Effects of Exchange Rate on Agricultural Export in Nigeria

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Abstract: *In order to stabilize the naira exchange rate against foreign exchange rates, this research examined and evaluated in comparative terms, the effects of exchange rate on agricultural exports as well as the total agricultural export in the pre-SAP (1992-1985) and the SAP era (1986-2010) in Nigeria. Based on the data collected from the Central Bank of Nigeria, Statistical Bulletin, Food and Agricultural Organizations (FAO) statistical data base for United Nations and World Bank Development indicators. The unit root test and regression analysis were employed to evaluate the trend in Agricultural export, examine the effect of SAP in agricultural export and investigate the determinants of agricultural export in Nigeria.*
The overall results confirmed that the lagged values of exchange rate devaluation had a significant and positive relationship with agricultural export. The results also showed that exchange devaluation in the SAP and the pre SAP eras had no significant effect on agricultural exports except in the case of natural rubber export. This was attributed to the low level of agricultural output in Nigeria. The results also revealed that per capita agricultural gross domestic product in Naira had a significant negative relationship with total agricultural export commodities. This was attributed to the fact that the resources available were diversified into other sectors of the economy other than the agricultural sector.
Based on the findings of this research work, the result shows that agricultural export in Nigeria does depend on the exchange rate and price of crude oil in the long run. While exchange rate devaluation should be encouraged, more resources should be channeled into the agriculture sector to boost productivity.
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I. Introduction

Agriculture employs nearly three-quarters of Nigeria's work force, as in the case of most sub-Saharan Africa (SSA). Agriculture is the principal source of food and livelihood in Nigeria, making it a critical component of Programmes that seek to reduce poverty and attain food security in Nigeria. Interest in changing agricultural productivity stems from the knowledge that income growth comes from productivity growth and savings-supported investment. Agricultural productivity estimates for Nigeria showed a decline in productivity growth from the 1960s to the 1980s. Nigeria has witnessed strong economic growth in the past few years, averaging 8.8 percent real annual GDP growth from 2000 to 2007. However, the agriculture sector has lagged behind GDP growth, growing at 3.7 percent in 2007 (Onunze Martin, 2012).

One of the most dramatic events in Nigeria over the past decade was the devaluation of the Nigerian naira with the adoption of a structural adjustment programme (SAP) in 1986. A cardinal objective of the SAP was the restructuring of the production base of the economy with a positive bias for the production of agricultural exports. The foreign exchange reforms that facilitated a cumulative depreciation of the effective exchange rate were expected to increase the domestic prices of agricultural exports and therefore boost domestic production CBN 2000).

Significantly, this depreciation resulted in changes in the structure and volume of Nigeria's agricultural exports as empirically determined by many researchers (Oyejide, 1986; Ihimodu, 1993; Osuntogun et al., 1993; World Bank, 1994). The depreciation also increased the prices of agricultural exports and studies have shown a marked increase in volume of agricultural exports over the years. However, the volatility, frequency and instability of the exchange rate movements since the beginning of the floating exchange rate raise a concern about the impact of such movements on agricultural trade flows.

Among other measures, the structural adjustment programme (SAP), which started on1986, abolished the Commodity Board, the body that since 1960 had been responsible for organization and purchase of agricultural exports. As a result, farmers could sell their products directly to foreign buyers and local processors without any intermediary, thus obtaining higher prices for their products. This was expected to remove the excessive taxation on farmers' products by the erstwhile marketing boards and leave producer prices to be determined by market forces. Given that agricultural output is influenced by prices among other factors, the depreciation of the naira and abolition of the commodity boards were expected to result in an overall increase in

production of exports. There was a major increase in five major agricultural export crops that had been on the decline since the 1970s. By 1985, only 37% of the 1970 output was achieved, but by 1988 and 1989, respectively, output reached 79% and 86% of the 1970 level (Osuntogun, 1993; CBN, 2002).

