Trade Liberalization And Manufacturing Value Added In Nigeria

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Abstract
Trade liberalization is vital for the achievement of economic growth and development. However, findings in the literature show diverse conclusions. Findings in this regard for the Nigerian economy is key as the country is highly primary product oriented. Hence, recent evidence is key to provide policy directives especially in the advent of the African Continental Free Trade Area (AfCFTA) agreement. This study examined the effect of trade liberalization on industrial sector performance as it acts as engine for economic growth. This study adopted Autoregressive Distributive Lag (ARDL) model and obtained secondary data from the period of 1986-2019. Results showed that trade openness has a positive short-run influence on manufacturing value-added but a negative long-run impact, with a rise in trade openness resulting in a 1% increase in the short run but a 2% decrease in the long run. Hence, opening up the Nigerian economy to trade is detrimental to manufacturing value-added. Therefore, efforts to take advantage of the benefits of trade particularly with regard to the African Continental Free Trade Area (AfCFTA) should focus on ensuring competitive exports and technological advancement as such tactic action will yield some benefits from trade.
Key words: *Trade Liberalization, Manufacturing Value Added*

I.   Introduction

Nigeria, Africa's largest economy and the world's most populous black country, has been plagued by weak economic performance for some time. Many Nigerians live in abject poverty, with a regular income of around $2 and the country is now ranked the poverty capital of the world. Crude oil accounts for about 10% of Nigeria's GDP, 70% of government revenue, and more than 83 percent of the country's total export earnings. Agriculture employs 36% of the workforce and contributes to 21.2 percent of GDP while manufacturing sector generates 25.7 percent of GDP and employs 12 percent of the labour force (World Bank, 2019).

The manufacturing sector acts as a vehicle for producing goods and services, expanded job opportunities and incomes. It has been identified as a significant driving force in modern economies (Edeme & Karimo, 2014). Its development has been hindered by issues with export competitiveness, primarily through identifying export opportunities in which the country can achieve value-added and diversify its export base away from raw materials (USAID, 2020). Industrial Value-Added (IVA) is a measure of manufacturing production as a proportion of a country's GDP.

Trade refers to exchanging goods and services between countries or within a country (domestic or home business) (international or foreign business). Trading activities include that of import and export, foreign direct investment (FDI), borrowing and lending, and repatriation of funds abroad. Trade openness is described as the number of imports and exports normalized by GDP to quantify economic policies that restrict or promote trade between countries. It integrates a country into the committee of nations by removing trade barriers and restrictions (Nteegah, Nelson & Owode, 2017). The abolition of high taxes, duties, regulatory rules, quotas and other barriers and restrictions to trade by trade liberalization results in a capital shift away from manufacturing import substitutes and producing export-oriented goods. This tends to improve welfare by improving domestic capital allocation and encourage free trade (Manni & Afzal, 2012; Paudel, 2014). However, trade barriers remain strong in many developed countries. Trade barriers are frequently due to the risk of a deteriorating trade balance since liberalization is measured by the relative rise in the growth of imports and exports and the prices of the products exchanged (Santos-Paulino and Thirlwall, 2004).

There has been contradictory findings from studies on the effect of trade liberalization on economic growth and development, some were positive while others were negative (Musila & Yiheyis, 2015; Polat, Shahbaz, Rehman & Satti, 2015; Ulasan, 2015). According to literature review, several studies have been undertaken on the influence of trade liberalization on income growth and human development, with little to no

attempt to investigate its effects on manufacturing sector productivity. This study employs the Manufacturing Value-added to investigate how trade liberalization has impacted industrial sector production in Nigeria. Trade liberalization, on the other hand, is measured using trade openness. Through investigating the effect of trade liberalization on Nigeria's economic growth and progress, this study seeks to address how does trade openness affect Nigeria's manufacturing output?

II.   Literature Review
Trade Liberalization
Trade liberalization refers to removing or reducing trade restrictions and the liberalization of foreign capital flows, technological diffusion, and domestic labour movement (Robbins, 2003). It eliminates trade barriers such as tariffs and non-tariff barriers and internal restraints such as directed credit and selective purchasing (Shuaibu, 2015). It evaluates export promotion, the shift of resources from import substitution to export activities, the level of openness, the share of export and import in national earnings, marketization, and improvements in incentive and structural mechanisms (Mwaba, 2000). Trade liberalization refers to the result of specific liberalization policies such as foreign capital inflow and tariff elimination, among others (Khan, Hye & Mcmillan, 2014).

This encourages innovation and productivity, modernization, and access to cutting-edge knowledge and technology. (Odularu, 2020). On the other hand trade liberalization harmed more countries than it has supported. Local production of goods and services is often avoided because interests developed in developed countries cannot compete favourably with those generated in advanced countries (Verter, 2017). Also, in developing nations, the condition is inverted since much of their domestic factories are unprotected. Consequently, they are subject to international rivalry, which leads to lower productivity (Mwaba, 2010; Chaudhuri, Yabuuchi & Mukhopadhaya, 2006). Therefore, a competitive economy and an uncertain environment as a result of trade liberalization cause entrepreneurs to adopt higher capital-intensive productions.

The Policy of Trade Liberalization in Nigeria
Various trade policy reforms have been implemented by the Nigerian government over the years, including import replacement policies in the 1970s, partial abolition of the import license scheme, the granting of special tax incentives and tax holidays to assist local industries in obtaining sufficient funds for expansion and to encourage investment by firms in areas where the economy is at a disadvantage, and the reduction of the corporate income tax (Adofu & Okwanya 2017). The Structural Adjustment Program (SAP) in 1986 ushered in trade liberalization by eliminating foreign exchange caps to reflect global circumstances, removal of market controls, and dissolution of commodity boards. (Olaifa, Subair & Biala, 2013). Other reforms introduced include the passage of an export rewards decree outlining various benefits to promote export promotion, the establishment of an export credit guarantee and insurance scheme to assist Nigerian firms in performing effectively in the foreign market, and the government's provision of a 140 percent tax cut to companies engaged in raw material research and development. There is also an Export Stimulus Loan [ESL] scheme for international producers that need imported supplies to process export products and a domiciliary account to keep firms' export earnings in foreign currency. The foundation of an Industrial Development Coordinating Committee [IDCC], a database reserve, the Raw Material Research and Development Council [RMRDC], the Project Development Agency [PRODA], the Federal Institute of Industrial Research [FIIR], Export Processing Zones [EPZs], the Nigeria Economic Development Council, and the simplification of industrial licensure are all examples of government institutional assistance (Umoru, 2013). The policies were ineffective due to adverse macroeconomic environment.

