



FOREIGN EXCHANGE ALLOCATION AND ECONOMIC GROWTH IN NIGERIA: A SECTORAL ANALYSIS

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<p>Received: 11th October 2021 Accepted: 12^h November 2021 Published: 30th December 2021</p>	<p>The study empirically examined foreign exchange allocations and economic growth in Nigeria spanning from the period of 1985 to 2018. In other to ascertain the nature of relationship that exist between the construct of the study, secondary data sourced from Central bank of Nigeria Statistical Bulletin was employed. The unit root test was employed to ascertain the level of stationarity of the data. Additionally, the Johansen cointegration test was employed to ascertain whether there is long run association between the predictor and the criterion variables. From the result of the Ordinary Least Square (OLS) correction model test, an insignificant and positive relationship exist between foreign exchange allocation to agricultural and industrial sectors and economic growth in Nigeria. While an insignificant and negative relationship exist between oil sector and gross domestic product in Nigeria. Additionally, an insignificant and positive relationship exist between service sector, transportation sector and gross domestic product in Nigeria. From the result of the granger causality test, no directional causality existed between the dependent variable and the independent variables. Therefore, the study recommends that government should support economic growth using other policies other than foreign exchange allocation and government needs to encourage trading of foreign currencies in the economy in order to boost economic growth in Nigeria.</p>

Keywords: Foreign exchange allocation, Economic growth, Agriculture, Manufacturing.

INTRODUCTION

Exchange rate can be defined as the value of one currency in relation to another. It is the price of the currency of one country in terms of another. The goal of every economy is to have a stable exchange rate with the countries with which it trades. The exchange rate of a country is of vital importance to a country's international trade because no country is self-sufficient or independent as a result of the variation in various endowments (Enekwe, Ordu, & Nwoha, 2013). According to Alabi (2015), the bleak level of economic development in Africa could be linked to the changes in real exchange rate. It is therefore important to state that an efficient exchange rate policy is important to enhance the economic performance in any country. Asher (2012) stated that the exchange rate of a country is used as a yardstick to determine the growth of the country.

In Nigeria, the stability of exchange rate was not achieved in spite of the devaluation of the naira to promote export. Enekwe, Ordu, and Nwoha (2013) observed that exchange rate management in developing nations are most times unstable due to the structural reformation needed like reduction of goods importation and increasing the exportation of goods and services. Ikpefan, Isibor, and Okafor (2016) stated that exchange rate was fairly stable from 1973 to 1979 during the oil boom period since 70% of the nation's GDP was made up of agricultural products, but in 1986 after the introduction of the Structural Adjustment Programme, the country moved to a flexible exchange rate from a fixed exchange rate which was determined by market forces. This conflicting exchange rate policy contributed to the fluctuating and unstable nature of the naira and this failure made various industrial sectors of the economy to face the challenge of exchange rate fluctuation (Enekwe, Ordu, & Nwoha, 2013).



Many studies have investigated whether or not exchange rate fluctuations (volatility) have negative or positive effects on external sector and international trade in both theoretical and empirical terms since the beginning of the floating exchange rate system in the 1970s. One purpose of this article is to address this problem empirically (Kurihara, 2013). The impact of exchange rate fluctuations on external sector activities is still controversial because there is no consensus on whether the impact is negative or positive as shown in the results of previous studies. However, most studies have indicated that there is a negative relationship between international trade and exchange rate fluctuations.

Baum and Caglayan (2009) and Caglayan and Di (2010) noted heterogeneous negative effects on countries. However, the relationship is still not conclusive, and there is much controversy around this issue both in theoretical and empirical terms. On the other hand, few studies have focused on financial development. Only Caglayan et al. (2013) examined this issue directly. Of course, there are some related studies. International Monetary Fund (IMF) (2009) showed that the lack of a developed financial system increases transaction costs as a trade barrier. In general, financial development or depth, namely banking and financial services, seem to be strongly related to the development of international trade. However, this problem has not been discussed in spite of its importance (Obansa, Okoroafor, Aluko & Millicent, 2013).

