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Economic Liberalization and Growth in Nigeria: An Empirical Analysis

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Abstract

This study analyzed the influence of liberalization on growth in the Nigerian economy. Employing time series analysis, data from the Central Bank of Nigeria and other relevant sources were empirically examined. The study is guided by the hypothesis on the effect of interest rate, foreign direct investment (FDI), the balance of payment, and exchange rate on real gross domestic product. Data were analyzed with some statistical tools: descriptive statistics, trend analysis, unit root test, co-integration test, long and short run ARDL error correction model, and post estimation test as well as a stability test. The outcome of the long-run analysis shows a significant positive effect on liberalization, induced due to exchange rates in Nigeria. Similarly, the short-run analysis also indicates that interest rate, FDI, and balance of payment all trigger a significant positive impact in relation to liberalization. Exchange rate has a detrimental effect on Nigeria's progress toward economic liberalization. Based on the findings, the article recommends amongst others: Government and policymakers should reduce the rate of interest, to promote financial assistance from the financial institution, encourage FDI by providing security and making the working environment conducive for socioeconomic activities, and increase the balance of payment by promoting industrialization through giving of grant and loan to the infant industries.

Keywords: Balance of payment, exchange rate, economic liberalization, foreign direct investment, gross domestic product, interest rate

INTRODUCTION

Economic liberalization means the removal or loss of restrictions on economic activities systematically. This means the relaxation of certain policies or laws that influence economic activities. Mercantilism advocated for a primitive economic system, where import was restricted, and export promoted by the government [1]. They had the notion that when the import is restricted and import promoted, it will increase the wealth of a nation. This is because export will generate money for the country. However, there was a contrarily view from the classical school of thought on the need for trade openness otherwise known as international trade. The classical school led by Adam Smith with the book publication of a wealth of Nations. In this instance, there was a paradigm shift in the notion of wealth creation for a country [2]. Adam Smith who advocated for the international economy supported the notion of free trade which he believed to be better than restricted trade transactions. The concept of international trade has benefits for both sides of the country. This implies that each country will gain from what it does not produce or have from the other countries. Though David Richardo, emphasized the theory of comparative advantage. The theory advocated that countries should produce goods she has an advantage compared with other countries, although the neo-mercantilists and protectionists opposed the concept of free trade [3].

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But the fact is that the notions of the merchants and protectionists have been put to rest as a result of World War II and the establishment of the World Trade Organization, which advocated trade liberalization [4]. The essence of the World Trade Organization is to enable developing countries to benefit from stronger economies. This implies that the less developed economy and developing economy can benefit from the developed, in terms of technology, certain resources, and managerial skill as the case may be. This will lead to the practice of comparative advantage, which will enable countries to benefit from each other.

THE COST–BENEFIT ANALYSIS OF TRADE LIBERALIZATION

The fact remains that trade liberalization has its advantages and disadvantages; because economic liberation implies the removal of all sorts of trade and economic restrictions between countries [5]. These restrictions are also obtainable in local economic policies, like interest rate, foreign direct investment (FDI), control of exchange rate, and balance of payment. The benefit of economic liberalization in the developing country is that she will benefit from getting those things that she may not be able to produce [6]. Those things could be got through international trade. These include technological know-how, managerial skills, different raw materials, and so on. When put all these into practice will increase the level of output in an economy. The use of technology and technical know-how will bring a rise in industrialization, which will promote employment opportunities as well increase export and import. In this case, countries will try as much as possible to produce goods and services [7]. She can benefit more with less cost so as to be part of the interactional market. During trade liberalization FDI is attracted which will bring about must needed technology transfer and transformation of the economy by the production of goods in the country as well as an increase in the gross domestic product (GDP). This will increase per capita income and consumption will rise in the economy.

Economic or trade liberalization has been criticized. The bases of the protectionist argument are to protect the infant industries of a country. This school of thought is of the view that infant industries will suffer as a result stilt competition from stronger international industries [8]. But the fact is that a country with trade restrictions tends to have a problem in terms of technological advancement, lack of technical know-how, limited resources, raw materials, and so forth. This implies that such a country will not participate much in interactional trade and of course, the benefit of international trade will not be got. This situation is not healthy for any economy because of the inherent problems. Hence, economic liberalization is needed for the functionality of any economy.

