International Journal of Food and Agricultural Economics
ISSN 2147-8988
Vol. 2 No. 1 pp. 165-175

TREND EVALUATION OF AGRICULTURAL EXPORT CROPS IN NIGERIA

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Abstract

The study uses the Ordinary Least Square (OLS) regression technique to evaluate the growth rates of three agricultural export crops (cocoa, palm kernel and palm oil) in Nigeria between1970-2009. The result reveals that growth rates in export of these crops are higher in the financial sector reform period than in the pre-financial sector reform period except in palm kernel and are statistically significant at 5% probability level. This therefore suggests the need to enhance the production of these crops through provision of basic farm inputs, extension, proper financing as well as *pursue policies that will encourage exportation and discourage the importation of these crops as the way out.*

Key Words: *Agricultural export crops, growth rates, trend*

1. Introduction

During Nigeria's quest for industrialization, agriculture played a prominent role. Before and after the independence era, Nigeria was a net exporter of several agricultural products. Prominent among these commodities were groundnut, cocoa, palm kernel, palm oil, rubber and cotton. Income generated from the export of these crops accounted for a greater chunk of the country's GDP. The annual output growth rates for agricultural and food crops were achieved at about 3% to 4% (Osuntogun, Edordu & Oramah, 1993). With the advent of petroleum oil, the huge inflow of foreign exchange revenues that accompanied the oil boom diverted the attention of the government and a considerable number of producers of the traditional commodities. Consequently, Nigeria became a mono economy, driven entirely by oil. Annual export of some of these crops dropped drastically rendering the country a net importer. For instance, from table 1 below which shows the average quantity of selected export crops in Nigeria, in 1970-1975 period, average quantity of cocoa export equaled 216.817 metric tons, palm kernel, 228.728 metric tons and palm oil 10.196 metric tons. In the 2006-2009 periods, average export of cocoa and palm kernel dropped to 206.060 and 4.075 metric tons respectively, while palm oil export increased marginally to 11.800 metric

tons. These developments accounts for the decline of agricultural production and the resultant drop in both volume and value of export commodities. Teal (1983) estimated that the output of export crops grew at an average annual rate of 4.7% in 1950-1957% and 7.4% in 1960-1965, then declined by 17.3% in 1970-1975. Thus, changes in producer's prices of major agricultural trade commodities in the seventies were seriously affected despite the changes in relation to movement of exchange rate. These changes were particularly pronounced in the 1990s and were attributed to the large fluctuations in exchange rate (CBN, 2001). However, the introduction of SAP in 1986 and its associated financial sector reforms in 1987 was aimed at revamping the economy and restoring investor's confidence in the agricultural sector.

Studies on trend analysis of agricultural export crops in Nigeria are limited. Few available onces in the literature consider the agricultural sector holistically without considering a particular crop. For instance, Okoye, Asumugha, Okezie, and Onyenweaku (2008) carried out an econometric assessment of the trend in cocoyam production in Nigeria 1960/61-2003/06. Their result reveals that output, area and productivity of cocoyam depicted negative trends in period 1 (1960/61-1984/85) and positive trends in period 2 (1985/86-2003/06). Also in Nigeria, Ojiako, Asumugha, Ezedinma, and Uzokwe (2007) while analyzing production trends in major root and tuber crops between 1961-2008 reported lower and higher values of growth rates for crops in the pre-SAP and post-SAP periods respectively. Badmus (2002) analyzed trends in Nigeria Agricultural export and the impact of naira devaluation on it. He submits that cocoa and rubber increased in their export volumes during devaluation period while cotton decrease in export volumes during the period. Norton (1983) reported in his findings that domestic production probably grew at an average rate of 2.7 percent between 1973 and 1982. In other words, the growth performance of Nigerian agriculture worsened in 1960-1982, with the rate of decline being particularly high since the mid-1970s. Domestic food production appears to have been stagnated, especially since the mid-1970s, while output of export crops fell dramatically (Oyejide, 1986). However, Uniamikogbo (2006) reported that agricultural sector's growth rate rose from 5.3 percent in 1999 to 7.0 percent in 2006. Despites these empirical studies, most researchers have failed to mention the trend in selected agricultural export crops during the pre and post financial sector reforms period judging from the key role of the financial system in nation's development in which this paper intend to address. Against this backdrop, the study examines the trend in growth rate of three selected agricultural export crops in the pre and financial sector reform in Nigeria.