Oladipupo and Onotaniyohowo (2011) observed that fluctuation in the exchange rate had a ripple effect on other macro-economic variables in the economy such as the level of inflation, unemployment rate, interest rate and money supply. Fluctuation in exchange rate also affects the demand and supply of goods in the economy, investment opportunities, level of employment as well as the distribution of income and wealth, (Oladipupo & Onotaniyohowo, 2011). Elumelu (2012) defined foreign exchange management as a deliberate effort of controlling and using optimally the available foreign resources in a country while ensuring to increase the external reserves so as to avoid external shocks which are due to the dwindling foreign exchange receipts. The effective management of exchange rate in a country is one of the key elements in the financial structure of various industrial sectors.

Benson and Victor, (2012) and Aliyu, (2011) noted that despite various efforts by the government to maintain a stable exchange rate, the naira has depreciated throughout the 80's till date. Against this background, this research study intends to investigate the impact of exchange rate on economic growth in Nigeria over a period of 28 years (1986 – 2013).

Previous studies have attempted to demonstrate that the activities of the exchange rate influence international activities of Nigeria. There seems to be a disagreement in the relative effects on production. For instance, Demir and Dahi's (2011) study, only exchange rate (EXCHR) representing the foreign exchange market in Nigeria was discovered to exert significant influence on the economic growth. Other factors such as labour force and technology were not found significant enough to statistically affect economic growth.

However, this study is an attempt aimed at investigating the response of various sectors of the economy to shocks provided by the activities of the exchange rate in Nigeria. Put differently, it is to determine the sectoral analysis of exchange rate regimes in Nigeria. This study tends to look at the relationship between the various regimes of exchange rate in Nigeria and how they affect the Nigeria's economy in order to ascertain which one of the variables is pushing or driving each other.

LITERATURE REVIEW

Conceptual Review

The Concept of Exchange Rate

Exchange rate is simply the price of foreign currency which clears the foreign exchange market (McDonald & Torrance, 1990). Therefore, exchange rate of currency is the link between domestic and foreign prices of goods and services. Also, exchange rate can either appreciate or depreciate. Appreciation in the exchange rate occurs if less unit of a domestic currency exchanges for a unit of foreign currency while depreciation in exchange rate occurs if more unit of domestic currency exchanges for a unit of foreign currency. However, exchange rate can be measured in two ways;

- i. The nominal exchange rate
- ii. The real exchange rate

The nominal exchange rate is the number of unit of domestic currency that must be given up to get a unit of foreign currency. In other words, nominal exchange rate is the price of a domestic currency in terms of a foreign currency. It is denoted as E.

The real exchange rate is the relative price of foreign goods in term of domestic goods. In other word, it is the exchange rate adjusted for price. It is denoted as;
 $e = E p^* / p$

Where E = nominal exchange rate, P* =foreign price, p = domestic price

Sectoral Trends

Trends in the Agriculture sector

Before the CBN was established and the Exchange Control Act of 1962 was enacted, Foreign exchange earnings were made by the private sector and they were held in bank balances abroad by commercial banks that acted as agents for the local exporters (Ikpefan, Isibor, & Okafor, 2016). During this era the main bulk of the



foreign exchange earnings were made from agricultural earnings. In the early 1970's crude oil replaced agriculture as the major source of exports. This was due to the rise in the price of crude oil which helped to increase the foreign exchange reserves of the country. The policies established during the Pre-SFEM period from 1962 to 1986 led to structural changes which resulted into price distortions and increased vulnerability to external shocks, (Adeniran, Yusuf, & Adeyemi, 2014). The liberalization of import control in 1976 threatened the domestic production of both the agricultural and manufacturing sectors. Therefore, the competitiveness of the agricultural sector as the principal contributor to the GDP was deteriorating due to the appreciation of Naira, rural-urban migration and in effective pricing policy.

Between 2000 and 2007, the agricultural sector contributed about 7.4 percent to our GDP annually on the average because the federal government, then under former president Olusegun Obasanjo, was able to establish the presidential initiative for many economic crops such as cocoa, cotton, oil palm, rubber, ground nuts, coffee, tea, livestock for hides and skin. This accounted for the growth in that sector under the period. In 2013, the performance of agriculture to the GDP declined to as low as 2.61 percent, (Amassoma & Odebiyi, 2016). Factors responsible for the decline include the mono-economy of oil, poor budgetary allocation, flexible importation policy, inadequate support to farmers and insecurity. In April 2016 the agricultural sector's contribution to Nigeria's Gross Domestic Product, GDP, leaped marginally from 23.86 per cent in the fourth quarter of 2014 to 24.18 percent.

