

## Agricultural Policy and Economic Growth of Nigeria

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**Abstract.** The objective of every independent nation like Nigeria is to improve the standard of living of its citizenry and promote economic growth. Despite huge sums of money allocated to the agricultural sector over these years, there was little or insignificant improvement in agricultural production because successive governments only used the policies to embezzle public funds to the total neglect of food production by refusing to pay farmers the true value of their crops and at the same time selling fertilizer and seeds to them at high prices. The study adopted ex-post facto research design. Economic data were sourced from Central Bank of Nigeria Statistical Bulletin and World Governance Indicator from 1981-2017. Data were analysed using descriptive statistics and multiple regression analysis. Agriculture policy had positive but non-significant moderating effect on the relationship between agricultural exports and the economic growth of Nigeria ( $\Delta R^2=0.024$ ;  $\beta_- -0.0001$ ;  $t(185) =4.3743$ ;  $p<0.05$ ). The study concluded that agricultural policy impacted the economic growth of Nigeria. The study recommended that an effective and committed policy implementation by the government is needed to improve economic growth. Furthermore, the Nigerian government should provide additional funding for the agricultural sector to raise its productivity and increase its contributions to economic growth.

**Keywords:** Agricultural, Economic, Growth, Gross Domestic Product, Policy, Sector.

### 1. Introduction

The world has become a global village which has both positive and negative implication for every sphere of life. The efforts at creating international frontiers for sales and consumptions of goods and

services of any country has multifarious implications ranging from creation of job opportunity, trade by barter to fostering the relationship between two or more countries and many more. From the perspective of occupational distribution and contribution to the gross domestic product, agriculture was the leading sector contributing almost about 70% of the Gross Domestic Product (GDP), employing about the same percentage of the working population, and accounting for about 90% of foreign earnings and federal government revenue (Gbaiye, Ogundipe, Osabuohien, Olugbire, Adeniran, Bolaji-Olutunji, Awodele & Aduradola, 2013). The contributions 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 (Ruttan, 2000). The agriculture sector contributes to the nation's development in aspect of enhancing government revenue; infrastructural growth, living standards and also contribution to Gross National Product, (Chandio, Jiang, Rehman & Jing dong, 2016). The objective of every independent nation like Nigeria is to improve the standard of living of its citizenry and promote economic growth and development of the country. Apart from employing about 51.3% of labour force in Nigeria and accounting for 70% of GDP of the non-oil sector (Bureau of Statistics, 2010), it also contributed more than three quarter of export earnings (Linda, 2001).

The role of agricultural sector in diversification of economy cannot be over emphasized, given that it guarantees food security of any nation. For a developing country with a mono-product oil economy such as Nigeria, government's indifference to agriculture portends great danger to the economy for many reasons. It is generally accepted that Nigerian agriculture has suffered as a result of the

resource curse effect of oil and inappropriate policies and institutions. Implementation of agricultural policies is however moderated by macro-economic policies which provide the enabling environment for agriculture to grow *pari passu* with the other sectors. These policies usually have major impact on profitability of the agricultural system and the welfare of farmers as they affect the flow of funds to the sector in terms of budgetary allocation, credit, subsidies, taxes and therefore, must be in harmony and mutually reinforcing with the agricultural policies. Apparently, the intended goals and objectives of agricultural policies such as generating massive employment through agriculture and agro-based businesses, reduction of high poverty rate, ensuring sufficiency in the supply of food for the Nigeria's teeming population, improving per capital income of Nigerians who engage in agriculture, taking comparative advantage on the Nigerian agricultural products in the international markets among other have remained partially unachievable considering some research findings such as (Ayoola, 2001; Madukwe, 2008) study on the assessment of agriculture in Nigeria

## 2. Statement of the Problem

Having realized the declining role, the agricultural sector has had to economic development, the government over the years have put in place certain policy measures and programmes with a view to increasing the contribution of agriculture to economic development in Nigeria. However, despite huge sums of money allocated to the sector over these years, there was little or insignificant improvement in agricultural production because successive governments only used the policies/programmes to embezzle public funds to the total neglect of food production by refusing to pay farmers the true value of their crops and at the same time selling fertilizer and seeds to them at high prices (Akintunde, Adesope, & Okruwa, 2013). The mismatch between the performance of the Nigerian economy and massive increase in government total expenditure over the years raises a critical question on its role in promoting economic growth and development. Regardless of the involvement of Nigeria in international trade, hunger, malnutrition, mass poverty and income among small groups of businessmen and politicians, unemployment and lack of executive capacity, over dependence on petroleum and imports of goods and services continues to take a turn for the worse thereby leading to threat on economic growth in Nigeria (Ijirshar, 2015). Early authors (Onah, 2006; Umoh, 2001; Ayatse & Akuva, 2009) identified some key reasons that have

