Determinants of Agricultural Export and Trade Liberalization in Nigeria

Akpan, O. D.[1*], *Anwana, E.*[2] *and Etim, S.M.*[1]

[1]*Department of Agricultural Economics and Extension, University of Uyo, Uyo, Akwa, Ibom State, Nigeria*
[2]*Department of Agricultural Economics, University of Port Harcourt, Rivers State, Nigeria*

KEYWORDS

Agricultural
Export,
Nigeria
Performance,
Trade Liberalization,

*CORRESPONDING AUTHOR

drodakpan@uniuyo.edu.ng

ABSTRACT

The study estimated short and long run relationships between trade liberalization and agricultural export performance in Nigeria from 1999-2020. Time series analytical were used. Result revealed that, two variables; agricultural import (AIMP) and agricultural degree of openness (ADO) were stationary at levels while others; (ACF, AEXP, EXR and NAP) became stationary at first difference. The short-run and long-run agricultural GDP performance with respect to the macro-economic variables were analysed using the techniques of co-integration and error correction models. Result revealed that,at the long run, coefficients of agricultural export (AEX), agricultural degree of openness (ADO), national agricultural productivity (NAP) and agricultural capital formation (ACF) were positively significant at 1 and 10 percent levels respectively. Agricultural import (AIMP) and exchange rate (EXR) were negative but significant at 1 and 5% respectively. At the short-run, result shows a negative but significant relationship with respect to agricultural capital formation (ACF), agricultural export (AEXP) and exchange rate (EXR. Result revealed negative relationship between national agricultural productivity (NAP), exchange rate (EXR), agricultural import (AIMP), agricultural export (AEXP) and agricultural capital formation (ACF) at one year lagged. With R^2-adjusted of 0.9273 and ECM of -0.6372 implies that, 92.73% variations in Agricultural GDP performance was affected by the independent variables and 63.72 of disequilibrium in the current period may be corrected for in the long-run. The study recommended that, appropriate short- and long-term economic policy instruments should be enforced to stimulate investment and production opportunities in the agricultural sector so as to increase agricultural GDP performance.

INTRODUCTION

Agricultural export trade has received much international attention due to fragile nature of the sector, volatile nature of world prices for agricultural commodities, and to trade distortions induced by major players in various agricultural commodity markets (CBN Annual report, 2016). Exportation is required by any economy to enhance revenue and usher in economic growth and development (World Trade Organization, WTO 2018). Agricultural exports can accelerate a balanced growth in all countries involved if only issues (trade restrictions and distortions) related to the world trade in primary agricultural trade are addressed or drastically reduced. . Liberalization as a process in multilateral trading system has been an issue of debate among researchers and scholars. According to World Bank (2018), liberalization is defined as actions undertaken by states to make trade regimes more neutral and closer to a trade system which is devoid of government intervention. On the one hand, proponents of liberalization have argued that opening up of markets leads to increased trade and competition; thus, making domestic firms to be more productive. On the other hand, opponents of liberalization argue that openness of trade can be detrimental to poor countries as a result of loss of jobs and trade imbalances among other factors (Pennycooke, 2011). Echekoba, Okonkwo and Adigwe, (2015), identified some factors that constitute major problems of trade liberalization to include weak institutions and fiscal and monetary policy indiscipline. Supported by high global commodity prices, exports of agricultural products continued to grow within the period and peaked at around US$7,630 million in 2012, after which it declined to around US$1,402 million in 2015 and US$680 million in 2016 (World Trade Organization, 2017). The export component of this trade stood at N2, 907.21 billion, representing 29.79% of the total trade while import was valued at N6, 850 billion representing 70.21%. The higher level of imports over exports resulted in a trade deficit (in goods) of -N3,943.45 billion. The value of Crude oil export stood at N1,929.83 billion representing 66.38% of the total export recorded in quarter one, 2021, while non-crude oil