Trends in the Manufacturing sector

Onyeizugbe and Umeaguges (2014) defined manufacturing capital utilization as the extent a nation or enterprise uses its installed production capacity. Before 1986, the reforms in foreign exchange policies helped to boost the manufacturing output. The Nigerian average manufacturing capacity utilization has continued to experience a downward trend while inflation has continued to move upward and the naira has continuously depreciated. In 1975, the average manufacturing capacity utilization was 76.6%, in 1980, it moved to 70.1%, 38.3% in 1985, 29.29% in 1995, 36.1% in 2000, 54.8% in 2005, 53.8% in 2008, 58.92% in 2009, and 55.82% in 2010, 58.8% in 2015 and in 2016, the manufacturing capacity utilization fell to 50.7% in July from 53.7% in Nigeria.

The lack of vital industrial inputs adversely affected the industry capacity utilization which fell from 76.6% in 1981 to averagely 25% between 1982 and 1986. One of the major characteristics of the Structural Adjustment Programme was the increase in the cost of importing

inputs in order to encourage the use of vital inputs. After the introduction of SAP and the scrapping of the import license system, there was an improvement in industrial performance. There was a continuous rise in the average capacity utilization from 1987 to 1989 by about 32%. This was due to the introduction of the Second-Tier Foreign Exchange Market and the development of the import license system. The manufacturing sector contributed to about 4% of the GDP in 1977, 13% in 1982, 15% in 2012, and 16% in 2015.

Evolution of the Foreign Exchange Markets in Nigeria

The evolution of the foreign exchange market in Nigeria could be traced to the establishment of the Central Bank of Nigeria (CBN) in 1958 and subsequent enactment of the Exchange Control Act of 1962. Prior to this period, foreign exchange earned by the private sector used to be held in balances abroad by commercial banks, which acted as agents for local exporters. Similarly, during the period agricultural exports contributed the bulk of foreign exchange receipts. The fact that the Nigerian pound was tied to the British pound sterling at par, with easy convertibility, delayed the development of an active foreign exchange market. With introduction of Naira as an official currency of Nigeria, the exchange process commenced (Oloba & Abogan, 2013).

However, the increased exports of crude oil, in the early 1970s, following the sharp rise in its prices enhanced official foreign exchange receipts. The foreign exchange market experienced a boom during this period and the management of foreign exchange resources became necessary to ensure that shortages did not arise. However, it was until 1982 that comprehensive exchange controls were applied as a result of foreign exchange crisis that set in that year. The increasing demand for foreign exchange at a time when the supply was shrinking encouraged the development of a flourishing parallel market for foreign exchange (Oloba & Abogan, 2013).

Before 1986, importers and exporters of non-oil commodities in Nigeria were required to get appropriate licenses from the federal ministry of Commerce before they could participate in the foreign exchange market. Generally, import procedures followed the international standard of opening of letters of credit (L/Cs) and subsequent confirmation by correspondent banks abroad. The use of form 'M' was introduced in 1979 when the comprehensive import supervision scheme (CISS) was put in place to guard against sharp import practices. The authorization of foreign exchange disbursement was a shared responsibility between the federal ministry of finance and the CBN. The federal ministry of finance had responsibility for public sector applications, while the CBN allocated foreign exchange



in respect of private sector applications (Oloba & Abogan, 2013).

The exchange control system was unable to evolve an appropriate mechanism for foreign exchange allocation in consonance with the goal of internal balance. This led to the introduction of the second-tier foreign exchange market (SFEM) in September, 1986. Under SFEM, the determination of the Naira exchange rate and allocation of foreign exchange were based on market forces. To enlarge the scope of the foreign exchange market, bureau de change was introduced in 1989 for dealing in privately sourced foreign exchange. Additionally, the federal ministry of finance had its allocative powers transferred to the CBN.

As a result of volatility in rates, further reforms were introduced in the foreign exchange market in 1994. These included the formal pegging of the Naira exchange rate, the centralization of foreign exchange in the CBN, the restriction of bureau de change to buy foreign exchange as agents of the CBN, the reaffirmation of the illegality of the parallel market and the discontinuation of open accounts and bills for collection as means of payments sectors.

