



AN ASSESSMENT OF THE IMPACT OF AGRICULTURAL POLICIES ON ECONOMIC GROWTH IN NIGERIA (1982-2017)

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Abstract

This paper aim to assess the impact of Agricultural Policies on Economic Growth in Nigeria (1982-2017) the variables of the study include GDP, Credit to Agriculture (CRTAG), Budgetary Allocation to Agriculture (BGAAG), Interest Rate (INTR) and Inflation Rate (INFR) Autoregressive Distributed Lag (ARDL) Was used and the finding of the study shows that The long-run results show that budgetary allocation to agriculture and credits to agriculture have significant positive effect on economic growth and The short run dynamic results confirm that interest rate and inflation rate have significant positive impact on economic growth at 5% and 10% level of significance, and the Budgetary Allocation to Agriculture (BAAG), Credit to Agriculture (CRTAG), and Interest Rate (INTR) conform to the apriori expectation with positive signs respectively. This implies that they do have significant impact on economic growth (GDP).and the study recommended government should increase spending on agriculture since most of the poor but active people live in the rural areas and their main source of livelihood is agriculture which can provide food security, generate employment for the teeming youths and create wealth for the citizens in Nigeria

Keywords: Agriculture, Government Policies, Economic Growth, ARDL

Introduction

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 $\frac{3}{4}$ of export earnings (Linda, 2001). Nigeria is still endowed with huge expanse of fertile agricultural lands, as well as, other resources that can be harnessed to transform the economy. In spite of these potentials reported that the sector is still construed by low productivity. For instance, its contribution to GDP averaged 12% in the 1970s, which resulted in rising import bills leading to huge deficit in the balance of payment. Accordingly, fulfilling its traditional role of food provision, employment and foreign exchange generation has been constrained by various socio-economic and financial related problems among which are: poor funding, inadequate credit to local farmers and agro-firm's owners, as well as, unstable macroeconomic policies. In support, Alabi and Chime (2008) have attributed the present economic problem in Nigeria to the poor performance of the agricultural sector.

The agricultural sector has the largest potential to diversify the Nigerian economy, create jobs, ensure food security, lower inflation and boost the nation's foreign exchange. Nigeria used to be a major player in agriculture in the world but has lost its place in the global community. In the 1960's Nigeria for instance accounted for 60% of the global supply of palm-oil, 30% of groundnut, and 15% of global supply of cocoa. Nigeria was self-sufficient in food production, but with the advent of the oil boom in the 1970's everything changed. Sustainable agricultural development is propelled by agricultural policies. In this regard the first national development policy on agriculture was adopted in 1988 and accepted to remain valid for about fifteen years; it lasted to the year 2000.

The main objective of the study is to examine the impact of Agricultural Policies on Economic growth in Nigeria, for the period 1982-2018. The paper has been divided into five parts beginning with the introduction; literature review; methodology employed in the study; presentation and analysis of

results; and conclusions and recommendation of the study.

Literature Review

Conceptually, Agricultural Policies and Programmes are believed to affect different aspects of Agriculture. Anytime Agricultural Policies are implemented; they are meant to achieve specific objectives such as increase in Production, reduction of food price, increase in value addition, and availability of farm inputs among others. These objectives are mostly targeted at enhancing food security and agricultural Productivity.

Agricultural Policy

Nigeria's agricultural policy is the synthesis of the framework and action plans of government designed to achieve overall agricultural growth and development (ministry of agriculture policy guide 2004). The policy aims at the attainment of self-sustaining growth in all the sub-sector of agriculture and the country as well as the improvement in the quality of life of Nigerians (ministry of agriculture 2007).

Composition of Agricultural Policy

1. Central Bank of Nigeria (CBN). Established in 1958, and came into operation in 1959. the CBN as the apex monetary authority not only seek to pursue the objective of price and financial system but also performs developmental functions through various interventions, moreover, as a consequence of the various reforms championed and implemented by the bank over the years, the nation's financial system has witnessed tremendous growth with respect to size, markets, instruments, institutions and strength of the regulatory framework which has enabled the banking sector to perform its developmental role better.

