The Impact of Macroeconomic Variables on Non-Oil Exports Performance in Nigeria, 1986-2010

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ABSTRACT

This study investigated the impact of macroeconomic variables on the performance of the Nigerian economy 1986-2010. In carrying out the study we employed the ordinary least square (OLS) and cointegration test analysis based on the Engle Grenger (1987) cointegration analysis, in order to establish a long run relationship among the variables employed in this study. The study was guided by four research objectives and hypotheses. Given the influences other variables have on the performance of the Nigerian economy, we discriminately incorporated non-oil export, agricultural sector, manufacturing sub-sector and gross domestic product as the dependent variables while exchange rate, interest rate, government capital expenditure and government recurrent expenditure were the independent variables. The result of our analysis indicates that exchange rate, government capital expenditure and government recurrent expenditure are positively related to non-oil export, agricultural sector, manufacturing sub-sector and gross domestic product, while interest rate is negatively related to non-oil export, agricultural sector, manufacturing sub-sector and gross domestic product. The four formulated null hypotheses were rejected while the alternative hypotheses were accepted. Based on the findings of this study, we therefore recommend that investment should be increased in the areas of non-oil exports, agricultural sectors and manufacturing sub sector because our result shows that they are related to macroeconomic variables used except the interest rate. Though government capital and recurrent expenditures, maintained positive relationship with non-oil exports, agricultural sectors, manufacturing sub-sector and gross domestic product but had made very, almost insignificant impact on them, therefore government should increase the budget allocation of capital and recurrent expenditures and continue to force down interest rate in order to attract potential investors. Government should increase lending to agricultural sector and manufacturing sub-sector and also place less emphasis on oil sector so as to concentration more to other aspects of the real sector of the economy. This is because

increase in real sector investment, reduction in interest rate, increase budgetary allocation to government capital and recurrent expenditures as ways of improving the performance of the Nigerian economy.

Keywords: Non-Oil Export, Exchange Rate, Interest Rate, Government Capital and Recurrent Expenditure.

INTRODUCTION

Background of the study

Exports are important sources of growth for developing countries. This means that there is a positive correlation between the growth of a country's exports and its overall growth (Kravis, 2000). Most studies in this area have been inspired by Robertson's (1938) assertions that exports are the "engine" of growth. Robertson claims that countries with the greatest expansions of exports have always experienced the most rapid of overall growth. Exports provide the stimulus for sustainable development by providing the necessary foreign exchange to purchase imports required for development. Moreover, the growth of export has forward and backward linkages to other sectors of the economy, especially non-oil, agricultural manufacturing sectors, and overall gross domestic growth. This is because a prominent feature of Nigeria's external sector has remained basically the same since 1960. The export sector is characterized by the dominance of a single commodity of agriculture.

From the mid 1970s, the crude oil became the dominant export plant of the Nigerian economy. The economy was said to be suffering from the "Dutch disease". Nigeria crude oil is of the light and sweet type and is highly sought after in the international oil market. The export of crude oil now constitutes about 96% of total exports. The performance of the non-oil export sector in the past two decades leaves little or nothing to be desired. This fall is attributable largely to the neglect of the agricultural and manufacturing sectors following the oil boom, coupled with over evaluation of exchange rate, unimaginable interest rate, misappropriation of government expenditures and collapse of the export commodity, prices in the world market as well as the country's inability to compete on prices.

The instability in the exchange rate created uncertainty and fuelled inflation. Indeed, there was a direct correlation between movements in the exchange rate, interest rate; government total expenditures were not directed to the real sectors of the economy. The external balance was in disarray despite the devaluation of the domestic currency while external debts mounted. The mismanagement of the foreign exchange market resulted in huge profits for the financial sector. This was due to the wide differential between the official and the parallel market rate. Consequently, there was a boom in the financial

sector, although, not in the other sectors of the economy. In facts, there was paralysis in the real sector to the extent that manufacturers were unable to procure foreign exchange for this imports nor could they raise funds generally, given the high cost of borrowing money, while there was a fair consensus that the slick of the naira needed to be halted, opinions on how best to stop the further decline of the domestic currency differed.