Table 1. Average quantity of selected export crops in Nigeria 1970-2009

Period (FSR)	Cocoa Quantity (M.T)	Palm Kernel Quantity (M.T)	Palm Oil Quantity (M.T)
1970-1975	216.817	224.728	10.196
1976-1980	166.252	146.834	1.056
1981-1985	152.188	45.732	1.046
1986-1990	150.612	66.048	0.434
1991-1995	138.172	6.130	0.003
1996-2000	154.692	38.836	4.032
2001-2005	221.850	6.360	7.700
2006-2009	206.060	4.075	11.800

Source: Computed by author using FAO 1970-2009 data. FSR (financial sector reforms) and M.T (Metric Tons)

2. Materials and Methods

2.1 Data Collection

The study made use of data from secondary sources obtained from Central Bank of Nigeria (CBN), Statistical Bulletin, Annual Report and Statements of Account and Report of Central Bank of Nigeria (CBN), National Bureau of Statistics (NBS), Food and Agriculture Organization (FAO). The data series of interest covered the period of 1970-2009.

2.2 Analytical Techniques

Data collected were analyzed using both descriptive and inferential statistics. Apart from mean and simple percentages, other inferential statistics used were:

Unit root test: To ensure that the results obtained was not spurious (Maddala, 2002), a unit root test was carried out using the Augmented Dickey Fuller (ADF) and the Philip- Perron tests to examine each of the variables for the presence of a unit root (an indication of stationality). The ADF test minimizes autocorrelation in the error term since it involves the first difference in lags such that the error term is distributed as white noise. The test formula for ADF is shown as;

$$\Delta Yt = \alpha + \rho Yt - 1 + \sum_{t-1}^{j} Y\Delta Yt - j + Ut \ . \qquad (1)$$

Here the lag length j chosen for ADF ensures U_t is empirical white noise. The significance of ρ is tested against the null that $\rho = 0$ based on the t statistics obtained from the OLS estimated. If the null hypothesis of non stationarity cannot be rejected, the variables are different till they become stationary, that is, till the existence of a unit root is rejected. The Philip –Peron test is carried out to confirm the ADF result.

Test for Cointegration : A cointegration test was carried out to test for the presence of a long-run relationship. In doing this, the Maximum Likelihood method (ML) developed by Johansen (1988, 1991) was utilized. Using the Johansen approach, two test statistics can be used in testing the number of cointegrating vectors: the Trace and the Maximum Eigenvalue statistics. The null hypothesis for the trace test was that there are at most r cointegrating vectors, while for the Max Eigenvalue test, the null of $r = 0$ was tested against the alternative that $r = 1$; $r = 1$ was tested against the alternative that $r = 2$ and so on. The Schwarz Information Criterion (SIC) was used to select the optimal lag length for the cointegration test**.**

Ordinary Least Square (OLS): Ordinary Least Square (OLS) procedure was carried out in a time trend analysis. The growth rates were computed by fitting exponential function in time to the data following Onyenweaku and Okoye (2005) and Okoye, Asumugha, Okezie and Onyenweaku (2008). The function is specified as follows:

$$Q = b_0 e^{bt} \qquad (2)$$

When linearized in logarithms, the equation becomes

$InQ = b_0 + b_1$ (3)

Where,

Q = export of agricultural products.

b_0 = Intercept

b_1 = Slope (regression parameters estimated)

t = Time trend Variable (Years in number)

This measure has been proven to be more realistic in computing growth rates as it takes into account the entire observation when compared to other alternative methods that uses data at the beginning and at the end of a period which tend to ignore vital information.

The equation 3 is fitted to the value of agricultural products (cocoa, palm kernel and palm oil) for two periods namely: Pre-financial sector reforms period (1970-1986) and financial sector reforms period (1987-2009).

The coefficients from equation 3 are used to derive the growth rate (r) as specified by (Onyenweaku & Okoye, 2005) as follows:

$r = (e^b - 1) \times 100/1$ (Onyenweaku & Okoye, 2005) (4)

Where e is Euler's exponential constant (2.71828).

To investigate the existence of acceleration, deceleration or stagnation in growth rate of export of agricultural products (cocoa, palm kernel and palm oil), quadratic equation in time variables is fitted to the data for the two periods following Onyenweaku and Okoye, (2005) as follows:

$Log\ Q = a + bt + ct^2$ (5)

In the above specification, the linear and quadratic time terms give the secular path in the dependent variable (Q). The quadratic time term t^2 allows for the possibility of acceleration or deceleration or stagnation in growth during the period of the study. Significant positive value of the coefficient of t^2 confirms significant acceleration in growth, significant negative value of t^2 confirms significant deceleration in growth while non-significant coefficient of t^2 implies stagnation or absence of either acceleration or deceleration in the growth process for the two periods.

