Agricultural Export and Economic Growth in Nigeria: Does Agriculutre Value Added Matter?

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ABSTRACT

This study evaluates the effect of agriculture value added in the relationship between agricultural export and economic growth in Nigeria from 2000 to 2022 by employing time series data and deploying Augmented Dicky- Fuller unit root, Auto-regressive Distributed lag (ARDL) framework, and Dynamic Ordinary Least Square (DOLS) technique for analysis. The results reported showed that agricultural raw materials exports (LNAGXP) has a positive effect on real gross domestic product while agriculture value added exhibited a negative relationship with real gross domestic product. However, Nigeria needs to improve on its primary agriculture production base in order to generate enough income from exports. In the same vein, the country needs to explore research and incorporate value addition in it exports. Including value additions to exports in the country will contribute to the country's economic development and real GDP, it will generate more income and also provide jobs, thereby reducing unemployment rate, and increasing competitiveness in the global market.

Key words: agriculture export, agriculture value added, unit root test, Auto-regressive Distributed Lag (ARDL) bounds test, Dynamic Ordinary Least Square.

INTRODUCTION

Nigeria is blessed with large tracts of arable land which makes agriculture an important sector of the economy with high potential for employment generation, food security and poverty reduction (NIPC, 2023). Generally, the rise of agricultural export has been a considerable success story and one that has brought numerous benefits to Nigeria thus, the importance of export to a nation's economic growth and development cannot be overemphasized since it is a catalyst necessary for the overall development of an economy (Abou-Stait, 2005). Agricultural export has played a prominent role in economic development of Nigeria by providing the needed foreign exchange earnings for other capital development projects. According to Ekpo and Egwaikhide (1994) agricultural export commodities contributed well over 75% of total annual merchandise exports in 1960. Nigeria also ranked very high in the production and exportation of some major crops in the world in the 1940s and 1950s. For instance, Nigeria was the largest exporter of palm oil and palm kernel, ranked second to Ghana in Cocoa and occupied a third position in groundnut. Olayide and Essang (1976) observed that Nigeria's export earnings from major agricultural crops contributed significantly to the Gross Domestic Product (GDP). Similarly, Ekpo and Egwaikhide (1994) observed a long-term relationship between agricultural exports and economic growth in Nigeria.

However, the share of agriculture in Nigeria's total export earnings remains small compared to crude oil exports. For instance in 2019, agriculture accounted for less than 2% of total exports relative to crude oil (76.5%) (Oyaniran, 2020). Agricultural export declined by about 11% from N302.2 billion in 2018 to N269.8 billion in 2019. Nigeria's agricultural imports rose by 12.7% from N851.6 billion to N959.5 billion

during the same period, the highest value ever recorded in the country (Oyaniran, 2020). Nigeria remains a net food importer — the agricultural trade deficit has widened with imports exceeding exports by N689.7 billion in 2019 compared to N549.3 billion in 2018 (Oyaniran, 2020).

At the same time, the country has been unable to optimize its agricultural value-added (AVA) and only able to earn a low level of income from agricultural exports. Exports in the country has been highly dependent and focused on non-processed primary commodities (Anwana, E, Akpan, B & Udoh A.2019). However, Sanida et al (2016) and Kumar et al. (2017) argue that agriculture can produce value-added that significantly affects GDP growth rates in developing countries. On the basis of that, this study aimed at examining the effect of agriculture value added in the relationship between agricultural export and economic growth in Nigeria even though several studies (Anyanwu, Offor, Adesope, and Ibekwe (2013); Ekpo and Umoh (2012); Suleiman and Aminu (2010); Oji-Okoro (2011); Verter and Bečvářová (2016); Osabohien et al. (2019); Taiga and Ameji (2020); Okuduwor, Amadi Robert, Udi (2023)) have been done on agriculture and economic growth in Nigeria but none has been able to fill this gap. This study is therefore divided into five sections; following this introductory section is section two, which is literature review. The methodology of the study is in section three. Section four presents result and discussion while section five is reserved for summary, conclusion and policy suggestions.