Given the above scenario, the Nigerian government in bid to promote and encourage the non-oil export sector activities, has over the years implemented various monetary and fiscal policies and incentives. Some of the policy measures among others include the adjustment of the exchange rate of naira vis-à-vis other international currencies with a view to increasing non-oil export productions, award of tax holidays to industries producing manufactured non-oil exports, devaluation of naira, tax free interest on export loans or credits, adjustment fund to provide cash subsidy to exporters, provision of credit facilities to the private sector involved in manufacturing of export items and the promulgating of decree No. 18 of 1986 referred to as "incentive and miscellaneous provision" which is a comprehensive export incentive package to benefit Nigeria exporters. The aims of these incentives are to encourage Nigeria exporters, stimulate the foreign exchange earning capacity of the non-oil export sector and to diversity the productive base of the economy. In addition, the incentives were designed to address the major problems of supply, demand and the price competitiveness of Nigeria's export.

In view of government policies and efforts in managing the various macroeconomic variables and because there is hardly any study evaluating the implications of these variables, specifically, on the performance of the Non-Oil Export, GDP, Agricultural, Manufacturing Sectors, and Gross Domestic Product in Nigeria and following issues of: to what extent have macroeconomic variables such as exchange rate, inflation rate, and government capital and recurrent expenditure affected the volume of non-oil export, agricultural sector, manufacturing sector, and gross domestic promote in Nigeria? And these issues can only be resolved by appealing to empirical evidence; hence, this is what has induced this study. It is on this ground, that this paper seeks to find out the extent to which the various macro economy variables (exchange rates, interest rate and government capital and recurrent expenditures) have impacted on the non-oil exports performance in Nigeria from 1986-2010).

This study was guided by these objective: to examine the impact of macroeconomic variables on non-oil exports in Nigeria from 1986-2010; to ascertain the effects of macroeconomic variables on agricultural sector in Nigeria from 1986-2010; to determine the impact of macroeconomic variables on manufacturing sector of Nigeria from 1986-2010; and to assess the impact of macroeconomic variables on economic growth in Nigeria using gross domestic product as a product from 1986-2010. These objectives were achieved by testing the formulated hypothesis; macroeconomic variables have not impacted significantly on non-oil export, agricultural sector and

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manufacturing sector and gross domestic product. The study has its scope within the period of 1986-2010, the deregulated era and this study is divided into five sections: introduction, review of relevant literature, methodological issues, presentation and analysis of data and the empirical results and summary, policy recommendations and conclusion.

LITERATURE REVIEW

In this chapter, effort was made to examine some relevant literature. The purpose of this literature review is to investigation is to x-ray the views of some scholars on the subject matter as they relate to this study so as to enable us determine the direction for carrying out the investigation. Such reviews are necessary because it will expose the gaps we intend to fill in the study. Largely (2008), Onitiri (2003), Ojo (1973), Michaly (2007), Ballasa (2008), Tyler (1981), Ram (2005), Oyejide (2006) etc have thrown light on the contributions of export to economy growth in the developing countries. However, there is hardly any study evaluating the implications of macroeconomic variables such as exchange rates, interest rate and government capital and recurrent expenditures on the performance of non-oil sector, agricultural sector, manufacturing sector, and gross domestic product.

The Place of Export in Economic Development

One of the earliest propositions justifying export policy measures is that of Robertson (1938). Robertson argues that export is the engine or promoter of economic growth and as such, efforts should be made towards enhancing export production. This proposition or theory inspired many other studies such as Lim (2006) who argues that historical data show that for thirty-one years (1930-1961), exports propelled the Sri-Lanka economy. He however noted that export expansion through economic policies could not provide adequate employment for rapidly growing population during the reference period. Malmgreen (2008) asserts that export growth is important for countries that are heavy borrowers as an essential element in this capacity to service debts; and for countries that are currently suffering high unemployment and slack domestic demand as the commotion to move their economy along. To him, the prospect for export expansion is a vital consideration in the global economic outlook.