export accounted for 33.62% of the total export. This development prompted government to initiate several trade agreements, policies/projects and programmes to enhance growth of agricultural output in Nigeria. These policies, which were the theoretical pivots of Nigeria's national development plans (NDPs), show rather disappointing scorecards when measured in relation to the performance of key sectors of the economy including agriculture. In view of the above assertions, the focus of the Nigerian government was redirected toward diversification thereby lifting off restriction on trade export/import of agricultural products (known as trade liberalization of agriculture). Trade liberalization is expected to have an impact on agricultural sector and its export sub-sector through various transmission channels: mainly through exchange rate, capital formation (machinery, equipment, buildings, fertilizers, pesticides, animal feed, drainage and irrigation water and other structures), and prices etc.

Despite the fact that different studies have been conducted in relation to liberalization and agriculture in general, the question of the impact of liberalization of agricultural export has not been sufficiently investigated. Therefore, the study focused on trade liberalization with respect to Nigeria's agricultural sector. The broad objective of this study was to investigate the determinants of agricultural export and trade liberalization in Nigeria. The specific objectives were estimate the short and long run dynamics between agricultural growth and trade liberalization and estimate the determinants of agricultural export in a trade liberalization in Nigeria.

Review Literature

Todaro and Bakare (2011) opined that trade liberalization is the removal of obstacles to free trade (obstacles such as quotas, nominal and effective rates protection and exchange controls. Trade liberalization involves the abolishing of non-tariff barriers to imports, the rationalization and restriction of tariffs, the institution of market determined exchange rate and removal of fiscal disincentives and regulatory deterrents to exports .–Nirodha, Jaime and Jeff (2013) investigated the effect of trade liberalization on agricultural production growth in Sri lanka from 1960 to 2010 and found that, trade liberalization enhances agricultural sector growth and eventually lead to improved agricultural productivity in Sri Lanka. They added that, trade openness, investment, interest rate, Free Trade Agreements are significant factors that are positively related to agricultural sector growth.

Olowe and Ibraheem (2015) investigated the impact of trade liberalization on the growth of the Nigerian economy from 1970-2012 and found that, trade openness, dummy variable for nature of regime of administration in Nigeria at a particular period, exchange rate and dummy variable for structural adjustment program (SAP) periods, trend of trade openness in Nigeria and economic growth has been positive but relatively unstable. John and Bright (2016) explored the relationship between trade liberalization and economic growth in Nigeria from 1980-2013 as Vector Error Correction Model (VECM) was used and found that, openness of the foreign sector and trade liberalization dummy have positive significant impact on both industrial performance and economic growth in Nigeria. Aiyedogbon and Ohwofasa, (2017) examined the impact of trade liberalization on economic growth in Nigeria with vector error correction model and verified the result with Johasen co-integration approach and stationarity tests and found that, at the long run, terms of trade in Nigeria was unfavourable to industrial performance and growth Felix, Kolawole and Musa (2013) conducted a study on trade liberalization and economic growth in Nigeria using co-integration and found that, trade liberalization supports economic growth in Nigeria with an evidence of a long run relationship.

Dutta and Ahmed (2000) used the framework of an endogenous growth model and analyzed the relationship between trade policies and industrial growth in Pakistan. Results showed that, there exists a unique long-run relationship among the aggregate growth function of industrial value added and its major determinants of the real capital stock, the labour force, real exports, and import tariff collection rate. Akanni *et al*. (2008) examined the effect of trade liberalization on agricultural exports in Nigeria, and observed that the policy had tremendous effects on the level and value of exports in agricultural sub-sector.

Theoretical Framework

This study is based on the Heckscher – Ohlin Trade Theory. The Heckscher – Ohlin Theory (H-O model) was developed by Eli Heckscher (1919), and Bertil Ohlin (1933) based on the Ricardian comparative advantage. The model is also called 'factor endowment theory' because it stressed that the pattern of production and trade across national borders depended on the domestic factor endowments. Foreign trade takes place due to the differences in the comparative costs of factors of production that arises, due to the abundant or insufficient resources (labour and capital) within countries. Therefore, countries should produce and export products that they have less expensive factor(s) of production and import goods or inputs that are scarce locally (Blaug, 1992).

