JAREAS

Journal of Advanced Research in Economics and Administrative Sciences

ISSN 2708-9320 (Print) and 2709-0965 (Online)

Volume 4, Issue 2 Article 1

DOI: https://doi.org/10.47631/jareas.v4i2.603

THE IMPACT OF CROP PRODUCTION ON THE ECONOMIC GROWTH OF NIGERIA

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ARTICLE INFO

Received: 18 April 2023
Revised: 06 June 2023
Accepted: 08 June 2023

Keywords:
Fishery production,
Gross domestic product,
Nigerian economy

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ABSTRACT

Purpose: *This study uses time series data ranging from 1981 to 2021 to analyze the impact of crop production on the gross domestic product (GDP) in the Nigerian economy. The study adopted ordinary least square techniques for the regression analysis.*

Approach/Methodology/Design: *The variables of the study were subjected to unit root tests and were found to be stationary at first difference. Johansen co-integration was adopted and the result posits a short-run relation between the variables of interest (GDP, crop production (CP) as well as labor output (LO).*

Findings: *The result from the error correction model shows that crop production has a positive and significant impact on economic growth in Nigeria. This study also finds that labor productivity has a positive and significant impact on economic growth. The study concluded that crop production has a positive and statistically significant impact on economic growth in Nigeria for the period under review.*

Originality/value*: The study recommends that there is a need to improve the mode of production. This could imply having an optimal mix of labor and capital-intensive means of production in crop production to boost economic output.*

INTRODUCTION

The quest for sustainable economic growth has remained the key to the macroeconomic aspirations of nations of the world. This has remained important following the need to expand the capacity and resources needed to provide the public goods and services that their citizens need, like healthcare, food production, education, social protection and basic public services. Economic growth has been defined as a sustained increase in an economy's real national income over a long period of time. In other words, economic growth means a rising trend of net national product at a constant price. To do this, an economy may require an enormous improvement in the activities of the real sector of her economy. This sector entails the housing, agriculture, manufacturing industry, mining infrastructures, and services sectors.

Descriptively, Crop production is the process of growing crops for domestic and commercial purposes. Some of the crops produced on a large scale include rice, wheat, maize, jute, etc. crop production is also conceived as the cultivation of land, raising animals for the production of food for man, feed for animals, and raw materials for our industries. Crop production is also essential for the expansion of employment opportunities, reduction of poverty and improvement of income distribution, speeding up industrialization and easing the pressure of balance of payment disequilibrium (Ugochukwu, 2017).

The role of crop production in agriculture in transforming both the social and economic framework of an economy cannot be over-emphasized. Crop production has often been touted as crucial in the economic growth of most third-world countries. Recent research (Ekine & Onu, 2019) on the determinants of economic growth and development has identified crop production in agriculture as key to the economic emancipation of ailing third-world states. In this perspective, Myrdal (2007) as cited in Todaro and Smith (2015) notes, "it is in crop production which is under agricultural sector that the battle for long-term economic development/growth of third world economies will be won or lost".

Nigeria is a third-world country, largely rural and an agrarian society (World Bank, 2021). According to reports, Nigeria has a larger proportion of its population in rural areas. Hence, crop production improves soil structure, and percolation and reduces changes in the creation of hard-pan in the subsoil and also reduces soil erosion. Most African families' needs are fulfilled by crops. Anyanwu (1997) posits that "crop production has been the main source of gainful employment from which Nigeria nation can feed its population, providing the nation's industries with local raw materials and as a reliable source of government revenue. The major crop production in agricultural export commodities in Nigeria includes cocoa, coffee, cotton, groundnut, groundnut oil, palm kernel, soya beans, ginger, rubber, benign seed and chili pepper. Other notable exports included cassava and cassava products, bananas, plantain and so on (Ijere, 2014).

The Nigerian economy, until today, is still dependent on primary products both as foreign exchange earners and contributors to gross domestic product among which agriculture is present. Expectedly, agriculture is seen as the backbone of almost all economies in the world (Ogbalubi & Wokocha, 2013). It provides the basic ingredients mankind needs and the raw materials necessary for industrialization and economic prosperity.

For Nigeria, the quest to become one of the top 2020 global economies through economic diversification portends a mirage for the country following her steady decline in agricultural productivity. Crop production at the moment is witnessing a simultaneous drop in food production, a reduction in importation and a worsening business cycle. It is based on this increasing problem that this study sets out to analyze specifically the impact of crop production on the gross domestic product in Nigeria.

