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Export Promotion: Agricultural Earnings Perspective

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Abstract

In this paper, we made use of the Ordinary Least Square method in an attempt to analyze the influence of Agricultural Export earnings on economic growth in Nigeria. Secondary data sourced from World Bank databank and Central Bank of Nigeria for 1981-2013 were used in the study. Other tests performed include the Johansen co-integration test, Augmented Dickey Fuller for stationarity, Granger Causality test to know the direction of causality of variables used. The study found out that Agricultural export as considerable spur the growth of the economy just as the Oil Sector, whereas inflation is quite negative. Hence, the study concluded that through Agricultural Export Earnings, the country can experience significant economic growth. The paper then opined that the Agricultural sector should be a top priority for policy makers. Thus, it was recommended that farmers should be encouraged through access to loan at low interest rates, incentives such as equipments and extension programmes should be given to them while not neglecting the need for human capacity development in the agricultural sector to increase expertise in agricultural practices, leading to a diversified economy.

Keywords: Agricultural Export Earnings, Nigeria, Ordinary Least Square

Introduction

Economic growth cannot be achieved without taking into consideration the role of export. This is because we hardly find a country that is self-sufficient as started by Abou- Stait (2005). The argument which concerns the role of export as one of the main determinant factors of economic growth can be traced to the classical economists such as Adams Smith and David Ricardo. Hornayounifar and Rastergari (2008) opined that the growth of export and its expansion help improve the growth in the economy. As noted by Osuntogun et al (1997) one major characteristic which setback the Nigerian export trade is the continued reliance on developed countries, a medium through which recession in developed countries are transferred to the Nigerian economy.

Export in Nigeria can be divided into oil and non-oil products; the non-oil is further grouped into agricultural products, manufacturing export, solid minerals and services. Prior to Structural Adjustment Programme (SAP), effort had been made in Nigeria to diversify the export sector by

encouraging agricultural export. Trade policies in Nigeria have largely concentrated on how the people and the country can benefit external products, thus, an increase is expected from the non - oil commodities to diversify the economy. Agricultural produce is the major non-oil export. The desire to foster agricultural export was not just borne out of its huge potential for foreign exchange earning but also its ability to reduce poverty through generating employment as noted by Iyoha and Oriakhi (2002). In spite of SAP, the well-publicised attempts to diversify the economy have not been successful, hence not favourable to the agricultural sector.

According to Khan (1998), who was of the opinion that Nigerian economy was doing well and government faced no apparent constraint in the distribution of fund for all conceivable projects while Cochrance and Struthas (1983) and Forest (1993) concluded that oil boom was not destined to last long which implies that fluctuation in commodity price has a negative effect on the micro economic performance of a developing country like Nigeria. The 2008 recession experienced around the world was as a result of crash in stock prices in the United States which had serious effects across Europe and developing economies, especially the oil dependent countries. One of the consequences of the recession was the negative shock witness in the Nigerian Stock market. It can therefore be established that Nigeria is prone to external shocks which is due to failure to diversify the economy which can also enhance export.

Problem Statement

Nigeria just before the discovery of oil in 1956, the agricultural sector was the mainstay of the economy. However, a fall was witnessed in the volume and range of agricultural produce for export but a steady rise in import of agricultural produce increased. The revenue accrued to the Federal Government from oil export earnings accounted for about 80 percent of foreign exchange earnings while the non - oil sector (despite improved performance) contributes less than 20 percent (Central Bank of Nigeria, 2008). As noted earlier, external shocks due to volatility in oil prices lead to an unpredictable economic growth within the Nigerian Economy, this is quite worrisome. This is further aided by availability of alternate fuel (i.e.as solar, wind and bio –fuel) to developed countries, which reduced oil demand; hence, a nose diving economy. Note that in the absence of the other export commodities to share up and widen revenue base, there would be a reduction in crude oil revenue and excess crude oil receipts saving in years to come. Although no country is without its own economy inadequacies, the over reliance on oil export revenue by Nigeria exposes her to severe external shocks. This is more evident in the low agricultural performance of the past decades (as recorded in 2008, the share of agricultural export in the country's total export earning had remained as low as less than one percent).