METHODOLOGY

This study was conducted in Nigeria. Nigeria is one of the countries located in the sub-Sharan Africa and has a population of over 200 million people with a land area of 923,768km^2 (Abubakar and Aina, 2019) It has abundant natural resources of land, mineral deposits, favorable climate for agriculture and wide expand of savannah and forest areas, rivers and aquatic habitats rich with wide varieties of plant and animal species. Nigeria's agro-climatic conditions favours and encourages the production and export of cash and food crops such as rubber, palm oil, groundnut, The location of Nigeria by the Gulf of Guinea is an added advantage to export promotion Annual data on import and export spanning the period 1999 to 2020 were collected and analysed using appropriate statistical and

analytical tools. The data were sourced from Central Bank of Nigeria, statistical book and statement of accounts as well as National Bureau of Statistic (NBS) ~~statistical~~ fact sheets and the World Bank (WB). Agricultural growth variables were used to form the agricultural growth model. The variables; real exchange rate (EXR) which is nominal rate of exchange of the Nigeria naira (N) to the US dollar ($), agricultural output growth (i.e Real Gross Domestic Product (GDP), Agricultural Export ($A_{EXP,}$ Values of Agricultural output measured in Naira), Agricultural Import (A_{IMP}, measured in Naira over time).

Estimation Techniques

A stationarity test of each variable was conducted using augmented Dickey-Fuller (Dickey and Fuller, 1979) Unit Root test (equation 2) in order to avoid spurious regression. Next, a system-wise Johansen co-integration test (Johansen, 1988; Johansen and Juselius, 1990) was used to analyze the presence of the long-run equilibrium relationship among the variables as the variables were integrated at order one 1(1). The presence of co-integration makes an error correction mechanism (ECM) model more applicable. The purpose of the ECM is to indicate the speed of adjustment from the short-run equilibrium to the long-run equilibrium state. Equation 1: stated below represents the model specification for determinants of agricultural exports and trade liberalization Nigeria

$$\boldsymbol{lnAGDP_t = \delta_0 + \delta_1 lnEXR_{T-1} + \delta_2 lnAEXP_{T-1} + \delta_3 lnAIMP_{T-1} + \delta_4 lnACF_{T-1} + \delta_5 lnNAP_{T-1} + \delta_6 lnADO_{T-1} + ECM_{T-1} + E_t} \quad \text{……..(1)}$$

Where: $\ln R_{GDPt}$ = Real Gross Domestic Product (measure in Percentage %), $\ln A_{EXPt}$ = agricultural export (values of Agricultural output; measure in Naira ₦), $\ln A_{IMPt}$ = agricultural import (value of commodity from other countries measure in Naira ₦), $\ln REXR_t$ = Rael Exchange rate (Exchange rate which represent a proxy of exchange rate prices at time t), $\ln NAP_t$= Nigerian Agricultural productivity (Contribution of Agriculture to GDP.), $\ln ADO_t$ = Agricultural Degree of openness. (Measured as ratio of Imports + Exports) to the GDP, $\ln ACF_t$ = Agricultural Capital Formation. (Measure in Naira ₦), ε_t= error term assumed to be normally and independently distributed with zero mean and constant variance, which captured all the other explanatory variables which influence Agricultural growth but were not captured in the model. With regards to the signs of the coefficient trade liberalization model, it is hypothesized that $\boldsymbol{\delta_0, \delta_1, \delta_2, \delta_3, \delta_4, \delta_5, \delta_6}$, > 0.