REVIEW OF LITERATURE

Economic Growth

The term economic growth denotes growth in the production of goods and services within a particular period, commonly assessed by using indicators such as Gross Domestic Product (GDP) or Gross National Product (GNP). It is a critical indicator of a country's economic health and can lead to higher employment rates, improved living standards, and increased investment. Economic growth is influenced by several factors, including technological

advancements, increases in productivity, investment in capital, improvements in infrastructure, and government policies that promote entrepreneurship and innovation.

Dwivendi (2002) opines that economic growth emerges because of a sustained increase in per capita output or net national product over a long period. Hence, another qualification of economic growth requires that the national output be composed of goods and services, which satisfy the maximum wants of the maximum number of people. Nicholson (2012) explains that economic growth occurs when there is an outward shift of the production possibility frontier of a nation denoting that there is an increase in the productive capacity of such a nation. Todaro and Smith (2013) see economic growth as an increase in the capacity of an economy to produce goods and services compared from one period to another or a positive change in the level of production of goods and services by a country over some time. Furthermore, they see economic growth as a gradual and steady change in the long run which comes about by a gradual increase in the rate of saving and population.

Alternatively, Anyanwu (1997) states that economic growth is a steady process of increasing the productive capacity of the economy and hence, of increasing national income characterized by high rates of increasing per capita output and total factor (most especially labor) productivity. From these diverse definitions, we deduce that economic growth is simply an increase in the capacity of an economy to produce goods and services, compared from one period of time to another. For this study, the definition given by Schumpeter in Todaro and Smith which sees economic growth as "a gradual and steady change in the long-run which conies about by a gradual increase in the rate of savings and population," best captures the definition of economic growth as used in the study. There are a lot of factors that affect economic growth, such factors include:

Technological Advancements and Innovation

Technological advancements and innovation can contribute significantly to economic growth by improving productivity and efficiency in various industries. New technologies can create new products and services, increase production capacity, and lower costs.

Increases in Productivity

Productivity increases can lead to economic growth by enabling more goods and services to be produced in a shorter amount of time. This can be achieved through better training, equipment, and management techniques.

Investment in Capita

Investment in capital, such as buildings, equipment, and infrastructure, can boost economic growth by increasing production capacity and improving efficiency. Capital investments can create jobs and stimulate demand for other goods and services.

Improvements in Infrastructure

Improvements in infrastructure, such as roads, ports, and telecommunications systems, can enhance economic growth by facilitating the movement of goods and people, reducing transportation costs, and improving access to markets.

Government Policies That Promote Entrepreneurship and Innovation

that promote entrepreneurship and innovation, such as incentives, subsidies, and research and development funding, can encourage private sector investment and stimulate economic growth. All of these factors work together to drive economic growth and increase

productivity, but their impact can differ depending on the specific circumstances of each country and region.

Crop Production

Crop Production: This is the cultivation of plants on both land and riverine areas. These are planted, tendered (weeding, fertilizer application, watering, etc.) and harvested when due. Examples of crops planted in Nigeria include; citrus crops, yam, rubber etc. Essentially these crops are grouped into cereals, roots and tubers, oils and oil seeds, pulses and nuts, fruits, sugars and starches, Fibers, beverages, narcotics, vegetables, spices and forest crops (Oji, 2011). Crops can also be classified commercially as food crops and cash crops.

Crop production is the process of growing crops for domestic and commercial purposes. Some of the crops produced on a large scale include rice, wheat, maize, jute, etc. Maize, cassava, guinea corn and yam are the major crops farmed in Nigeria and 70 percent of households practice crop farming. In the south, 7.3 percent of households practice fishing, while 69.3 percent of households own or raise livestock in northwest Nigeria. Crop production means the raising and harvesting of plants, tree crops, row crops, or field crops on an agricultural or commercial basis, including packing and processing. Includes horticulture establishments engaged in the cultivation of flowers, fruits, vegetables, or ornamental trees and shrubs for wholesale and incidental retail sales. This classification includes agricultural buildings accessory to such uses and roadside stands for the display/sale of agricultural products grown on the premises. Excludes uses for which other garden, nursery, or landscape merchandise are stored and sold on the site. Also excludes beekeeping.