contributed and hindered agricultural productivity and income from agriculture in Nigeria are linked to poor policy formulation and implementation in the agricultural sector. For instance, Anyanwu (1997) observed that most of government agricultural policies have failed to address the issues of land tenure system, provision of adequate agricultural facilities to farmers, access to agricultural micro credits, access to markets for the sale of agricultural provision of agricultural education to rural farmers on mechanized farming, among others. Eze et al (2010) noted that access to credit is a problem for all farmers and is particularly acute for poor farmer. It is on this note that the Report of the Nigerian Poverty Assessment (2007) stated that none of the existing credit sources on agriculture appear able to provide credit to poor farmers, without which it is unlikely that they will invest heavily in productivity-increasing inputs. Given that poor farmers are less likely to have assets for collateral, innovative ways need to be found to provide credit, perhaps based on the group credit systems operating in other countries. On the other hand, improving agricultural extension services as well as providing adequate agricultural infrastructures have remained poor. In light of this, there is a need examine the moderating effect of agriculture policy on the relationship between agricultural export and the economic growth of Nigeria from 1981-2017.

## 3. Conceptual Review

Policy is a deliberate plan of action to guide decisions and achieve rational outcomes. Policy differs from rule of law. While law can compel or prohibit behaviors, policy merely guides actions toward those that are most likely to achieve a desired outcome. It is also a guideline consisting of principles and rules governing the behaviour of persons in an organization. Policies prescribe how people in an organization should act or behave (Asiabaka, 2002). Whereas, agricultural policy is a statement of action and a fundamental tool employed in achieving agricultural development (FBN, 1997). In Nigeria agricultural policies and programmes have undergone changes especially in the postcolonial era. Agriculture is important to the Nigerian economy as it engages about 70% of the labour force and contributes over 40% of the Gross Domestic product (GDP) (FMARD, 2000). It provides food for the teeming population and raw materials for industries. The sector is faced with mirage of problems which militate against optimizing its potential. Some of the constraints include low productivity, poor marketing and distribution infrastructures, and inadequate access to credit, weak extension services and

inadequate database among others. An attempt to ameliorate the constraints by the federal government was the adoption of the agricultural policy for Nigeria in 1988 (FMARD, 2000). With the growing awareness of the role and importance of agriculture in the economic growth of Nigeria, various government regimes have intensified efforts aimed at transforming agricultural from its subsistence level to a market-oriented production.

Some fundamental weaknesses that have impeded the effectiveness of agricultural policies and program implementation have been identified in FMA (2001), they include: Hostile environment where macro – economic policies and the agricultural policy are in disharmony thus resulting in escalating costs of production and reduced purchasing power of farmers; Inconsistency and instability in macro – economic policies which discourage medium and long term investments in agriculture; Poor state of rural infrastructure; Lack of appropriate indigenous technology to reduce the drudgery in agricultural production and processing activities; Inadequate technology; Inadequate database for policy formulations, monitoring and evaluation as well as impact assessment; Poor translation and articulation of policy prescription into implementable programme; Lack of involvement of beneficiaries in programme; designs monitoring and evolution and implementations arising from under-rating of the knowledge, ability, capability and sensitivity of the small scale farmers; Lag between project costs and budgetary provision resulting in sub-optimal allocation; Fragmentation of farmlands into small unit which are sometimes far apart; Cropping systems not often adequate for mechanizations.

There had been a number of policy measures and programmes which involve the reconstruction or reformation of the whole structure of the agricultural sector by the creation of appropriate institutions and public services designed to strengthen the economic position of the independent farmer. The objectives and strategies of the policy include: Creating conducive macro-environment to stimulate greater private sector investment in agriculture, rationalizing the roles of the three tiers of government in their promotional and supportive activities to stimulate growth; reorganizing the institutional framework for government intervention in the sector, articulating

and implementing integrated rural development as a priority national Programme to raise the quality of life of the rural people; increasing agricultural production through increased budgetary allocation and promotion of the necessary developmental, supportive and service-oriented activities, opportunities; increasing fiscal incentives to agriculture, promoting increased use of agricultural machinery and inputs through favourable tariff policy. This policy direction placed additional responsibilities on extension by including sustainable development components. Manyong et al. (2003) noted that some of the agricultural policies and programmes from pre-independence to early 2000 included: Farm Settlement Schemes (FSS) in the early-to-mid 1950s for creating farmsteads of the Israeli Moshav type agriculture intended to increase commodity output and create employment for young school leavers; River Basin Development Authorities (RBDAs) for the purpose of harnessing water resources for farmers throughout the country; Green Revolution Scheme (GRS) that encouraged all Nigerians in both urban and rural areas to go into agriculture for both commerce and provision of food for home consumption; and Agricultural Development Programmes (ADPs) in all states of the federation to help organize farmers into more productive agriculture through the provision of modern inputs. Also, other policy measures and efforts made by various administrations according to Agbogo and Aja (2011) included: the Food and Agricultural Organization (FAO) sponsored fertilizer supply in the early 1970s; the National Accelerated Food Production Programme (NAFPP) in 1972; the Operation Feed the Nation Programme (OFN) in 1976; the Green Revolution Programme (GRP) in 1980; the River Basin Development Authority Scheme (RBDA); the Integrated Agricultural Development Programme (ADP) in 1984; the Commodity Boards; the Government sponsored food production companies in the mid- 1980s; the Directorate of Food, Roads and Rural Infrastructures (DFRRI) in 1986 and the National Agricultural Land Development Authority (NALDA) in 1992. While Ugwu and Kanu (2012) study on effects of agricultural reforms on the agricultural sector in Nigeria, noted the period, type of government date and objective of the agricultural policies and programmes.