STATEMENT OF THE PROBLEM

In recent times, Nigeria's economy is witnessing backwardness in its sectorial performance. This is perceived to be as a result of a low level of active trade participation between interactional communities. There have been economic restrictions of different kinds in recent times. Although the aim has been to increase export, but some school of thought believes that before a country carries out the restriction measures the country should have the same level of independence in a high level of productivity otherwise too much money will be chasing few goods as it is in Nigeria now. Also, other scholars have carried out studies on this subject matter using some macroeconomic explanatory variables to measure the benefit of trade liberalization. Several studies carried out analysis on liberalization policies with an empirical study on the need for economic liberalization with selected macroeconomic variables: production price index, inflation rate, and broad money supply. Their result on the need for flexibility on these variables revealed that these variables influence economic liberalization positively, while Attari [9] carried out studies on the need for liberalization with some selected macrocosmic variables and economic performance in Nigeria. The variables used for the study were as follows: exchange rate, the balance of payment, and the GDP. The result reveals a negative influence on the need for trade liberalization in Nigeria. Based on these controversies, there is a need for further investigation into the need for trade liberalization. This is the bases for this study.

AIM AND OBJECTIVES OF STUDY

This study captures the aim of the study which has the broad objective of carrying out the need for economic liberalization on economic growth in Nigeria considering the real GDP as the dependent variable. The specific objectives are to:

- Examine the impact of interest rate in economic liberalization on economic growth (proxy, GDP) in Nigeria.
- Investigate the impact of FDI in economic liberalization on economic growth (proxy, GDP) in Nigeria.
- Evaluate the impact of balance of payment in economic liberalization on economic growth (proxy, GDP) in Nigeria.
- Examine the impact of the exchange rate in economic liberalization on economic growth (proxy, GDP) in Nigeria.

RESEARCH HYPOTHESIS

This study is guided by the following hypotheses:

- *Hypothesis 1:* Changes in interest rates have a significant effect on the economic liberalization of (GDP) in Nigeria.
- *Hypothesis 2:* Changes in FDI have a significant effect on the economic liberalization on (GDP) in Nigeria.
- *Hypothesis 3:* Change in balance of payment has a significant effect on economic liberalization on (GDP) in Nigeria.
- *Hypothesis 4:* Changes in the exchange rate have a significant effect on the economic liberalization on (GDP) in Nigeria.

LITERATURE REVIEW

This section will consider the three components of literature: Conceptual clarifications, theoretical framework, and empirical review.

Conceptual Clarifications

Interest Rate

The economic policy of the government designs certain interests to be paid on financial transactions, especially as it concerns financial institutions and consumers. This implies that the interest rate is designed to be paid on money borrowed from the financial. The interest rate is made known so that cooperate bodies and private deals will not be exploited by the financial institutions. Thus, economic liberalization also influences the level of interest to be paid. In this instance, interest rate is made flexible or lower so that investment could be done without much stress. This states that people could get financial assistance and invest more in assets and get much on returns on investment as a result of low-interest rates. This will promote a high level of trade transactions.

Foreign Direct Investment

FDI is that investment that is done directly into a country by someone that is based in another country. It is a cross-border investment. In most cases, this type of investment is mostly done on a stock. FDI is an important source of wreaths to the investors and the country where the investment is done because tax is paid on such investment. Trade liberalization encourages this type of investment because of its benefits. Hence, FDI can affect the economy through technology transfer, employment opportunities, managerial skills, and so on.

Balance of Payment

This is the receipt of payment for economic transactions done between two countries. It is associated with export and impact transactions between countries. Receipts are common in countries that are engaged in free or economic liberalization trade in this instance country will transact business and payment is made and receipts are issued. Thus, the balance of payment is the minatory transaction documents between two countries. This payment could be favorable or invariable, depending on the level of export and import recorded between the two countries.

Exchange Rate

In exchanging a country's currency for another, a price is paid for which local currency is exchanged for foreign currency; for instance, the exchange of naira for dollars. Though exchange rates bring about a reduction in wealth and investment especially, high exchange rates. FDI is affected because the local currency will have low purchasing power. This rerun on investment will be low. Hence, discourages local and foreign investors. Economic liberalization brings about an increase in trade transactions between two countries; thus, a country with a high export rate will increase its level of the exchange rate which will become a favorable balance of payment.

Theoretical Framework

This part of the study considers the theory that supports economic liberalization.