In line with Malmgreen's assertion, Tyler (1981) aligns the success of countries such as Taiwan, Korea, Singapore and Hong Kong with export oriented development strategies. He argues that countries pursuing export oriented diversification policies are likely to grow faster than those not pursuing such policies. Egerue (2006) maintains that as a result of the unpredictability of oil market, there is a persistent need for the diversification of the Nigeria economy through non-oil export oriented economic policies.

Supporting Egerue, Al-Adam (2007) narrates the core of the Nigeria problems as too much dependence on oil and neglect of agriculture and manufacturing sectors. He therefore advocates for the non-oil export oriented economic policy measures.

Balogun (2009) points out the importance of non-oil exports particularly agriculture and manufacturing in the Nigerian economy. According to him, the role of these sectors to the continued national growth cannot be ignored. There is the need to nature them in order to enhance this continuous productivity. He maintains that the symbiotic relationship between agriculture and industry holds the key to genuine structural transformation and self-reliance. Lending support to him, Hassin (2007) opines the efficient and dynamic growth of the agricultural sector ensures an enlarged market for the output of the domestic industry. He said that of utmost important is the promotion of self sustaining industrialization in the nation through agro-industrial integration. That is, the agricultural sector serves the industrial sector by providing raw materials. The industrial sector reciprocates by serving the agricultural sector through the provision of current farm tools, chemicals and infrastructures.

Meier (1970) is of the view that policies geared towards the expansion of agriculture is one of the promising means of increasing income and augmenting foreign exchange earnings in developing countries. To him, the development of export caters for existing external market. Thus, a substantial expansion of agricultural export production is a rational policy. He argues that instead of pursuing protectionist policies, less developed countries should pay more attention to seeking policy measures that promote industrialization through the exports of manufactured goods.

Fajana (2009) supports the diversification and expansion policies of the non-oil sectors. He asserts that this will help to lessen the high precarious dependence of Nigeria on wasting asset-petroleum for exports and growth thus; he supports the establishment of relevant export promotion agencies and the use of various policies in formulating programmes of incentives for manufacturing and agricultural sectors. He believes that this will foster the development of external market for such commodity.

Sule (1989) recognizes the numerous problems facing the exportation of agricultural and mineral exports and thin black future in terms of performance and recommends the taking of appropriate measures to eliminate, especially the production constraints in order to boost their supply for local consumption and for manufactured exports. Obadan (1990) and Abubakar (1991) also recognize the non-oil sector within the frame work of SAP in Nigeria. Obadan asserts that the massive devaluation of the naira within the framework of SAP during the Babangida administration was expected to make export cheaper and to boost the quantum and value of non-oil sector is very important to the SAP process because close attention to this sector is an aspect of diversification of the Nigerian economy that is imperative for the attainment of self-sustaining growth and development.

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Ekpo and Egwaikhidem (2004) argue that the various adjustment programme being implemented by most developing countries for the most part on export expansion as a mechanism to trigger rapid economic expansion. To them, this is a return to "free trade" as against the protectionist policies of the import substitution industrialization regime.

Maddison (1990) cites the expenses of other nation of the world in evolving policies to promote exports either by maintaining more realist exchange rate or by specific export subsidies. For instance, Pakistan (1959) has raised manufacturing export substantially by a bonus scheme, which varied according to the category of production. India also had a system of export subsidies which were temporarily discarded at the time of 1966 of expert subsidies of 10, 20 and 30 percent depending on the degree of novelty of this export production. She also granted rebates of internal taxes and custom duties on exports. The efforts of these nations justified the need for export promotion.