Auto-regressive Distributed Lag Models (ARDL)

Auto-regressive Distributed Lag Model is a model for time series data in which a regression equation is used to predict current values of a dependent variable based on both the current values of an explanatory variable and the lagged (past period) values of this explanatory variable. The starting point for a distributed lag model is an assumed structure of the form;

$$\mathbf{y_t = \beta + \beta_0 x_t + \beta_1 x_{t-1} + \beta_2 x_{t-2} + \dots \beta_n x_{t-n} + \varepsilon_t} \quad \text{……. (2)}$$

where y_t is the value at time period *t* of the dependent variable *y*, a is the intercept term to be estimated, and β_i is called the lag weight (also to be estimated) placed on the value *i* periods previously of the explanatory variables.

The Unit Root Test

The starting point of an empirical analysis of this nature usually begins with the investigation of the properties of the time series. That is, a test of whether the variables in series are stationary at level or at first difference using Augmented Dicker-Fuller. Many economic variables are non-stationary because of shocks, changes and fluctuations over time. For this reason, it is important to conduct preliminary diagnostics tests on the properties of the variables to avoid spurious results and unreliable predictions. Thus, the Augmented Dickey Fuller (ADF) test will be conducted to test for unit root.

$$\mathbf{Y_t = \beta + Y_t + \beta Y_{t-1} + \sum_{i=0}^{n} \beta 1 \Delta Y^i_{t-1}} \quad \text{……. (3)}$$

$$\mathbf{Y_t = \beta + \beta Y_{t-1} + \sum_{i=0}^{n} \beta 1 \, \Delta Y^i_{t-1}} \quad \text{……. (4)}$$

Where; Δ = first difference operator, t = the trend variable, Yt = The variable under consideration, ε_t = a white noise error term. Thus, the null hypothesis for the ADF unit root test is: H_0: = 0 (presence of unit root) and alternative hypothesis is H_1: ≠ 0 (absence of unit root)

Co-integration Test

The concept of co-integration is based on the pioneer work of Engle and Granger (1987). The notion of co- integration means movement of variables together. Many financial variables are non-stationary but tend to move together over time, implying that there exist some influences on the series that tie the two series to some long run relationship. In all, a set of variables is said to be co-integrated if a linear combination of them is stationary. Hence, the presence of co-integration between two variables will suggest the existence of a long run relationship and the absence of co-integration will suggest no long run relationship between the two variables.

As such, the reason of testing for co-integration is to verify if such a relationship exists and, if it does, how many co-integrating vectors are present in the relationship.

Results and Discussion

Short and Long Run Dynamics between Agricultural Growth and Trade Liberalization

In a bid to ascertaining the unit root properties of the series that formed the variables of the model, we commenced the analysis by carrying out the Augmented Dickey Fuller (ADF) tests to determine the stationarity properties of the variables. These properties of the variables were ascertained by comparing the calculated values of the respective variable's ADF statistics against their critical values at the 1, 5 and 10 percent levels.

Unit Root and Co-integration Tests

In Table 1, the results of the ADF showed at levels, that is 1(0) both with intercept and no-trend and intercept and trend showed the null hypothesis of no unit root cannot be rejected at the both 10 percent and 5 percent levels of significance except in the case of real gross domestic product (RGDP) and agricultural degree of openness (ADO) that were found to be integrated of the order 1(0). At first difference however, all the series became stationary. That is, they were found to be integrated of order 1(1) (both with intercept and no trend and with trend and intercept). Thus we conclude that the variables are 1(1) process.

Table 1: Augmented dickey fuller (adf) unit root tests for stationarity of the variables in the models

Variable	Levels			1st Difference			Decision
	Constant	Constant and Trend	Without Constant and Trend	Constant	Constant and Trend	Without Constant and Trend	
RGDP	-3.3276**	-3.3531*	-2.4421*	-8.7361***	-4.3399**	-8.9257***	1(0)
ACF	4.5592	-1.0503	8.1319	-2.9456*	-5.5688***	0.0189	1(1)
AEXP	0.3998	-1.6705	1.3943	-4.9864***	-5.2536***	-4.5619***	1(1)
AIMP	0.8431	-5.9990***	2.2020	-6.5221***	-6.9250***	-7.0337***	1(1)
EXR	0.9330	-2.3042	2.8542	-3.7825***	-3.8729**	-3.1807***	1(1)
NAP	-2.2037	-2.6195	1.3121	-6.2218***	-6.4658***	-5.7098***	1(1)
ADO	-3.8990***	-3.3550*	-0.4766	-6.8009**	-6.6535***	-6.9224**	1(0)

