliance on foreign goods. This may involve implementing tariffs or quotas on specific products that can be produced domestically, thereby protecting local industries and promoting self-sufficiency.

4. Encourage Local Production: Foster initiatives that promote local production of goods that are currently imported. This can be achieved through subsidies for local manufacturers, research and development grants, and partnerships with private sector stakeholders to stimulate domestic production capabilities.

5. Strengthen Trade Relations and Agreements: Actively pursue and negotiate trade agreements that facilitate easier access to foreign markets for local exporters. This can include reducing tariffs and non-tariff barriers that currently hinder trade.

6. Capacity Building for Trade Negotiation: Invest in training programs for government officials and business leaders to enhance their negotiation skills in international trade discussions. This will empower them to advocate effectively for favorable trade terms and conditions that benefit the local economy.

7. Regular Economic Assessments: Establish a framework for regular monitoring and evaluation of key economic indicators related to trade, such as export and import volumes, trade balances, and economic growth rates. This data-driven approach will allow policymakers to adapt strategies in response to changing economic conditions. Stakeholder Engagement: Foster collaboration between government, industry stakeholders, and academic institutions to create a robust feedback loop. Engaging stakeholders in discussions about trade policies will ensure that diverse perspectives are considered and that policies are responsive to the needs of the economy.

REFERENCES

Abdul-Razak et al. (2021) Modeling the volatility of exchange rate and international trade in Ghana: empirical evidence from GARCH and GARCH*https://www.emerald.com/insight/1026-4116.htm*

Adeniji, K.A. (2024) Impact of Exchange Rate Fluctuations on Trade in Nigeria: An Empirical Analysis (1990-2023) *Journal of Mathematical and Statistical Computing Print ISSN: 3026-8605 www.fnasjournals.com Volume 1; Issue 2; March 2024; Page No. 53-59.*

Raghutla, C. (2020). The effect of trade openness on economic growth: Some empirical evidence from emerging market economies. *Journal of Public Affairs, 20(3), e2081.*

Adama, et al. (2022). Empirical assessment of the impact of external reserves on economic growth in Nigeria. *Investment Management and Financial Innovations, 19(2), 295-305.*

Michael Baghebo and Kingdom Mienebimo (2024) Balance of Trade, Exchange Rate and Economic Growth in Nigeria *International Institute of Advance Scholars Development* *https://aspjournals.org/ajemr/index.php/ajemr*

Moussa, N. (2016). Trade and Current Account Balances in Sub-Saharan Africa: Stylize Facts and Implications for Poverty. *Trade and Poverty Paper Series No.1 UNCTAD Geneva*

Gyamfi, B.A., Onifade, S.T., Nwani, C. and Bekun, F.V. (2021), "Accounting for the combined impacts of natural resources rent, income level, and energy consumption on environmental quality of G7 economies: a panel quantile regression approach"*, Environmental Science and Pollution Research, pp. 1-13, doi: 10.1007/s11356-021-15756-8.*

Nwanekezie, S., & Onyiro, H. (2018). Exchange rate volatility and the Nigerian balance of payments (1981-2016). *MPRA Paper No. 90562,*

Nwaolisa, E. F., (2017). Effects of exchange rate fluctuations on the balance of payment in the Nigerian economy. *International Journal of Scientific Research and Management (IJSRM), 5(12), 7576-7583 NYECHE,*

Ezebunwo (2024) Impact of exchange rate on economic growth in Nigeria *International Journal of Advanced Economics, Volume 6, Issue 6, June 2024*

Ogunniyi, M. B., Iwegbu, O., & Adekoya, K. I (2018). A comparative analysis of the impact of current account balances on economic growth of sane countries. *International Journal of Development and Sustainability, 7(3), 1220-1237*

Oladipupo, A. O. & Onotaniyohuwo, F. O. (2011). Impact of exchange rate on balance of payment in Nigeria. African research review: *An International Multidisciplinary Journal, Ethiopia, 5 (4), 73-88 Omoke and Opuala-Charles (2021)*

Christian Gbarawae NWIKINA & Edobot Udo EKERE (2024) Impact of Exchange Rate on Economic Growth: Evidence from Nigeria *Global Journal of Arts, Humanities and Social Sciences Vol.12, No.3, pp.36-50, 2024 Print ISSN: 2052-6350(Print) Online ISSN: 2052-6369(Online) Website: https://www.eajournals.org/ Publication of the European Centre for Research Training and–UK*

Foye, V. O. (2022). An analysis of the macroeconomic determinants of public capital spending in Nigeria. *Journal of Economics and Sustainable Development, 5*(4). Retrieved from http:// www.iiste.org/Journals/index.php/JEDS/article/view/11254