The Theory of Comparative Advantage

Different countries all over the world have their natural and technological resources. Thus, the theory of comparative advantage advocates that countries should produce goods in which she has a comparative advantage over other countries. This is necessary based on the fact that different countries have different resources. This theory was advocated by David Ricardo. His view was for the benefit of international trade. Thus, countries should specialize in certain goods which she has less cost of production, but with a high benefit level. By so doing, there will be the tendency or possibility of having a high balance of payment. Thus, economic liberalization will be of benefit to countries that practice the concept of comparative advantage, considering its benefits in the international market. Hence this theory supports this study.

Empirical Review

This part of the study considered different empirical studies carried out on the subject matter of economic liberalization.

Adjasi [10] evaluated the impact of trade openness on the economics of Ghana, from 1980 to 2010 time series was used for the study which was sourced from the world bank statistical bulletin. Some macroeconomic variables were used for the analysis: GDP, the balance of payment, and interest rate. Johanson's co-integration method was used based on the result from the unit root test conducted. The result revealed that Ghana's trade liberalization is influenced by the selected variables positively. Hence, the article recommended that there should be flexibility in the interest rate so that there will be more borrowed funds that will lead to the production of goods and services as well as increase the level of export and increase in the balance of payment in Ghana.

Akinlo examined the need for trade liberalization in Nigeria. Secondary data were used for the study from 1988 to 2015; the data were sourced from World Bank statistical bulletin. The study also used some variables to carry out the study: production price index, GDP, and exchange rate. Auto-regressive distributed lag was employed in the study. The result shows that all the underlined variables influence trade liberalization positively. Hence, the article recommended, there should be interest-free loans to boost the level of production in Nigeria. This will increase productivity and promote export as well as generate a balance of payment to the economy.

Brown investigated the implications of economic liberalization to the economic growth in Nigeria; secondary data were employed for the study, which was sourced from the central bank of Nigeria statistical bulletin. Ordinary least square was used for the study analysis. The result of the study revealed that the selected macroeconomic variables: broad money supply, inflation rate, and unemployment rate had some level of negative impact on free trade. This implies that it could bring about an unemployment situation, with an increased inflationary rate as a result of too much money in circulation. Hence, the article recommends that there should be restrictions on free trade so that the infant industries will not face international stiff trade or product competition and consequently lead to an unemployment situation.

Attari carried out a study on the need for trade liberalization. The study applied empirical study with some selected macro-economic variables: GDP, and unemployment production price index in Nigeria. Secondary data were used for the study from 1999 to 2018, which was sourced from the Central Bank of Nigeria statistical bulletin. Auto-regressive distributed lag was employed as a statistical tool for the empirical analysis. The result indicated that there is a long-run relationship between the selected variables and economic liberalization in Nigeria. The article recommended that policymakers should make policies that will promote low-interest rates, which will lead to economic expansion and the promotion of industrialization as well as employment opportunities and an increase in the export of goods and services in Nigeria.

METHODOLOGICAL FRAMEWORK

This section of the study considered different methods used in the analysis. These are research design, data collection, and model specifications.

Model Specifications

Economic growth is the dependent variable (proxy GDP) and the exploratory variable that could be used for the analysis of the need for economic liberalization are interest rate, FDI, the balance of payment, and exchange rate.

The framework adopted is similar to the work of Attari with little modifications. The study was carried out from 1999 to 2018. The variables used for the study were GDP, unemployment rate, and production price index, but this article extended its scope from 1987 to 2020 with the inclusion of balance of payment as one of the variables.

Thus, GDP = F (Intr, FDI, BOP, EXC) (i)

Given the functional relationship the econometric model is specified below:

$GDP = a_o + a_1 intr + a_2 FDI + a_3 BOP + a_4 EXC + \varepsilon i$ (i)

Where; GDP = Gross domestic product

Intr = Interest Rate

FDI = Foreign Direct Investment

BOP = Balance of Payment

EXC = Exchange Rate

Ei = Error Term

a_o = Constant

a_1 a_2 a_3 a_4 are the coefficient of the variables.

Data Collection and Sources

Secondary data was sourced to carry out this study because it is believed to be reliable. Data were obtained from the Central Bank of Nigeria (CBN) statistical bulletin and other relevant publications on the need for economic liberalization in Nigeria and another part of the world.

Method of Data Analysis

Since the secondary data have non-stationary properties, there is a need for a unit root test which will determine the statistical tool to be employed in the analysis.

RESULT AND DISCUSSION

This part of the study has to do with the analysis and results of the study. The analysis will start by examining the behavior of data using descriptive statistics, trend analysis, unit root test, auto-regressive distributed lag co-integration (Bound) test, long run, and short run analysis and post estimation as well as a stability test.