Source: Author's computation from E-Views 8.0, Note: ***, **, * denotes 1%, 5% and 10% significant levels respectively.

Table 2: Co-integration Test

			t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic			-4.682306	0.0009
Test critical values:	1% level		-3.689194	
	5% level		-2.971853	
	10% level		-2.625121	
Variable	Coefficient	Std. Error	t-Statistic	Prob.
RESID01(-1)	-0.764911	0.163362	-4.682306	0.0001
C	-0.380791	0.613193	-0.620996	0.5400

Since the variables were integrated at level, then it was concluded that variables were co-integrated, implying that there exists a short run stability among the variables. The stationarity of variables was established, the bounds test analysis to co-integration were carried out. This gave room for the determination of both long and short run relationships between trade liberalization and agricultural productivities in Nigeria. The ARDL technique was applied as a general VAR model since the unit root properties of the variables have been identified. The next step is to establish the existence of long run relationships among the variables in the model. Table 3 indicates the summary of the results for the ARDL model via the Bounds test procedure for co-integration which shows the connection between agricultural GDP and trade liberalization variables. The hypothesis that the Wald test of the significant variables is equal to zero (0) is invalidated at the 5 percent level of significance from the results. This is because the calculated F-statistics = 5.22 for the trade liberalization model is greater the upper critical bound (UCB). Based on this evidence, we reject the null hypothesis and accept the alternative at both 10 percent and 5 percent levels of significance leading us to conclude that there is a unique long-run association

between the variables; thus, the trade liberalization variables can adjudge to be long run determinants of agricultural productivity in Nigeria.

Table 3: The Bounds test

F-Bounds Test		Null Hypothesis: No levels relationship		
Test Statistic	Value	Sign.	I(0)	I(1)
			Asymptotic: n=1000	
F-statistic	5.221388	10%	2.37	3.2
K	8	5%	2.79	3.67
		2.5%	3.15	4.08
		1%	3.65	4.66
Actual Sample Size	25		Finite Sample: n=30	
		10%	2.676	3.586
		5%	3.272	4.306
		1%	4.614	5.966

Source: Author's Computation from E-Views 8.0.
Note: ** indicates co-integration at 5 percent level of significance; k is the number of repressors
I (0) critical value (or lower "bound"), I (1) critical value (or upper "bound")

Short-run Effect of Trade Liberalization on Agricultural Export Performance

To determine the short-run effects of trade liberalization variables on agricultural export performance in Nigeria from 2000 to 2020, the study estimated an over-parametrized model based on one-year lags of the determinants of agricultural export (AEXP) exchange rate (EXR), agricultural export (AEX), agricultural import (AIMP), national agricultural productivity (NAP) and agricultural capital formation (ACF). The result shows that exchange rate (EXR), agricultural export (AEXP), agricultural import (AIMP), and national agricultural productivity (NAP) were all significant at varying level of probability. See Table 4