2. The River Basin Development Authorities (RBDAs)

The development of river basins was conceived in 1963 with involvement in the Lake Chad Basin and River Niger Commissions for countries bordering the Lake and the Niger River Anyanwu (1997) and Are (1985) cited Okoli and Onah (2002). But the concept was first tried in 1973 with the establishment of the Sokoto-Rima and the Chad Basin Development Authorities Anyanwu (1997). In addition, Anyanwu (1997) noted that eleven others were established under Decree Nos. 25 and 31 of 1976 and 1977 respectively. These include the Sokoto-Rima (for Sokoto), Hadejia-Jamare (for Kano), the Chad (for Borno), and the Upper Benue (for Gongola), the Lower Benue (for Benue and Plateau), the Cross River (for Cross River), the Anambra- Imo for Imo and Anambra), the Nigeria (for Kaduna, Niger and Kwara) the Ogun-Oshun

(for Oyo Ogun and Lagos), the Benin-Owena (for Bendel and Ondo) and the Niger Delta (for Rivers).

3. Nigerian Agricultural, Cooperative and Rural Development Bank (NACRDB) established in 1972 which later become Nigerian and Cooperative Bank, NACB in October 2001, it was joint established by the Federal Government of Nigeria (FGN) and the Central Bank of Nigeria (at a ratio of 3:2) to dispense credit to cooperatives, agribusiness, and individual small holder farmers at a subsidized interest rate Ogen (2007) and Eze et al (2010). Eze et al (2010) stressed that as direct investment through equity participation in projects, guarantees for agricultural ventures and rural savings services have been enhanced. Its present name came after a merged of People's Bank in Nigeria, Family Economic Advancement Programme and Nigerian Agricultural and Cooperative Bank in 2002 Eze et al (2010).

4. Commodity Boards.

There was also a reorganization 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) Commodity Boards. Their establishment was to promote both the production and marketing of their respective commodities.

5. National Grains Production Company (1979): for the expansion of grain production through giving the farmers improved seeds as credit.

6. Directorates of Foods, Roads and Rural Infrastructure (DFRRI): This agency adopted an integrated approach to rural development. According to Ezeani (1995), the philosophy recognized that increased food production was tied to development of rural economic infrastructure. As noted from Dabin (1997), Okoli and Onah (2002) and Eze et al (2010) budget allocation to DFRRI was N433 million in N1986, 500 billion in 1987 and N1 billion in 1988 respectively.

7. Nigerian Agricultural Insurance Cooperation (NAIC), 1987

This provides insurance cover for all types of farming and farming related activities, including insurance for stock in transit. The premium paid on NAIC policy is heavily subsidized by the CBN to make it affordable for small holder farmers. The indemnity paid in the event of occurrence of risk insured against helps in ploughing the farmer back to business.

8. National Agricultural Land Development Authority-1991

To open up more areas for agricultural production with supporting credit. To achieve these schemes, programmes and institutions, the government over the years made budgetary allocations to agriculture which when compared with the total budget, fall short of meeting policy intentions. For instance during the first to third (1962 to 1980) development plan periods, the federal government budgeted #3.57 billion but only #2.41 billion was actually released for the sector (Federal Department of Agriculture, National Development Plan, 1992). The record also showed that in the first plan, 11.6 percent of the budget was allocated to agriculture but only 9.8 percent was released, in the second plan 9.9 percent was budgeted but 17.7% was actually spent and in the third plan 7.2 allocation was budgeted and 7.1 of this amount was released for the period.

