Analysis of the Impact of Globalization on Nigerian Agricultural Output

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Abstract

This study provides an empirical evidence on the impact of globalization on Nigeria's Agricultural output and also highlights the implications for rural development. The data used covered 1981 – 2000 and were obtained from secondary sources. The descriptive and multiple regression analyses were used to ascertain the extent and direction of relationship between Agricultural production in Nigeria and openness, GDP growth rate, inflation rate and population growth rate. The study revealed that agricultural share of the GDP was highest (41.00 percent) in the first quarter of liberalization. The crop sub sector remained the dominant contributor to agriculture's share of GDP, followed by livestock, fishery and forestry in that order. The study revealed that the economy is still mono-dominated by the oil sector. The study revealed that about 60 percent of the variation in the ratio of agriculture to GDP was explained by degree of openness or globalization, exchange rate and inflation. These three explanatory variables are negatively related to the ratio of agriculture to GDP. The study revealed that it is unlikely for Nigeria to be fully integrated into the global economy given its peculiar features and state of the economy. Nigeria cannot afford to fully liberalize trade in the face of poor export performance. Nigeria has to restructure her economy, liberalize, deregulate and democratize her institutuions. This calls for a redefinition of the government roles,and liberaqlization of the private sector which is at the center of globalization. The government are to provide the basic infrastructure especially in the rural areas, efficient and transparent administration, good governance friendly investment environment, macro-economic and political stability and level playing ground for economic activities in order to realize the positive impact of globalizsation on Nigerian agricultural output and the diversification drive of the economy.

Key words: National Security, Stability, Openness, Economic Development.

Introduction

Nigerian agricultural sector and the rural economic scene had always exhibited an atmosphere of depression and the situation remained the same if not even worse, during the oil boom era of the 70s (Akinyosoye, 2000). The traditional sources of food were not forthcoming and economic activities in the rural communities were at their lowest level. The social ills associated with high population growth rate, rising urban population due to large rural emigration, coupled with a disproportionately large rural population plagued the nation. Agricultural acitivities in the 70s were contributing only 25 per cent to the national income but remained employer of labour engaging 60 per cent of the labour force. Nigeria's agriculture remained as archaic in the 70s as it was in the previous decade. Nigeria became a net food importer since the seventies, and this has been a matter of great concern to all her governments. This has necessitated numerous policy measures to reverse the trend and make agriculture remain the mainstay of the economy. There was the National Accelerated Food Production Programme (NAFPP, 1973). Operation Feed the Nation (OFN, 1976), Green Revolution (GR, 1979), Operation Grow More Food (OGMF, 1979), and the Land Use Degree (1978). Other programmes included National Rice Production (NRP, 1980), the River Basin and Rural Development Authorities (RBDA, 1973) 0the Agricultural Development Project (ADPs 1980), the Cattle Breeding Programme (CBP, 1980) and the Directorate of Food, Road and Rural Infrastructures (DFRRI, 1985), which aim at integrated rural development.

According to Ukpong (1993), the success of all the various agricultural programmes have been minimal, hence the country has not been able to achieve a sustained rate of growth in the agricultural sector. The world oil glut of the 1980s affected the country's revenue base adversely. The foreign exchange base was punctured, hence the country's inability to honour its foreign financial obligations on schedule. In 1986, Nigeria's domestic as well as international credit worthiness became questionable. The economy needed a major surgical operation and the Structural Adjustment programme (SAP) was introduced in July,1986.

The introduction of SAP has been described as the boldest step ever adopted by government to revamp the Nigeria economy. SAP also represents the concrete policy enacted by the government aimed at thoroughly moving the nation towards a liberalized economy (Ahmed, 1987).

This study attempts the assessment of the impact of globalization on Nigerian agricultural output. This main objective is accomplished through the following specific objectives:- exploring the degree of openness of the Nigerian economy over the last two decades; examining whether or not Nigeria can be fully integrated into the global economy; analysing the impact of globalization on the Nigerian agricultural output; and making recommendations based on the findings of the study.

Methodology

Data used for this study were mainly of the secondary form. The data were obtained from government publications such as the Central Bank of Nigeria (CBN) Annual Reports and Statement of Account, CBN Economic and Financial Review and CBN Statistical Bulletin. Other sources included Federal Office of Statistics (FOS) Annual Publications, as well as journals. Data were collected on Nigerian Agricultural Output, Export earnings, values of imports among others.