Date Presentation

Descriptive statistics of time series shown in Table 1 above that between 1987 and 2000 GDP, Inter, BOP, FDI, and EXC averaged 34907.83, 7.366200, 7.65E+09, and 2913667 117.5837. The range of variables within the period under review is, 249.400 to 105658.1 for GDP, 0870000 to 11.06000 for Inter, –1.46E + 10 to3.65E to for BOP, 0.3000000 to 8.840000 for FDI, 4.000000 to 358.8110 for EXC. The result of the descriptive statistics showed that there is instability in both the dependent variable and explanatory variables. Hence, this calls for further problem of the feature of the data. Table 1 shows the descriptive statistics of selected macroeconomic variables in Nigeria from 1987 to 2020.

Table 1. Descriptive statistics of selected macroeconomic variables.

	GDP	INTER	BOP	FDI	EXC
Mean	34907.83	7.366200	7.65E+09	2.913667	117.5837
Median	12316.90	7.405000	4.19E+09	1.920000	123.2000
Maximum	105658.1	11.06000	3.65E+10	8.840000	358.8110
Minimum	249.4400	0.870000	–1.46E+10	0.300000	4.000000
Standard deviation	40150.15	2.156116	1.04E+10	2.641471	105.5594
Skewness	0.733935	–0.665453	0.632681	0.997545	0.724405
Kurtosis	1.863892	4.220078	3.671835	2.783891	2.566570
Jarque-Bera	4.306733	4.074879	2.565630	5.033859	2.858642
Probability	0.116093	0.130362	0.277256	0.080707	0.239471
Sum	1047235.	220.9860	2.30E+11	87.41000	3527.511
Sum of squared deviations	4.67E+10	134.8162	3.13E+21	202.3437	323140.6
Observations	30	30	30	30	30

Source: *online*

Trend Analysis

Trend analysis shows a graphical representation of data on GDP, interest rate, the balance of payment, foreign direct investment, and exchange rate.

Figure 1 indicates the fluctuations in GDP with a rising direction from 1988 to 2014. There was a fall in 2015 and also a rise in 2019 and a fluctuation from 2019 to 2020. This shows that there is instability in GDP within the period under review.

Figure 2 shows that there was a rise in interest rates from 1987 to 1990. There have been fluctuations in interest rates since 1991 with a drastic fall in 2008 and a rose in 2009 with fluctuation and a rose in 2020. This analysis indicates that there has been instability in interest rates in Nigeria within the period of study.

Figure 3 revealed that there has been a rise and fall of investment, in FDI from 1987 to 2019 and rose in 2020. This indicates instability in FDI either as a result of changes in macroeconomic variables or government policies within the period of study.

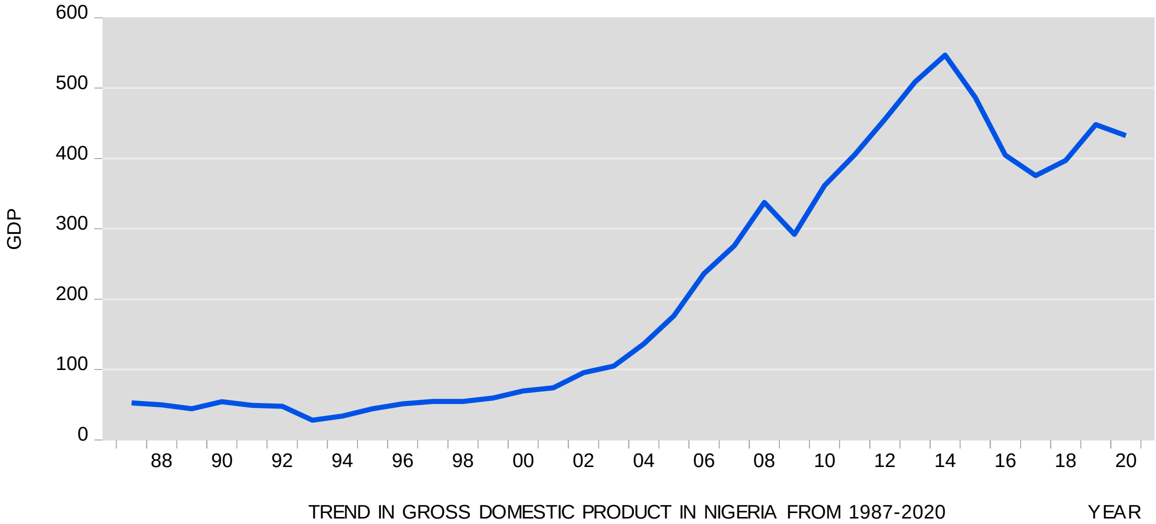

Figure 1. Trend analysis of gross domestic product.