Research Questions

A vacuum is therefore obviously created and the need to know

i. The trend of Agricultural Export in Nigeria.
ii. Does the trend have a particular influence on the growth of Nigerian Economy?
iii. If this is true, what is the level of relationship between Agricultural Export Earnings and Nigerian Economy?

Research Purpose

The main purpose of the study therefore is to know the influence Agricultural Earnings have on the Nigerian Economy. However, the trend of Agricultural Export will be looked into while not neglecting the relationship that exists between the Nigerian Economy and Agricultural Export earnings.

Hypothesis of the Study

The hypotheses to be tested in this research are:

H_0: Agricultural export earning spurs the Nigerian economy.

H_1: Agricultural export earning does not spur the Nigerian Economy.

Research Methodology

Secondary data sourced from Central Bank of Nigeria Statistical Bulletin and World Bank databank were used. To test for the hypothesis stated above, an ordinary least square (OLS) method is used to evaluate the data. A simple Keynesian model of economic growth is adopted, where the major determinants of economic growth (Y; RGDP) at the macroeconomic levels are oil export revenue (OILEX), inflation rate (INF) and agricultural export earnings (AGRE) Apart from these three variables other factors may also affect economic growth which therefore are seen as the white noise/ stochastic disturbance term (U_t).

The economic model theoretically is;

GDP = f(OILEX, INF, AGRE)

The GDP is therefore a function of the oil export revenue, inflation rate and agricultural export earnings in the polity.

The structural form of the above equation is;

$Y_t = b_o + b_1X_{1t} + b_2X_{2t} + b_3X_{3t} + U_t$

Y_t = *Economic Growth at time t*

X_{1t} = *Oil export at time t*

X_{2t} = *Inflation rate at time t*

X_{3t} = *Agricultural Export earnings*

U_t = *white noise or disturbance term for time t*

b_o = *the expected rate of economic development when OILEX, INF and AGRE is zero*

b_1 = *the impact of Oil export on economic growth*

b_2 = *the impact of Inflation rate on economic development /growth*

b_3 =*Agricultural Export earnings on economic development /growth*

A'PRORI EXPECTATION

With the model specified, it is expected that a positive relationship exist between oil export earning and an oil dependent economy like Nigeria. Also for the agricultural earnings a positive relation is also expected, whereas the inflation rate is ambiguous (can either be positive or negative to economic growth). The intercept, b_o, can either be negative or positive.

Presentation of Data

Year	RGDP	OILEX	AGRE	INF
1980	59918536009	2.5E+10	0.11669	0.837806464
1981	49763409962	1.73E+10	0.11669	1.0279788
1982	34950458716	1.19E+10	0.076946	0.663717102
1983	28182543199	9.79E+09	0.045199	1.68172648
1984	28407930899	1.14E+10	0.044902	0.932436908
1985	20210788382	1.21E+10	0.409406	2.534125829
1986	23441334769	4.8E+09	0.409406	1.627124749
1987	22847726915	7.05E+09	0.519733	7.776140515
1988	23843508697	6.27E+09	0.63006	1.91137473
1989	28472471051	7.47E+09	0.740387	2.600577901
1990	27313352202	1.32E+10	0.850714	3.060112894
1991	32710369046	1.19E+10	0.557717	8.52092132
1992	21352759382	1.17E+10	0.26472	10.83255817
1993	23663389441	9.68E+09	-0.02828	3.78068839
1994	28108826038	9.17E+09	-0.32127	4.554308438
1995	35299150000	1.2E+10	-0.61427	4.297445688
1996	36229368992	1.56E+10	1.622144	3.284920809
1997	32143818182	1.48E+10	0.079305	2.801490113
1998	34776040200	9.65E+09	0.099477	2.457935061
1999	45983449593	1.37E+10	0.133504	2.697520603
2000	47999667360	2.09E+10	0.005945	3.170063275
2001	59116868249	1.8E+10	0.006176	2.964104842
2002	67655840077	1.69E+10	0.281333	2.133330772
2003	87845403966	2.35E+10	0.009263	4.438849275
2004	1.12248E+11	3.81E+10	-0.26281	3.337979411
2005	1.45428E+11	5.01E+10	-0.53488	3.625669953
2006	1.65921E+11	5.81E+10	0.361642	3.939450425
2007	2.07116E+11	5.08E+10	0.760782	5.047661469
2008	1.68587E+11	7.53E+10	0.928382	1.651027245
2009	2.28638E+11	4.52E+10	1.135933	2.13810513
2010	2.43986E+11	7.39E+10	1.631811	1.544992545
2011	2.59334E+11	1.09E+11	6.129493	1.67200694
2012	2.74682E+11	1.11E+11	7.268343	1.799021334
2013	99285617191	1.12E+11	1.672007	0.837806464