**Type of Government, Date and Objective(s) of the Agricultural Policies and Programmes.**

S/N	Period	Length of Time	Head of Govt.	Type of Govt.	Policies	Date	Objective
1	Oct. 1960 to Jan. 1966	6 months	Tafawa Balewa	Civilian	Nigerian Research Institute Acts	1964	To promote research in agricultural and other areas
2	Jan. 1966 to July 1966	6 months	Aguiyi-Ironsi	Military	-	-	-
3	July 1966 to July 1975	9 months	Yakubu Gowon	Military	i) Agricultural Research Council of Nigeria Decree (ii) Agricultural Research Institute Decree (iii) National Accelerated Food Production Project (NAFPP) (iv) Integrated Agric. Development Projects (v) Nigerian Agric. And Cooperative Bank (vi) Specialized Marketing Boards (vii) National Grains and Roots Cultivation Programme	1971 1973 1973 1973 1973 1975 1975	To coordinate all agricultural research To establish institute to conduct research in any field of agriculture To accelerate Production of major staples To enhance adoption of new Agric. Technology by farmers To make credit available to farmers To fix commodity prices. To accelerate production of grains and root crops.
4	July 1975 to Feb. 1976	6 months	Murtala Muhammed	Military	-	-	-
5	Feb. 1976 to Oct. 1979	3 months	Olusegun Obasanjo	Military	(i) Operation Feed the Nation (ii) River Basin Development Authorities (iii) Agricultural Credit Guarantee Scheme (iv) Rural Banking Scheme (v) Land Use Act	1976 1977 1977 1977 1978	To mobilize the public to participate in agricultural production To develop the country's land and water resources To reduce the risk borne by commercial banks and make credit available to farmers. To encourage rural banking habit. To make land available for agricultural purposes, etc.
6	Oct. 1979 to Dec. 1983	4 months	Shehu Shagari	Civilian	Green Revolution Programme	1980	To increase agricultural production
7	Dec. 1983 to Aug. 1985	1 month	Muhamadu Buhari	Military	Increase in the number of River Basin Authorities from 11 to 18	1984	-
8	Aug. 1985- Aug. 1993	8 months	Ibrahim Babangida	Military	(i) Directorate for Foods, Roads, and Rural Infrastructure. (ii) Reorganization of the River Basin Authorities (iii) Abolition of the Marketing Board (iv) Trade Liberalization Policy (v) National Directorate for Employment. (vi) National Agric. Insurance Scheme (vii) National Land Development Authority	1986 1986 1986 1987 1991	To promote rural development. To enhance the earnings of farmers To encourage export employment To reduce the risk burden on farmers To develop agricultural land in the country
9	Aug. 1993- Nov. 1993	3 months	Ernest Shonekan	Civilian	Merger of the Directorate for Food, Road and Rural Infrastructure (DFRRI) with Federal Ministry of Water Resources	1993	-
10	Nov. 1993- June 1998	4years and 9months	Sani Abacha	Military	Continuation of Babangida programmes	-	-
11	June 1998- May 1999	-	Abdul Salami Abubakar	Military	-	-	-
12	May 1999- 2007	-	Olusegun Obasanjo	Civilian	A series of the initiative of the President targeted at particular commodities to increase food production in line with Vision 2020, with a view to attracting the attention of the highest political authority for special intervention in the commodity sector.	-	-
13	May 2007- 2010	3 years and 6	Musa Yaradua	Civilian	In continuation of the vision 2020, the agricultural policy within the	-	Create the conducive macro-environment to stimulate greater

		months			seven point agenda focused on land Reforms, Food Security, and Agriculture.		private sector investment in agriculture Rationalising the roles of the tiers of government in their promotional and supportive activities to stimulate growth Re-organising the institutional framework for government intervention in the sector to facilitate smooth and integrated development of agricultural potentials
14	2010 to May 2015	5 years	Goodluck Jonathan	Civillian	This administration developed the agricultural transformation agenda focusing on major policy reforms to eliminate corruption in the seed and fertilizer sectors, improve the functioning of market institutions, establish staple crop processing zones which in turn sets to attract private sectors into areas of high production as well as reduce post-harvest losses, add value to locally produced crops and foster rural economic growth.	-	To improve Agricultural rural infrastructure and access of farmers to financial services and markets. Eliminate corruption in fertilizer deals Create agro-business, value addition and private participation