LITERATURE REVIEW

In view of the importance of agricultural sector to economic growth, especially in developing countries like Nigeria, a number of empirical studies have been carried out: Agbana and Ebisine (2022) looked at Nigeria's agricultural expenditure proxy by agricultural credit guarantee scheme fund and government expenditure on agriculture; and economic growth proxy by real GDP using secondary data from CBN Statistical Bulletin from 1981 to 2021, as well as Ordinary Least Square regression method to analyze the data. Various literatures were reviewed with conflicting results. However, the findings from the empirical analysis of the study from the long run normalize equation showed that the variables government expenditure on agriculture and agricultural credit guarantee scheme fund have positive and significance impact on economic growth in Nigeria) for the period of study. Thus, the study therefore recommended that government should evolve policies toward diversifying the economy and encourage the campaign for improvements in the non-oil sectors of the economy especially agricultural sector. More so, government should be more proactive in insisting on the private sector, especially, the financial sector to set aside funds annually for agricultural financing to compliment government efforts, as well as making efforts through its agencies to enlighten farmers of the availability of such credit facilities.

Sunday, Samuel, and Inimfon, (2021) examined the Agricultural Sub Sectors' Outputs and Economic Growth in Nigeria. This research was carried out to provide empirical information on the relationship between agricultural sub sector's production and the growth of Nigerian economy (proxy by the per capita GDP). Time series data were employed in this research and the analyses of the data were done using descriptive tests, unit root tests, multivariate regression based on the autoregressive regressive distributed lag (ARDL) testing bound model approach to cointegration. The result of the data analysis indicated that the agricultural sub sector's production significantly influences the movement of the per capita GDP of Nigeria in both short and long-run periods. The implication of the finding justifies the need for agricultural production intensification as a panacea for sustainable economic growth in the country. The prioritization of the agricultural sector and intensifying agricultural production as means of accelerating economic growth in the country were strongly recommended.

Sa'id and Singla (2021) empirically examine the contribution of agricultural sector to Economic growth in Nigeria. The analytical framework employed in this study is Ordinary Least Squares (OLS) technique and Histogram-Normality Test, using the data of Nigerian economy covering the period of 1981 to 2018 sourced

from its Central Bank (CBN) and World Development Indicators (WDI). The findings of the study revealed that, agricultural sector has significantly contributed to economic growth in Nigeria. Similarly, it has also been discovered that, the agricultural output in Nigeria has increased significantly especially from 2016 to 2018. The paper recommended that the Nigerian government should give more emphasis to its agricultural sector as it significantly contributes toward its economic growth, employment generation and food security for many years.

Etale, Suwari, Adaka (2021) examined the impact of agricultural development on the growth of Nigerian economy. Data for the study were the gross domestic product (dependent variable) and aggregate agricultural contribution (independent variable) for 2000 to 2018 obtained from the Central Bank of Nigeria Statistical Bulletin and National Bureau of Statistics (2020). A Bivariate regression analysis of the variables was carried out to determine the relationship between the variables. The analysis and findings of the study showed that there is a positive linear relationship between the variables and that the contribution of agriculture sector leads to commensurate increase in the GDP of the country. Recommendations were that the linkages between agriculture and other sectors be strengthened to increase the effect of agriculture growth on the economy. This can be achieved through increased productivity and the development of agriculture value chain, improved sensitization of the populace, reduction in corruption and providence of necessary financial assistance to the agricultural industry.

Osabohien et al (2019) examine the impact of agricultural export on Nigeria's economic growth. This study used the Autoregressive Distribution Lag (ARDL) econometric technique to analyze the long run relationship and the impact of agricultural exports on Nigeria's economic growth. Economic growth is the dependent variable, and is proxied by the real gross domestic product, the explanatory variables include: agricultural export, foreign direct investment, inflation rate and the labor force. The results from the ARDL technique revealed that agricultural exports significantly affect Nigeria's economic growth; this suggests that, a 1percent increase in – agricultural export will boost economic growth in Nigeria by approximately 25percent.Therefore, from the results, the study recommended that agricultural export need to be promoted through the increase in agricultural production base.