According to World Bank (2013) economic indicators, trade as a percentage of GDP per capita rose from the pre-liberalization period, hitting a peak of 48.57 in 1980, but then sharply increased in the post-liberalization period 51.46 in 1997. Foreign direct investment (FDI) inflows adopted a predictable trend. Almost all interventions improved from the pre-liberalization to the post-liberalization period. However, the conduct of interest rates remained a significant cause of concern, as they began to rise sharply even after liberalization, hitting a peak of 18.18 in 2009. Consequently, the assumption that the supply of lower-cost consumer products would minimize prices is debunked (WTO, 2018).

Trade Liberalization and Industrial Output
The manufacturing sector is essential because it acts as a growth engine by increasing an economy's productive capacity and export base, reducing unemployment, slowing rural-urban migration, and assisting poverty reduction (Afolabi & Laseinde, 2019). Since Nigeria is an open economy, global events significantly impact the country's development, particularly in the industrial sector. Nigeria's economic goal has always been to compete with other countries to develop and enter the world market. This is meant to provide the country with the ability to capitalize on economies of scale beyond the confines of the domestic economy and access to

foreign exchange to finance critical infrastructure imports (Adenikinju, 2002). Foreign trade enables greater specialization, power utilization, and goods and service importation (Khalid, 2016). There has been much discussion about the partnership between trade policy reforms, economic efficiency, and industrial production in Nigeria.

Trade liberalization and the manufacturing base are inextricably linked. The industrialization of developing countries seems to be unlikely without liberalizing trade with developed countries. A more open economy makes for greater access to emerging technology and helps developed countries industrialize. Furthermore, since developing nations have access to innovative technology, this usually contributes to expanding their manufacturing, increasing their capacity to pursue export promotion policies, and rising growth rates. Many analytical studies (Eea, 2015; Kalaitzi & Cleeve, 2018) have shown that export-led growth occurs in developing and mature economies. Many countries, especially those in East Asia and the OECD, have reaped significant benefits from free trade policies, including improved living conditions, lower poverty and unemployment rates, faster economic development, and income convergence (Aftab, Ilyas, Nawas & Safdar, 2016). African countries, on the other side, are unable to profit from the massive global flows. These free trade policies ushered in a technology revolution in the UK and other European countries and strong economic development in South Korea, Japan, Taiwan, and other Asian economies. As a result, more significant free trade allows developing countries to profit from advanced technologies built in developed countries, growing productivity. Consequently, trade liberalizationsubstantially affects a country's manufacturing sector production and other macroeconomic indicators (Sultanuzzaman, 2019).

Empirical Review

Keho (2017) examined the impact of trade openness on economic growth in Cote d'Ivoire from 1965 to 2014 using the autoregressive distributed lag (ARDL) bounds test and the Toda and Yamamoto Granger causality tests. The results indicate that trade openness has a positive short- and long-term relationship with economic growth. The study also discovered a rational and rational complementary relationship between trade openness and capital investment to fuel economic growth. (Hye, Wizarat, & Lau, 2016) used the endogenous economic growth model to assess the long-run relationship between exchange openness and economic development in China from 1975 to 2009. According to the findings, trade openness (both specific trade indices and the aggregate trade openness index) has a precise short- and long-term association with economic development. Manni and Afzal (2012) studied the effect of trade liberalization on the economic growth of Bangladesh. From 1980 to 2010, the impact of trade liberalization on economic development was analyzed using the Simple Ordinary Least Square (OLS) procedure. The study's results showed that trade liberalization is beneficial to Bangladesh's economic growth. Because trade liberalization had no impact on inflation, real imports and exports increased over this time frame.

Utkulu and Zdemir (2005) empirically examined the impact of trade openness on Turkey's economic growth and per capita income from 1950 to 2000. Johansen's Co-integration and Error Correction Model was used to investigate the relationship between exchange transparency and economic development (ECM). The control variables were physical and human capital (as measured by high school enrollment rates), while the critical variable was trade openness. Their research shows that trade openness significantly affects economic prosperity, as trade policy has influenced Turkey's economic growth in both the long and short run.

Chaudhry, Malik, and Muhammad researched the partnership between Pakistan's human capital, trade openness, and economic growth (2010). They investigated the causal relationship between the three variables mentioned above using Granger Causality. Johansen's co-integration and the Vector Error Correction Model were used to evaluate the long-run and short-run relationships between the variables. The results show a significant and promising relationship between trade openness and economic growth over the study era. Human capital and economic growth produced comparable outcomes. According to the export-led development hypothesis, trade globalization and the labour market significantly affected economic growth. From 1975 to 2005, Hasan and Butt (2008) investigated trade, labour force, education, and debt on Pakistan's economic growth. They employed the Autoregressive Distributed Lag (ARDL) approach, and their findings indicated that Pakistan's labour force and schooling have a positive effect on the country's economic growth. Long term, a 1% rise in the job force culminated in a 2.85% increase in financial results.

Several scholars contend that trade openness benefits Nigeria's growth and development (e.g., Ghani, 2009; Kalu & Agodi, 2015; Yaya, 2017). Okon and Effiong (2013) discovered a short- and long-term association between trade openness and Nigerian manufacturing production. Adamu and Dogan (2016) used quarterly data between 1986 and 2008 to investigate the short and long-run relationship between trade openness and industrial growth in Nigeria. The findings of the long-run analysis and the short-run error correction model (ECM) indicate that trade openness and economic growth have a significant and positive relationship. However, there is no conclusive evidence of its impact on human development. Some studies (e.g., Vlastou, 2010; Musila

& Yiheyis, 2015; Ulaşan, 2015) have often disputed the existence of a positive relationship between trade and economic growth.