*Source: Adapted from Ugwu and Kanu (2012): Effects of Agricultural Reforms on the Agricultural Sector in Nigeria Agricultural Credit Guarantee Scheme Fund (ACGS)*

The need to encourage the flow of increased credit to the agricultural sector raised the necessity for an investigation to determine the bottlenecks which were experienced in attracting credit to the sector Ijere (2001). The agricultural credit guarantee scheme (ACGS) which provided for a Fund of N100 million subscribed to by the Central Bank of Nigeria (60%). Anyanwu (1997) came into operation of April 3, 1978 with the objective of providing guarantees in respect of loans granted for agricultural purposes by any bank in accordance with the provision of the Act and with the aim of increasing the level of bank credit to the agricultural sector. The agricultural purposes in respect of which loans can be guaranteed by the Fund are those connected with the establishment or management of plantations for the production of rubber, oil palm and similar crops, the cultivation of cereal crops, animal husbandry, including cattle rearing and poultry and fish farming. Between April 1978, when the scheme came into operation, and the end of that year a total of 341 agricultural loans amounting to about N11.3 million had been guaranteed by the Fund. The Fund has continued to increase progressively over the years such that by the end of 1982, a total of 4,762 projects involving the sum of N143.2 million have been guaranteed by the fund. As table above showed the number of loans guaranteed rose from 341 in 1995 to 18079 in 1998 while the value rose from N11.284 million in 1978 to N164.190 million in 1995. However, some of the observed problems in the implementation of the scheme include delays experienced by farmers in having their application

processed by the banks and some issues alleged to have arisen from the Land Use Act.

### 3.1 The Nigerian Agricultural and Cooperative Bank (NACB)

The Nigerian agricultural and cooperative bank (NACB), was founded in April, 1973, to foster growth in the quantity and quality of credit to all aspects of agricultural production including poultry farming, fisheries, forestry and timber production, horticulture etc. It aimed at improving storage facilities for agricultural products and the promotion of the marketing of agricultural products. The Central Bank of Nigeria has 40% of its equity shares which stood at N150 million in 1984. The bank provides for two credit markets: direct-lending to individual farmers and organizations, and on-lending to establish institutions mainly state governments and co-operative bodies against guarantees for on-lending to third parties. Despite this apparent impressive performance, quantity of loans granted to small-holder has proved grossly inadequate.

### 3.2 Commodity Boards

Their establishment was to promote both the production and marketing of their respective commodities. There was also a restructuring of the then existing marketing board system for export in 1977 from regional-oriented boards to those with a national outlook. Thus, there came into being 7 Commodity Board, viz: Cocoa, Rubber, Cotton, Groundnut, Grains (for Cereals) Root Crops (for

Cassava, Yam and Cocoyam), and Palm Produce (for palm oil and Palm kernel). In the particular case of the food crops, the boards recorded little or no impact due to their low coverage with only a small proportion of farmers reached. In addition, the minimum prices fixed by the boards are lower than those obtaining in rural markets. However, the boards wound up their operations in 1986.

### 3.3 Economic Growth

According to Peng and Almas (2010), economic growth is a long term rise in the capacity to supply increasingly diverse economic goods to its population. It entails sustainable rise in national output which is a manifestation of economic growth. A growth in the economy implies that, if laws remain unchanged existing tax revenues also increase, if the employment rate increases due to economic growth, then the impact is much stronger. Additional public revenue, if well invested can further foster growth in an economy (Olajide, 2010). Classical theorists that was led by Arthur Levis' in 1950s viewed economic development as a growth process of transferring factors of production, especially labour from an agricultural sector characterized by low productivity and the use of traditional technology to a modern industrial sector with higher productivity. Economic growth is the leading goal of policy makers worldwide (Hernandez, 2011). Countries can experience economic growth with exports of goods through returns of scale, increase efficiency by increased competitiveness at international level and specialization, (Atrkar & Roshan, 2007). Also, Ayeomoni and Aladejana (2016) defined economic growth as an annual increase in productivity which is often measured over a given period of time.

Whereas, Schumpeter (2005), defined economic growth as "a gradual and steady change in the long run which comes by a gradual increase in the rate of savings and population". It also implies that economic growth is synonymous with a sustained rise in national output, provision of wide range of economic goods, presence of improved technology and institutional, attitudinal and ideological adjustments. The gross domestic product is monetary value of goods and services which serve as a major growth indicator. This presumes that all sectors of an economy make their inputs to the economic growth of the economy. Agriculture is one of such sectors (Yakubu, 2006). A large body of literatures can be found on the role of exports in economic growth that is known to "export led growth" hypothesis, by scholars, such as, (Amit, 2010, Saad, 2012, Mangir, 2012, Love & Chandra, 2005). A growth in the

economy simply implies that, if laws remain unchanged existing tax revenues also increase, if the employment rate increases due to economic growth, then the impact is much stronger. Additional public revenue, if well invested can further foster growth in an economy (Olajide, 2010).