Oguwuike (2018) examined the effect of agricultural output on economic growth of Nigeria T(1981-2016). Specifically the objectives of the study are to examine the effect of crop production, livestock, fishery and forestry on economic growth in Nigeria. Secondary data on GDP, crop production, livestock, fishery and forestry was obtained from the CBN statistical bulletin. The econometrics methods of ordinary least square, Cointegration, error correction mechanism were used for the analysis. The outcome of the ADF unit root test show that the variables (GDP, crop production, livestock, fishery and forestry) were stationary. Also the co-integration result showed that there exist cointegration amongst the variables in the model. The Parsimonious Error Correction Model 2 indicates that the R is 86% meaning that the dynamic model is a good fit. The Durbin Watson value of approximately 2.0, indicates a lesser level of autocorrelation, meaning that the successive values of the error term are serially dependent or correlated. Moreover, the first and third lags of GDP are positively and significantly related to current level of economic growth. The coefficient of crop production is positively signed and statistically significant at 5 percent level with GDP. The coefficient of fishing is positively signed but statistically not significant at 5 percent level with GDP. The coefficient of livestock is positively signed and statistically significant at 5 percent level with GDP. The coefficient of forestry is negatively signed but statistically significant at 5 percent at level with GDP. Based on these results, this study recommends the following: Nigerian government should put good structures in place that allows better and higher agricultural output; The various state government should look beyond the monthly federation allocation account as their major source of revenue for developmental projects but work towards utilization and exploitation of fallow lands in their states for farming.

A research conducted by Emeh, (2017) covering a time span of 30 years within the period of 1981 to 2012,

where he investigated the role of agriculture in economic growth and development. He examined the role that the agricultural sector played in the advancement of the Nigeria economy, considering the years of neglect by government and decision makers. Emeh's research use of econometrics to validate his hypothesis where he used the Solow growth model that included gross capital formation (GCF) as the proxy for capital, labor proxy by post-secondary enrollment, while agricultural output and economic growth and development was proxy by real gross domestic product (RGDP). The restricted Error Correction Approach was employed for the long-run relationship. The study revealed that agriculture plays a remarkable role in economic growth and development of Nigeria. From his findings, it was shown that agricultural sector still contributed to gross domestic product, though, there has been a decline since the 1990's explained by the arrival of the new bride (oil discovery) in the late 1970's.

Ahungwa, Ugural and Bekun (2017) examined trend analysis of the impact of agriculture to GDP for a period of 53 years, precisely between 1960 and 2012 using time series data. The finding from their work revealed that the agricultural sectors share of GDP experiences a decline, regardless of the retrogression. The agricultural sector still had a superior lead over other sectors, from 1960 to 1975.The study also depicts a fluctuation between the industrial sector around 1967 to 1989.The regression results, show that there exist a positive and significant relationship between the agricultural sector with GDP accounting for 66.4 percent of the variation in the economy, and also displays the dominance of the agricultural sector relative to other sectors of the economy.

Sertoğlu, Ugural, and Bekun (2017) empirically examines the impact of agricultural sector on the economic growth of Nigeria, using time series data from 1981 to 2013. Findings revealed that real gross domestic product, agricultural output and oil rents have a long-run equilibrium relationship. Vector error correction model result shows that, the speed of adjustment of the variables towards their long run equilibrium path was low, though agricultural output had a positive impact on economic growth. It was recommended that, the government and policy makers should embark on diversification and enhance more allocation in terms of budgeting to the agricultural sector.