3. Results and Discussion

3.1 Results of Augmented Dicker Fuller (ADF) and Phillips-Perron (PP) Unit root test

The results of Augmented Dicker Fuller *(ADF)* and Phillips-Perron *(PP)* unit root tests are presented in Table 1. Results show that all the variables were not stationary at levels but after differencing, they became stationary at first difference, therefore integrating in the order of 1 {i.e,*1(1)*} using intercept specification. However, the logs of cocoa export quantity (*QTYCO*) had conflicting result on the levels of integration. While ADF test reveals that the series are *1(1)* stationary, the PP test indicates that the series are stationary at levels, *1(0).* Therefore, to have a uniform conclusion, Dickey-Fuller GLS (ERS) approach was employed which validates the conclusion from the ADF test.

Table 2. Results of Augmented Dicker Fuller (ADF) and Phillips-Perron (PP) unit root test

	ADF		PP		
Logged Variable	Level Intercept	1st diff Intercept	Level Intercept	1st diff Intercept	Conclusion
QTYCO	-0.873[0]	-5.729[0]***	-4.040[4]***	_____	*I(1), I(0)*
QTYK	-1.805[0]	-8.252[0]***	-1.517[5]	-13.739[12]***	*I(0)*
QTYO	-2.585[0]	-8.698[0]***	-2.169[2]	-6.653[9]***	*I(1)*

Source: Computed by Author. Notes: *** indicates significance at 1% level. The values in bracket [ ] for the ADF test shows the optimal lag length selected by the SIC within a maximum lag of 9 .The values in bracket for PP test indicates bandwidth selection, using the Newey-West's Bartlett Kernel.

3.2 Cointegration Test

Since all the variables became stationary at first difference and integrated of order 1 {i.e,*1(1)*}, another test was carried out to examine the existence of a co-integrating relationship between the non-stationary variables. The results of the Johansen cointegration tests are presented in Tables 3 and 4 respectively. As evidenced in the Tables, both the Trace and the Maximun Eigen value tests indicates the absence of co-integrating relationship for cocoa, palm kernel and palm oil respectively. This reveals that there is no evidence of a long-run relationship among these variables in Nigeria.

Table 3. Johansen cointegration trace test

Null Hypothesis	Alternative Hypothesis	Test Statistic	Critical Value
r = 0	r = < 1	16.51311	29.79707
r = 1	r = < 2	6.918910	15.49471
r = 2	r = < 3	0.136665	3.841466

Source: Computed by Author. Notes: r indicates the number of co-integrating vector. ***, ** are the significance levels at 1% and 5% respectively. P-values are obtained using response surfaces in Mackinnon *et al*., (1999).

Table 4. Johansen cointegration maximum eigenvalue test

Null Hypothesis	Alternative Hypothesis	Test Statistic	Critical Value
r = 0	r = 1	9.594196	21.13162
r = 1	r = 2	6.782245	14.26460
r = 2	r = 3	0.136665	3.841466

Source: Computed by Author. Notes: r indicates the number of co-integrating vector. ***, ** are the significance levels at 1% and 5% respectively. P-values are obtained using response surfaces in Mackinnon *et al*., (1999).

3.3 Growth Rates in Cocoa Export

The result of the trend analysis of cocoa export quantity is presented in Table 5. The result shows that cocoa export exhibited a negative trend in the pre-financial sector reforms period in the study. The coefficient of the trend variable is negative and statistically

significant at one percent. However, in the financial sector reforms period, the coefficient of the trend variable is positive and highly significant at one percent. This implies that time trend is not a major factor in determining cocoa export in the pre-financial sector reforms period (1970-1986) but is a major factor in determining cocoa export in the financial sector reforms period (1987-2009) and accounted for one percent level of the aggregate level of cocoa export. This result is similar to that of Okoye *et al.,* (2008). The positive trend relationship between time and cocoa export in Nigeria might be attributed to the introduction of comprehensive financial sector reforms in 1987 with deregulation of interest rate. This result is an indication that aggregate level of cocoa export is possible in Nigeria since the financial sector reforms impacted positively on cocoa export.

The table also reveals that the F-ratio for cocoa export is significant at one percent for both periods. This means that the estimated parameters in the model are highly significant with respect to the dependent variables. R^2 indicates that the estimated parameters in the variable have good fits as the variation in the dependent variable was explained by the independent variable in the model.