### 3.4 Keynesian Theory

This theory was developed by British economist-John Maynard Keynes during the 1930's in an attempt to understand the great depression. This theory advocates for increase in government expenditure and lower taxes to stimulate demand and pull the global economy out of the depression. According to Keynes, "we are all dead in the long run". Keynes believed depression needed government intervention as a short-term cure. Increasing saving would not help but spending. Government would increase public spending giving individuals, purchasing power and producers will produce more, creating more employment. This is the multiplier effect that shows causality from public expenditure to national income. Critics (Oteng-Abayie & Frimpong, 2009; Folster & Henrekson, 2001) assert that increasing government expenditure may slowdown overall performance of the economy. That is, financing government increasing expenditure by raising taxes or borrowing may induce long-run adverse effects, as higher taxes discourage innovation which in-turn results in lower income and aggregate demand. Likewise, if government finances her expenditure by domestic borrowing, it may crowd-out private investors hereby mitigating the level of growth. Classicalists and neo-classicalists still hold this view.

Supporters (Pevcin, 2003; Brady, 2007; Pham, 2009; Olugbenga & Owoye, 2007) and Maku, (2009) of the Keynesian school of thought suggested that, government spending can contribute positively to sectorial growth (like the agricultural sector) in the economy. Thus, an increase in government consumption is likely to lead to an increase in employment, profitability and investment through multiplier effects on aggregate demand. Consequently, government expenditure increases the aggregate demand which brings about an increased output depending on expenditure multipliers. Keynes regards public expenditures as an exogenous factor which can be utilized as a policy instruments to promote growth. Nearly all the sectors in the national economies of developing countries demand more budgetary allocations every year. For instance, the agricultural sector under the Maputo Declaration of 2003 requires African governments to increase expenditure on agricultural sector to at least 10

percent of the national budgetary resources (New Partnership for Africa's Development (NEPAD), 2011).

This theory however is important as it explains that government expenditure is the main instrument used by governments especially in developing countries such as Nigeria to promote economic growth which is an essential ingredient for sustainable development. Economic growth brings about a better standard of living of the people through provision of better infrastructure, health, housing, education services and improvement in agricultural productivity and food security (Loto 2012).

#### 4. Empirical Review

In Nigeria, several writers have found a nexus between economic growth and agricultural policies activities, majority of which are positive. Others whose results of the study showed positive relationships between agriculture and economic growth include but not limited to Umaru and Zubairu (2012); Agbogo and Aja (2011). Conversely, Ugwu and Kanu (2012) examined the agricultural policies in Nigeria over three decades and came to the conclusion that the overall economic reform strategies developed and operated by Nigeria over the period focused only on the achievement of food self-sufficiency and food security, generation of gainful employment, increased production of raw materials for industries, increased production and processing of export crops, rational utilization of agricultural technologies for the improvement of life of its citizens. Olagunju and Ajiboye (2010) analyzed that the lack of a formal national credit policy and the inadequate number of credit institutions in Nigeria is a major cause for the decline in the contributions of agriculture to the economy. The results showed that agriculture credit/finance brings about growth and it solves the problems militating against the agriculture sector's productivity. Interestingly, Rhaji (2008) considered the impact of agriculture on Nigerian economy found out that, the lack of adequate, accessible, and affordable credit is among major factors responsible for the systemic decline in the contribution of agriculture to Nigerian economy.

Ayoola and Oboh (2006) examined the effect of agricultural production on the growth of the economy. They found out that every segment of agricultural production requires the availability of adequate capital since capital determines access to all other resources on which farmers depend. The finding showed that agricultural credit if well applied, encourages capital formation and diversified

agriculture, increases resource productivity, size of farm operations, innovations in farming, marketing efficiency, value added and net farm incomes and thereby leads to economic growth. In the same direction, Oboh (2008) carried out farmers' allocative behaviour in credit utilization in Benue State used error correction model approach. The study revealed that the usefulness of any agricultural credit programme does not only depend on its availability, accessibility and affordability, but also on its proper and efficient allocation and utilization for intended uses by beneficiaries. However, they concluded that agriculture only relatively contributed minimally during the period in terms of output, market, foreign exchange and capital formation or transfer as a result of policy instability, poor coordination of policies, poor implementation and mismanagement of policy instruments and lack of transparency. Some writers have blamed the poor performance of agriculture in Nigeria's economic growth to poor and lip-service paid to policy implementation (Umaru & Zubairu, 2012). Uma et al. (2013), using augmented Dickey-Fuller and Phillips-Perron to test for unit root and John co-integration, concluded that there was a long-run relationship between agricultural practices and gross domestic products (GDP) which was used as a proxy for economic growth.

#### Methodology

This study adopted an ex-post facto research design. Secondary information from 1981-2017 from various sources, such as data from Central bank statistical bulletin, African Development indicators, Food and Agriculture Organization (FAO) and Nigeria Bureau of Statistics was retrieved for the study. The secondary data for this study was analyzed with Econometric View (Eview 9) statistical software in analyzing both descriptive and inferential statistics. Co-integration and error correction estimation techniques was also employed on annual time series data covering 1981-2017, to capture both short run and long run dynamics.