9. Microfinance Banks 2005

Microfinance bring financial services such as savings, deposit, payments, transfers, micro insurance and micro leasing to the active (or productive) poor and low income people, who would otherwise have no access to such services. The Microfinance Policy outlines the principles and guidelines for the practice of microfinance in Nigeria, including provision for the establishment of private sector driven microfinance banks with market centered operations, veritable source of loanable funds for microfinance bank is the Micro Credit Fund, integration of microfinance institutions into the formal banking system.

Economic Growth

Growth is usually calculated in real terms, i. e. inflation adjustment terms, in order to net out the effect of inflation on the price of the goods and services produced. Economic growth or “growth theory” typically refers to growth of potential output. i.e. production at full employment, which is caused by growth in aggregate demand or observed or observed output Arthur Lewis (1963) in his concept of economic growth incorporates the human element and sees the goal of economic growth as the “the growth of the output per head of population”. Sichel and Eckstein (1974) defined economic growth as an increase in the ability of the economy to produce commodities services.

According to Tadaro (1977) economic growth is simply the increase overtime of an economy’s capacity to produce those goods and services needed to improve the wellbeing of the citizens in increasing numbers and diversity

Empirical Literature

Oyakhilomen (2013), his study investigates the link between agricultural budgetary allocation and economic growth in Nigeria from an econometric perspective. The study utilized a secondary dataset of 30 years (1980-2010). The Augmented Dickey Fuller (ADF) test was used to examine the stationarity of the dataset in order to overcome the problem of spurious regression that is common in time series analysis of non-stationary variables. The model of ADF test with constant term and trend showed that the relationship between agricultural budgetary allocations and economic growth in Nigeria is positive but not significant in the long run, while the relationship is positive and significant only for the two year lagged value of agricultural budgetary allocation.

Adofu *et al* (2012) carried out their research on Effects of Government Budgetary Allocation to the Agricultural output in Nigeria. They examine the effect of government budgetary allocation to the agricultural sector on the output of agricultural sector, (from 1995 to 2009). Employing OLS regression technique in an attempt to highlight quality and quantity of National commitment (through public expenditure/budgetary allocation) to agricultural development using government budgetary allocation to agricultural sector and commercial bank credit as explanatory variables. The study suggest that budgetary allocation to agriculture sector has significant effect on agricultural production in Nigeria and that the relationship between them is strong, positive and significant, thus the study suggest that the budgetary allocation to agricultural sector should be increase and monitored, to guarantee food security, employment and overall growth and development in Nigeria.

Itodo *et al* (2012) examined the impact of government expenditure on agriculture and Agricultural output in Nigeria from 1975-2010, using Cob-Douglas production function and OLS econometric technique to estimate a multiple regression of agricultural output against some variables. The results revealed a positive but insignificant relationship between government expenditure to the agricultural sector and agricultural output within the scope of the research.

Fan *et al* (2009) noted that in recent years, many sub-Saharan African countries have pledge to increase government support to agriculture in order to achieve the goal of 6% annual agriculture growth set by the New partnership for Africa’s development (NEPAD) through CAADP. As part of the Maputo declaration of 2003, Africa heads of state and government have agreed to allocate 10% of their National budget to agriculture. Few countries in

Africa including Burkina Faso, Ethiopia, Malawi, and Mali have surpassed this threshold.

Eboh *et al* (2009). On their own part observed that the contemporary economic significance of agricultural sector is even more remarkable. They opined that in the past half-decade, the impressive growth rate of the nations' economy has been driven by the non-oil sector, particularly the agricultural sector. This, in other words according to them means the growth rate of the overall economy is to a large extent dependent on the growth rate of agricultural GDP.

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Umah *et al* (2013) focused their study in assessing the effect of agriculture in Nigeria's economic growth from 1990 to 2009. They 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 (ADF) and Philip of Perron test carried out to test for unit root and Johansen Cointegration 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.

Methodology

Model Specifications

This study adopts Omosebi *et al* (2016) model with some modification in the use of variables and the period of study (to cover from 1982 to 2018).