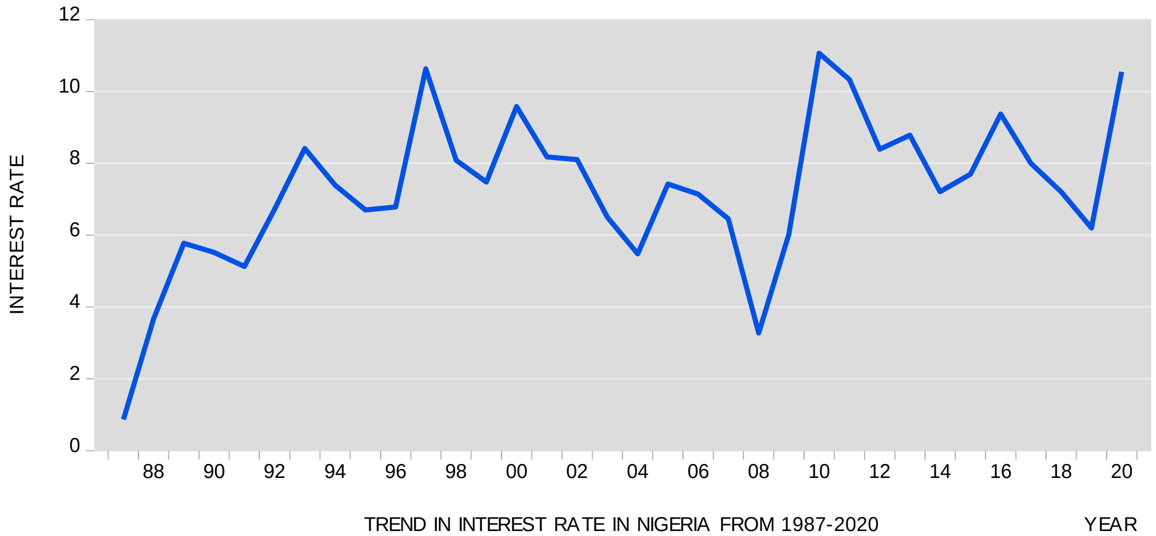

Figure 2. Trend analysis of interest rate.

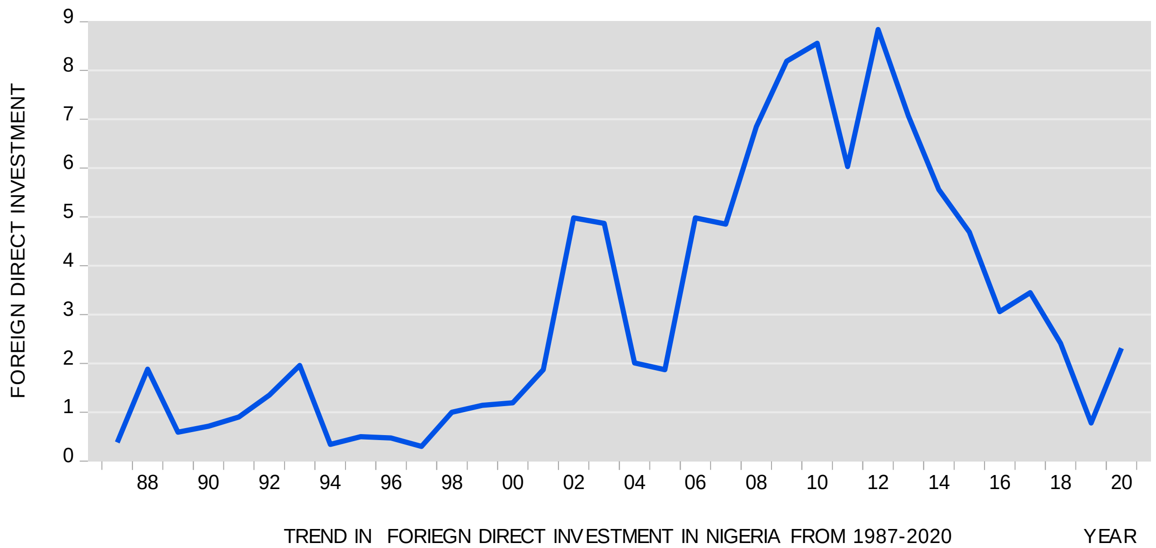

Figure 3. Trend analysis of foreign direct investment.