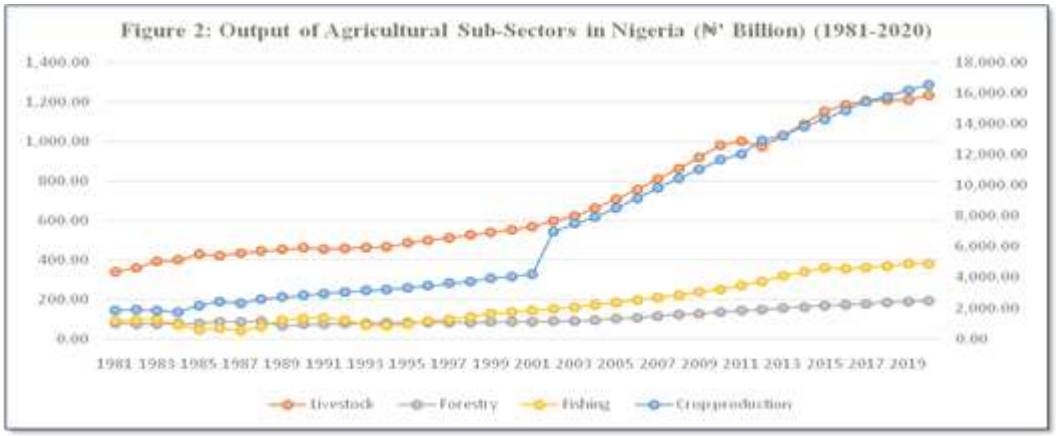
Crop production means purchases of seeds, plants, fertilizer, pesticides, fungicides, and other tangible personal property and agricultural machinery, tools, and equipment to be directly used in the production of food or commodities that are sold either for human consumption or for further food or commodity production. The phrase “directly used” means that the property must be integral and essential to the crop production process. It means a residential use, accessory to a primary commercial or residential use, involving the raising of any vegetation for intended profit or personal use. Crops grown on the residential property may be sold on that property; provided, that only plants and crops are sold there. If the crop production or sale of the crops produced creates a need for off-street parking in addition to that required for residential use, the owner must provide sufficient off-street parking as recommended by the borough. Water service to any lot being used for crop production and sales shall be metered and billed at the commercial rate for water only during the time the crops are being grown and/or sold on the property. During the time the crops or plants are being sold, one sign, no larger than four square feet in area, non-illuminated and located on the principal property, may be displayed. Crop production does not include animal husbandry.

Crop production means any business activity resulting in the production or enhanced production of crops, food, animal feed, or industrial feedstocks. "Bioinformatics" means database architecture, information storage and retrieval, software, data analysis and query tools and data display and user interface. Crop production means commercial agricultural field and orchard uses including the production of Field crops; Flowers and seeds; Fruits; Grains; Grapes; Melons; Ornamental crops; Tree nuts; Trees and sod; Vegetables; Also includes associated crop preparation services and harvesting activities, such as mechanical soil preparation, irrigation system construction, spraying, crop processing and retail sales in the field, including sales sheds. Crop production remains the largest segment and it accounts for about 87.6% of the sector's total output. This is followed by livestock, fishing and forestry at 8.1%, 3.2% and 1.1% respectively.

Crop production has a wide range of effects on the environment and can impact the quality of soil, water, and air resources directly and indirectly. Management decisions that improve nutrient and water use efficiency generally help reduce resource losses and improve quality. It directly contributes to food security by making more food available or by enabling farm households to access using their farm income.

Usman (2020) studied the contribution of the agricultural sector to the GDP growth rate of Pakistan. The important variables of his study were major crops, live stocks, and other crops which contributed to the agricultural sector and after that, the study provided the results of the whole contribution of the agricultural sector in the GDP growth rate of Pakistan. His data covered the period from 1990-2019. The OLS results showed that there is a strong relationship between the agricultural sector and the GDP growth rate. Research also provides the significant impact of Major crops and other crops on the agricultural sector and its contribution towards (GDP) Gross Domestic Product. Livestock is also a major part of agriculture and has a significant contribution to the agriculture sector. As a sharp departure from the reviewed study, however, this study is based on the Nigerian economy as against the Bangladeshi economy which the reviewed study is based.