According to their model:

$$ECONOG = F (CERTA, INTR, PDI, INFR, REER)..... (1)$$

Where:

ECONOG is the economic growth, CERTA is the credit to agricultural sector and INTR is the real interest rate as the key variables whereas Z = private domestic investment (PDI), inflation rate (INFR) and real exchange rate (REER) as control variables in the model.

Real Gross Domestic Product (RGDP) proxy for Economic Growth, Credit to Agriculture (CRTAG), Budgetary Allocation to Agriculture (BGAAG), Interest rates (INTR), and Inflation rate (INFR). The relationship between Economic Growth, Credit to Agriculture, and Budgetary Allocation to Agriculture, Interest rate, and Inflation rate is expressed implicitly as:

This study adopts the same model but the choice of variables differs; thus, the variables for this study are

$$RGDP = f (CRTAG, BGAAG, INTR, and INFR)..... (2)$$

The choice of Credit to Agriculture and Budgetary Allocation to Agriculture as explanatory variables is based on the economic theory that Government intervention is necessary for the economy to take its path to growth, while the choice of Interest rate and Inflation rate as control variables is based on the monetary policy variables that determine the rate of

economic growth. Thus, they have been selected to determine their influence on economic growth over the period of study.

Therefore, our linear function stated above is given as:

$$Y_t = \beta_0 + \beta_1 X_t + \beta_2 X_t + \beta_3 X_t + \beta_4 X_t + U_t..... (3)$$

This is written as:

$$RGDP = \beta_0 + \beta_1 CRTAG_t + \beta_2 BGAAG_t + \beta_3 INTR_t + \beta_4 INFR_t + U_t..... (4)$$

Where:

- Y_t = Dependent variable (RGDP) which is the proxy for economic growth
- X = Independent variables
- X_t = Credit to Agriculture (CRTAG)
- X_t = Budgetary Allocation to Agriculture (BGAAG)
- X_t = Interest Rate (INTR)

- X_t = Inflation Rate (INFR)
- t = Time series (annual) values
- Bo = represents the constant term or intercept on Y axis
- B1 to B4 = are the regression coefficients to be estimated
- U_t = is the error or stochastic term

Analysis of Autoregressive Distributed Lag (ARDL) Model

The ARDL is applied to estimate both the short and long run coefficients and it is standard least squares regression which entail lags of both response and independent variables as regressors in the model. As pointed out that one major merits of ARDL over other estimation methods is that OLS estimation yields consistent estimates of the parameters when the variables are all I(0) or I(1) or when some are I(0) and I(1) Which means that long run relationship exists between the variables (Pesaran and Shin, 1998).

Augmented Dickey Fuller Test (ADF)

The Augmented Dickey Fuller (ADF) statistic, used in the test, is a negative number. The more negative it is, the stronger the rejections of the hypothesis that there is a unit root at some level of confidence. The intuition behind the test is that if the series is integrated then the lagged level of the series ($Y_t - 1$) will provide no relevant information in predicting the change in Y_t besides the one obtained in the lagged changes ($\Delta y_t - k$). In this case $\gamma = 0$ and null hypothesis is not rejected.

Phillips- Perron Test

Named after Peter C. B. Phillips and Pierre Perron) is a unit root test. This is used to analyze the time series data, and also to test the null hypothesis that time series is integrated of order 1. It builds on the Dickey fuller test of the null hypothesis $p = 1$ in $\Delta y_t = (p - 1) Y_t - 1 + U_t$, where Δ is the first difference operator. Like the augmented Dickey – Fuller, the Phillips - Perron test addresses the issue that the generating data for y_t might have a higher order of autocorrelation than is admitted in the test equation – making $y_t - 1$ endogenous and thus invalidating the Dickey – Fuller t- test.

Whilst the augmented Dickey –Fuller test addresses this by introducing lag of Δy_t as regressors in the test equation, the Phillips –Perron test makes a non-parametric correction to the t- test statistic. The test is robust with respect to unspecified autocorrelation and heteroscedasticity in the disturbance process of the test equation.