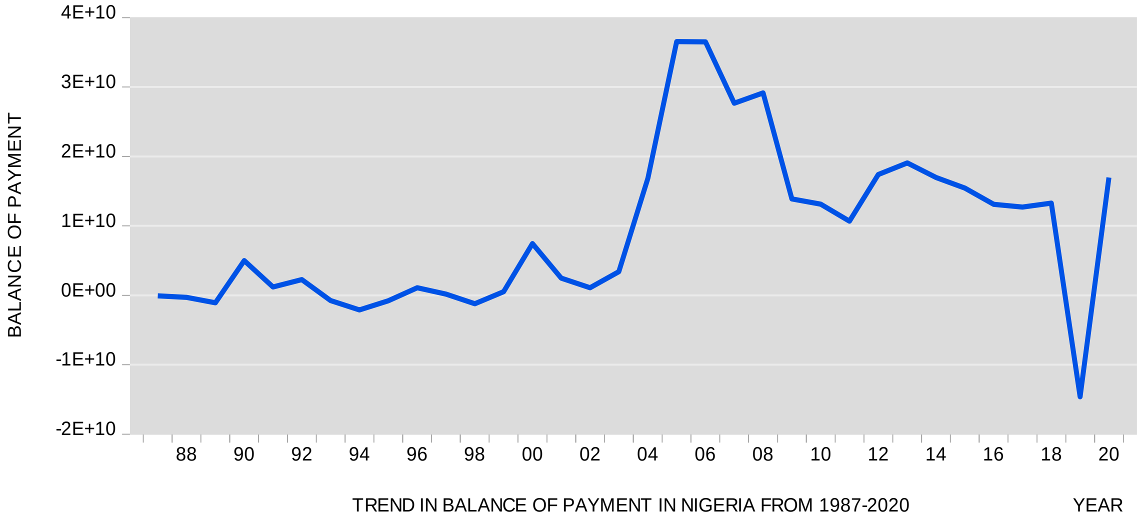

Figure 4. Trend analysis of balance of payment.

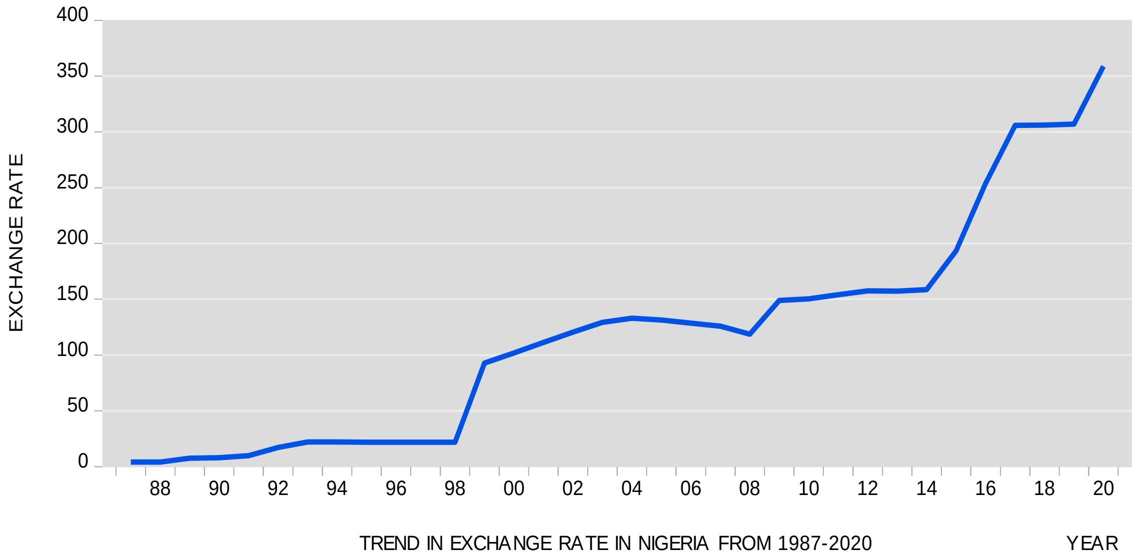

Figure 5. Trend analysis of exchange rate.