Following the fluctuation of the Naira in 1986, a policy induced by the Structural Adjustment Programme (SAP), the subject of exchange rate fluctuations has become a tropical issue in Nigeria. This is because it is the goal of every economy to have a stable rate of exchange with its trading partners. In Nigeria, this goal was not realized inspite of the fact that the country embarked on devaluation to promote export and stabilize the rate of exchange (Ayomide, 2011). The failure to realize this goal subjected the Nigerian non-oil productive sectors to the challenge of a constantly fluctuating exchange rate (Ayomide, 2011). This was not only necessitated by the devaluation of the naira but the weak and narrow productive base of the sector and the rising import bills also strengthened it (Ayomide, 2011). In order to stem this development and ensure a stable exchange rate, the monetary authority put in place a number of exchange rate policies. However, very little achievement was made in stabilizing the rate of exchange. As a consequence, the problem of exchange rate fluctuations persisted throughout the study period. In the 1960's, Nigeria's export trade was largely dominated by non-oil products such as groundnuts, palm kernel, palm oil, cocoa, rubber, cotton, coffee, copper, bean seed and others. Other non-oil exports of significant value then were tin ore, columbite, hides, skin and cattle.

However, oil's dominance of the country's export basket began in 1973/74 and was greatly magnified during the 1980s. The crux of the problem was that while oil export was growing, non-oil exports were declining making the dominance much more rapid and pervasive. The efforts to reverse these trends (begun in 1986) seem to be yielding very few results, as oil continues to dominate the country's exports. "Since its discovery in Nigeria, crude oil has not only become the mainstay of her economy, but largely has remained the country's major export as well as main revenue and foreign exchange earner (with over 90 per cent). Consequently, and regrettably so, the export of non-oil products has been dismal and negligible. As a result of the high level of imports and low level of non-oil exports, the country has continued to record huge balance of trade and payment deficits in international trade. This, experts agree, has been the albatross of the nation's economic growth and development" (Oluwa, 2012). The only noticeable improvements are that the decline of the non-oil sector seems to have been arrested and that a number of non-traditional exports seem to have emerged in Nigeria's export basket including horticultural products, garments, textiles, furniture components and other manufactures (Oluwa, 2012).

Today, there is growing agreement in literature that prolonged and substantial exchange rate misalignment can create severe macroeconomic disequilibria and the correction of external balance will require both exchange rate devaluation and foreign exchange rate demand management policies. On this premise, this study investigated the extent of the effect of exchange rate regimes of the years on agriculture export volume and performance. The need to correct the existing structural distortions and put the economy on the path of sustainable growth is therefore compelling.

The main objective of this research is to ascertain whether there is any relationship between Foreign Exchange rate adjustments and agricultural export between the periods of 2002-2013 and whether exchange rate regimes can be used to predict volume of agricultural exports performance in the same periods. At the end of this study, it is expected that the study will contributes to the empirical content of knowledge creation available confirming and making previous findings conclusive on exchange rates movements and its effect on Nigeria's agricultural export performance. This study is a significant endeavour in promoting agricultural export performance in Nigeria and will be beneficiary to Nigerian business men (mainly exporters) and could also be used by Nigerian Monetary Authorities in the formulation of exchange rate policies and management. Finally, this research provided recommendations on how to stabilize the naira exchange rate against foreign exchange rates add to the knowledge of business management.

Based on the identified problems this study intends to determine empirically the dynamic effects of exchange rate fluctuations on Nigerian agricultural export markets and to examine the relevance of exchange rate risk in agricultural trade flows.Specifically, the study evaluates the trend in Agricultural export, examines the effect of SAP in agricultural export and investigate the determinants of agricultural export in Nigeria and finally determines whether the exchange rate has a significantly relationship with agricultural export or not.

A number of authors and researchers have dealt with similar work on this study and as such, in the evaluation of the effects of exchange rate on agricultural export in Nigeria, it is expedient to phantom the basis and the need for further research in line of this subject.Hayakawa and Kimma, (2009) in their study maintained that the elasticity of the relationship between exchange rate and export depends on the analysis region. In eastern Asia, international trade is discouraged by exchange rate volatility which is stronger than Europe. In a related study, the effect of exchange rate on agricultural export in Nigeria indicates that appreciation of exchange rate and its volatility has negative impacts on agricultural export earnings (Adubi and Okunmadewa, 1995).

The results shows that exchange rate fluctuations and also deviation of real exchange rate from its long run equilibrium path are inhibiting factors in the agricultural products' exports.