Okonkwo (2015) examined the accumulated impact of trade liberalization on economic growth in Nigeria from 1971 to 2012 using the Ordinary Least Square (OLS) regression technique. According to the findings, imports, exports, and inflation positively affect GDP, while FDI and the exchange rate negatively impact GDP. Lawal, Nwanji, Asaleye, and Ahmed (2016) investigated the relationship between economic growth, financial progress, and trade openness in Nigeria using the Autoregressive Distributed Lag Model (ARDL). The results showed that trade openness has a negative long-term effect on economic growth but a positive short-term impact. Yakubu and Akanegbu (2018) empirically examined the effect of trade openness on economic development in Nigeria from 1981 to 2017 using the conventional least square technique. Many of the variables, such as Real Gross Domestic Product (RGDP), Degree of Openness (DOP), Foreign Exchange (FX), and Per Capita Income (PCI), was considered to be significant and encouraging. As a result, the factors are co-integrated, and there is unidirectional causality from RGDP to DOP.

Adamu and Edogan (2017) examined the long and short-run relationship between trade openness and industrial growth in Nigeria from 1986 to 2008 using the autoregressive distributed lag (ARDL) bounds index. According to both the long-run and short-run error correction models (ECM), trade openness positively influences economic growth. The Toda-Yamamoto causality analysis showed a one-way Granger causality through trade openness to industrial development.

Dutta and Ahmed (2004) studied the relationship between trade policies and industrial growth in Pakistan using the endogenous development model. The empirical findings revealed a long-run relationship between the aggregate growth position of industrial value-added and its significant factors of real capital stock, labour force, actual exports, rate of import tariff selection, and school enrolment ratio. Endogenous growth theory has evolved into a theoretical model that has inspired empirical analyses of trade liberalization and economic growth.

Aiyedogbon and Ohwofasa (2016) studied the relationship between trade liberalization and economic development using the vector error correction model (VECM). According to the results, during the study time, the trade liberalization dummy significantly impacted Nigeria's manufacturing sector production and economic growth.

Theoretical Review: Endogenous Growth Theory

Endogenous growth implies that the long-term development of an economic system is determined by internal forces, including those governing chances to generate technological knowledge and investments in human capital, creativity, and knowledge (Howitt, 2010). This theory is more convincing and offers a thorough analytical foundation for analyzing trade policies and economic growth. For starters, liberalizing imports promotes openness to and acquisition of advanced technology from developing countries, which boosts emerging economies' manufacturing sectors and, as a result, raises exports. On the other hand, increased exports generate additional revenue for the exporting country, which can then be invested in improved manufacturing technology.

To continue, trade liberalization is intended to encourage technology transfer by enabling advanced capital goods importation. Rising export receipts and expanded foreign capital inflows also allow the country to purchase more technologically advanced capital goods, enhancing its ability to repay debts with export earnings (Dutta & Ahmed 2004). As in East Asian economies, foreign direct investment (FDI) results in the transfer of innovative technology from industrialized to developing countries (Mahmoodi, 2016). Furthermore, an open economy has the potential for higher economic development because positive spillover effects from technological developments in industrial economies are expected to result in more significant manufacturing economies of scale (Silajdzic & Mehic 2018).

The endogenous theory is used because it refers to the fact that changes in efficiency or output factors are determined by technological innovation rather than increases in capital spending or labour wages. Trade liberalization has resulted in the free exchange of labour, capital, and technologies, which would increase growth, productivity, and the manufacturing sector's performance.

Endogenous growth theory and Industrial sector output model definition

The relationship model specification between manufacturing sector productivity and trade liberalization further aligns with endogenous growth theory expectations that increased technological transition in liberalized markets contributes to improved production methods and innovative innovations, resulting in developing new goods and more developed communities. As a result, the functional performance specification for the industrial sector is as follows:

According to the theory, manufacturing value-added (MVA), assessed by the efficiency of the manufacturing sector, capital investment (measured by gross capital investment (GCI) and foreign direct

investment (FDI), and trade liberalization (Opn) that lead to technology transfer (measured by openness) explain manufacturing value-added. As a result, the output model specification is specified as.

$$MVA = f(GCI, FDI, Opn)\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots \quad (1)$$

By time series definition, the methodological model for this analysis is as follows:

$$MVA = \alpha_1 + \alpha_2\, GCI_t + \alpha_3\, FDI_t + \alpha_4\, Opn_t + \varepsilon_t \ldots\ldots\ldots \quad (2)$$

Thus, the log specification is

The aggregate output feature for Nigeria is calculated after adding the trade liberalization proxies, and log specification as

$$lnMVA = \alpha_1 + \alpha_2\, lnGCI_t + \alpha_3\, lnFDI_t + \alpha_4\, lnOpn_t + \varepsilon_t \ldots\ldots\ldots \quad (3)$$

Specifications for the model in line with ARDL

In this study, the analytical paradigm was the Auto-Regressive Distributed Lag (ARDL). The technique employs the Ordinary Least Square calculation to evaluate the long and short values of the model's variables. The model was chosen because it helps researchers to examine whether the connection between trade liberalization and economic growth, human development, and manufacturing sector output persists in the short run or over time. The ARDL is often used because it encourages scientists to use scientific techniques to calculate the economic equation from an over-parameterized formula. The model can be used only when the variables are stationarized at the point and first deviation.