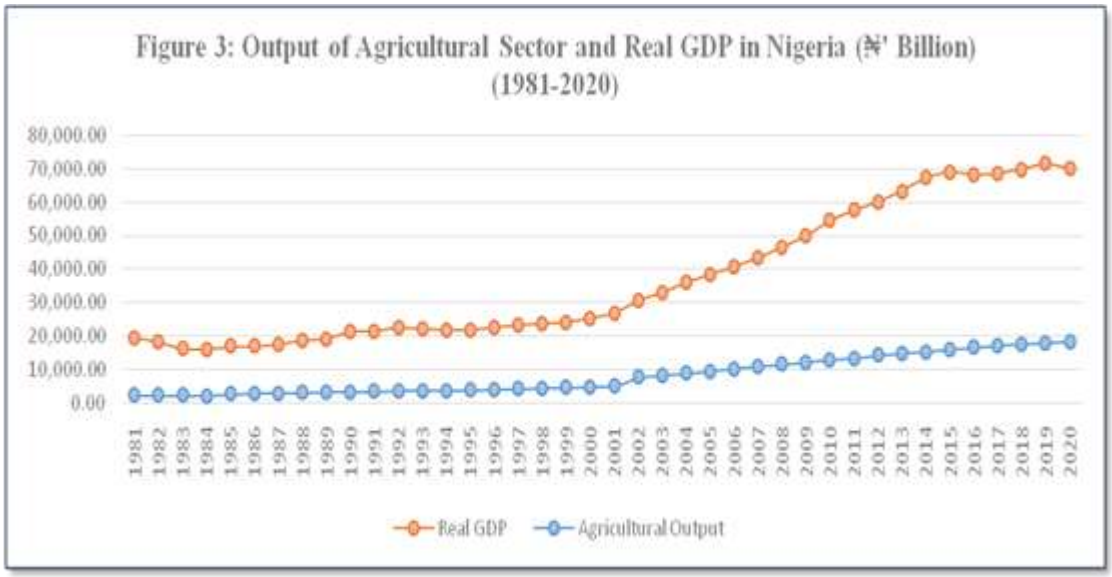
As shown in the figure below, the growth trend of the subsectors in Nigeria's agricultural sectors has potentials that give the sector opportunity for growth.



Note: Values for Crop production are on the secondary axis
Source: Central Bank of Nigeria (CBN) (2020)

According to CBN (2020), between 1960 and 2020, an average of 83.5% of agriculture GDP was contributed by the crops production subsector making it the key source of agricultural sector growth. The food production role of the agriculture sector depends largely on this subsector as all the staples consumed in the nation come from crop production, 90% of which is accounted for by small-scale, subsistent farmers. The major crops cultivated include yam, cassava, sorghum, millet, rice, maize, beans, dried cowpea, groundnut, cocoyam and sweet potato.

The cumulative output values of these agricultural subsectors show the strength of the agricultural sector. As shown in the figure below, productivity is low and contributions to the economy are below expectation.



Source: Central Bank of Nigeria (CBN) (2020)

Among other constraints, low productivity has been identified as a major contributor to the declining growth rate in the Nigerian agriculture sector. Iyoha and Oriakhi (2002) find out that slow growth in capital per worker and not slow Total Factor Productivity (TFP) is responsible for slow growth in the agricultural sector. This was further explained to be due to inadequate capital investment and rapid growth of the population and labor force. Also, Muhammad-Lawal and Atte (2006) recommend an increase in per-capita productivity through the introduction of improved technology in agricultural production. They also indicated a positive and consistent relationship between the GDP growth rate, population growth rate, and the Consumer Price Index as factors affecting domestic agricultural production in Nigeria. However, it is estimated based on the prospects of the sector that by 2015, it is possible to provide 3.5 million jobs within the agriculture value chain, increase farmers‟ incomes by $2 billion and also reduce food insecurity by 20 million metric tons (MT) increase in food supply (FMARD, 2012). This can only be achieved by intensified efforts in increasing productivity and developing the agriculture value chain.

Having explained the two main concepts of this study, we now take a look at the theory that guides this study.