However, various authors such as Lamfalussy (2001), Todaro (1980), Okengwu (2002), Osagie (2009), Ayagi (2000) and Ndulor (1993) warn that developing countries should be cautious about the continued encouragement of exportation whether oil or non-oil productions. Lamfalussy (2001) is afraid of the effect of higher exports. He says that more export means more goods going out of the country and less left for the domestic use. This means lower social welfare and the related effects Osagie maintains that it is not advisable to embark on export promotion drive when the basic needs of the domestic consumers and industries have not been met. Todaro and Okengwu caution against the concentration of our non-oil export production on primary commodity such concentration renders the economy very vulnerable to market fluctuation in specific period. They maintained that specific price variation for the commodities can render development strategies through export promotion highly uncertain. Ayagi argues that we should always test the feasibility viability of any export promotion objective. According to him, it is dangerous for any counting to embark upon such policy when it does not hold any hope contributing anything to salvaging its economy. He therefore warns that we should be cautious in adopting economic policies on the promotion of non-oil exports that only ensure perpetual and inescapable debt trapping of the Nigerian economy.

Empirical Literature Review

A limited number of empirical studies have been carried out to evaluate the success of economic policies such as exchange rate and interest rate in stimulating export performance and economic growth. Most of these studies employ cross sectional analysis of inter-country data on export and gross domestic product (GDP) or gross national product (GNP). Maizels (1968) carried out a study on the relationship between exports and economic growth in sixteen countries in estimating the relationship; he performed time series analysis of exports and GDP. Maizels found out that there is no strong

association between export and the growth of the economy. He however, offered two explanations for this. First is the small sample size, and second the relative importance of exports in national income was not taken into account in each of the countries considered. Massel *el ta* (2002) extended this study to eleven Latin American countries; they employed a simple equation model and found that export earnings appear to make a remarkable impact on the growth of output.

Michaely (2007) carried out studies on international statistical comparison of export performance and economic growth. He also adopted a single equation model. He found the correspondence between growth in per capita income (a proxy of economic growth) and the ratio of export to GNP to be significantly positive for a sample of forty on less developed countries. However, this evidence was significant only with respect to twenty-three most developed countries included in the sample.

Bela (2008) in his comprehensive empirical studies of eleven centuries with strong industrial base also found a significant and positive relationship between economic growth and export promotion for less developed countries. Bela's suggestion is that countries which neglect their export sector through discriminatory economic policies are likely to have to settle for lower rates of economic growth and He concludes that the export performance reflects export economic policies.

Krueger (2008) carried out a study on export growth relationship for ten countries covering 1954 through 1971. He employed a simple log-linear specification for each country. One of the results from the study is that the relationship between GNP and export earnings is more correlated than the correspondence between GNP and total foreign exchange availability. A corollary result from this finding is a positive relationship between export performance and export-oriented policies. These results are quite consistent with the bi-variant regression results employed earlier by (Emery 2007, Severn 2008 and Syron and Walsh, 2008) to investigate a similar phenomenon.

METHODOLOGY

Research Design

This research involves quantitative analysis of the variables used in this study, adopting the method of Ordinary Least Square Regression Analysis (OLS) econometric statistical technique. This study made use of secondary data. They include the annual series data on: Interest rate, Non-oil exports, Agricultural sector, Exchange rate, Manufacturing sector, Gross Domestic Product, Government capital and recurrent expenditures from 1986-2010. These data were collected from CBN Annual Reports and statement of account, Central Bank Bullion, Economic and Financial Reviews, Federal Bureau of Statistics (FOS), Federal Ministry of Finance, The Nigeria Export Promotion Council, Government Budgets and National Development Plan.

Estimation Procedure

This study, which covers the period 1986 through 2010, attaches significance to the sample properties. The properties include efficiency, sufficiency, imbaisedness, least variance, Best Mean-Square Error (MSE). These desirable properties of estimators can be obtained from many techniques by the minimum variance property distinguishes the Ordinary Least Squares (OLS) estimators as the best when compared with other linear unbiased estimator from econometric techniques. This particular property (of smallest variance) is the reason for the popularity of the OLS method (Koutsoyiannis, 1977).

This research employed econometric model of Ordinary Least Squares (OLS). According to Madulla (1992), this method gives the best technique for the verification of theories. It also provides quantitative estimates of the relationship among variables without much subjective judgment.