ARDL Model specification

Unrestricted ARDL form for Manufacturing Sector Output

The following is the blueprint for the manufacturing production.

$$\Delta lnMVAt = \beta1 + \beta2t + \sum_{i=1}^{p-1}\beta3i\Delta ln\ MVAt\text{-}1 + \sum_{i=1}^{p-1}\beta4i\Delta ln\ GCIt\text{-}1 + \sum_{i=1}^{p-1}\beta5i\Delta ln\ FDIt\text{-}1 + \sum_{i=1}^{p-1}\beta6i\Delta ln\ OPnt\text{-}1$$
$$+\beta7ln\ GCIt + \beta8lnFDIt + +\varepsilon_t \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots \quad (4)$$

β3 to β6 are short-run parameter estimates in equation 3.11, while β7 to β8 are long-run coefficients. The variance of I from 1 to n is seen by summation. is the operator for making a difference. MVA stands for manufacturing value-added, GCI stands for gross capital investment, FDI stands for foreign direct investment, Opn stands for openness to markets. The model is in a double-log specification, and the variable coefficients reflect elasticity. In addition to the independent variables in the equation, other considerations are responsible for Nigeria's manufacturing sector output. As a result, β1 is likely to be optimistic. More capital stock raises the country's productive potential, which could result in economic development. As a result, a positive coefficient for gross capital expenditure is predicted. Foreign direct investment (FDI) is a supplement to cash flows into a nation invested in productive ventures, resulting in economic development. As a result, there is a sound effect. Imports and exports are also affected by economic openness. Imports create competition for domestically manufactured products, while exports provide incremental revenue to the exporting government. Imports may also be natural products for the automotive industry. As a result, trade openness has an effect based on the interaction between exports and imports. As a result, the impact of openness on economic development in Nigeria may be positive or negative.

Estimation technique

The ARDL model was selected to examine whether the relationship between trade liberalization and manufacturing sector output persists in the short run or over time. The Augmented Dickey-Fuller Test was used to determine the stationarity of the variables. The Bounds-test statistic was used to determine if they had a short-run or long-run partnership. As a consequence, diagnostic tests are used to evaluate the goodness of fit of the model. In the diagnostic tests, serial similarity, mechanical structure definition, normality, and homoscedasticity were all checked. Diagnostic tests are often used to determine the model's stability. Brown et al. (1975) determined the model's strength using cumulative sum (CUSUM) and cumulative sum of squares (CUSUMSQ) estimates. These figures are updated daily and measured against breakpoints. Suppose the CUSUM and CUSUMSQ plots exceed the critical limits of a 5% significance stage. In that case, the null hypothesis for all variables in the regression is currently constant, and it can't be discarded.

The Unit Root Test

The unit root test assesses stationarity in macroeconomic data since it is often non-stationary and highly reliant on assumptions. To use co-integration, the variables in the model must be stationary. The Augmented Dickey-Fuller Test (ADF) is used to screen for stationarity. The decision rule is that stationarity is maintained if the ADF tests are more significant than the critical values. If the variables are not stationary at limits, they may be first and second differenced.

The test equation is given as $g_t = \alpha + \gamma_{t-1} + \sum_{i=1}^{n}\delta_i X_t + \beta d_t + \varepsilon_t\ldots$ (5)

ε_t is believed to be pure white noise. Until ε_t is serially uncorrelated and an unbiased calculation can be achieved, lagged differences are used. The following hypotheses are put to the test:

H0: γ=0 (There is a unit root in details.)
H1: γ<0 (There is a unit root in details.)
Bounds Test.
The ARDL test equation is given as

$$\Delta Y_t = \delta_{oi} + \sum_{i=1}^{k} \alpha \Delta X_{t-1} + \sum_{i=1}^{k} \alpha \Delta Y_{t-1} + \delta_1 X_{t-1} + \delta_2 Y_{t-1} + v_t \ldots \ldots \quad (6)$$

Where k is the maximum lag of the chosen ARDL model, the bounds test for co-integration is used to test the null hypothesis that the coefficients of the lagged variables (δ1 and δ2 in the above specification) are not statistically distinct from zero using the F – statistic; that is, no long-run association exists.

Table 1 Factor definition and calculation

Variable symbol	Variable type	Factor definition	calculation	Apriori
MVA	Dependent	Manufacturing value added	Continuous	
Opn	Independent variable as a measure of trade liberalization	Openness measured as the ratio of the sum of imports and exports to GDP	Percentage value	An increase in openness is expected to have an ambiguous effect on output and manufacturing output but a positive impact on human capital.
GCI	Independent variable as a measure of Investment in Capital stock	Gross capital formation measured in constant 2010 USD	Percentage value	Increase in Gross capital formation expected to have a positive effect on output, human capital, and manufacturing output
FDI	Independent variable as a measure of foreign direct investment	Foreign direct investment net inflows	Percentage value	Increase in foreign direct investment net inflows expected to have a positive effect on output, human capital, and manufacturing output

Source of Data

The data for this article came from the Global Bank's Development Indicators (2019), the Central Bank of Nigeria's Annual Statistical Bulletin (2019), and the National Bureau of Statistics (2019). All the variables were secondary data and were collected from 1986 to 2019.

Presentation of Results
Descriptive Analysis of variables
The outcomes of the descriptive statistics for the parameters used as seen in Table 2.

Table 2: Descriptive Statistics of variables

Variables	Mean	Minimum	Maximum	Standard Deviation
Real Foreign Direct Investment (in millions $)	2,940	193	8,840	2,680
Gross Capital Investment (in millions $)	54400	37700	70800	8750
Real Manufacturing Value-Added (in millions $)	26,700	19,300	44,500	8,110
Trade Openness (in %)	35.07215	9.135846	53.27796	-0.382897

Source: Author's calculation based on E-views 10

Over the time frame studied, the total amount of Real Foreign Direct Investment was $2,940 million, with a minimum value of $193 million. Nigeria received the most significant amount of FDI during the study time, totalling $8,840 million. The standard deviation for FDI is around $2,680, which is close to the mean, implying that the average values are a factual representation of FDI values over the study period. Gross Capital Investment averaged $54,400 million between 1986 and 2018, with a low of $37700 million and a maximum of $70800 million.

The cumulative volume of Real Manufacturing Value-Added between 1986 and 2018 was $26700 million, with both a minimum of $19300 million and a maximum of $44500 million. The average level of trade openness is 35.07 percent, with a low of 9.12 percent and 53.28 percent. Nigeria's maximum degree of trade openness falls short of the global average of 92.7 percent for 167 countries (The Global Economic, 2020). According to the mean and standard deviation in Table 2, the coefficient of variation of the overall mean from sample values is minimal. The difference between the values indicates that the final data collection's average figures and deals for the correlation coefficients are closely interpreted.