The study is therefore designed to evaluate the trend in agricultural export in Nigeria and also to investigate the determinants of agricultural export in Nigeria and to make recommendation on how exchange rate devaluation should be encouraged and agricultural exports should be further promoted in Nigeria. Thereby furthering on the literatures reviewed in the context of this research work.

Many works have been done on the effect of exchange rate on agricultural export in Nigeria; it is important to review some of these works, such as: Agricultural Policy, Agricultural Policy in Nigeria, Environment Policy in Nigeria, Competitiveness of Nigeria export, Nigeria agricultural market, Trade growth in Nigeria, Impact of SAP on agricultural export.

Agricultural Policy

The effect of income transfers on agricultural export is a controversial issue for policy makers and economist. The growing of theoretical literature on these decoupled payments has described a number of market features that could lead households to respond to transfers in ways that have direct effects on export goods. (Rude, 2000) describes the roles of aversion, increasing returns to scale, and depts constraints in creating links between transfers and production decisions. (Vercammen 2001, 2003) describes several potential links: rural labour market rigidities, bequest motives, and a rising marginal tax rate, a wedge between borrowing and savings rate, and initial depts to asset ratios. (OECD, 2001) describes the positive insurance and wealth effects of decoupled payments can also lead to a wealth on the rural labour supply (Findeis, 2002).

(USDA, 2003) found that farm household that received the payments had higher rates of consumption out of income than non-recipient farm households of comparable incomes did. (Dewbre and Mishra, 2002) found that U.S. households receiving decoupled payments reduced their on-farms hours, consistently with the expectation that changes in households wealth will lead to adjustment in their labour-leisure choices. However, the effects are small. (Rose, Somwaru and Diao, 2002) showed that if U.S. agricultural markets are complete, direct payments have long run effects on land asset values and rental rates, but no effect on agricultural export. (Weyerbrock, 2001) modeled intervention prices and endogenous subsidies in a multi-country CGE model of the EU with farm programs.

(Hasha, 1999; Walter-Jorgensen and Jensen, 2001). They influence productions because payment eligibility requires current production of supported products. Since the total payment is fixed, the rate per unit of output expands when output expands.

Agricultural Policy in Nigeria

(Daramola, 2004) argues that agricultural policy formulation in Nigeria is a typical market. This position is derived in part from (Anderson and Tyers, 1988), who argued that the forces of demand and supply for policies are conceptualized. In the light of this, policy beneficiaries demand policies and politicians supply them. Under this situation of distorted pricing policy, as we have experienced in Nigeria in the recent past, the supply curve in this market represents the marginal political cost of providing an extra unit of protection to (or less taxation of) an industry, in terms of reduced political support from groups opposed to such policy change, while the demand curve represents, at the margin, the preparedness of groups seeking policy to offervarious degree of political support to the leadership. Under this general framework, there is also the need to accommodate social and government preferences, which include altruism, in addition to pressure from various private interest groups on the supply sides of policies. Therefore, the task has been reduced to examine the factors influencing the demand and supply of distorted policies in Nigeria vis-à-vis those of other countries at different stages of development.

This is the foundation for the unfavourable agricultural policy environment prevailing hitherto in Nigeria. In poor countries, the demand for agricultural protection, especially producer price support is often weak. This is because marketable surplus and potential benefits are low relative to the high cost of collective action by farmers. It is costly to organize for collective action owing to the large numbers of farmers, geographical dispersion, poor infrastructure and low education in rural areas. Other pressure groups are interested in policies favourable to agriculture because such groups farms inputs and processing are rudimentary. Urban elites favour industry, commerce, mining, construction and other sectors.

In Nigeria, policies under successive military regimes before 1999 discouraged agriculture. The industrialists, being fewer in number, better educated, urban based, politically connected and with better access to infrastructure, gained better assistance and support policies.

Generally, poor countries (including Nigeria) tax agricultural export in order to promote manufacturing sector, which they expect to replace imports. Besides, it is easier to tax exports commodities directly than to raise general revenue through income or sales tax because the latter option is rather expensive to collect.