Source: World Bank Databank

Data Estimation

The data below show the result of the estimated model using the ordinary least square.

Dependent Variable: LNRGDP
Method: Least Squares
Date: 06/22/15 Time: 15:12
Sample: 1981 2013
Included observations: 33

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1.544946	1.594274	0.969060	0.3405
LNOILEX	0.983057	0.067662	14.52894	0.0000
INF	-0.019548	0.021422	-0.912504	0.3690
AEX	-0.021907	0.035283	-0.620896	0.5395

R-squared	0.912476	Mean dependent var	24.73609
Adjusted R-squared	0.903422	S.D. dependent var	0.860066
S.E. of regression	0.267283	Akaike info criterion	0.312197
Sum squared resid	2.071770	Schwarz criterion	0.493592
Log likelihood	-1.151250	Hannan-Quinn criter.	0.373231
F-statistic	100.7790	Durbin-Watson stat	2.019745
Prob(F-statistic)	0.000000		

The regression model is;

$$LNRGDP=1.544946 + 0.983057LNOILEX - 0.019548INF - 0.021907AGRE$$

$$(1.594274) \quad (0.067662) \quad (0.021422) \quad (0.035283)$$

As shown in the estimates above, the intercept is 1.54494. However, oil export earning has a positive relationship with real gross domestic product. This can only be because of the dependence of the country on oil export. All remaining variables show a negative relationship with RGDP.

The R^2 obtained in the result is given as 0.912476 which implies that 91% of the total variation in RGDP in Nigeria is explained by the independent variables; therefore, the goodness of fit is very high. After the adjustment for degree of freedom (i.e. adjusted R^2), the value is given as 0.903422. Therefore 90% variation in the dependent variable is due to the independent variables. The Durbin-Watson value of the estimate shows the absence of autocorrelation (i.e. 2.019745) among the variables.

As shown in the figure below, OILEX and RGDP (a proxy for economic growth) move in the same direction, showing a positive relationship. This further confirms the fact that the Nigerian economy is dependent on oil export earnings. Of note too is the fact that any sudden spur in the RGDP curve is a reflection of the OILEX curve.