Unit Root Test
The unit root test was used to determine if the parameters were integrated at level or the first variance using Augmented Dickey-Fuller (ADF) statistics. The results of the unit root test on the variables as seen in Table 4.2.

Table 3:Test for stationarity

LEVEL					FIRST DIFFERENCE			
Series	ADF	CV @ 5%	Lag	Remark	ADF	CV@5%	Lag	Remark
LFDI	-2.39	-2.96	0	NS	-8.59	-2.96	1	S
LGCI	-2.04	-2.96	0	NS	-9.08	-2.96	1	S
LMVA	-0.31	-2.96	0	NS	-4.41	-2.96	1	S
OPN	-3.40	-2.96	0	S	-7.11	-2.96	1	S

Source: Author's calculation based on E-views 10

Notice that NS stands for "Not Significant," S for "Significant," CV for "Critical Value," and ADF for "Augmented Dickey-Fuller Statistic."
Except for OPN (Trade openness), the variables in Table 3 are stagnant at all stages. At the first discrepancy, though, it becomes stationary.
Bounds Test
The bounds test is achieved to determine whether or not the factors in the calculations have a long-term relationship.Tables 4 demonstrates the effects of the Bounds checks of the study's models.

Table 4 Log of Manufacturing Value-Added Bounds Test

F-Bounds Test		Null Hypothesis: No levels relationship			
Test Statistic	Value	Signif.	I(0)		I(1)
			Asymptotic: n=1000		
F-statistic	4.012013	10%	1.99		2.94
K	6	5%	2.27		3.28
		2.5%	2.55		3.61
		1%	2.88		3.99

The F-statistic is greater than the upper limit of 5%, indicating that the model has a long-run relationship.
Estimates from the ARDL model for the impact of trade liberalization on Manufacturing Value-Added
The ARDL model forecasts the short and long-run impact of trade liberalization on manufacturing value-added, as shown in Table 5. Since the bounds test showed a long-run relation, estimates for the short and long runs are addressed to allow for a more in-depth examination of the results.

Table 5 ARDL estimates for the effect of trade liberalization on Manufacturing Value-Added

Short-run estimates		
Variables	Coefficient	P-Value
D(LMVA(-1))	-2.714305* (1.083605)	0.0664
D(LMVA(-2))	-1.170626* (0.518214)	0.0868
D(LGCI)	-0.480137 (0.416691)	0.3134
D(LGCI(-1))	0.844678* (0.363515)	0.0808
D(LFDI)	0.175396** (0.060937)	0.0451
D(LFDI(-1))	0.065574 (0.051032)	0.2682
D(OPN)	0.017450* (0.007514)	0.0809
D(OPN(-1))	-0.010046* (0.003900)	0.0616
D(OPN(-2))	-0.009926* (0.004196)	0.0772
Long-run estimates		
LGCI	0.603933** (0.210079)	0.0452
LFDI	-0.052273 (0.035730)	0.2173
OPN	-0.022769***	0.0042

	(0.003867)	
Diagnostics		
Normality (Jarque-Bera) H0: Normal Serial dependence	0.190417	0.909183
Breusch-Godfrey serial correlation LM Test H0: No serial correlation.	F stat: 1.169893 Prob F (2,15)	0.3372
Heteroskedasticity test; ARCH H0: Error term is homoscedastic	F stat: 0.603674 Prob F (2,26)	0.5543
Linearity test (Ramsey RESET-test) H0: Model is linear	F stat: 1.634447 Prob F (1,16)	0.2193

Source: Author's calculation based on E-views 10
Elasticity values are listed with common errors in brackets. *** Significant at the 1%, ** Relevant at the 5%, and * Relevant at the 10% stage.

Estimates for Industrial Production Index in Nigeria are seen in Table 5. The Jarque-Bera figure depicts the normality of the expected residuals based on the diagnostic test results. The ARCH test demonstrates that the residuals are homoscedastic, although the Breusch–Godfrey LM test statistic rejects the null hypothesis for the serial association. The RESET study also indicates that there are no concept misspecifications.

Through time, there is a positive relationship between real Gross Capital Investment and manufacturing value-added. Present Gross Capital Investment has a negative influence on Manufacturing Value Added in the short term, but it has a favourable impact in the long run. According to the results, a 100% rise in Gross Capital Investment will decrease Manufacturing Value Added by 48% in the short term while increasing Manufacturing Value Added by 61% in the long run. This is because it takes time for the effects of capital investment to be felt despite penetrating the product market. However, positive long-term outcomes are expected because the firm has a significant market share. Only when Foreign Direct Investment has a noticeable impact on Manufacturing Value Added is the relationship among Foreign Direct Investment, and Manufacturing Value Added statistically significant. This is not unexpected considering that FDI helps to boost the economy's economic capacity. A 100% boost in FDI will result in a 17 percent increase in Manufacturing Value-Added in the near term. This effect fades with time, most definitely due to capital flight and benefit repatriation, as well as the presence of most multinational corporations in the domestic economy.

Trade Openness (Opn) has a significant short and long-term relationship with Manufacturing Value Added. In the short run, a 100% boost in exchange openness increases Manufacturing Value Added by 1%, but it decreases by 2% in the long run. According to the results, while trade openness would raise manufacturing value-added in the short run by enabling the import of raw materials for industrial development, the region would suffer more in the long run as foreign substitutes compete against locally manufactured products, hurting local manufacturers.