The foreign exchange market was liberalized in 1995 with the introduction of an autonomous foreign exchange market (AFEM) for the sale of foreign exchange to end-users by the CBN through selected authorized dealers at market determined exchange rates. In addition, bureaux de changes were once more accorded the status of authorized buyers and sellers of foreign exchange. The foreign exchange market was further liberalized in October 1999 with the introduction of an inter-bank foreign exchange market (IFEM). (CBN Statistical Bulletin 2005, CBN Statistical Bulletin 2008).

Exchange Rate Management in Nigeria

Given the centrality of foreign exchange in international economic transactions especially in a developing country like Nigeria, the management of scarce foreign exchange has, over the years been a significant component of national economic management. Basically, there are two phases to economic management in Nigeria. During the first phase (1970-1985), Nigeria operated a controlled exchange rate regime where the exchange rate of the naira was pegged to the dollar. The second phase of exchange rate history in Nigeria began in 1986. Following the oil glut of early 80's, it became clear that Nigerian economy which depend on oil was not able to sustain the fixed exchange regime because its foreign reserves were not only depleted but foreign debt also mounted. As an integral part of the Structural Adjustment Programme introduced in 1986, the country adopted a flexible exchange rate through the Second tier Foreign Exchange Market (SFEM) (Umar and Soliu, 2008).

Volatilities: Exchange rate volatility is defined as the risk associated with the unexpected movement in the exchange rate (Ozturk, 2006). In other words, it is the risk associated with currency depreciation or appreciation. In finance literature, the word volatility takes a very specific meaning. "Volatility is a day-to-day, month-to-month variability of exchange rate, a variability that may have no trend to it" (Marston et al, 1988). In other words, volatility is a high frequency concept referring to movements in the exchange rate over relatively short period of time. But it is not the only component of variability. There is also another component of exchange rate variability which is called misalignment. Misalignment refers to long-lasting movements of exchange rate from its long run equilibrium. Misalignment refers to capacity for an exchange rate to depart from its fundamentals over a long period of time. Distinction between volatility and misalignment is important because there is evidence that the movement in the exchange rate reflected in the volatility measures is unanticipated. So, trading firms must cope with uncertainty about exchange rates. That means international trade is affected by this kind of variability. In contrast to exchange rate volatility, misalignments mostly anticipated and they undermine economic performance in several dimensions. They may generate adjustment cost, recession, deindustrialization, inflation and protectionism. Since 1973, collapsing fixed parity system, Bretton-Woods and moving to flexible exchange rates, the nature of exchange rate variability has changed considerably. There is strong evidence that volatility is much greater under flexible exchange rates regimes. Before the collapse of the Bretton-Woods system, exchange rates were fixed at an official rate and adjustment took the form of infrequent discreet jumps in the level of exchange rate. After 1973, exchange rates were allowed to adjust more or less continuously in response to market forces. There was widespread surprise in the early years floating at the size of the short-time fluctuations in the exchange rates, they were expected to diminish as markets learned to cope with rapid changing in market conditions. But volatility has not diminished (Kenen & Rodrik, 1986).

Various statistical measures of volatility have been used in the literature. Some of these measures are standard deviation, deviation from trend, the difference between previous forward and current spot rates, Gini mean difference coefficient, and scale measure of variability. However, these all measures have their own shortcomings. Instead of using the above-mentioned measures of volatility, Autoregressive Conditional Heteroskedasticity (ARCH) type of models has often been used in the literature lately (Kayis & Ozturk, 2005).