Table 6 shows the result of growth rates for cocoa export quantity. A negative and positive growth rate of -3.82 and 2.63 are recorded in the pre-financial and in the financial sector reform era. This implies a decreasing and increasing trend in the growth rate of cocoa export during these two periods. The difference in growth rates between the two periods was statistically significant at the 5 percent probability level ($t_{cal} > t_{tab}$ at P=0.5). The positive growth rate in cocoa may be attributed to the introduction of comprehensive financial sector reforms in 1987, coupled with the deregulation of interest rates. Odu (1996), while reporting similar result attributed the negative growth rate in the Pre- reform period to the oil boom as well as the drought situation that occurred in 1982 which resulted in poor harvest in the country. He also attributed the positive growth rate to favorable export incentives occasioned by improved promotion and the enhancement of farmers' profit margin created by the abolition of Commodity Boards. This result corroborates that of Ojiako *et al*., (2007) who reported lower and higher values of growth rates for crops in the pre-SAP and post-SAP periods in Nigeria respectively.

Table 5. Estimated trend equations for cocoa export quantity

Dependent Variable/ Period	B_0 (Constant)	B_1 (Slope)	R^2	R^{-2}	F-Ratio
Cocoa					
Pre-Financial Sector Reforms	5.507 (52.637)***	-0.039 (-3.868)***	0.499	0.466	14.965***
Financial Sector Reform	4.377 (23.766)***	0.026 (4.175)***	0.456	0.427	17.427***

Source: Data from Central Bank of Nigeria (CBN) and computed by author, 2011. Note: Figures in parentheses are the t-ratios, *** implies significant at 1% levels.

Table 6. Growth rates of cocoa export quantity

Dependent Variable/ Period	Growth Rates in Percentages
Cocoa	
Pre-Financial Sector Reforms	-3.829
Financial Sector Reforms	2.63

Source: Data from Central Bank of Nigeria (CBN) and computed by author, 2011.

To ascertain whether the growth rates are increasing, decreasing or stagnant, a quadratic equation is estimated in time variables in the two periods and the result is presented in Table 7. The result reveals that there is negative and non-significant value of the coefficient of time variables for cocoa export quantity confirming deceleration in the growth process of cocoa export in the pre-financial sector reform period. The deceleration in cocoa export quantity could be attributed to the oil boom era coupled with the drought situation that occurred in 1982 which resulted in poor harvest in the country. This implies that the supply capacity of cocoa export to the world market is becoming weak. The non-significant value of the coefficient of time variables for cocoa export quantity confirms stagnation in the growth process of cocoa export in the financial sector reform period. This implies stagnation or absence of either acceleration or deceleration in growth process of cocoa export in the financial sector reform period.

Table 7. Quadratic equations in time variables for cocoa export quantity

Dependent Variable / period	B_0 (Constant)	B_1 (Slope)	B_2	R^2	R^{-2}	F-Ratio
Cocoa						
Pre-Financial Sector Reforms	5.507(31.364)***	-0.039 (-0.879)	-2.734E-6 (-0.001)	0.499	0.428	6.984***
Financial Sector Reform	5.310(6.874)***	-0.042 (-0.762)	0.001 (1.242)	0.493	0.442	9.710***

Source: Data from Central Bank of Nigeria (CBN) and computed by author, 2011. Note: Figures in parentheses are the t-ratios, *** implies significant at 1% levels.

3.4 Growth Rate in Palm Kernel Export

The result of the trend analysis of palm kernel export is shown in Table 8. The result reveals that palm kernel export depicts negative trends in both the pre-financial and financial sector reforms period in the study. The coefficients of the trend variables for the two periods are negative and significantly different from zero at one percent each. This implies that trend variables are not major factors in determining palm kernel export in the pre-financial (1970-1986) and in the financial sector reforms period (1987-2009). This result differs from that obtained for cocoa export quantity in Table 5 and that of Okoye *et al.*, (2008). The negative trend relationship between time or trend variables and palm kernel export in the two periods under consideration unlike that of cocoa exports suggests that the introduction of comprehensive financial sector reforms in 1987 with deregulation of interest rate did not favour palm kernel exports rather it decreases the aggregate level of palm kernel exports in the country. This might probably be due to the fact that palm kernel export was not given serious attention in the world market as compared to that of cocoa export. The table also reveals that the F-ratio for palm kernel export is significant at one percent for both periods. This means that the estimated parameters in the model are highly significant with respect to the dependent variables. R^2 indicates that the estimated parameters in the variable have good fits as the variation in the dependent variable is explained by the independent variable in the model.