The specification of econometric model is always based on economic theory or any available information relating to the phenomenon being studied (Koutsoyiannis, 1977).

Model specification

$$NOE = a_0 + a_1EXR + a_2INR + a_3GCX + a_4 GRX + U_t \ldots\ldots\ldots\ldots (1)$$
$$AGS = a_o + a_1EXR + a_2INR + a_3GCX + a_4 GRX + U_t, \ldots\ldots\ldots\ldots (2)$$
$$MFS = a_o + a_1EXR + a_2INR + a_3GCX + a_4 GRX + U_t, \ldots\ldots\ldots\ldots (3)$$
$$GDP = a_o + a_1EXR + a_2INR + a_3GCX + a_4 GRX + U_t, \ldots\ldots\ldots\ldots (4)$$

Aprior expectation and justification of the variables in the models

Economic postulations suggest that increase in exchange rate and interest rates will bring about decrease in non-oil export, agricultural sector, manufacturing sub-sector and gross domestic product while decrease will bring about increase in non-oil export, agricultural sector, manufacturing sub-sector and gross domestic product. However, increase in government capital and recurrent expenditures will positively affect non-oil export, agricultural sector, manufacturing sub-sector and gross domestic product. This is based on the economic postulation that an increase in total government expenditure in Nigerian economy will be directly transmitted into the economy or will bring about an increase in the value of economic growth.

Based on the foregoing the expected signs of regression coefficients in all the equations are: $\mathbf{a_1, a_2, < 0, a_3, a_4 > 0}$

Data Analysis

This section provides an empirical test and analysis of data sourced for this study using the economic approach of Ordinary Least Square (OLS), and co-integration methods. Four econometric equations are estimated to test the four formulated hypotheses. In the hypotheses, non-oil export (NOE), agricultural sector (AGS), manufacturing sub sector (MFS) and gross domestic product (GDP) are the dependent variables, while the macroeconomic variables of exchange rate (EXR), interest rate (INR), government capital expenditure (GCX) and government recurrent expenditure (GRX) are the independent variables or the explanatory variables.

RESULTS

Using the annual time series data for the period 1986 to 2010 as presented to test the hypotheses in this study, the ordinary least square regression yield the following results:

Hypothesis One:

There is no significant impact of macroeconomic variables on Non-Oil Export in Nigeria; thus Ho: $B_1 = 0$.

Table 1: Short Run Regression Result of NOE, and EXR, INR, GCX, and GRX.

Dependent Variable: NOE
Method: Ordinary Least Squares
Date: 01/12/12   Time: 13:22
Sample: 1986 2010
Included observations: 25

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	6183.742	32576.29	0.189823	0.8514
EXR	94.89766	186.8256	0.507948	0.6170
INR	-830.8911	1346.696	-0.616985	0.5442
GCX	0.219181	0.032540	6.735835	0.0000
GRX	0.002330	0.001765	1.319806	0.2018

R-squared	0.894198,	F* Statistic = 42.26.	
Adjusted R-squared	0.873038,	D W = 1.149.	
Source: Author's computation from			
appendix 2 (E-View)			

Table 1 of the study reveals that R^2 is 0.89; this implies that about 89 percent of the total variations in non oil reports is explained by exchange rate, interest rate, government capital expenditure and government recurrent

expenditure, while the remaining 11 percent is caused by other variables outside the model but covered by the error term.

A positive relationship existed between non oil export and exchange rate, government capital and recurrent expenditures but non-oil export was negatively related to interest rate within the period under study. Specifically, relationships between non-oil export and exchange rate, interest rate, government capital expenditure and government recurrent expenditure are 95% (approximately), -830% 22% and 0.2% respectively. This implies that the values of the coefficient is revealed that non-oil export is statistically related to exchange rate but not statistically related to interest rate, government capital expenditure and recurrent expenditure respectively. The F value calculated is 42.26 and the F-table or critical is 2.78. The F calculated is greater than the F-table therefore; we reject the null hypothesis and accept the alternative hypothesis that there is a significant impact of exchange rate (EXR), interest rate (INR), government capital expenditure (GCX) and government recurrent expenditure (GRX) on non-oil exports. The showing D-W computed of 1.149 is less than 2 thereby depicting a higher degree of serial auto-correlation and further reveals the stability of the model.