Theoretical Literature

Solow-Swan Growth Theory

The neoclassical growth theory put forward by Robert Solow and Trevor Swan in the 1950s is one of several theories or models that try to explain the concept of economic growth. These two economists published two path-breaking articles in the same year 1956 (Solow, 1956, and Swan, 1956) introducing the Solow model. Bob Solow later developed many implications and applications of this model and was awarded the Nobel Prize in Economics for these contributions. This model has shaped the way we approach not only economic growth but the entire field of macroeconomics. Economic growth and development are dynamic processes, focusing on how and why output, capital, consumption and population change over time. The study of economic growth and development, therefore, necessitates dynamic models. Despite its simplicity, the Solow growth model is a dynamic general equilibrium model. The Solow-Swan neoclassical growth theory and its extensions are a popularly adopted framework for analyzing the process of economic growth and

development. Assuming a constant-return-to-scale aggregate production function expressed as:

$Y(_t) = K(_t)\, L(_t)\, B(_t)$.

Where:

Y, K, L and B represent real GDP per capita, 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 sectors of the economy.

METHODOLOGY AND PROCEDURES

The theoretical framework provides the theoretical basis of this study and the research methodology which throws more light into the empirical investigation conducted. Also to fully assess the impact of crop production on economic growth in Nigeria, a model with dependent and explanatory variables to be estimated is specified, a priori expectations of these variables, techniques of estimation and method of data analysis are all treated, as well as an outline of the sources of data used.

Theoretical Framework

The Solow version of Neo classical is more suitable for this study due to its dynamism. The Solow model focuses on four variables: Output (Y), Capital (K), labor (L), and knowledge (A). At any point, the economy has some amount of capital, labor and knowledge Romer (2009). These are combined to produce output. The production function takes the form:

$Y_{(t)}=f(K_{(t)},A_{(t)},L_{(t)})$ 3.1

$Y_{(t)}$ = output at time t, $K_{(t)}$ = capital at time t, $L_{(t)}$ = labor at time t, $A_{(t)}$ = knowledge at time t. $A_{(t)}$ and $L_{(t)}$ enter the model multiplicatively; hence $A_{(t)}\, L_{(t)}$ is effective labor. Note, there is technological progress if the amount of knowledge (A) increase.

The analysis is extended to incorporate the agricultural output variables as they affect economic growth. Thus the production function 3.1 above, becomes

$Y_{(t)}=K_{(t)}^{\beta}AGO_{(t)}^{\lambda}(A_{(t)}L_{(t)})^{\gamma}$. 3.2

As stated in equation 3.2 above, $Y_{(t)}$ is the economic growth proxy by Gross Domestic Product (GDP), Labor proxy by Enrolment of Post Primary School. It enters the Model multiplicatively as $A_{(t)}$ and $L_{(t)}$ while Capital (K) at period *t* proxy by Gross Fixed Capital Formation and AGO is the agricultural output. Therefore, the extended version of the Solow growth model indicates that agriculture is one of the determinants of economic growth. This agricultural sector can however be disaggregated to capture the other subsectors such as crop production, livestock production, fishery production, and forestry.

Model Specification

To achieve the core objective of the study, equation 3.3 is modified in line with the model captured by Amaefuna (2019) where crop production output was modeled as a function of gross domestic product (GDP). Thus the functional model was specified below:

GDP = f(CP, LO) 3.3

The model is restated in an econometric form as:

$GDP_t = \beta_0 + \beta_1 CP_t + \beta_2 LO_t + U_t$ 3.4

Where:

β_0 = Constant Term / Parameter Intercept

β_1 =Regression co-efficient of Crop production

β_2 = Regression co-efficient of Labour productivity

Ut = Error Term

Apriori Expectation

$\beta_1 \beta_2 > 0$

Estimation Technique and Procedure

In an attempt to establish the impact of agricultural output on economic performance in Nigeria, an appropriate econometric method is to employ an Ordinary Least Square (OLS) method for modeling. Before the above function is estimated, both dependent and independent variables are subjected to some statistical tests such as the stationarity test. The battery tests are as follows:

Unit Root Test:

Rigorous investigations are made using the ADF unit root test to check the stationary property of the variables in the model, should there be any. The purpose of this test is to establish if the time series has a stationary trend; and if non - stationary, to show the order of integration 'differencing'. The most popular ones are the Augmented Dickey-Fuller (ADF) test due to Dickey and Fuller which relies on rejecting a null hypothesis of the unit root test (the variables are non-stationary) in favor of the alternative hypotheses of stationarity. The tests are conducted with and without a deterministic trend (t) for each of the variables.