The data for the whole period were analysed on quarterly basis. In this instance, 1981 to 2000 was divided into four sub-periods: 1981-1985, 1986-1990, 1991-1995, and 1996-2000. While the first quarter represent pre-liberalization years, the last three sub-quarters represent the period of economic liberalization which were also the different phases in the implementation of Structural Adjustment Programme in Nigeria.

The model specified would permit us to ascertain the extent and direction of the relationship between the percentage contribution of agriculture to GDP and the following independent variables:- Total Trade- GDP ratio (a proxy for openness and globalization) (Obaseki, 2000), rate of inflation and

exchange rate. The model included a random error term to accommodate all other factors. The model in its implicit form is,

$$Y = F(X_1, X_2, X_3, U) \quad (1)$$

Where

Y = percentage contribution of agriculture to GDP

X_1 = degree of openness (%)

X_2 = rate of inflation (%)

X_3 =nominal effective naira exchange rate

U = statistical error term

Three functions were fitted, these are linear, semi-log and double-log. The magnitude of the co-efficient of multiple determination (R^2), the significance of the individual explanatory variables as expressed by the t-values, the significance of the overall production function as judged by F-value as well as the appropriateness of the signs of the regression co-efficient were some of the criteria used in choosing the best fitting equation

Results and Discussion

The tempo of Nigeria's integration with the global economic system intensified with the policy shift from trade and exchange controls to economic liberalization from 1986. Nigeria is highly dependent on external trade, while rapid inflow of capital has been hindered largely as a result of the relatively underdeveloped state of the financial markets.

To determine the extent of openness of the Nigerian economy, therefore, trade flows involving the country and the rest of the world were analyzed. Following Obaseki (2000), the ratio of total trade to total Gross Domestic Product was used to measure the openness of the Nigerian economy.

Table 1: External Trade, Growth and Openness (1981-2000)

Periods	Import N Million	Export N Million	Total Trade	Gdp N Million	TT/GDP
1981-1985	772.45	1627.88	2400.3	5271.6	0.46
1986-1990	2053.87	6356.24	8410.1	13649.0	0.64
1991-1995	5221.04	12121.99	17343.0	18536.9	0.94
1996-2000	50214.48	123454.31	173668.8.8	349265.0	0.50

Source: Computed from CBN Statistical Bulleting 2001.
GDP values were at current market prices

Table 1 shows that Nigeria's economy recorded increase openness in the 1981-1985 and 1986-1990, sub-periods, reflecting a movement from 46 percent to 64 percent during the period. The higher the openness index, the more the economy is open to outside world. The implication of this for Nigeria's development aspiration is that, the private sector has to shoulder the responsibility of making efforts to actively participate in the global markets by producing commodities that are competitive and by their ability to manage both domestic and foreign investments. In the same vein, the public sector also has some roles to play in terms of providing the framework for innovations, as well as the necessary infrastructures and healthy environment for development. The trend mirrored adequately the performance of Structural Adjustment Programme introduced in 1986. A further improvement was recorded in the 1991-1995 sub-period where 94 percent was recorded. This reduced sharply to 50 percent in the 1996-2000 sub-periods.

The extent of openness required for the purpose of attaining full integration into the global economy, for whatever reasons, is one issue while the extent of liberalization of the trade regime that may be feasible, given the economy's basic features is another (Oyejide 2001). Thus, there is an emerging issue of whether Nigeria can afford to meet globalization requirement, especially in terms of greater economic integration with the global economy, given the state of the economy and its peculiar characteristics.

Table 3 reveals that the contribution of the non-oil exports to total exports has been declining from 3.3 percent in the 1981-85 sub-period to 2.4 percent in 1996-2000 sub-periods; consequently, the share of oil in total export has been growing from 96.7 percent to 97.6 percent in 1981-85 and 1996-2000 sub-periods respectively. This implies that the economy is still highly mono-dominated in the export scene by the oil sector. The share of agriculture in total non-oil exports rose from 66.7 percent in the 1981-85 sub-period, to 75.1 percent and fell to 73.20 and 70.6 per cent in the 1986-1990 and 1996-2000 sub-periods respectively.