Table 9 presents the result of growth rates for cocoa export quantity. Growth rates of -11.13 percent and -8.24 percent for palm kernel exports are recorded in the pre-financial and financial sector reforms period respectively. The negative growth rates in the two periods are not significantly different at 5 percent. This implies that the growth rates are the same with a decreasing trend for palm kernel export in the two periods in the study.

Table 8. Estimated trend equations for palm kernel export quantity

Dependent Variable/ period	B_0 (Constant)	B_1 (Slope)	R^2	R^{-2}	F-Ratio
Palm Kernel					
Pre-Financial Sector Reforms	5.704 (31.374)***	-0.118 (-6.624)***	0.745	0.728	43.874***
Financial Sector Reforms	4.773 (4.875)***	-0.086 (-2.623)**	0.247	0.211	6.881***

Source: Data from Central Bank of Nigeria (CBN) and computed by author, 2011. Note: Figures in parentheses are the t-ratios, *** implies significant at 1% level.

Table 9. Growth rates of palm kernel quantity

Dependent Variable/ Period	Growth Rates in Percentages
Palm Kernel	
Pre-Financial Sector Reforms	-11.13
Financial Sector Reforms	-8.24

Source: Data from Central Bank of Nigeria (CBN) and computed by author, 2011.

The quadratic equation estimated in time variables to confirm the level of acceleration, deceleration and stagnation in the movement in growth rates of palm kernel export in the stipulated periods is shown in Table 10. The result indicates that there is negative and non-significant value of the coefficient of time variables for palm kernel export quantity confirming stagnation in the growth process of palm kernel export in the pre-financial sector reform period. This implies that the supply capacity of palm kernel export to the world market is weak. The deceleration in palm kernel export quantity could probably be attributed to the oil boom era coupled with the drought situation that occurred in 1982 which resulted in poor harvest in the country. While the non-significant value of the coefficient of time variables for palm kernel export quantity confirms stagnation in the growth process of palm kernel export in the financial sector reform period. This implies that there is stagnation or absence of either acceleration or deceleration in growth process of palm kernel export in the financial sector reforms period.

Table 10: Quadratic equations in time variables for palm kernel export quantity

Dependent Variable/Period	B_0 (Constant)	B_1 (Slope)	B_2	R^2	R^{-2}	F- Ratio
Palm Kernel						
Pre-Financial Sector Reforms	5.563 (18.462)***	-0.073 (-0.948)	-0.002 (-0.593)	0.751	0.716	21.165***
Financial Sector Reforms	8.092 1.930)*	-0.327 (-1.100)	0.004 (0.815)	0.271	0.198	3.717***

Source: Data from Central Bank of Nigeria (CBN) and computed by author, 2011. Note: Figures in parentheses are the t-ratios, *** and * implies significant at 1 and 10 % levels respectively.

3.5 Growth rate in Palm oil Export

Table 12 presents the result of the trend analysis of palm oil export quantity. The result shows that the coefficient of the trend variable is negative and insignificant in the pre-financial sector reform period (1970-1986) implying that it is not a major determinant of palm oil export in this era. However, in the financial sector reform period (1987-2009), the coefficient of the trend variable is positive and highly significant at one percent indicating that it is a major factor in determining palm oil export in this period. This result differs from that obtained for palm kernel export quantity in Table 8, cocoa export quantity in Table 5 and that of Okoye *et al.,* (2008) on econometric assessment of the trend in cocoyam production in Nigeria 1960/61-2003/06. The negative trend relationship between time and palm oil export observed in pre-financial sector reform period might probably be due to the effect of civil war and neglect of the agricultural sector because of the discovery of crude oil in large quantity in Nigeria while the positive trend relationship between time and palm oil export in Nigeria might be attributed to the introduction of comprehensive financial sector reform in 1987 with deregulation of interest rate. This result is an indication that financial sector reforms impacted positively on palm oil export.

The table also reveals that the F-ratio for palm oil export is not statistically significant in the pre-financial sector reform period but statistically significant at one percent in the financial sector reform period. This means that only the estimated parameters in the model in the financial sector reforms period is highly significant with respect to the dependent variables. R^2 indicates that the estimated parameters in the variable have good fits as the variation in the dependent variable is indicated by the independent variable in the model.