Hypothesis Two

There is no significant impact of microeconomic variables on agricultural sector in Nigeria; thus Ho: $B_2 = 10$.

Table 2: Short Run Result of AGS and EXR, INR, GCX and GRX.
Dependent variable: AGS
Independent variables: EXR, INF, GXC, GRX

Variable	Coefficient	Std Error	t-statistics	Prob
C	82154.80	28481.52	2.884495	0.0095
EXR	608.5052	163.3421	3.725343	0.0012
INR	-709.0847	1177.419	-0.602236	0.5538
GCX	0.124259	0.028449	4.6367725	0.003
GRX	0.001558	0.001544	1.009186	0.3249

R2 = 0.898200, R2 Adjusted = 0.877. DW = 0.856478, F-statistics = 44.11611,
Pro (F-Stat) = 0.0000.
Source: Computed from E-view version 3

Table 2 of this study reveals that R^2 is 0.90 which implies that about 90% of the total variations in agricultural sector were explained by exchange rate, interest rate, government capital and recurrent expenditure while the remaining 10% caused by other variables of capture in this model but covered by the stochastic or error term. Further, a positive relationship exists between agricultural sector and exchange rate, government capital and recurrent expenditure while a negative relationship exists between agricultural sector and interest rate, also 90% of R^2 indicates statistical significant positive relation between the variables. It is also important to

state that a statistical significant relationship exist only between agricultural sector and exchange rate.

The D-W computed is 0.86 which is comparatively less than 2, hence suggesting a higher degree of serial auto-correlation and depicting the stability of the model. The F-statistics (f-calculated) value is 44 while the F-table is 2.78, therefore reject the null hypothesis and accept the alternative hypothesis that there is significant impact of exchange rate (EXR), interest rate (INR), government capital expenditure (GCX) and government recurrent expenditure (GRX) on agricultural sector, implying an overall significance of the macroeconomic variables.

Hypothesis Three

Macroeconomic variables did not significantly impact on manufacturing sub sector in Nigeria thus H_o3: $B_3s = 0$

Table 3: Short Run Result of MFS and EXR, INR, GCX and GRX.
Dependent variables: MFS
Independent variables: EXR, INF, GXC, GRX.

Variable	Coefficient	Std Error	t-statistics	Prob
C	12737.31	2571.824	4.452637	0.0001
EXR	2.919369	14.74946	0.197931	0.8451
INR	-7.929393	106.3186	-0.074581	0.9413
GCX	0.013252	0.002569	5.158744	0.0000
GRX	0.000145	0.000139	1.041025	0.3103

R2 = 0.821865, DW = 0.458646, F-statistics = 23.06854, Adj R2 = 0.786238
Pro (F-Stat) = 0.0000.
Source: Computed from E-view version 3.

Table 3 of this study reveals that the value of R^2 is 0.82 implying that about 82% of the total variations in manufacturing sub sector (MFS) is explained by exchange rate, interest rate, government capital and recurrent expenditure while the remaining 18% that was caused by other variables that are not captured by the model but covered by the error term. Further, a positive relationship exists between manufacturing sub sector and exchange rate, government capital and recurrent expenditures, except interest rate.

The D-W computed is 0.46 which is comparatively less than 2 and suggesting a higher degree of unto-correlation or several dependence of the error term and stability of the model. The value of F-statistics is 23.07 while the F-table is 2.78; hence the null hypothesis is rejected and the alternative hypothesis is accepted; that macroeconomic variables significantly impacted on manufacturing sub sector in Nigeria between 1986 and 2010 and there is an overall significance of the macroeconomic variables at 82%.