The major reason adduced for the poor performance of non-oil exports has been its non-competitiveness in the international markets. This implies that more efforts and time are needed to achieve competitiveness of non-oil export in Nigeria. Therefore, this suggests that Nigeria cannot afford to fully liberalize trade in the face of poor export performance.

Another major issue is the attractiveness, credibility or otherwise of macro-economic policies to investment. This is because of the linkage between trade and investment as well as growth. In order to expand the level of export, there is need to attract both the domestic and foreign investment into the export sector, and the economy as a whole.

Table 4: Profiles of National Savings and Investment Rates 1981-2000

	1981-1985	**1986-1990**	**1991-1995**	**1996-2000**
A.Saving GDP ratio	15.9	13.5	8.8	7.7
B. Investment GDP ratio	9.5	6.4	6.5	4.5
C. Investment gap GDP ratio (%)	6.4	7.1	2.3	3.2

Sources: computed from CBN Statistical Bulletin 2001
GDP values were at current market prices.

Table 4 shows that national savings rate (savings GDP ratio) was 15.9, 13.5 and 7.7 percent in 1981-1985, 1986-1990, and 1996-2000 sub-periods respectively. These savings ratios are considered too low for any productive activities, while the domestic investment rate (investment GDP) ratio reduced from 9.5 percent in the 1981-1985, sub-period to 4.5 percent in the 1996-2000 sub-period. Also, the investment gap GDP ratio was highest (7.1%) in the 1986-1990 sub-period. The implication is that low savings here could not be completely transformed into investment. The major cause of this problem is the trends of macro-economic fundamentals that discourage investment and savings in Nigeria.

Regression Results

In order to ascertain the extent and direction effect of openness, inflation and exchange rates on percentage contribution of Agriculture to GDP , the semi-log production function was selected.

Table 5: Regression Results

Funct. Form.	Const.	Variables			R^2	F-Value	DW
		Openness (X_1)	Inflation (X_2)	Exch rate (X_3)			
Linear	41.248	-0.035 (-0.608)	-0.038 (-2.164)*	-0.022 (-2.330)*	35.6	2.948	0.950
Semi-log	1.680	0.067 (-03.810)*	-0.014 (-1.817)	-0.059 (-4.162)*	60.1	8.032	1.104
Double-log	0.198	-0.0062 (-2.168)	-0.0005 (-0.060)	0.0013 (0.108)	96.8	20.426	3.094

Source: computer printout data. Figure in parenthesis are t-values
*Significance at 5 percent level.

The function revealed that about 60.1 percent of the total variation in percentage of Agriculture to GDP was explained by degree of openness (X_1), inflation rate (x_2) and exchange rate (X_3). The remaining 39.9 percent not explained is attributed to the variables not included in the model.

This result shows that total trade to GDP ratio used as proxy for openness and globalization (X_1) and exchange rate (X_3) are not only negatively related to the percentage contribution of agriculture to GDP but are also statistically significant at 5% level. Furthermore, the results indicate that a 10% rise in the total trade to GDP ratio reduce the percentage contribution of agriculture to GDP by 0.014%. It is equally seen that inflation rate (X_2) has no significant influence on the contribution of agriculture to GDP.

By observation, the Durbin-Waston figure of 1.104 is low and because it falls between the lower and upper critical values of dl = 0.10 and du = 1.68, for three independent variables and sample size of twenty, a conclusive test for serial correlation cannot be affirmed.

Conclusion

The world has become a global village that is driven by strong forces of change principally from technology, economic liberalization and democracy. Globalization offers Nigeria the chance to improve its economic performance and raise the living standard of its populace. The present structure of the Nigeria economy may however preclude its being able to derive growth benefits from increased integration in to the global economy if appropriate economic reforms are not undertaken. This is because of Nigeria over dependence on the oil sector to the detriment of other sectors of the economy especially agriculture. In addition, the country lacks the requisite infrastructure, institutions and technical capabilities that are required to promote growth through integration into the global economy.

Nigeria has to restructure her economy, liberalize, deregulate and democratize her institutions. This does not call for abdication of roles by Nigerian government, it call for a redefinition of the roles and liberalization of the private sector, which is at the center of globalization. It calls for government to provide the basic infrastructure especially in the rural areas, efficient and transparent administration, good governance, friendly investment environment, macro-economic and political stability, and level playing field for economic activities in order to realize any positive impact of globalization on Nigerian agricultural output and the diversification drive of the economy.

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