#### Régression Model

X= Agricultural export

Y= Economic growth

Z<sub>1</sub> = Agricultural policy

The econometric model of the research is-

$$Y = \alpha_0 + \beta_1 X_t + \beta_2 Z_{1t} + \beta_3 X^*_{Z_{1t}} + e_t$$

In order to test this hypothesis, the hierarchical multiple regression analysis was conducted

#### Model Summary of the Hierarchical Multiple Regression Test

Model	R Square	Adjusted Square	R	Std Error	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. change F
A	.843	.839	.925	.925	.843	188.49	1	36	0.000*
B	.932	.928	.619	.619	.089	232.37	1	35	0.000*
C	.956	.952	.500	.500	.024	243.92	1	34	0.000*

A. Predictors: (Constant), Agricultural Exports

B. Predictors: (Constant), Agricultural Exports, Agriculture Policy

C. Predictors: (Constant), Agricultural Exports, Agriculture Policy, Agricultural Exports\* Agriculture Policy

\*Significance at 5%

$$GDP_t = \alpha_0 + \beta_1 LNAEX_t + \beta_2 LNAP_t + \beta_3 AEX*LNAP_t + e_t$$

$$GDP_t = 17.335 + 0.002245LNAEX_t + 0.835431 LNAP_t - 0.000129 AEX*LNAP_t + e_t$$

Source: Researcher's Study, 2019

Dependent Variable: LNGDP

Method: Least Squares

Date: 02/06/19 Time: 15:51

Sample: 1981-2017

Included observations: 37

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	17.50405	1.450587	12.06687	0.0000
AE	0.000156	0.000105	1.483991	0.1470
LNAP	0.846516	0.127467	6.641056	0.0000
R-squared	0.931829	Mean dependent var		29.17055
Adjusted R-squared	0.927819	S.D. dependent var		2.305177
S.E. of regression	0.619322	Akaike info criterion		1.957223
Sum squared resid	13.04105	Schwarz criterion		2.087838
Log likelihood	-33.20863	Hannan-Quinn criter.		2.003271
F-statistic	232.3719	Durbin-Watson stat		0.302964
Prob(F-statistic)	0.000000			

Dependent Variable: LNGDP

Method: Least Squares

Date: 02/06/19 Time: 15:51

Sample: 1981 2017

Included observations: 37

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	17.33550	1.172070	14.79050	0.0000
AE	0.002245	0.000485	4.627960	0.0001
LNAP	0.835431	0.102969	8.113458	0.0000
AE_AP	-0.000129	2.94E-05	-4.374353	0.0001
R-squared	0.956849	Mean dependent var		29.17055
Adjusted R-squared	0.952927	S.D. dependent var		2.305177
S.E. of regression	0.500140	Akaike info criterion		1.553949
Sum squared resid	8.254625	Schwarz criterion		1.728102
Log likelihood	-24.74806	Hannan-Quinn criter.		1.615346
F-statistic	243.9215	Durbin-Watson stat		0.869851
Prob(F-statistic)	0.000000			

Researchers Computation

## 5. Result

The table above showed the hierarchical multiple regression results of the moderating effect of Agriculture Policy on the relationship between agricultural exports and economic growth. The value of  $R^2$  for model A from the table indicated that 84.3% variations in economic growth were caused by agricultural exports alone. However, the inclusion of agriculture policy increased the coefficient of determination to 93%, implying that about 93% variations in economic growth could be attributed to both agricultural exports and Agriculture Policy. Also, Model C showed the results after the interaction term (Agricultural Exports\* Agriculture Policy) was added into the model, addition of the interaction term into the model resulted into an  $R^2$  change of 0.024 with a p-value of 0.000 showing a presence of significant moderating effect since the p-value is less than 5%, the level of significance adopted for this study. Therefore, the null hypothesis four that Agriculture policy have no significant moderating effect on the relationship between agricultural export and the economic growth of Nigeria from 1981-2017 is rejected. Hence, agriculture policy has significant moderating effect on the relationship between agricultural export and the economic growth of Nigeria from 1981-2017.

## 6. Discussion on the findings

The findings showed that agriculture policy has a significant moderating effect on the relationship between agricultural export and the economic growth of Nigeria at 5% level. This finding is in agreement with the empirical research of Olagunju and Ajiboye (2010) that showed agriculture credit/finance brings about growth and it solves the problems militating against the agriculture sector's productivity and that the lack of a formal national credit policy and the inadequate number of credit institutions in Nigeria is a major cause for the decline in the contributions of agriculture to the economy. However, they concluded that agriculture only relatively contributed minimally during the period in terms of output, market, foreign exchange and capital formation or transfer as a result of policy instability, poor coordination of policies, poor implementation and mismanagement of policy instruments and lack of transparency. Also, Ayeomoni and Aladejana (2016) findings showed that short and long run relationship existed between agricultural credit and economic growth in both short and long run respectively. These finding also supports the view of Umaru and Zubairu (2012); Agbogo and Aja (2011) & Lawal (2011). Conversely, Ugwu and Kanu (2012) examined the agricultural