Table 12 shows the result of growth rates for palm oil export quantity. A negative growth rate of 1.78 percent in palm oil export is recorded in the pre-financial sector reform period while a positive growth rate of 37.44 percent is recorded in the financial sector reform period. The differences in growth rates between these two periods are significantly different at 5 percent level ($t_{cal} > t_{tab}$ at P=0.5). This result agrees with the work of Ojiako *et al*., (2007) on the analysis of production trends in the major root and tuber crops in Nigeria, 1961-2008 who reported lower and higher growth rates for all crops in the pre-SAP and post-SAP periods respectively. The lower growth rate in the pre-financial sector reform period might probably be due to the oil boom era coupled with the drought situation that occurred in 1982 which resulted in poor harvest in the country. The positive palm oil export could probably be connected to favourable export incentives occasioned by improved promotion and the enhancement of farmers profit margin created by the abolition of Commodity Boards (Odu, 1996) in addition to the introduction of comprehensive financial sector reforms in 1987 with deregulation of interest rate.

Table 11. Estimated trend equations for palm oil export quantity

Dependent Variable/ Period	B_0 (Constant)	B_1 (Slope)	R^2	R^{-2}	F-Ratio
Palm Oil					
Pre-Financial Sector Reforms	0.513 (0.522)	-0.018 (-0.185)	0.02	-0.064	0.034
Financial Sector Reform	-9.042 (-6.260)***	0.318 (-6.550)***	0.671	0.656	42.897 ***

Source: Data from Central Bank of Nigeria (CBN) and computed by author, 2011. Note: Figures in parentheses are the t-ratios, *** implies significant at 1% level.

Table 12. Growth rates of palm oil export quantity

Dependent Variable/ Period	Growth Rates in Percentages
Palm Oil	
Pre-Financial Sector Reforms	-1.78
Financial Sector Reforms	37.44

Source: Data from Central Bank of Nigeria (CBN) and computed by author, 2011.

To ascertain the level of acceleration, deceleration and stagnation in the movement in growth rates of palm oil export in the stipulated periods, a quadratic equation is estimated in time variables and presented in Table 13. The result indicates that there is non-significant value of the coefficient of time variables for palm oil export quantity confirming stagnation in the growth process of palm oil export in the pre-financial sector reform period. This implies that there is stagnation or absence of either acceleration or deceleration in the growth process in the supply capacity of palm oil export to the world market. The negative and non-significant value of the coefficient of time variable of palm oil export in the financial sector reform period confirms deceleration in the growth of palm oil export quantity, which could probably be attributed to the oil boom era coupled with the drought situation that occurred in 1982 resulting in poor harvest in the country. This implies that the supply capacity of palm oil export in the financial sector reform period to the world market is weak.

Table 13. Quadratic equations in time variables for palm oil export quantity

Dependent Variable/ Period	B_0 (Constant)	B_1 (Slope)	B_2	R^2	R^{-2}	F-Ratio
Palm Oil						
Pre-Financial Sector Reforms	1.284 (0.789)	-0.261 (-0.627)	0.014 (0.601)	0.027	-0.112	0.197
Financial Sector Reform	-12.848 (-2.064)**	0.594 (1.346)	-0.005 (-0.629)	0.678	0.645	21.029 ***

Source: Data from Central Bank of Nigeria (CBN) and computed by author, 2011. Note: Figures in parentheses are the t-ratios, *** and ** implies significant at 1 and 5% levels respectively.

4. Conclusion and Recommendations

The study has successfully evaluated the trend in export status of cocoa, palm kernel and palm oil export crops in Nigeria. Result reveals that these crops are higher in the financial sector reform period than in the pre-financial sector reform period except for palm kernel export. This is a clear indication that the liberalization of the financial sector impacted positively on the exportation of cocoa and palm oil in Nigeria during the reviewed period. The result shows that growth rates in export of agricultural products of cocoa, palm kernel and palm oil exports are positive and higher in the financial sector reform period than in the pre-financial sector reform period with significant difference at 5 percent between the two periods.

The following recommendations evolve from our findings:

- There is urgent need to enhance the production of these crops. This can be achieved by pursuing policies that would enhance the productive capacities of farmers of these crops such as provision of basic farm inputs, extension advice as well as ensuring proper financing.
- Trade policies that would discourage importation of these crops such as tariff imposition and outright ban should be pursued. However, the effectiveness of these measures would depend on the strength of our borders. Hence, to achieve maximum result, security should be strengthened in our borders.
- Also policies that would encourage exportation of these crops should equally be pursued. Such policies should be tailored towards the provision of storage facilities, granting of tax holidays and long termed export credits at concessionary interest rates to exporters of these crops.

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