Effect of Policy on Agricultural Output and Productivity Growth

Before the civilian government assumed power in 1999, agriculture was growing at an average of about 2.8 per cent per annum, mainly as a result of acreage expansion. Subsequently, with the reform agenda of the democratic government and better macroeconomic policies, the country has witnessed some improvements on the business environment and productivity. Through the various presidential initiatives, constraints confronting different commodities are being addressed one after the other. According to the (CBN, 2005), the cumulative effect of these reforms is that the agriculture sector has been growing at between 5.5 percent and 7.5 percent in the last five years.

One of the most successful initiatives is the National Cocoa Development Committee (NCDC) which is made up of powerful representation throughout government. The committee is having impact on the cocoa economy in Nigeria.

According to the (World Bank, 2006), the fundamental cause of low agricultural productivity in Nigeria is very low use of modern technology evidenced in weak research and extension, limited use of improved seed varieties (and breeds) and lack of irrigation. In addition, weak human resource and skills are also factors. Nigeria's national research system has enjoyed only limited success in generating new technologies that have been taken up by farmers. This is due to:

i. Poor funding of public organizations
ii. Weak coordination within the Nigerian Agricultural Research Institutes (NARIs), resulting in unnecessary duplication of effort;
iii. A tendency for research to be supply driven, with the little accountability to farmers.
iv. Public institutes responsible for conducting agricultural research in Nigeria have been underfunded, especially under military regimes.

Environment Policy in Nigeria

Export expansion had an effect on the environment of the Nigerian economy which could be mitigated to the policies being pursued. The analysis of government policies aimed at environmental protection and natural resource utilization derives from information from the Development Plan Documents (1st-4th Plans and the Rolling Plan) and from the document on the National Policy on the Environment.

These documents indicate that environmental policies as far as the sectors were concerned consisted of soil conservation measures aimed at wind and water erosion. Projects that had relevance for environmental protection were, however, subsumed under the 'Agriculture' and 'Town' and 'Country Plan'. More specifically, relevant projects under agriculture were initiated under agricultural infrastructure. There were also anti-drought measures. Specific soil conservation measures included contour building, terracing, and check damming and drainage systems. Anti-drought measures included tree planting and afforestation projects and the establishment of shelter-belts.

Competitiveness of Nigeria Exports

The Nigerian economy is one of the least competitive globally and even in Africa because of inappropriate policies and an unfavourable business environment. On several of the doing business indicators', Nigeria performs poorly when compared with most other economies including low-income economies in Africa. The World Economic Forum (WEF, 2006) report ranks Nigeria 88 out of 117 countries in its Global Competitiveness indicators (GCI). Despite the large domestic market, only a small proportion of producers have been able to develop into sizeable businesses able to complete internationally, as shown by long-term decline in non-oil exports.

Nigeria Agricultural Market

During the marketing board era, when prices were fixed and technology subsidized, the traditional production function approach took prices and technology as given (without risk), in which case profit maximization would be the appropriate expression of producer behavior. In the SAP period, prices are determined by demand and supply relationships in an imperfect market and technology is no further subsidized. The need arose therefore for incorporating risk considerations (technical uncertainty and market risk) in to the appraisal of supply response through estimation of expected loss. The guiding hypothesis is that inadequate treatment of risk has been a major factor accounting for discrepancy between actual and predicted (profit maximizing) national or individual production and income in other recent studies (Kwanashie et. al. 1998). Given the specific risk framework to be developed, it is hypothesized that farmers' operational decisions are more consistent with utility maximization. These hypotheses are considered in modeling export performance in the context of regulatory in Nigeria.

Trade Growth in Nigeria

Between 1962 and 1968, Nigeria's major foreign exchange earner was the agricultural sector. However, even though trade was liberalized during this period, agricultural exports declined and the sector did not benefit from the relaxed trade environment. Thus the kind of liberalization at that time (which favoured import substitution and consumption of foreign made goods), reduced the threat that an expanding agricultural export sector may have had on the environment. The Restrictive trade policies began to enlarge between 1967 and 1978, and intensified in the period between 1978 and 1980. These included such policies as:

- General ban on non-essential imports, especially food imports;
- Tariff increases on some items;
- New duties on certain items not hitherto taxed;
- Imposition of compulsory advance deposit on some classes of imports;
- Industrial raw materials which were previously under open general license were placed under specific

import license;
- Export bans were imposed on certain items;
- Export tariffs were reviewed upwards for some other items;
- Centralized marketing of agricultural products was reinforced through the formation of commodities Boards which handled specific crops.