Onunze (2016) in his empirical work examined the impact of agricultural development on Nigerian growth within (1980 to 2014) period of 34 years. Over several decades, there have been many debates amid development economists, about whether agricultural sector holds the key to national development and industrialization. The study employs the use of OLS technique, by using agricultural development, capital formation, inflation rate and interest rate to investigate the question if the agricultural sector serves as an engine room to drive growth and development. The study revealed empirically that, there exist a positive relationship between the agricultural sector and economic growth.

Ijirshar (2015) analyzed the agricultural export and economic growth in Nigeria from 1970 to 2012. The co-integration test showed that, long run relationship exists among the variables (real GDP, real exchange rate, real agricultural output, index of trade openness and inflation). From the error correction method shows that agricultural export has contributed positively to Nigerian economy. Similarly, Odetola and Etunmu (2013) found that from 1960 to 2011, agricultural sector has contributed positively and consistently to economic growth in Nigeria, reaffirming the sector's importance in the economy. It was further affirmed using granger causality test which showed that agriculture growth granger-causes GDP growth, and reverse relationship was found.

Oyakhilomen and Zibah (2014) carried out a study to provide empirical information on the relationship between agricultural production and the growth of Nigerian economy with focus on poverty reduction. Time series data were employed in this research and the analyses of the data were done using unit root tests and the bounds (ARDL) testing approach to cointegration. The result of the data analysis indicated that agricultural production was significant in influencing the favourable trend of economic growth in Nigeria. Despite the growth of the Nigerian economy, poverty is still on the increase and this calls for a shift from

monolithic oil-based economy to a more plural one with agriculture being the lead sector. It was recommended that pro poor policies should be designed for alleviating rural poverty through increased investments in agricultural development by the public and private sector.

In Dim (2013) study titled "Does agriculture matter for economic development, empirical evidence from Nigeria, unit root test and Newey-West method were used and it was a contrary outcome was revealed that agricultural output has a negative impact but statistically significant in Nigeria.

Uma, Eboh, and Obidike (2013) assessed the effect of agriculture on Nigeria's economic growth from 1970-2009. The study examined the influence of output of various types of agricultural practices on real gross domestic product (rgdp), a proxy for economic growth. Augmented Dickey Fuller and Phillips Perron tests were carried out to test for unit-root and Johansen co-integration test confirmed a long-run relationship of the dependent and independent variables. Error correction model was established. The method of ordinary least square was employed in the data analysis. The study found that the contributions of crop production, livestock and fishing on economic growth were statistically insignificant. Only forestry contributed significantly to growth at the period of study. However, the combined effect of the variables was significant. On this note, among the recommendations made are that it is imperative for the federal, state and local governments to establish integrated agriculture in all the wards in each local government; corruption should be tackled, and there is need for emulation of the radical reform of food production adopted by the Chinese government.

Olajide et al. (2012) in their study of agricultural resources and economic growth in Nigeria discovered a positive causality between GDP and agricultural output, where they used Ordinary Least Squares (OLS) econometrics techniques, precisely between 1970 and 2010. From their study, it was revealed that agricultural sector accounted for about 35 percent of the variation in GDP. Even though the agricultural sector suffered a high level of setback, immediately after which oil was discovered in commercial quantity. They recommend that government should make available infrastructural facilities such as constant power supply, pliable road, opening of feeder roads to rural farmers and access to financial support with small payback return.

Izuchukwu (2011) studied the contributions of the agricultural sector to Nigeria's economic development between 1986-2007 using multiple regression to analyze the data. The result showed a positive relationship between Gross Domestic Product and domestic saving, government expenditure on agriculture and foreign direct investment. The outcome also denoted that 81% of the variation in GDP could be explained by Domestic Savings, Government Expenditure and Foreign Direct Investment.

From the review of previous literatures it is very obvious that so many empirical studies have established that a relationship exist between agricultural sector and economic growth in Nigeria. However, the literatures did not pay much attention to agriculture value added (value-added agriculture entails changing a raw agricultural product into something new through packaging, processing, cooling, drying, extracting or any other type of process that differentiates the product from the original raw commodity) in relation to economic growth. This study will adopt different variables factoring in different time frame (2000 – 2022).