Hypothesis Four

Macroeconomic variables did not significantly impact on Gross Domestic Product in Nigeria; thus H_o4: BN = 0

Table 4: Short Run Result of GDP and EXR, INR, GCX and GRX.
Dependent variables: GDP
Independent variables: EXR, INF, GCX, GRX

Variable	Coefficient	Std Error	t-statistics	Prob
C	235125.4	56623.73	4.151538	0.0005
EXR	1126.752	324.8070	3.468990	0.0024
INR	-938.0574	2341.308	-0.400655	0.6929
GCX	0.290347	0.0056572	5.132355	0.0001
GRX	0.003325	0.003069	1.083115	0.2916

R2 = 0.909021, DW = 0.7366.16, F-statistics = 49.9595795, Adj R2 = 0.890826, Pro (F-Stat) = 0.0000.
Source: Computed from E-view version 3

Table 4 of this study reveals that the value of R^2 is 0.91 meaning that about 91% of the total variations in Gross Domestic Product is explained by exchange rate, interest rate, government capital and recurrent expenditures while the remaining 9% that was not captured in the model was covered by the error term, that is factors that could affect the behaviours of the variables. The 91% strongly shows an overall significance of the macroeconomic variables in the model. Further, the value of R^2 adjusted is 89% which also confirms that the model has a high degree of freedom.

Specifically, GDP is positively related to exchange rate, government capital and recurrent expenditures but negatively related to interest rate. As the D-W computed value of approximately 0.74 which is less than 2 depicts that the model is highly stable and also suggests a high degree of social dependence of the error term. The value of F-statistics is approximately 50.0 while the f-table value is 2.78. It therefore, follows that /F- cal/ is greater than |F-tab|: hence, the null hypothesis is rejected and the alternative hypothesis is accepted. Therefore, macroeconomic variables significantly impacted on Gross Domestic Products (GDP) in Nigeria within the period of study.

The short run result of non-oil exports, agricultural sector, manufacturing sub-sector and gross domestic sector reported above shows that all the variables under consideration were significant at 5% level. The R^2 value and other statistics were also reasonable. Meanwhile the Durbin Watson (DW) statistics is very low, indicating the presence of auto-collinearity, hence, accepting the result may be misleading given that time series data are prone to error and highly serial dependence of the error term due to fluctuation in economic/ business activities, thus the need for a unit root test and co-integration analysis. To achieve a long run relationship, we begin by conducting instability or unit root test. These tests show the number of times required for a variable to be stabilized.

Table 5: Unit Root Test Result using ADF Procedure.

Variables	Ordinary level	1st difference	Order of integration
NOF		-2.556993	1 (1)
AGS		-2.607795	1 (1)
MES		-1.721040	1 (1)
GDP		-1.647252	1 (1)

At 1% = -3.7667, 5% = -3.0038; 10% = -2.6417

Source: Computed result (E-view version 3.1)

The unit root test reported above shows that none of the variables attained stationarity at ordinary level. But at first difference, all the variables; non oil export, agricultural sector, manufacturing sub sector and gross domestic product showed stationarity. Further, the long run relationships among the variables were examined using Johansen (1997) co-integration framework. The result of the co-integration test as reported below.

Table 6: Johansen Co-Integration Tests Result.

NOE, EXR, INR, GCX, GRX

Eigen value	Likelihood ration	5% critical level	1% critical value	Hypothesis no. ICE (s)
0.971753	135.8930	68.52	76.07	None **
0.764073	53.85720	47.21	54.46	At most 1*
0.411798	20.63993	29.68	35.65	At most 2
0.250709	8.434185	15.41	20.04	At most 3
0.075106	1.795744	3.76	6.65	At most 4

AGS, EXR, INR, GCX, GRX

0.982401	162.6544	68.52	76.07	None **
0.887829	69.73679	47.21	54.46	At most 1**
0.397242	20.61747	29.68	35.65	At most 2
0.306011	8.973977	15.41	20.04	At most 3
0.024568	0.572111	3.76	6.65	At most 4