$$\nabla Y_t = \alpha + \beta_t + \gamma Y_{t-1} + \delta \nabla Y_{t-1} + \cdots + \delta_{\rho-1} \nabla Y_{t-\rho+1} + \varepsilon_t \quad 3.5$$

Where $\alpha$is a constant, $\beta_t$the coefficient on a time trend and $\rho$the lag order of the autoregressive process. By including lags of the order p the ADF formulation allows for higher-order autoregressive processes. This means that the lag length p has to be determined when applying the test. The unit root test is then carried out under the null hypothesis $\gamma = 0$ against the alternative hypothesis of $\gamma < 0$. ADF means Augmented Dickey-Fuller

Significance at 5% level

Decision Rule:

If ADFs > critical value- stationary
If ADFs < critical value- non-stationary

Co-integration Test

Capitalizing on the likelihood of co-movement in their behavior which implies that there is a possibility that they trend together toward stable long-run equilibrium, the Johansen cointegration test is applied. The objective of this test is to determine if there is the existence of a long run equilibrium relationship among the variables used in the study. As pointed out by Engel and Granger (1987), the concept of cointegration creates a link between the integrated process and the concept of steady equilibrium. Co-integration occurs when two or more time series variables which themselves may be non-stationary, drift together at roughly

the same time. This implies that a linear combination of the variable is stationary. The null hypothesis is that the variables are not cointegrated.

The Granger Causality was used to determine the causal direction between the agricultural sector and the economic performance of Nigeria. The dependent and explanatory variables by employing the Granger causality test. The most common way to test the causal relationships between two variables is the Granger- Causality proposed by Granger (1969).

$$X_t = \sum_{i=1}^{n} \alpha i \, Y_{t-1} + \sum_{j=1}^{n} \beta j \, X_{t-1} + U_{1t} \quad 3.6$$

$$Y_t = \sum_{i=1}^{m} \gamma i \, Y_{t-1} + \sum_{j=1}^{m} \delta j \, X_{t-1} + U_{2t} \quad 3.7$$

Error Correction Mechanism

An Error Correction Mechanism was employed to ascertain the speed of adjustment from the short-run equilibrium to the long-run equilibrium state. The functional form, on which our econometric model was based, employed multiple regression equation models in this work. Further, OLS regression is applied to test for the long-run relationship between growth and the explanatory variables.

RESULTS AND DISCUSSION

Unit root (Augmented Dickey-Fuller Test)

The Augmented Dickey-Fuller test in the table above shows that GDP, CP, and LO were stationary at first differencing at a 5% critical value.

Table 4.1 Unit root (Augmented Dickey-Fuller Test)

Variables	Adf test at level	Adf test at 1st Difference	5% critical values	Order of integration	Remarks
GDP	-2.24	-4.587	-3.533	1(1)	Stationary
CP	-2.052	-5.321	-3.533	1(1)	Stationary
LO	-2.878	-6.332	-3.533	1(1)	Stationary

Source: Eviews 9

Test for Co-integration

Given that the series are integrated of order one 1(1), the Johansen co-integration approach is found worthy in ascertaining if there is a long-run relationship exists between the variables of the model. Johansen's method detects several co-integrating vectors in non-stationary time series. It allows for hypothesis testing regarding the elements of co-integrating vectors and loading matrix. The result of the co-integration test is as follows: Null hypothesis (H_0): there is no co-integration among the variables. Alternative hypothesis (H_1): there is co-integration among the variables.

Table 4.2 Johansen Co-integration Test Result

Unrestricted Co-integration Rank Test (Trace)				
Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None	0.732	32.536	43.675	0.0945
At most 1	0.513	21.273	29.707	0.4067
At most 2	0.312	8.152	14.356	0.3433
At most 3	0.054	3.753	2.832	0.1315

Source: Eviews 9

From the table above, the trace likelihood ratio results point out that the null hypothesis of no co-integration among the variables is accepted in favor of the alternative hypothesis up one co-integrating equation at a 5% significant level because their values are less than the critical values. Specifically, from the result above, the evidence that residuals are not stationary since the trace statistics (32.53) is less than the critical value at 5% (43.67) or probability values greater than 0.05; thus, our variables are not co-integrated indicating possible short-run relationship.