Figure 4 indicates that there was an increase in the balance of payment from 1987 and more rise in 2002 and a step down in 2008 as well as a Nose dive in 2018 and a rise in 2020. It all indicates that BOP has not been stable within the period of study.

Figure 5 shows that there was a stable situation in the exchange rate from 1987 to 1998, which rise in 2000 with fluctuations till 2020. The indication here is that the exchange rate has not been stable as a result of instability in Nigeria's economic and political sectors.

Unit Root Test

The study conducted a unit root test using Augmented Dickey–Fuller statistical tool to test the stationarity of the variable at 5%.

Table 2 shows that GDP and interest rate attained stationarity of 5% at level 1(0), whereas the balance of payment, FDIs, and exchange rate attained stationarity of 5% at first difference 1(1).

Table 3 shows the outcome of the co-integration bound test for the GDP model.

Table 2. Unit root test using augmented Dickey–Fuller.

Variables	Variables at level	Variables at first different	Order of integration
GDP	–3.399248	—	1(0)
Inter	–3.8653738	—	1(0)
BOP	–2.478938	–6.272207	1(1)
FDI	–1.783921	–6.137373	1(1)
EXC	1.140053	–3.937221	1(1)

Table 3. Co-integration result (bound) for GDP model.

F-bounds test		Null hypothesis: No levels of relationship		
Test statistic	***Value***	***Signif.***	***I(0)***	***I(1)***
			Asymptotic: n = 1,000	
F-statistic	46.23453	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	25		Finite Sample: n = 30	
		10%	2.525	3.56
		5%	3.058	4.23
		1%	4.28	5.84

Table 4. ARDL long run coefficient of the model.

Variable	Coefficient	Std. Error	t-Statistic	Prob.
INTER	–13.03226	6.502236	–2.004274	0.1156
BOP	–6.43E-09	1.42E-09	–4.537207	0.0105
FDI	49.44074	4.009277	12.33159	0.0002
EXC	2.694256	0.340199	7.919640	0.0014

Table 3 shows the bound test for the GDP model. The result indicates a long-run relationship between the dependent and the explanatory variables are given the F-statistics and the critical value.

From Table 4, the result revealed that FDI and exchange rate have a positive significant impact on economic liberalization (proxy GDP) in Nigeria. While the balance of payment has a negative significant effect on economic liberalization in Nigeria, the interest rate has a non-significant influence on trade liberalization in Nigeria within the period of study. The implication of the result implies that FDI and exchange rates are influenced by the level of trade liberalization while the balance of payment has not been influenced by economic liberalization as a result of much dependent on imported goods.

From Table 5, it revealed that lag 3 of interest rate, lag two balance of payment, and FDI current year, have a positive significant influence on economic liberalization, while current year interest rate, lag two and three FDI, current year exchange rate, lag one and lag three exchange rate have a negative significant impact on economic liberalization in Nigeria within the period of study. This result implies that interest rates, the balance of payment, and FDIs have an impact on economic liberalization. This implies that through these variables the market openness is developed, while the current year interest rate lag two FDI and lag three exchange rates did not make an impact on trade liberalization in Nigeria within the period under review. R^2 of 099 indicates 99% of the contribution of the explanatory variables to the GDP.

Table 5. Short run ARDL error correction (ECM) result of the model.

ECM regression				
Case 2: Restricted constant and no trend				
Variable	*Coefficient*	*Std. Error*	*t-Statistic*	*Prob.*
D(INTER)	–2.422881	0.531785	–4.556128	0.0104
D(INTER(–1))	2.420510	0.546807	4.426629	0.0115
D(INTER(–2))	2.046682	0.536150	3.817366	0.0188
D(INTER(–3))	3.320344	0.597511	5.556962	0.0051
D(BOP)	–1.02E-09	1.30E-10	–7.857907	0.0014
D(BOP(–1))	–5.04E-10	1.62E-10	–3.111774	0.0358
D(BOP(–2))	1.07E-09	1.99E-10	5.377852	0.0058
D(FDI)	8.926571	0.630356	14.16116	0.0001
D(FDI(–1))	–18.72054	1.339674	–13.97395	0.0002
D(FDI(–2))	–13.43732	1.296899	–10.36111	0.0005
D(FDI(–3))	–10.06224	0.958246	–10.50069	0.0005
D(EXC)	–1.913429	0.081582	–23.45411	0.0000
D(EXC(–1))	–1.540167	0.101677	–15.14767	0.0001
D(EXC(–2))	–0.354735	0.137749	–2.575225	0.0616
D(EXC(–3))	–2.434486	0.163772	–14.86512	0.0001
CointEq(–1)*	–0.392514	0.015711	–24.98332	0.0000
R^2	0.997266	Mean dependent var		13.11480
Adjusted R-squared	0.992711	SD dependent var		39.78095
S.E. of regression	3.396421	Akaike info criterion		5.541670
Sum squared resid	103.8211	Schwarz criterion		6.321751
Log likelihood	–53.27088	Hannan–Quinn criter.		5.758032
Durbin-Watson stat	2.614995			
** P-value incompatible with t-Bounds distribution.*				

Table 6. Post estimation test.