policies in Nigeria over three decades and came to the conclusion that the overall economic reform strategies developed and operated by Nigeria over the period focused only on the achievement of food self-sufficiency and food security, generation of gainful employment, increased production of raw materials for industries, increased production and processing of export crops, rational utilization of agricultural technologies for the improvement of life of its citizens. Iyoha and Oriakhi, (2002) identified the sources of economic growth in Nigeria using the growth accounting model and found that agriculture contributes more than expected to GDP growth. In other hand, some researchers (Agu 2014, lance 2012, Audu 2012, Okafor 2012) believe that agriculture policies are positively related with output growth.

## 7. Conclusion and Recommendations

The results from the test showed that agriculture policy had significant moderating effect on the relationship between agricultural export and the economic growth of Nigeria from 1981-2017. The findings of this study revealed that agricultural credits especially to farmers and prospective investors would have a significant effect in the long run. Credit managers would utilize the findings of the research by assessing the level of effect favourable agricultural policies have in market economic growth. This study would provide useful guidance to potential and prospective investors to be fully guided on how to make appropriate investment decisions that pertains to investment horizons for better returns and improvement on their worth. The 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, because of the shortfall in agricultural output as a result of poor credit finance by government as revealed in the study, 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. Also, government should make efforts through its agencies to enlighten farmers of the availability of such credit facilities.

## References

- Agbogo, E. A. & Aja, O. (2011). Analysis of the agricultural policies in the development of the Nigerian economy (1960-2010). *Journal of Agriculture, Forestry and the Social Sciences*, 9 (1),1-13.
- Akintunde, W. A. Adesope, A. A., & Okruwa, V. O. (2013). An Analysis of Federal Government

- Expenditure and Monetary Policy on Agricultural Output in Nigeria. *International Journal of Economics, Finance and Management Sciences*, 1(6), 310-317.
- Amit, K. (2010). The Long and Short of Quality Ladders, *Review of Economic Studies*, Wiley Blackwell, 77 (4), 1450-1476
- Anyanwu, J. C. (1997). *The Structure of the Nigerian Economy (1960-1997)*. Onitsha: Joanee. Educational Publishers, Ltd.
- Ayatse, O. F. & Akura, I. I (2010). *Agricultural Programmes and rural development in Nigeria: A Revisit of Agricultural Programmes in Nigeria Between 1999-2007*. In Egbo, E.A. et al (eds) Rural and Community Development: Critical Issues and Challenges. Onitsha: Austino Publishing Company.
- Ayeomoni, I. O., & Aladejana, S. A. (2016). Agricultural credit and economic growth nexus. Evidence from Nigeria. *International Journal of Academic Research in Accounting, Finance and Management Sciences*, 6 (2), 146-158.
- Ayoola, O. (2001). *Essays on the Agricultural Economy: A Book or Readings on Agricultural Development Policy and Administration in Nigeria*. TMA Publishers, Ibadan. 84.
- Ayoola, G. B., Oboh, V. U. (2006). A model of public expenditure to reveal the preference for agriculture in the budget. *Journal of Rural Economic Development*, 14 (1), 56-73
- Chandio, A. A., Jiang, Y., Abdul, R. Luan, J. D. (2016). Impact of government expenditure on agricultural sector and economic growth in Pakistan. *International Journal of Biology and Biotechnology*, 7(3), 1046-1053
- Duong, P., Izumida, Y. (2002). Rural Development Finance in Vietnam; A Micro-Econometric Analysis of Household Surveys. *World Bank Development*, 30.
- Ershad, A., & Talukder, D. (2010). Agricultural trade liberalization and economic growth in developing countries: Analysis of distributional consequences. *Estey Centre Journal of International Law and Trade Policy*. 11(2), 371-383.
- Eze, O. M. (2017). Agricultural sector performance and Nigeria's economic growth. *Asian Journal of Agricultural Extension, Economics & Sociology*, 15(1), 1-13.
- Federal Ministry of Agriculture and Rural Development (2011). *Agricultural transformation agenda: Nigeria Agricultural Sector, Abuja, Nigeria*'.
- Fosler, S., & Henrekson, M. (2001). Growth effects of government expenditure and taxation in rich countries. *European Economic Review*, 1501-1520.
- Gbaiye, G. O., Ogundipe, A., Osabuohien, E., Olugbire, O. O., Adeniran, O. A., Olatunji, K. A., Awodele, D. O., & Aduradola, O. (2013). Agricultural exports and economic growth in Nigeria (1980– 2010). *Journal of Economic Sustainability Development*, 4 (16)
- Hernandez, A. R. (2011). Can Asians sustain an export-led growth strategy in the aftermath of the global crisis? An empirical exploration. Available online [http://www.adbi.org/workingpaper/2011/12/02/4823.asia.sustain.export.growth.after.global.crisis/]. Retrieved April Saturday, 2012.
- International Food Policy Research Institute (IFPRI) (2008). Trends and drivers of agricultural productivity in Nigeria: In *Annual Report, Nigerian Strategy Support Program*, 30-35.
- Ijirshar, V. U. (2015). The empirical analysis of agricultural exports and economic growth in Nigeria. *Journal of Development and Agricultural Economic*. 7(3),113-122
- Iyoha, M. A., & Oriakhi, D. (2002). Explaining African economic growth performance: The Case of Nigeria. A Revised Interim Report on Nigeria, Case Study Prepared for the African Economic Consortium Research
- Linda, V. B. (2001). *Economy. African South of the Sahara*, (30<sup>th</sup> ed). London: Europe Publications, 876-904
- Loto, M. A. (2011). Impact of Government Sectoral Expenditure on Economic Growth. *Journal of Economics and international Finance*, 3 (11), 646-652
- Love, J., & Chandra, R. (2008). Testing export-led growth in India, Pakistan and Sri Lanka using a multivariate framework. *The Manchester School*, 72 (4),483-496.
- Madukwe, M. C. (2008). Role of Local Government in Fadama III. Paper presented at workshop held at Abuja, 17 November
- Mangir, F. (2012). Export and economic growth in Turkey: Co-integration and causality analysis. *Economics Management and Financial Markets Journal*. 7(1), 65-85
- Manyong, V. M., Ikpi, A., Olayemi, J. K., Yusuf, S. A., Omonona, R., & Idachaba, F. S. (2005). *Agriculture in Nigeria: Identifying opportunities for increased commercialization and investment*. The Main Report Submitted to USAID/Nigeria