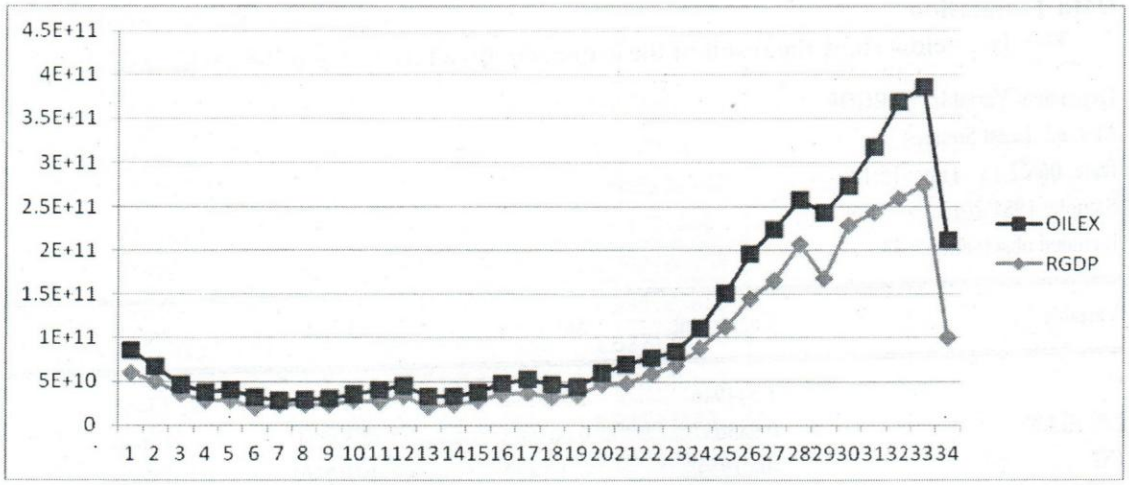

Figure 1: Trend graph showing Economic Growth (RGDP) &Oil Export (OILEX) 1980-2013 in Nigeria

In Figure 2 below, it is noticed that a steady growth is witnessed between the 1st and 4th period with sharp rise at the 5th period though this did not last more than six period (mid 11th period) due to a decline reaching the minimum point at the 16th period. However, by the 17th period, a rise is noticed due to renewed drive towards the agricultural sector leading more export earnings, which is not sustained for too long before another sharp decline at the 26th period. Another era of steady growth is witnessed reaching its peak at 33rd period and by the end of the period under study, a sharp fall in the earnings is seen. This simply points the fact that the policy of government and the commitment of farmers towards trade and agricultural was not sustained leading to sudden jumps (not stable) in revenue within the sector.

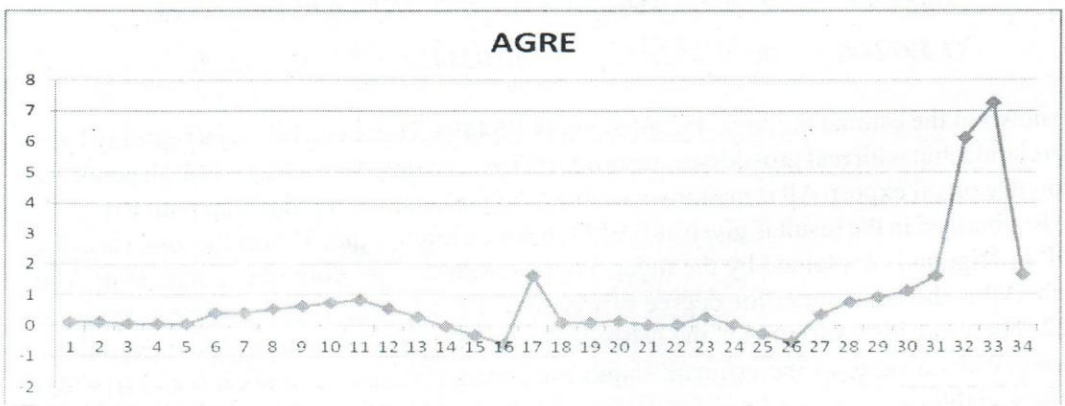

Figure 2: Agricultural Export Earnings Trend (AGRE) (1981-2013)

However in figure 3 below, there seem to be steady and continuous rise in output (RGPD), until a sharp decline was noticed at the 30th period, though it began to rise again in the following

period which was continuous, reaching a peak point at the 33th period after a sudden sharp decline was seen. As shown, it can be said that the peak of the AGRE (i.e. 33th period) is also the peak of the RGDP meaning that both variables had moved in same direction. Although the RGDP seem to be more stable than the AGRE, which is because the RGDP can be determined by some other factors (macroeconomic variables) aside the AGRE, but AGRE is part of the variables which determines the former (RGDP).