Table 4: Short-run ARDL Estimates: Trade Liberalization Model

Variable	Coefficient	Std. Error	t-Statistic	Prob.
ln (AGDP (-1))	0.218756	0.082577	2.649097	0.0244
ln(ACF)	-2.63E-07	1.18E-07	-2.230834	0.0498
ln (ACF (-1))	2.34E-07	1.18E-07	1.978559	0.0761
ln(AEXP)	-1.052033	0.199518	-5.272860	0.0004
ln (AEXP (-1))	-0.597814	0.194255	-3.077465	0.0117
ln (AIMP)	2.58E-07	2.55E-08	10.13571	0.0000
ln (AIMP (-1))	-5.36E-08	1.94E-08	-2.758703	0.0202
ln (EXR)	-0.973853	0.100183	-9.720707	0.0000
ln (EXR (-1))	-0.401714	0.110932	-3.621255	0.0047
ln (NAP)	1.81E-07	1.51E-06	0.119834	0.9070
ln (NAP (-1))	-1.17E-05	1.54E-06	-7.623341	0.0000
ECM (-1)	-0.637222	0.063922	-9.968811	0.0000
R-squared	0.927387			
Adjusted R-squared	0.880403			
Durbin-Watson stat	2.329168			

Source: Author's computation from E-Views 7.0., Note: ***, ** and *denote significant at 1, 5 and 10 percent, respectively.

The model shows a significant negative relationship between trade liberalization and agricultural export (AEXP) performance both currently and one year after. Specifically, the study found that an increase in agricultural export by 1 percent, output performance of the sector reduces by 1.1 percent and 5.9 percent in the current and one year later respectively. The value of agricultural import (AIMP) was positively related and significant in determining agricultural export performance in the current year (*P(t)* = 0.0000, 10.14). It implies that 1% increase in agricultural import leads to 2.58% increase in agricultural export performance. However, it still becomes negative and significant after one year lag at 5% level of significant (*P(t)* = -2.7587, 0.02*)*. The value of exchange rate (EXR) was negatively related and significant in determining agricultural export performance in the current year (*P(t)* = 0.0000, 0.9738). This implies that 1% increase in exchange rate will leads to 9.7% decreases in agricultural export performance in the current year. Similarly, it still becomes negative and significant after one year lag at 1% level of significant. This implication is that an increase in exchange rate leads to high cost of foreign investment. Moreover, the value of national agricultural productivity (NAP) was significant at one year lag at 1% level of significant, implying that 1% increase in agricultural productivity will leads to 1.2% in

agricultural export performance. Following the Granger Representation Theorem, we specify the ECM model for the co-integrating series in the study. The primary reason for estimating the ECM model is to capture the dynamics in the agricultural GDP performance equation in the short-run and to identify the speed of adjustment as a response to departures from the long-run equilibrium. The ECM coefficient which captures the dynamics in the Agricultural GDP performance to show the speed of adjustment as a response to deviation to long run equilibrium is negative and statistically significantly. In specific terms, the coefficient reveals that 63.7 percent of disequilibrium in the current period would be corrected for in the long run. The adjusted coefficient of determination (R^2) indicates that cumulatively, the variables explained about 92.7 percent of the total variations in agricultural export performance. The Durbin Watson (D.W) indicates a value of 2 implying that there is no auto serial correlation among the variables of the model.

Long-run Effect of Trade Liberalization on Agricultural Export Performance

The long run impact of the trade liberalization variables on agricultural export model based on the ARDL framework is reported in Table 5. The results of the trade liberalization model indicate that all the variables were statistically significant at different level at one-year lag value of agricultural GDP. From the Table, agricultural export (AEX), agricultural degree of openness (ADO), national agricultural productivity (NAP) and agricultural capital formation (ACF) were found to be positively signed and are significant at 1 and 10 percent levels at one-year lag value of agricultural GDP. These were all found to be positive implying that there exist a positive long run relationship between agricultural export, agricultural degree of openness, agricultural capital formation and agricultural export performance. In specific terms, a unit increase in agricultural degree of openness (ADO) and agricultural capital formation (ACF) would lead to a more than proportionate response in agricultural export performance by 2.3 and 3.8 percent respectively while 10 percent increase in national agricultural productivity (NAP) would lead to 7.0 percent. On the other hand, agricultural import (AIMP) and exchange rate (EXR) were negatively signed and significant at 1 and 5 percent respectively and the Coefficient of Multiple Determination indicates that in the long run, trade liberalization variables (model) accounted for 64,19 percent of the changes in agricultural export performance.