METHODOLOGY

Theoretical Framework

Neoclassical growth theory is an economic theory that outlines how a steady economic growth rate results from a combination of three driving forces—labor, capital, and technology. The National Bureau of Economic Research names Robert Solow and Trevor Swan as having the credit of developing and

introducing the model of long-run economic growth in 1956. The model first considered exogenous population increases to set the growth rate but, in 1957, Solow incorporated technology change into the model (Banton, 2023). Nevertheless, the Solow-Swan neoclassical growth theory and its extensions is a popularly adopted framework for analyzing the process of economic growth and development. Assuming a constant-return-to-scale aggregate production functions expressed as:

$Y_t = K_t L_t B_t$.....(1)

Where: Y,K.L and B represent real GDP per capital, real gross capital, labor and the Hicks-neutral productivity term, respectively. The contribution of agriculture to aggregate economic growth could be modeled via its effects on total factor productivity or as an intermediate input in the industrial production sector (Timmer, 1995; Ruttan 2000). Early development theories viewed agriculture as an important source of resources to finance the development of the industrial sector. Thus, agricultural production growth serves as an engine of growth for the overall economy. Hwa (1988) argues that agriculture is an engine of growth and added agriculture to the standard solow-swan growth equation as a measure of linkages between the rural and industrial sector of the economy.

Model Specification

In line with Solow-Swan neoclassical growth theory and some modifications by incorporating agriculture value added and some variables of interest that determine economic growth, the model used for this study is as follows:

RGDP = f (AGXP, AGVAL, REXR, TOP, INFR, LAB).....(2)

The model is transformed by introducing the logarithm form:

$LNRGDP_t = \Psi_0 + \Psi_1 LNAGXP_t + \Psi_2 LNAGVAL_t + \Psi_3 LNREXR_t + \Psi_4 LNOPN_t + \Psi_5 LNINFR_t + \Psi_6 LNLAB_t + \mathcal{X}_t$ .....(3)

Where, RGDP = real gross domestic product (economic growth); agriculture export (AGXP) (proxy by agricultural raw materials exports (% of merchandise exports)); agriculture value added (AGVAL) (% of GDP); REXR = real exchange rate; LAB = labour force; OPN = index of openness; INFR = inflation rate; Ψ_0 = constant intercept; $\Psi_1 - \Psi_6$ = slope of coefficients of the explanatory variables captured in the model, LN is the natural log, t is time period, and $\mathcal{X}$ = stochastic disturbance term.

Data Source

The type of data necessary for this study is secondary data due to the fact that the research work is analytical in nature. Time series data relating to the dependent and independent variables were employed for a period covering 2000 and 2022 due to the availability of data. The data used in this study were sourced from World Development Indicators, theglobaleconomy.com, indexmundi.com, tradingeconomics.com, countryeconomy.com, worlddata.info, and Statistical Bulletin and Annual Report and Statement of Accounts published by the Central Bank of Nigeria (CBN).

Method of Data Analysis

A unit root test tests whether a time series is not stationary and consists of a unit root in time series analysis. The presence of a unit root in time series defines the null hypothesis, and the alternative hypothesis defines time series as stationary. Mathematically the unit root test can be represented as:

$$y_t = D_t + z_t + \varepsilon_t$$

Where, D_t is the deterministic component, z_t is the stochastic component, and ε_t is the stationary error process.

Since time series data were used in this study, and generally, time series data show trending behavior (scholastic trend), in other words, there may be a problem of none stationarity. This study used Augmented Dicky- Fuller unit root to check for stationarity of the variables.

Hereafter, the co-integration test was carried out to determine whether there exists a long run equilibrium relationship amongst the selected variables in the study under the Auto-regressive Distributed Lag (ARDL) framework. Thereafter, estimation of the cointegrating relationship using Dynamic Ordinary Least Square (DOLS) technique was carried out. The DOLS is more suitable for estimating long-run equilibrium in systems which involve variables integrated at different order as well as small samples.