Figure 1. CUSUM TEST for MVA
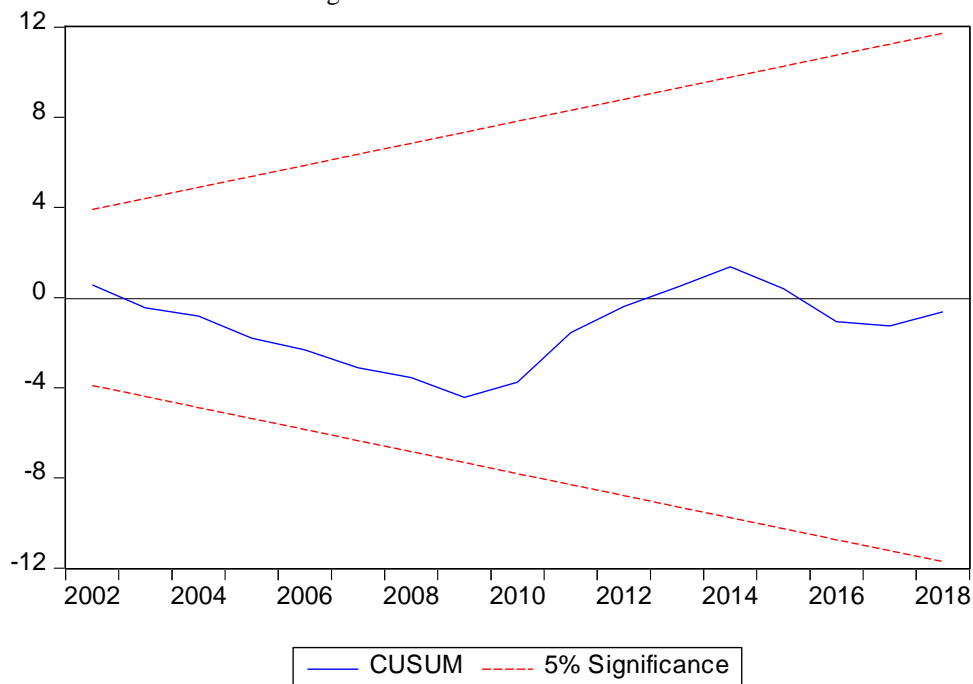
The blue line in Figure 1 sits inside the red lines at a 5% degree of importance. The residual variation is constant as a result of this. Consequently,The research findings are based on a consistent paradigm, and the research timeframe is not influenced by any policy changes that may impair the result's reliability.

Figure 2 CUSUM OF SQUARES TEST for MVA
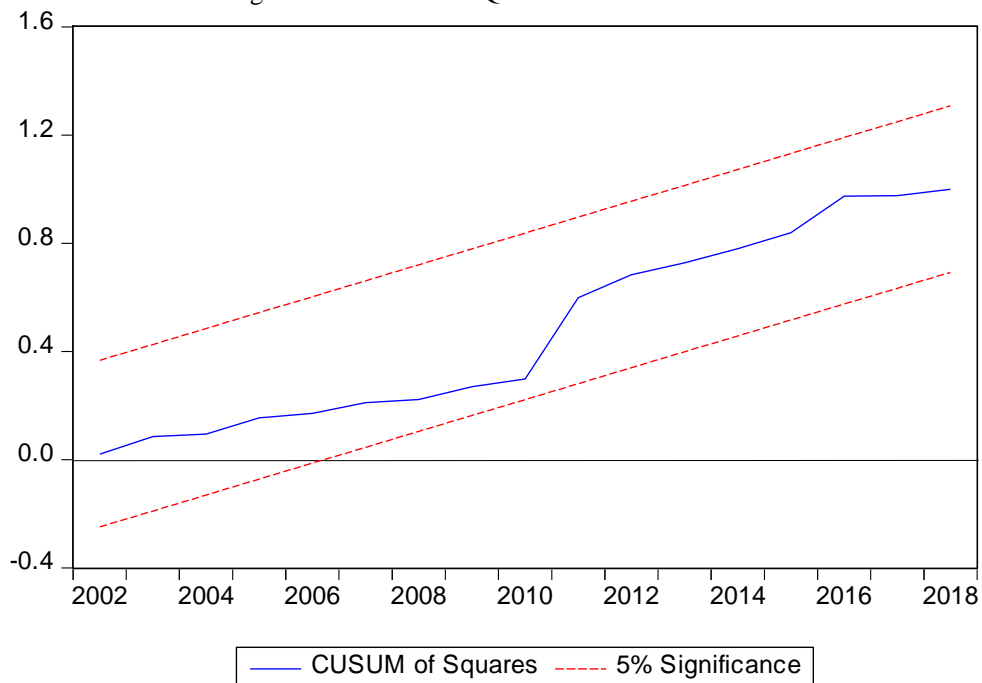
To further assess the model's stability, the CUSUM of the square test is presented. The blue line in Figure 2 sits inside the red lines at a 5% degree of importance. This means the model is in a good place. Consequently,The research findings are based on a consistent paradigm, and the research timeframe is not influenced by any policy changes that may impair the result's reliability.

III. Conclusion

This study analyzed the impact of trade liberalization on Nigeria's economic growth and progress. Foreign direct investment, total capital investment, trade openness, and production value-added were all included in the report, each in their way, based on the specific goals of the research. The dependent variable is manufacturing value-added. From 1986 to 2019, the effect of trade liberalization on manufacturing value-added were analyzed using data from the World Development Indicators (WDI) and the Central Bank of Nigeria statistical bulletin. The Autoregressive Distributive Lag (ARDL) technique was used in the study to decide the short and long-run relationships between variables and the scientific determination of the economic equation from an over parameterized specification. Other control variables in the models included foreign direct investment and total capital accumulation.To understand the results, descriptive statistics were frequently used. The insightful estimates show the success of real foreign direct investment, gross capital investment, real industrial value-added, and economic openness in Nigeria over the years under consideration (1986-2019). This was revealed using the mean, median, max, and standard deviation. Diagnostic measures including the Normality test, serial association test, Linearity test, homoscedasticity, and heteroskedasticity test, and the CUSUM test and CUSUM of the square test boost the validity value various statistics implications.

The study generated a mixed bag of results. Trade liberalization, as measured by trade openness, has a positive short-run influence on manufacturing value-added but a negative long-run impact, with a rise in trade openness resulting in a 1% increase in the short run but a 2% decrease in the long run. Based on the outcomes for the long-run projections shown by the bound test to be the true partnership, the findings for the period included in the analysis indicate that opening up the Nigerian economy to trade is detrimental to manufacturing value-added. Nigeria's manufacturing sector contributes too little to the added value of goods and services exported to other countries. Primary products account for the vast majority of Nigerian exports, with crude oil and agricultural products accounting for the lion's share of the country's exports. The bulk of raw materials for manufacturing industries are supplied from other countries at a substantial pace. Nigerian sectors are unwilling to compete with other countries that have achieved large economies of scale and commendable innovations, to the extent that, even though Nigeria decides to sell produced goods, there would be little or little market for them because other countries' outputs are comparatively cheaper.