Table 5: Long-run ARDL Estimates: Trade Liberalization Model

Dependent Variable: LN_RGDP(-1)				
Sample: 1990 – 2018				
Variable	Coefficient	Std. Error	T-stats	P-value
C	22.67270	18.43781	1.229685	0.2406
linRGDP(-1)	-0.868053	0.229339	-3.785029***	0.0023
d(linAEX(-1))	0.251274	0.047098	5.335106***	0.0000
d(lnAIMP(-1))	-0.333561	0.086604	-3.851541***	0.0005
d(lnEXR(-1))	-1.466718	0.721668	-2.032399*	0.0631
d(lnNAP(-1))	1.709303	0.900046	1.899128*	0.0800
d(lnADO(-1))	0.228404	0.052784	4.327149***	0.0001
d(lnACF(-1))	0.382725	0.112805	3.392800***	0.0018

Source: Author's computation from E-Views 8.0. Note: ***, **, and *denote significant at 1, 5, and 10 percent levels, respectively.

CONCLUSION AND RECOMMENDATION

The nature of the economy have made it impossible for the economy to experience growth despite various trade liberalization of the world economy. In order to achieve a meaning development in the agricultural sector in Nigeria, export has to be promoted. This can be done be liberalizing agricultural trade import and export in the country. Promoting agricultural export performance requires efficient management and sound macroeconomics policies in the country and also encouraging indigenous domestic's production for exportation. The study established short and long run relationships between agricultural GDP growth and trade liberalization in Nigeria from 1999-2020. The study recommends that regulating these macro-economic variables will promote agricultural export performance hence, agricultural development, also trade agreements and sound monetary policies should be vigorously enforced to enhance free trade in the ECOWAS sub region. Investment and production in the agricultural sector should be encouraged as output growth may enhanced processing and export of products at the international market.

REFERENCES

Abubakar, I.R. and Aina, Y.A. (2019). The prospects and challenges of developing more inclusive, safe, resilient and sustainable cities in Nigeria. *land Use Policy, 87,* 1-12.

CBN., 2016. Central Bank of Nigeria: Statistical Bulletin, 2016 Edition.

CBN., 2021. Central Bank of Nigeria: Statistical Bulletin, 2021 Edition.

Echekoba, F.N., Okonkwo, V.I., and Adigwe, P.K. (2015). Trade liberalization and economic growth: The Nigerian experience (1971-2012). *Journal of Poverty, Investment and Development*, *14*(5), 20-35.

Felix, G.O., Kolawole, S. and Musa, I.B. (2013). Trade Liberalization and Economic Growth in Nigeria. *Journal of Business, Economics and Finance*, *2*(3), 43-49.

John, O.A. and Bright, O.O. (2016). Effect of trade liberalization on economic development in Nigeria, (1980-2013). *International Journal of Developing and Emerging Economies*, *4*(2), 15-27.

Mesike, C.S., Giroh, D.Y. and Owie, O.E.D. (2008). Analyzing the effect of trade liberalization policy in Nigerian rubber industry. Journal of Agriculture and Social Sciences, 4: 132–134

Nirodha, D. S., Jaime, M. Jeff, J. (2013). Trade liberalization effects on agricultural production growth: the case of Sri lanka. Selected Paper prepared for presentation at the Southern Agricultural Economics Association Annual (SAEA) Meeting, Orlando, Florida.

Olowe, T. S., and Ibraheem, A. G. (2015). Impact of trade liberalization on the growth of the Nigerian economy 1970-2012. Journal of Research in Business and Management, 3(10), 01-07.

Pennycooke, C. (2011). Trade policy and food security: the implications of the WTO's agreement on agriculture for Caribbean small vulnerable economies (SVEs). United Nations [UN] Conference on Trade and Development.

WTO (2018). Trade Policy Review. Nigeria Country Report.