Again there was no specific linkage between environment policies and trade policies during this period, Environmental policy statements in the plan were not based on any kind of empirical finding or policy analysis. Trade reforms in Nigeria's agricultural sector were aimed at expanding the export capacity of the sector through increased domestic production of export crops, increased domestic production of tradable semi-manufactured goods from agricultural raw materials, increased imports of agricultural inputs such as fertilizers, agrochemicals, farm implements, farm power, and increased import of agro-industrial inputs, and finally a relative increase in resource allocation from non-tradable crops in agriculture.

Impact of SAP on Agricultural Export

Most African nations are implementing SAP, an economic solution inspired by the World Bank and the IMF. The objectives of a Structural Adjustment Program are largely the same for most African nations; because of the world body resume that Africa economies are at the same level of development and are experiencing similar problems (CBN Nigeria 2003). The stated objectives of the Nigerian SAP are to:

- Restructure and diversify the productive base of the economy
- Achieve fiscal stability and positive balance of payments
- Set the basis for sustained non-inflationary or minimal inflationary growth, and reduce the dominance of unproductive investments in the public sector.

Among other measures, the structural adjustment programme (SAP), which started in 1986, abolished the Commodity Board, the body that since 1960 had been responsible for organization and purchase of agricultural exports. As a result, farmers could sell their products directly to foreign buyers and local processors without any intermediary, thus obtaining higher prices for their products. This was expected to remove the excessive taxation on farmers' products by the erstwhile marketing boards and leave producer prices to be determined by market forces. Given that agricultural output is influenced by prices among other factors, the depreciation of the naira and abolition of the commodity boards were expected to result in an overall increase in production of exports. Alabi et al, (2004)

The SAP involved a policy measures towards a more market-friendly trading and dissolution of commodity marketing boards as well as eliminating the heavy dependence on the crude oil export and import of consumer and producer goods (Ihimodu, 1993). The SAP on one hand had short-run positive effects on farmers producing traditional agricultural commodities such as tea, coffee, cocoa and rubber due to the income and price elasticity coefficients for these commodities. On the other hand, SAP opened up the export of new commodities that became popularly demanded internationally. According to (Olomola and Akande 1990), commodities marketing board served as a great disincentive to farmers both in production and replanting reported by several studies, the commodity boards represented agencies for taxation as the producer prices paid to the farmers were well below prices (Idachaba, 1990; Akanji and Ukeje 1995). Liberalization of both domestic and international trade of good and services, liberalizations of the relation between owners and tenants in agricultural land, removing government control on prices, cropping areas, cropping patterns, crop procurement delivery, quotas, eliminatory subsidies on farm inputs, removing government constraints on private sector, liberalization of the interest rate and liberalization of the exchange rates were issued. However, despite efforts to improve on agricultural exports performance, Nigeria agriculture is currently showing little signs of being able to compete in the liberalized economy. The annual cocoa output in Nigeria fell continuously during the re-SAP period and witnessed an increasing trend in cocoa output in the post-SAP period.

Rubber output was about constant in the pre-SAP and it recorded an upward trend in the post-SAP regime. However, increased sharply in the SAP policy period this shows that SAPs had serious effect on agricultural export in Nigeria.

II. Materials and Method

The study was conducted in Nigeria. Nigeria, the most populous country in Africa extends between latitude 4^0 17N and longitude 2^0 20E and longitude 14^0 30E. It has land area of 92377sqkm. It is located in West Africa and plays a pivotal role in ECOWAS, with headquarters in Abuja. Nigeria is bounded on the North by Niger Republic, on the South by the Gulf of Guinea, on the East by chad and Cameroon and on the West Benin Republic.

The country's vegetation ranges from tropical forest and swamps in the South, to grassland merging into desert in the North. The dry season moisture deficit varies from 1300mm in the North to 200mm in the South while the wet season moisture surplus from 100mm in the North to 1800mm in the South.

Nigeria has an estimated population of about 170million with growing range of about 3.5 percent per year with nearly three quarter of its workforce employed in Agriculture (FOS, 2000). The major cash crops grown in Nigeria are groundnut, cocoa, kola nut, rubber, cashew and cotton.