- and International Institute of Tropical Agriculture.
- Oboh, V. U. (2008). Farmer's allocative behaviour in credit utilization: A case study of arable crop farmers in Benue State, Nigeria. A Ph.D. Dissertation, Agricultural Economics and Extension Programme, Abubakar Tafawa Balewa University, Bauchi, Nigeria.
- Olagunju, F. I., & Ajiboye, A. (2010). Agricultural leading decision: A tobit regression analysis. *African Journal of Food Agricultural Nutrition and Development*, 10 (5),1-27
- Olajide, O. T., Akinlabi, B. H., & Tijani, A. A. (2010). Agricultural Resource and Economic growth in Nigeria. *European Scientific Journal*, 8 (22),1857-7881.
- Onah, F. O. (2006). Managing public programmes and projects. Nsukka: Great AP Express Publishers limited.
- Oteng-Abayie, E. F., & Frimpong, J. M. (2009). Size of government expenditure and economic growth in three wamz Countries. *Business. Revolution. Cambridge*, 172-175.
- Peng, S., & Almas, H. (2010). International trade and its effects on economic growth in China. Discussion Paper No. 5151. 53072 Bonn, Germany
- Pevcin, P. (2003). *Does optimal size of government spending exist?* Ljubljana: University of Ljubljana.
- Pham, T. (2009). *Government expenditure and economic growth: evidence from Singapore, Hong Kong, China and Malaysia.* Rotterdam: Erasmus University
- Ranjula, B. S. (2001). *Demand, segmentation and rationing in the rural markets of puri.*
- Rhaji, M. A. (2008). An analysis of the determinants of agricultural credit approval/loan size by commercial banks in South-Western Nigeria'. *Nigeria Agricultural Development Studies*, 1(1), 17-26.
- Saad, W. (2012). Causality between economic growth, export, and external debt servicing: The Case of Lebanon. *International Journal of Economics and Finance*, 11 (4), 916-971.
- Schmpter, (2005). Changing productivity through agro-ecological approaches in Central America earth can London. Agro-ecological Innovations
- Swinnen, J. F., & Gow, H. R. (1999). Agricultural credit problems and policies during the transition to a market economy in central and eastern Europe. *Food Policy*, 24,21-47.
- Ugwu, D. S. & Kanu, I. O. (2012). Effects of Agricultural Reforms on the Agricultural Sector in Nigeria. *Journal of African Studies and Development*, 4(2), 51-59.
- Uma, K. E., Eboh, F. E., & Obidike, P. C. (2013). Appraisal of the influence of agriculture on economic growth: Empirical evidence from Nigeria. *Journal of Economics and Finance*,1(1), 73-79.
- Umaru, A., & Zubairu, A. A. (2012). An empirical analysis of the contribution of agriculture and petroleum sector to the growth and development of the Nigerian economy from 1960-2010, *International Journal of Social Science and Education*, 2 (4), 758-769.
- Umoh, B. D. (2001). *Population studies for Nigeria: A New Perspective.* Enugu: Institute for Development Studies University of Nigeria, Enugu Campus
- Yakubu, S. A. (2006). Development. *International Journal of Food and Agricultural Research*. 3(2), Development Universal Consortia. Oxford University Press.