RESULTS AND DISCUSSION

Unit Root Test

Table 1 indicates that the logarithms of some variables are non-stationary in their level while some variables became stationary after taking their first difference. In order words, the variables are integrated in a mixed order of I (0) and I (1). The combination of variables which are stationary at level and at first difference gives the reason for the application of Auto-regressive Distributed Lag (ARDL) bounds test for cointigration can be applied.

Table 1: Augmented Dickey Fuller (ADF) Unit Root Results

Variable	ADF test				Order of Integration
	Levels		1st difference		
	Intercept	Trend & Intercept	Intercept	Trend & Intercept	
LNRGDP	-4.737136*	—	—	—	I(0)
LNAGVAL	-1.912313	-2.516866	-3.573747**	—	I(1)
LNREXR	-1.876691	-2.819644	-5.521139*	—	I(1)
LNINFR	-3.466959**	—	—	—	I(0)
LNLAB	3.457457	-1.247874	-4.457404*	—	I(1)
LNAGXP	-3.168392**	—	—	—	I(0)
LNOPN	-2.085771	-3.317031***	—	—	I(0)

Note: ADF test was performed using Schwarz information criterion and the automatic lag selection set as 4 lags. Also, *, ** and *** imply statistical significance at 1%, 5% and 10% levels respectively.

ARDL Bound Test

ARDL long run form and bounds test is estimated and the result is shown in Table 2. Due to the sample size, the study chose a maximum lag length of 1 for the dependent variable and independent variables. In addition, the specification was with Restricted Constant and No Trend, and the model selection criteria was Akaike information criterion. The result in Table 2 revealed that the null hypothesis of no long run relationship exist is rejected since the F-statistic value 36.49363 is greater than the upper bound I(1) which has a value of 3.99 at 1% level of significance.

Table 2: F-Bounds Test		Null Hypothesis: No levels relationship		
Test Statistic	Value	Signif.	I(0)	I(1)
F-statistic	36.49363	10%	1.99	2.94
k	6	5%	2.27	3.28
		2.5%	2.55	3.61
		1%	2.88	3.99

Source: Author's computation using Eviews 10

DOLS Estimates

Table 3 reports the result of the DOLS estimation. It reveals that agricultural raw materials exports (LNAGXP), agriculture value added (LNAGVAL), index of openness (LNOPN), and labor force (LNLAB) significantly influence real gross domestic product (economic growth) in Nigeria. In-detail, the DOLS result revealed that at 1% level of significance, there is a positive relationship between agricultural raw materials exports (LNAGXP) and economic growth (proxy by real gross domestic product), while agriculture value added exhibited a negative relationship with real gross domestic product. By implication, a unit increase in agriculture value added will lead to about 0.160370units decrease in real gross domestic product. Ekugbe (2021) reported that lack of value addition to the nation's agricultural products has resulted to significant losses in earnings accountable to the country over the years. On the other hand, a unit increase in agricultural raw materials exports (LNAGXP) will lead to about 0.051569units increase in real gross domestic product. The outcome of this study aligns with with Osabohien et al. (2019), and Okuduwor, Amadi Robert, Udi (2023) findings that agricultural exports significantly affect Nigeria's economic growth. Moreso, the result from this study is contrary to Ceylan and Özkan (2013) who found a positive effect of agricultural value added on economic growth in the European Union Accession Process.

A closer examination of Table 3 shows that inflation (LNINFR) is positive but statistically insignificant, also, real exchange rate (LNREXR) is positive and insignificant in influencing real gross domestic product in Nigeria during the period covered in this study. This result is contrary to Osabohien et al. (2019) who found positive significant relationship between effective exchange and economic growth in Nigeria.