Table 1: ADF Results

Augmented Dickey-Fuller (ADF)			
Variable	Levels	First Difference	
RGDP	1.0000	0.0061*	
BAAG	0.0904	0.0000*	
CRTAG	0.0504	0.0000*	
INFR	0.0351	0.0000*	
INTR	0.0121	0.0000*	
Phillips-Perron (PP)			
RGDP	1.1220	0.0052*	
BAAG	0.1220	0.0000*	
CRTAG	0.0504	0.0001*	
INFR	0.0366	0.0000*	
INTR	0.0142	0.0000*	
Kwiatkowski-Philips-Schmidt-Shin (KPSS)			
RGDP	0.739000	0.73900	
BAAG	0.739000	0.73900	
CRTAG	0.739000	0.73900	
INFR	0.739000	0.73900	
INTR	0.739000	0.73900	

Note: * Denotes the 1% levels are significance.

Source: Researcher’s computation using E-views 9

Table 2: Unrestricted Estimates of ARDL Model

Variable	Coefficient	Std. Error	t-Statistic	Prob.
RGDP(-3)	-0.517726	0.159194	-3.252166	0.0140*
BAAG	0.146701	0.024440	6.002458	0.0005*
CRTAG	0.060890	0.016283	3.739363	0.0073**
INFR	0.166300	0.045384	3.6694297	0.0080**
INTR	0.416539	0.096490	4.316889	0.0035**
C	0.615260	0.633589	0.971071	0.3600
R2	0.999883	Schwarz criterion	-2.094464	
Adjusted R2	0.999480	F-statistic	2482.707	

Source: Researcher’s computation using E-views 9

Table 3: ARDL Bounds Test for Co-integration

Null Hypothesis: No long-run relationships exist		
Test Statistic	Value	k
F-statistic	8.925524	4
Critical Value Bounds		
Significance	I0 Bound	I1 Bound
10%	2.45	3.52
5%	2.86	4.01
2.5%	3.25	4.49
1%	3.74	5.06

Source: Researcher's computation using E-views 9

Table 4: Long Run ARDL Co-integration Model Long Run Coefficients

Variable	Coefficient	Std. Error	t-Statistic	Prob.
RGDP	0.049208	0.025181	1.954143	0.0864***
BAAG	0.60087	0.055338	10.858305	0.0000*
CRTAG	0.199180	0.065026	3.063093	0.0015***
INFR	0.116760	0.284163	0.410891	0.6919
INTR	0.853536	0.482307	1.769695	0.1147
C	1.796791	1.602294	1.121387	0.2947

Note: Asterisk *, **& *** Show significance levels at the 1%, 5% and 10% levels.

Source: Researcher's computation using Eviews 9

Table 5: Diagnostic Tests:

Adjusted R2	0.906402
JB Normality Test	0.915735 (0.176057)
Breusch-Godfrey Serial Correlation F-Test:	0.2407 (0.0024)
Breusch-Pagan-Godfrey Heteroscedasticity F-Test	0.08088 (0.08008)

Source: Researcher's computation using E-views 9

Conclusion and Recommendations

Budgetary Allocation to Agriculture (BAAG), Credit to Agriculture (CRTAG), and Interest Rate (INTR) conform to the apriori expectation with positive signs respectively. This implies that they do have significant impact on economic growth (GDP).

It is recommended that more loanable funds should be made available to individual farmers (for

commercial purposes), as loans to individual farmers can be used to formulate policies that can impact significantly on economic growth (GDP) in Nigeria. Furthermore, it is recommended that, all economic stakeholders, monetary and regulatory authorities; both at the public and private sector of the economy should combine efforts and formulate policies aimed at improving financial inter-mediation, in the area of providing adequate credit to farmers in Nigeria.

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