Nigeria accounts for one fifth of the total population of sub-Saharan Africa. About 63percent of the population consisting of 150million people lives in rural area and are largely dependent on subsistence agriculture while the rest (37 percent) lives in the urban areas.

Secondary data were obtained for this study, which were sourced from Food and Agricultural Organizations (FAO) statistical data base for United Nations, Central Bank of Nigeria (CBN) statistical bulletin and World Bank Development Indicators. Time series data for macro-economic variables were collected from these sources and the data include agricultural exports gross domestic product, exchange rate, total GDP, Governance, Rule of Law, agricultural price index and population and the data's are quarterly data covering the period of 2002 to 2013.

Unit root test and regression analysis were used as tool of analysis in this study.
1. Regression analysis was used to examine the relationship between selected independent variables and the dependent variables.
2. The unit root test is a condition for using data for regression analysis that the stationary properties of the variables will be carried out.

Model Specification

The hypothesized structure relation for the study is specified as follows:

LEXPV = β_0 + β_1LADGP + β_2LFDI + β_3LINF + β_4LLD + β_5LIMPV + β_6 ATOT + β_7LPO + ε

Where:
LAGDP = Natural logarithm of Agricultural Gross Domestic Product
LFDI = Natural logarithm of Foreign Direct Investment
LINF = Natural logarithm of Inflation
LLD = Natural logarithm of Land
LEXPV = Natural logarithm of Exchange Rate
LIMPV = Natural logarithm of Import Rate
LGEXP = Natural logarithm of Government Expenditure
ATOT= Natural logarithm of Agricultural Terms of Trade
LPO= Natural logarithm of Crude Oil

Augmented Dickey Fuller (ADF)

Any of the forms of this test presumes the existence of white noise errors in the regression. If that is implausible, the test will lose significant power. To cope with this issue, an ADF test is employed in which a number of lags of the dependent variables are added to the regression to whiten errors. The ADF test is based on the regression equation with the inclusion of a constant and a trend of the form.

$\Delta x_t = \beta o + \mu_t + \square X_{t-1} + \varepsilon \alpha i \Delta x_t\text{-}I + \varepsilon t$

Where X_t= Gross Domestic product (LAGDP) ,
$\square X_{t-1}$ expresses the first difference with k legs,
ε is the white noise residual of zero mean and constant variance.
The coefficients $\{\beta o, \square, \mu_t, \ldots \ldots \alpha k\}$ are parameters being estimated.
The null and alternative hypothesis for unit root in variance Xtis ;
$H_O : \square = 0$ (X_t is non-stationary or contains a unit root)
$H_1 : \square \neq 0$ (X_t) is stationary or non-unit root

In order to avoid spurious regression, it is necessary to discern the stationary of the series stationary could be achieved by appropriate number of differencing or called as the order of integration. You can use Augmented Dickey Fuller (ADF) to check the stationary variables.

Results of Unit Root

The table below shows the unit which is a condition for using data for regression analysis that the stationary properties of the variables will be carried out. The unit root properties of the data used in the regression analysis was determined to ascertain the unit root properties before using it for regression analysis. Of all the variables used LAGDP, LFDI, LINF, LLD, LIMPV LEXPV, ATOT, and LPO have unit root properties and became stationary at 1st differencing has shown in the table below. However variables LFDI and LEXPV were stationary at the level. Hence they have order of recreation of zero. Each data were used in the degree analysis at the regression analysis at the level they became stationary.

Regression Analysis

This result is explained on the basis of explanatory power R^2 and T-test. R^2 is 0.969209 this implies that 96% of the factors affecting agricultural exports are included in the explanatory variables. The remaining 4% are accounted for by the error term. It also has a F-value of 149.5182 (2.68e-26) which implies that there is a significant relationship between the explanatory variables and agricultural export in Nigeria.

Exchange rate has a negative relationship with export value and it is significant at 10%.The coefficient of exchange rate is -0.0370963 which implies that a unit increase in exchange will result in -0.0370963 decrease in the export value.

ATOT has a positive relationship with export but it is not significant. The coefficient of ATOT is +14744.2.

Government expenditure has a negative relationship with export value and it is significant at 10%. The coefficient of government expenditure is -0.203357 which implies that a unit increase in government expenditure will result in -0.203357 decrease in the export value. This could be as a result of low government in investment in agriculture.