The study's results showed a substantial relationship between Real Gross Capital Investment and Manufacturing Value Added in the short run, but a positive effect in the long run, with an increase in Gross Capital Investment reducing Manufacturing Value Added by 48% in the short run but raising it by 61% in the long run. This is because infrastructure investments usually take longer to pay off due to consistent customer adoption, which naturally contributes to increased market share. Foreign Direct Investment has a short-term positive effect on Manufacturing Value Added, with a rise in Foreign Direct Investment triggering a 17 percent increase in Manufacturing Value Added. Nonetheless, it has a negative long-term effect. This is due to large outflows of capital or financial assets by most multinational corporations due to the country's political and economic instability.

IV. Recommendations

Based on the current policy of opening up trade between countries, especially in the African zone, as suggested by the African Continental Free Trade Agreement (AfCFTA), the following recommendations are critical in maximizing the benefits of trade openness while also protecting the Nigerian economy from harmful trade effects. The country must be inward-looking by using its own locally sourced raw materials for its production. This calls for massive spending on research and development by the government and the private sector in finding these resources, the products that can be used to produce, and the locally developed technology for the production process that will give the country a comparative advantage in the international market.

Therefore, the Nigerian government must strive hard to diversify the economy. Real exports are not solely made up of low-value-added primary goods whose rates are not even set by the exporting nation. If this goal is met, there will be a rise in GDP per capita and economic development and other related variables.The Nigerian government must ensure that foreign direct investment is channelled towards the Industrial sectors. They are the ones that drive economic growth and lead to economic development.

References

[1]. Adamu, F. & Dogan, E. (2016). Trade openness and industrial growth: Evidence from Nigeria. *Panoeconomicus;* 64(3):297-314.
[2]. Adofu, I. & Okwanya, I. (2017). Linkages between trade openness, productivity and industrialization in Nigeria: A co-integration test. *Research in World Economy;* 8(2):1-10.
[3]. African Development Bank. (2014). An Infrastructure action plan for Nigeria: Closing the Infrastructure gap and accelerating economic transformation. Summary report, African Development Bank Group, The Knowledge & Information Center (KVRC), Tunis, Belvedere, Tunisia.
[4]. African Development Bank. (2020). Nigeria Economic Outlook.www.afdb.org
[5]. Aftab, M. R., Ilyas, M., Nawaz, A. & Safdar, M. (2016).Trade Liberalization, Human Capital and Industrial Performance in Pakistan.*Pakistan Journal of Social Sciences;* 36(1):563-572.

[6].   Aiyedogbon, J.O. & Ohwofasa, B.O. (2016). Effect of Trade Liberalization on Economic Development in Nigeria, 1980-2013. *International Journal of Developing and Emerging Economies;* 4(2):15-27.

[7].   Anochie, U.C. & Duru, E.E. (2015). Stabilization Measures and Management of the Economy: The Case of Nigeria.*International Journal of Development and Economic Sustainability*; 3(3):1-12.

[8].   Brown, R.L., Durbin, J., & Evans, J.M. (1975), Techniques for Testing the Constancy of Regression Relations Over Time,*Journal of the Royal Statistical Society*, Series B, 37, 149-163.

[9].   Central Bank of Nigeria (2019).Annual Statistical Bulletin.www.cbn.gov.ng

[10]. Chaudhry, I.S., Malik, A. & Muhammad, Z.F. (2010).Exploring the causality relationship between trade liberalizations, human capital, and economic growth.*Journal of Economics and International Finance;* 2(8):175-182.

[11]. Chaudhuri S.,Yabuuchi S. & Mukhopadhaya, U. (2006).The inflow of Foreign Capital and Trade Liberalization in a Model with an Informal Sector and Urban Unemployment. Pacific Economic Review 11(1): 87-103.

[12]. Dutta, D. & Ahmed, N. (2004). Trade Liberalization and Industrial Growth in Pakistan: A Cointegration Analysis. *Applied Economics;* 36(13):1421-1429.

[13]. Edeme, R.K. & Karimo, T.M. (2014).Economic Liberalization and Industrial Sector Performance in Nigeria.A Marginal Impact Analysis.*International Journal of Development and Emerging Economies*; 2(4):43-59.

[14]. Eea, C.Y. (2015). Export-Led Growth Hypothesis: Empirical Evidence from Selected Sub-Saharan African Countries. *Procedia Economics and Finance;* 35:232-240.

[15]. Evans, P. (2002). Collective Capabilities, Culture and AmartogaSen's Development as Freedom.*Studies in Comparative International Development;* 37(2):54-60.

[16]. Ghani G.M. (2009). The impact of Trade Liberalization on developing countries' trade balances with industrial and developing countries: An econometric study. *International Journal of Business and Society;* 10(2):53-64.

[17]. Howitt, P. (2010). Economic Growth. Springer Link; Pp 1-276.

[18]. Hye, Q.M.A., Wizarat, S. & Lau, W.-Y. (2016). The Impact of Trade Openness on Economic Growth in China: An Empirical Analysis. *The Journal of Asian Finance, Economics, and Business;* 3(3): 27-37.

[19]. Ilyas, Ahmad, Afzal & Mahmood. (2010). Determinants of Manufacturing Value Added In Pakistan: An Application of Bounds Testing Approach to Cointegration. *Pakistan Economic and Social Review;* 48(2):209-223.

[20]. IMF. (2020). Gross Domestic Product: An Economy's All. www.imf.org/external/pubs/ft/andd/basics/gdp.htm

[21]. Kalaitzi, A.S. & Cleeve, E. (2018). Export-led growth in the UAE: Multivariate causality between primary exports, manufactured exports, and economic development. *Eurasian Business Review*; 8:341-365.

[22]. Kalu U.D. & Agodi J.E. (2015). Does trade openness make sense? Investigation of Nigeria Trade Policy.*International Journal of Academic Research in Economics and Management Sciences;* 4(1):6-21.