Error Correction Model (ECM)

Table 4.3: Error Correction Model Result

Dependent Variable D(GDP)

Variables	Coefficient (probability values)
C	27.56 (0.9621)
D(CP)	0.03 (0.0021)
D(LO)	0.023 (0.0042)
ECT(-1)	-0.32 (0.0032)
R-squared	0.932 (93.2%)
Adjusted R-squared	0.901 (90.1%)
F-statistics	234.56
Prob (F-statistics)	0.000
Durbin Waston Stat.	1.972

Source: Eviews 9

From the estimated model above, the coefficient of the constant implies that if crop production (CP) and labor output (LO) are set equal to zero, GDP will increase by about 27.56 percent. The coefficient of crop production (CP) is 0.03, which implies that with the influence of all other variables held constant, an increase in crop production by one percent on average, will lead to an increase in GDP by about 0.03 Percent. The coefficient of labor output (LO) is 0.23, this suggests that all things being equal, as labor output increases by one percent on average, GDP decreases by about 0.23 percent. It can also be observed that the multiple coefficients of determination (R^2) are given as 0.932 or 93.2%. This means that about 93.2% of the variation in GDP is explained by variations in crop production (CP) and labor output (LO). The adjusted R^2 is reported as the multiple coefficients of determination adjusted to take into account the degrees of freedom associated with the sum of squares. The Adjusted R^2 is given as 0.901 or 90.1%. This implies that about 90.1% of the fluctuations in the dependent variable GDP are jointly explained by the fluctuations in the explanatory variables such as CP and LO.

The empirical result from Durbin-Watson (D-W) statistics shows that the computed D-W for all models is 1.978863. While the result from Durbin-Watson (D-W) tabulated lower case (d_L) is equal to 1.160 and 1.222, Durbin-Watson (D-W) tabulated upper case (d_u) is equal to 1.803 and 1.726 respectively. We do not decide on the models and conclude that there is no evidence of autocorrelation or no autocorrelation with a first-order scheme in the specified models. The F-statistics shows that there is a joint significance of the variables used in the model, which implies that there is a strong relationship between the regression (GDP) and the regressors such as crop production and labor output.

This study critically examined the impact of crop production on economic growth in Nigeria within the period, 1981 - 2021 using secondary data sourced from the Central Bank of Nigeria statistical bulletin (2021) and the World Bank indicators. The unit root test was done

using augmented dickey fuller and the result shows that variables are stationary at first difference. The study adopted ordinary least square techniques for the regression analysis. The result in Table 4.3 shows that crop production has a positive and significant impact on economic growth in Nigeria. This implies that the growing of crops and the supply of these crop produce has a significant positive impact on economic growth.

The coefficient reveals that holding other regressors constant, a one percent rise in crop production on average will lead to a 3% increase in economic growth annually. This study also finds that labor productivity has a positive and significant impact on economic growth. This means that labor productivity contributed positively to economic growth in Nigeria. This may be ascribed to effective labor laws and the commercial production (labor-intensive) method of farming which have supported improved agricultural output capable of boosting economic growth.

The coefficient of ECT (0.32) which measures the speed of adjustment towards long-run equilibrium carries the expected negative sign and is significant at a 5 percent level. The coefficient of the ECT indicates a feedback of 32% of the previous year's disequilibrium. This also implies the speed with which GDP adjusts from short-run disequilibrium to change in crop production and labor output to attain a long-run equilibrium of 32% within one year.

CONCLUSION AND SUGGESTION

In line with the objectives of this study, the following conclusions were reached in determining the impact of crop production on economic growth in Nigeria. The study concluded that crop production and labor output have a positive and statistically significant impact on economic growth in Nigeria. However, the study finds that labor output has no significant impact on Nigeria's economic growth for the period under review. In line with the major findings generated from this study, this researcher offers the following recommendations. The findings from the study show that crop production has a positive and significant impact on economic growth. There is a need for the government to improve the mode of production. This could imply having an optimal mix of labour and capital-intensive means of production in crop production to boost economic output. Generally, more should be done to promote mechanized and smart agriculture so as establish a stronger relationship between agricultural outputs and economic growth in Nigeria agriculture has been shown to play a role in economic growth, but the problems bedevilling the agricultural sector need to be resolved so that it can contribute significantly to GDP.

CONFLICT OF INTERESTS

The authors declare no conflict of interest.

FUNDING

The authors received no funds for conducting this study.

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