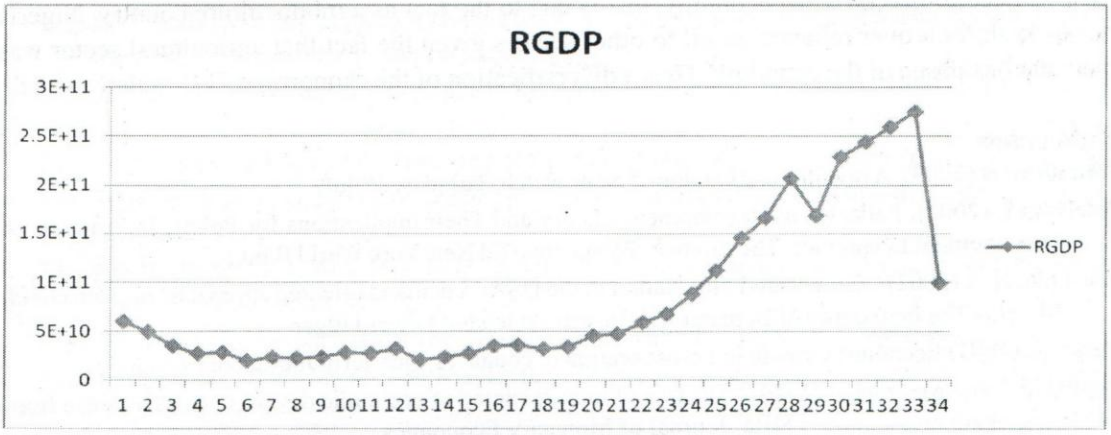

Figure 3: Real Gross Domestic Product Trend (RGDP) (1981-2013)

Summary

From the finding of the study, a positive relationship exists between oil export earnings and the economic output (RGDP as proxy) confirmation of the dependence on oil as the mainstay of the Nigerian economy. Although the agricultural export earnings (AGRE) has some influence on the RGDP, it still has a negative relationship with the latter. The negative relationship can only be due to the fact that immediately after the discovery of oil in 1956, the agricultural sector which was a major contributor to the economy before the period was abandoned and even neglected during the oil boom of the 1970s. Thus, the policy of government did not encourage practices in the agricultural (agricultural promotion policies were not well implemented) sector.

It was also found that the trend of OILEX and RGDP had a similar drive. This is due to the fact that as the former grew, it had an immediate visible effect on the country's output. Though the effect was not total because other macroeconomic indicators exist which aid the growth. The AGRE curve and the RGDP were however not the same. Though, the curves both reached their peak at the 33rd period before a decline at the end of the study period. It was observed that the AGRE curve was quite unstable as compared with the RGDP curve during period.

Conclusion and Policy Implementation

Agricultural export earnings have been revealed by the study to have a significant impact on the economic growth in Nigerian economy. However, to achieve a sustainable growth in the Nigerian economy, attention has to be given to the agricultural sector to help boost its export earning in Nigeria. This paper opined that agricultural improvement policies should be advocated.

implemented and sustained. In regard, loan availability for peasants while giving them qualitative training in up-to-date agricultural activities should be. However, budgetary allocation budgetary allocation given to agricultural sector should be concentrated more on the production sector than the consumption sector which would curb inflation. There is need to ensure that domestic industries (especially the agro-allied firms) are encouraged and well protected, this can be effected with agreement with the export promotion policy of the government. Just as it been advocated overtime there is need to diversify the economy, this is due to the fact as a monoculture country, Nigeria needs to shifts it over reliance on oil to other sectors given the fact that agricultural sector was once the backbone of the economy. Thus a diversification of the economy will stimulate growth.

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