[23]. Keho, Y. (2017). The Impact of Trade Openness on Economic Growth: The case of Cote d'Ivoire. *Cogent Economics and Finance;*5:1-14.

[24]. Khalid, M.A. (2016). The Impact of Trade Openness on Economic Growth in the case of Turkey. *Research Journal of Finance and Accounting*; 7(10):51-61.

[25]. Khan, R.E.A., Hye, Q.M & Macmillan, D. (2014). Foreign Direct Investment and Liberalization Policies in Pakistan: An Empirical Analysis. *Cogent Economics & Finance*; 2(1):1-13.

[26]. Lai, C.W. (2010). Trade Liberalization and Human Capital Formation in Developing Countries.Hong Kong Baptist University.

[27]. Lawal, A.I., Nwanji, T.I., Asaleye, A. & Ahmed, V. (2016). Economic Growth, Financial Development and Trade Openness in Nigeria: An application of the ARDL Bound Testing Approach. *Cogent Economics and Finance;* 4:1-15.

[28]. Mahmoodi. (2016). Foreign direct investment, exports, and economic growth: evidence from two panels of developing countries. *Economic Research Journal;* 29(1):938-949.

[29]. Manni U.H., Afzal M.N. (2012). Effect of Trade Liberalization on Economic Growth of Developing Countries: A case of Bangladesh Economy. *Journal of Business, Economics, and Finance;* 1(2):37-44

[30]. Musila J. W. & Yiheyis Z. (2015). The impact of trade openness on growth: The case of Kenya. *Journal of Policy Modeling; 37*, 342–354.

[31]. Mwaba, A. (2000). Trade liberalization and growth: policy options for African countries in a global economy. *Economic Research Papers;* 60. African Development Bank.

[32]. National Bureau of Statistics.(2019). www.nigerianstat.gov.ng.

[33]. Nteegah, A., Nelson, M. & Owede, M. (2017).Trade Liberalization and Economic Growth in Nigeria.*International Journal of Social Science and Economics Invention;* Pp 474-486.

[34]. Odularu, G. (2020). Strategic policy options for bracing Nigeria for the future of trade. https://doi.org/10.1007/978-3-030-34552-5.

[35]. Okon, J.U. & Ekpeno, L.E. (2013).Trade openness and manufacturing sector performance in Nigeria.*The Journal of Applied Economic Research;* 7(2):147-169.

[36]. Okonkwo, I.K., Echekoba, F. N. & Adigwe, P. K. (2015). Trade Liberalization and Economic Growth: The Nigerian Experience (1971-2012). *Journal of Poverty, Investment and Development;* 14:51-72.

[37]. Olaifa, F.G., Subair, K. & Biala, M.I. (2013).Trade Liberalization and Economic Growth in Nigeria; A Cointegration Analysis.*Journal of Business, Economics, and Finance;* 2(3):43-52.

[38]. Paudel, R. (2014). Trade Liberalization and Economic Growth in Developing Countries: Does Stage of Development Matter?.*SSRN Electronic Journal;* 14-13.

[39]. Polat, A., Shahbaz, M., Rehman, I.U. & Satti, S.L. (2015).Revisiting linkages between financial development, trade openness and economic growth in South Africa: fresh evidence from combined co-integration test.*Quality & Quantity*; 49(2):785-803.

[40]. Robbins, D. (2003). The Impact of Trade Liberalization upon Inequality in Developing Countries: A Review of Theory and Evidence. ILO *Working Paper*, n.13, International Labour Organization, Geneva.

[41]. Santos-Paulino A. U. & Thirlwall A. P. (2004). The Impact of trade liberalization on exports, imports and the balance of payments of developing countries. *Economic Journal; 114*(2):50-72.

[42]. Shuaibu, M. (2015). Does Trade Tariff Liberalization Matter for Intra-ECOWAS Trade?.*International Journal of Business and Economic Sciences Applied Research*; 8(1):83-112.

[43]. Silajdzic, S. & Mehic, E. (2018). Trade Openness and Economic Growth: Empirical Evidence from Transition Economies. http://dx.doi.org/10.5772/intechopen.75812.

[44]. Sultanuzzaman, R. (2019). Effects of export and technology on economic growth: Selected emerging Asian economies. *Journal of Economic Research;* 32(1):2515-2531.

[45]. Thirlwall, A. P. (2000). Trade, Trade Liberalization and Economic Growth: Theory and Evidence. *African Development Bank. Economic Research Paper,* No 63.

[46]. Ulaşan, B. (2015). Trade openness and economic growth: Panel evidence. *Applied Economics Letters; 22*:163–167.
[47]. Umoru, D. (2013). Trade Liberalization and Industrial Growth in Nigeria. Journal of Poverty, Investment and Development, 1: 148-156.
[48]. USAID.(2020). Economic Growth and Trade.www.usaid.gov
[49]. Utkulu, U. & Ozdemir D. (2005). Does Trade Liberalization cause Long-run Economic Growth in Turkey? DOI: 10.1007/s10644-005-8080-8.
[50]. Verter, N. (2017). International Trade: The position of Africa in global merchandise trade. DOI:10.5772/intechopen. 68897.
[51]. Vlastou I. (2010). Forcing Africa to open up to trade: Is it worth it? *The Journal of Developing Areas;* 44:25–39.
[52]. World Bank.(2013). World Development Indicators 2013.World View. www.databank.worldbank.org
[53]. World Bank.(2019). World Development Indicators 2019. www.databank.worldbank.org
[54]. World Bank.(2020). World Economic Outlook.www.worldbank.org
[55]. WTO .(2018). Trade and Poverty Reduction: New evidence of impact in developing countries.World Trade Organization Report.www.wto.org
[56]. Yakubu, M.M. & Akanegbu, B.N. (2018). Trade Openness and Economic Growth: Evidence from Nigeria. *European Journal of Business, Economics, and Accountancy;* 6(4):30-44.
[57]. Yaya K. (2017). The impact of trade openness on economic growth: The case of Cote d'Ivoire. *Taylor and Francis Abingdon;* 5(1):1-14.