Furthermore, labor force (LNLAB) was found to be positive and statistically significant with economic growth (proxy by real gross domestic product) at 1% significance level. This result is contrary to Osabohien et al. (2019) who found positive significant relationship between labor force and economic growth in Nigeria. On the other hand, at 1% significance level, index of openness (LNOPN) displayed a negative effect on real gross domestic product. Notably, a 1% unit increase in index of openness (LNOPN) will trigger 0.254481% decline in real gross domestic product in Nigeria. This result from this study does not agree with Ijirshar (2019) who found that trade openness positively affects growth in ECOWAS countries in the long run.

Table 3: DOLS Regression Results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LNAGXP	0.051569	0.008060	6.398560	0.0001*
LNAGVAL	-0.160370	0.073980	-2.167754	0.0583***
LNREXR	0.163137	0.100551	1.622437	0.1392
LNOPN	-0.254481	0.065111	-3.908396	0.0036*

LNINFR	0.051443	0.036310	1.416767	0.1902
LNLAB	1.098423	0.110437	9.946147	0.0000*
C	-8.136207	2.315684	-3.513522	0.0066*
R-squared	0.993268	Mean dependent var		10.86252
Adjusted R-squared	0.984292	S.D. dependent var		0.338972
S.E. of regression	0.042483	Sum squared resid		0.016244
Long-run variance	0.000853			

Note: *, ** and *** imply statistical significance at 1%, 5% and 10% levels respectively.

Source: Author's computation using Eviews 10

Diagnostic Test

In Figure 1, the probability value of 0.326462 is greater than the significance level of 5% i.e., 0.326462 > This indicates that the residual of the model is normally distributed given the Jarque-Bera test statistic which shows F-statistic of 2.238886. Moreover, the correlograms analysis in Table 4 depicts that the Q- statistics is statistically insignificant from 1 lag through to12 lag. This implies that there is no presence of serial correlation in the residual of the estimated model. Lastly, the diagnostic test reveals that there is no autoregressive conditional heteroskedasticity (ARCH) in the residuals of the model due to the fact that the *Q*-statistics does not show significance at all lags as depicted by the probability values of the correlograms of the squared residuals in Table 5.

Table 4: Correlograms Q-Statistics

Autocorrelation	Partial Correlation		AC	PAC	Q-Stat	Prob*
.**| . |	.**| . |	1	-0.271	-0.271	1.8475	0.174
.**| . |	***| . |	2	-0.249	-0.348	3.4843	0.175
. | . |	. *| . |	3	0.052	-0.164	3.5593	0.313
. | . |	. *| . |	4	0.004	-0.151	3.5598	0.469
. *| . |	.**| . |	5	-0.109	-0.233	3.9311	0.559
. |**. |	. |* . |	6	0.225	0.089	5.6044	0.469
. |* . |	. |**. |	7	0.135	0.239	6.2486	0.511
***| . |	. *| . |	8	-0.385	-0.185	11.843	0.158
. | . |	. | . |	9	0.060	-0.043	11.987	0.214
. |**. |	. |* . |	10	0.236	0.143	14.435	0.154
. *| . |	. | . |	11	-0.165	-0.054	15.749	0.151