Diagnostic test	f-statistics	Probability
Jarque–Bera test normality	0.540943	0.763030
Breush series correlation LM	26.42892	0.0000
Arch: Heteroskedascity test	1.025308	0.4135
Ramsey preset test for specification error	5.754294	0.0242

Table 6 shows the outcome of the Post Estimation Test, indicating the f-statistics and probability.

From Table 6, the error term is not normally distributed around the mean given probability value of 0.763020 the result shows no evidence of auto-correction given the correlation LM test probability value of 0.0000 Hence, the Ramsey reset indicates that there is no variable missing in the model given the probability of 0.0242 the estimate of the model is good for prediction and forecast.

The stability test is important so that it could incorporate the short and long-run dynamics in the long-run parameter of the model. It is a necessary condition that the reclusive residual CUSUM value stays within the 5% critical bound, respectively, by a straight line as shown in Figure 6. Hence, I conclude that the short-run and long-run dynamics of GDP existed and were relatively stable over the period of study.

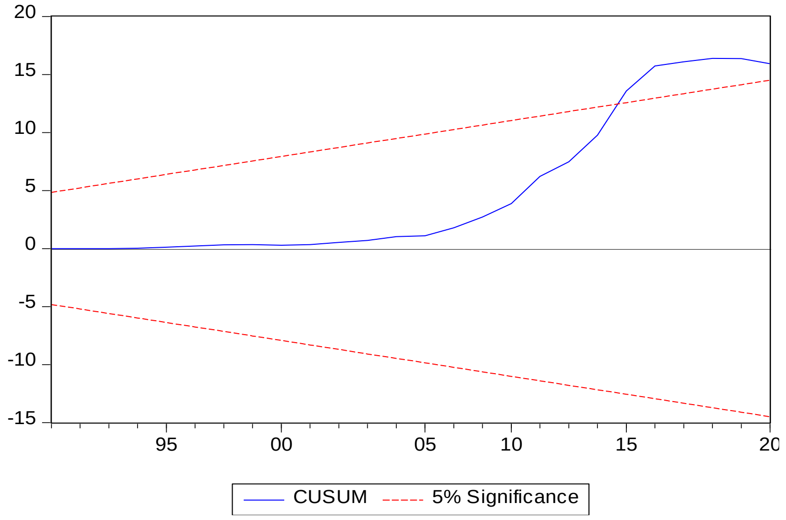

Figure 6. Stability test result for GDP economic liberalization.

CONCLUSION AND FINDINGS

Based on the finding, the article concludes as follows:

The result of the analysis revealed that there is a long-run relationship between the underlined variables as indicated in the bound test conducted. Based on the long-run analysis, auto regressive distributed lag indicate that foreign direct and exchange rate have a significant positive impact on economic liberalization in Nigeria, whereas the balance of payment has a significant negative impact on economic liberalization. The implication of the result is the FDI and exchange rate influence economic liberalization, whereas the balance of payment did not influence economic liberalization within the period of study. However, in the short-run analysis of the error correction model lag 3 exchange rate, lag one to the balance of payment, current year of FDI have a positive significant impact on economic liberalization in Nigeria, which shows a high level of influence on trade transactions. While, the current year's interest rate, lag two and three FDI, the current year's exchange rate has a negative significant impact on the economic liberalization in Nigeria. This effect implies that within the past and present years the above variable did not impact on trade liberalization.

Recommendations

Based on the findings of the study, the article recommends the following:

- The government and policymakers should reduce the interest rate to enable an investor to have access to funds so that there will be an increase in the production of goods and services as well as an increase in the export of goods and services.
- Encourage FDI. This could be done by providing security so that life and properties will be protected as well as making the environment conducive for socioeconomic activities.
- Increase in the balance of payment by encouraging industrialization through the giving of loans to investors and grants for infant industries so that there will be an increase in the level of employment opportunities.

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