MFS, EXR, INR, GCX, GRX

MFS	EXR	INR	GCX	GRX
0.844047	94.55290	68.52	76.07	None **
0.768109	51.81430	47.21	54.46	At most 1*
0.304611	18.20007	29.68	35.65	At most 2
0.257464	9.844554	15.41	20.04	At most 3
0.122204	2.997836	3.76	6.65	At most 4

GDP, EXR, INR, GCX, GRX

0.850347	108.2343	87.31	96.58	None **
0.773794	64.54714	62.99	70.05	At most 1*
0.453665	30.36202	42.44	48.45	At most 2
0.321007	16.45798	25.32	30.45	At most 3
0.279940	7.553668	12.25	16.26	At most 4

Source: Computed result (E-view version 3.1)

NOTE: series, NOE, AGS, MFS, GDP and ERX, INR, GCX, GRX, LR test indicate 5 (five).

Co-integration equation(s) at 5% significance level shows that along run relationship existing among variables is feasible.

SUMMARY, RECOMMENDATION AND CONCLUSION

This study investigates the impact of macroeconomic variables on the performance of the Nigerian economy 1986-2010. Given the influences other variables have on the performance of the Nigerian economy, we incorporated non-oil export, agricultural sector, manufacturing sub-sector and gross domestic product. Hence, they are our dependent variables while exchange rate, interest rate, government capital and recurrent expenditures are our independent variables. The study is organized into five sections, in carrying out the study we employed the ordinary least square (OLS) and cointegration test analysis based on the Engle Grenger (1987) cointegration analysis.

The result of our analysis indicates that exchange rate, government capital and recurrent expenditures are positively related to non-oil export, agricultural sector, manufacturing sub-sector and gross domestic product. This implies that rise in these variables will stimulate better performance of the dependant variables while a fall worsens their performance, except the exchange rate. On the other hand, interest rate is negatively related to the dependent variables. This means that a rise in interest rate retards economic growth and worsens the performance of the economy while falls spur economic growth. This result deviated sharply from our expectation. It is also important to note that all the variables and all the hypotheses were rejected as the alternative hypotheses were accepted.

Finally, exchange rate, government capital expenditure and government recurrent expenditure have impacted and contributed greatly to non-oil exports, agricultural sector, manufacturing sub sector and gross domestic product, while interest rate did not greatly impact and contribute to non-oil export, agricultural sector, manufacturing sub-sector and gross domestic products during the period of this study.

RECOMMENDATIONS

Based on the above results and findings above therefore make the following recommendations:
(1)   Investment should be increased in the areas of non-oil exports, agricultural sectors and manufacturing sub sector because our result shows that they are related to macroeconomic variables used except the interest rate.
(2)   Though government capital and recurrent expenditure, maintained positive relationship with non-oil exports, agricultural sectors, manufacturing sub-sector and gross domestic product but had made very, almost insignificant impact on them, therefore government should increase the budget allocation of capital and recurrent expenditures and continue to force down interest rate in order to attract potential investors.

(3)   Government should increase lending to agricultural sector and manufacturing sub-sector and also place less emphasis on oil sector so as to concentration more to other aspects of the real sector of the economy.

(4)   Government should increase spending in non-oil exports agricultural sector and manufacturing sub sector for they are the key avenues for rapid and sustained growth in an economy.

CONCLUSION

The result of our investigation indicates that non-oil exports, agricultural sector, manufacturing sub-sector are positively related to macroeconomic variables, except interest rate, used in this study. This implies that rise in these variables encourage better performance while a fall reduces economic growth. On the other hand, interest rate was found to be negatively related to dependence variables. This shows that a rise in interest rate will discourage better performance of the economy. These results deviated sharply from our expectation. It is also important to note that all the variables under consideration are significant at 5% level. This indicates that the contributions of interest rate, government capital and recurrent expenditures, are weak during the period of this study.

Based on the above result and finding we conclude that an increase in real sector investment, reduction in interest rate, increase budgetary allocation to government capital and recurrent expenditures are ways of improving the performance of the Nigerian economy.

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