. | . |	. *| . |	12	-0.038	-0.077	15.827	0.199

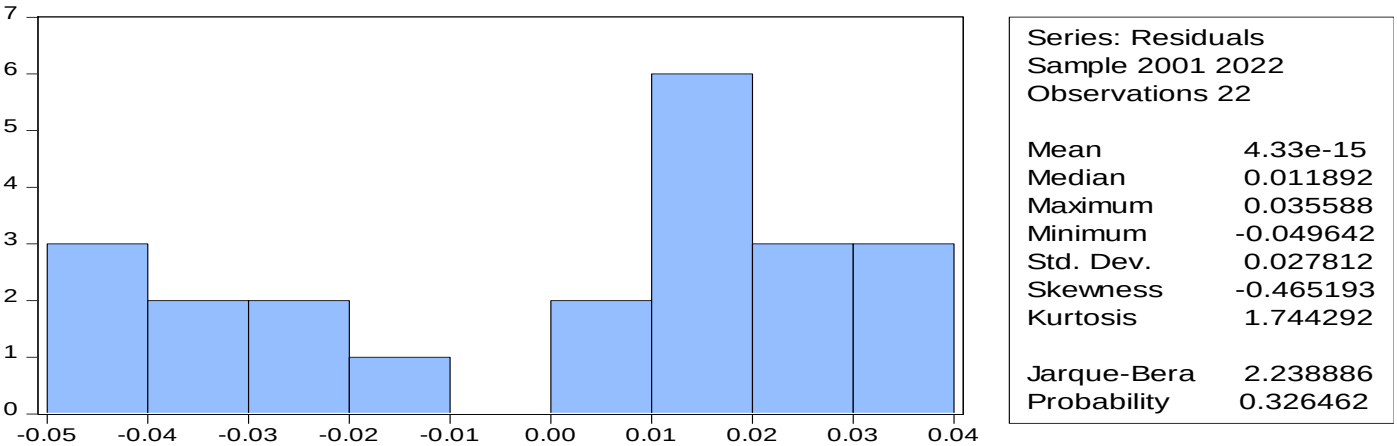
Source: Author's computation using Eviews 10

Table 5: Correlograms of the Squared Residuals

Autocorrelation	Partial Correlation		AC	PAC	Q-Stat	Prob*
. | . |	. | . |	1	0.047	0.047	0.0550	0.815
. | . |	. | . |	2	-0.035	-0.037	0.0872	0.957
. *| . |	. *| . |	3	-0.106	-0.103	0.4016	0.940
***| . |	***| . |	4	-0.365	-0.362	4.3173	0.365
.**| . |	***| . |	5	-0.316	-0.355	7.4213	0.191
. | . |	. *| . |	6	-0.045	-0.157	7.4891	0.278
. |* . |	. | . |	7	0.143	0.006	8.2040	0.315
. |* . |	. *| . |	8	0.088	-0.151	8.4966	0.387
. |**. |	. |* . |	9	0.350	0.125	13.469	0.142
. | . |	. *| . |	10	0.002	-0.142	13.470	0.199
. *| . |	. *| . |	11	-0.159	-0.185	14.686	0.197
. | . |	. |* . |	12	0.065	0.150	14.912	0.246

Source: Author's computation using Eviews 10

Figure 1: Normality Test



Source: Extracted from Eviews 10

SUMMARY, CONCLUSION AND POLICY SUGGESTIONS

This study empirically investigates the effect of agriculture value added in the relationship between agricultural export and economic growth in Nigeria from 2000 to 2022. The time series data used in this study were sourced from World Development Indicators, theglobaleconomy.com, indexmundi.com, tradingeconomics.com, countryeconomy.com, worlddata.info, and Statistical Bulletin and Annual Report and Statement of Accounts published by the Central Bank of Nigeria (CBN). The data analysis techniques include Augmented Dicky- Fuller unit root, Auto-regressive Distributed lag (ARDL) framework, and Dynamic Ordinary Least Square (DOLS) technique.

The results disclosed that agricultural raw materials exports (LNAGXP), agriculture value added (LNAGVAL), index of openness (LNOPN), and labor force (LNLAB) significantly influence real gross domestic product (economic growth) in Nigeria. However, agricultural raw materials exports (LNAGXP) has a positive effect on real gross domestic product while agriculture value added exhibited a negative relationship with real gross domestic product. Additionally, index of openness (LNOPN) displayed a negative effect on real gross domestic product. The coefficient on labor force (LNLAB) was positive and statistically significant with real gross domestic product. Nevertheless, Nigeria needs to improve on its primary agriculture production base in order to generate enough income from exports. In the same vein, the country needs to explore research and incorporate value addition in it exports. Including value additions to exports in the country will contribute to the country's economic development and real GDP, it will generate more income and also provide jobs, thereby reducing unemployment rate, and increasing competitiveness in the global market.

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