LPO has a negative relationship with export value and it is significant at 1%.The coefficient of LPO is -0.183818 which implies that a unit increase in LPO will result in -0.183818 decrease in the export value. This result is in line with a-priori expectation. As we expect agricultural production to reduce as a shift in attention to the oil sector.

Inflation has a negative relationship with export value and it is not significant. The coefficient of inflation is -0.000206816 which implies that a unit increase in inflation will result in -0.000206816 decrease in the export value.

LLB has a negative relationship with export value and it is significant. The coefficient of inflation is -0.407931 which implies that a unit increase in LLB will result in -0.407931 decrease in the export value.

LIMPV has a positive relationship with export value and it is not significant at all. The coefficient of LIMPV is +0.00522943 which implies that a unit decrease in LIMPV will result in 0.000522943 increase in the export value.

LEXPV in the immediate past period has a negative relationship with export value and it is significant at 1%.The coefficient of inflation is -1.05257 which implies that a unit increase in inflation will result in -1.05257 decrease in the export value.

Summary of the study

The main objective of this study is to examine the effect of exchange rate on agricultural export in Nigeria. The data covers the period of 2002 to 2013 which is a quarterly data. The data was based and analyzed using, unit root test and regression analysis

The area of study is Nigeria. Nigeria which is the most populous country in Africa is the study area for this project. Nigeria extends between latitude 4°17N and longitude 2°20E and longitude 14°30E. It has land area of 92377sq kilometers. It is located in West Africa and plays a big role in ECOWAS, with headquarters in Abuja.

Having set out to investigate the effect of SAP on agricultural export in Nigeria, the study has established price of crude oil and exchange rate significantly affected on agricultural export in Nigeria.

III. Conclusion

Based on the findings of this research work, the result shows that agricultural export in Nigeria does depend on the exchange rate and price of crude oil in the long run.

However, findings support the conclusions of Adubi and Okunmadewa (2000); who found out that exchange rate fluctuations and also deviation of real exchange rate from its long run equilibrium path are inhibiting factors in the agricultural exports.

In as much as it has been concluded that Nigeria exports does depend on the exchange rate, in this regard, the following recommendations are hereby suggested:

- While exchange rate devaluation should be encouraged, more resources should be channeled into the agriculture sector to boost productivity.
- Home based industries should be established to provide cheap agricultural inputs such as chemicals, fertilizers, tractors and spare parts in order to boost the level of agricultural productivity and further promote agricultural exports.
- Foreign currencies policies should be allowed more latitude.

Table 1: Unit Root table

	Variables	T-	T-statistics	T	t-statistics		
		L	Level	1	1st differential	O	Order of integral
L	LAGDP	-2.	88183	-3	0.78072**	1	
	LFDI	-3.	80098**	-8.	65189***	0	
	LINF	-2.	44984	-12	0.1377***	1	
	LLD	-2.	20202	-5	0.65757***	1	
	LIMPV	-1	0 .9143	-12	0.6419***	1	
	LEXPV	-2.2	5254***	-3.	34313*	0	
	ATOT	-2	0.50525	-5.	28323***	1	
	LPO	-3	0.05832	-3.6	4711**	1	

Source: Data analysis 2015.

Table 2 Regression Analysis result

Variables	efficient
LEX	0.03 70963 (-1.764)*
ATOT	147 4.2 (0.9224)
GEXP	0.20 3357 (-1.927)*
LPO	0.18 3818 (-4.201)***
NF	-0. 000206816 (-0.3885)
LB	0.4 07931 (0.1004)
LIMPV	0.0 00522943 (0.1161)
EXPV (-1)	1.05 257(22.04)***
ONSTANT	-0.8 62520(-0.9740)

Source: Data analysis 2015.
Significant 1% ***Significant 5% **Significant 10% *
R^2 =0.969209F= 149.5182 (2.68e-26)

$$LEXPV = \beta_0 + \beta_1 \Delta LFDI + \beta_2 \Delta LINF + \beta_3 \Delta LLD + \beta_4 \Delta LIMPV + \beta_5 LEXPV\ (-1) + \beta_6 \Delta ATOT + \beta_7 \Delta LPO + \varepsilon$$

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