THEORETICAL REVIEW

Purchasing Power Parity Theory

The starting point of exchange rate theory is purchasing power parity (PPP), which is also called the inflation theory of exchange rates. PPP can be traced back to sixteenth-century Spain and early seventeenth century England. But Swedish economist Cassel (1918) was the first to name the theory PPP. Cassel once argued that without it, there would be no meaningful way to discuss over-or-under valuation of a currency (Oyovwi, 2012). Under this model, let P_i and P_i^* denote, respectively, the price level of good i in the home currency and foreign currency. Letter "S" denotes the nominal exchange rate that expresses the price in foreign currency in terms of the domestic currency. According to the "law of one price," the price of one good should be equal at home and abroad, say, $P_i = S P_i^*$. If the prices of each good are equalized between the two countries and if the goods baskets and their weights in the two countries are the same, then absolute PPP holds: $SP = 1$ (3.1)

Absolute PPP theory was first presented to deal with the price relationship of goods with the value of different currencies. The theory requires very strong preconditions. Generally, Absolute PPP holds in an integrated, competitive product market with the implicit assumption of a risk-neutral world in which the goods can be traded freely without transportation costs, tariffs, export quotas, and so on. However, it is unrealistic in a real society to assume that no cost is needed to transport goods from one place to another. In the real world, each economy produces and consumes tens of thousands of commodities and services, many of which have different prices from country to country because of transport costs, tariffs, and other trade barriers.

Demand-Supply Theory of Exchange Rate/Balance of Payment Theory

This theory is also known as the Demand-Supply theory of exchange rate. It implies that the exchange rate of a country is determined by the market forces of demand and supply in the foreign exchange market. These forces are determined by the items in the country's balance of payment. It also asserts that exchange rate is determined by the position of the balance of payments of a country. A nation's balance of payment can be in surplus or deficit. When in deficit, it means that there is more demand for foreign currency than the home currency and when it is in surplus, it means there is more demand for the home currency. This means that a favourable balance of payment leads to appreciation in currency value while an unfavourable balance of payment leads to depreciation in currency value.

Balance of payment theory is a more satisfactory theory than purchasing power parity theory because it recognizes all items in the balance of payment and their significance, rather than few selected items under the PPP theory. This theory also postulates that Balance of Payment Disequilibrium can be corrected by devaluation or revaluation of a country's currency. One limitation of the BOP is that it is based on an unrealistic assumption of a perfect competition in the Foreign Exchange Market (Akroni, 2010).

Empirical Review

Isibor, Olokoyo, Arogundade, Osuma, and Ndigwe (2018) examined the effect that exchange rate management has on the output performance of both the agricultural sector and the manufacturing sector. Secondary data from 1981 – 2015 were analyzed using the Ordinary Least Square technique. The results showed that exchange rate has a positive and significant effect on only the agriculture sector. The study recommends amongst others that efforts should be made to increase the exportation of agricultural products in order to boost exchange rate.

Alabi (2014) examined the impact of real exchange rate fluctuation on Industrial Output in Nigeria.

Their developed hypothesis was tested using the Ordinary Least Square Method of regression analysis. Their result and finding discovered a positive bi-directional relationship between exchange rate and output in Nigeria and other resource-dependent economies. They concluded that industrial output in Nigeria can be determined by movement in real exchange rate, capital utilization ratio, technology and available foreign exchange.

Oladele (2015) examined the impact of the foreign exchange market on the economic growth in Nigeria within a ten years span (1996-2005) by comparing the movement of the GDP in relations to the exchange rate of Naira and dollar and both official and parallel rate data analyzed using the correlation analyses and F ratio techniques. The result showed a direct relationship between the official exchange rate and the parallel exchange rate. They both jointly determine the movement of the GDP. He therefore concluded that proper management of exchange rate should be put in place as it is a major determinant of exchange rate.

Amassona and Odeniyi (2016) examined the relationship between exchange rate variation and economic growth in Nigeria emphasizing on the level of international transaction and the purchasing power of the average Nigerian. The Standard Deviation method was used to estimate fluctuation inherent in the model over a period of 43 years (1970-2013). Other economic techniques such as multiple regression model, error correction model, Augmented Dickey Fuller (ADF) test



and Johansen Co-integration were used to analyze the data. The result showed that exchange rate has a positive but insignificant relationship with economic growth in the short run. This insignificant relationship was as a result of the involvement of monetary authorities in influencing exchange rate fluctuation in Nigeria.

Onyeizugbe and Umeaguges (2014) examined the impact of exchange rate management on the survival of the industrial subsector of Nigeria. The main objective of this study was to examine how naira devaluation affects the survival of the manufacturing sector in Nigeria. The hypothesis was tested using the Ordinary Least Square regression method with data from the CBN statistical bulletin over a period of 23 years. The result showed a positive correlation between exchange rate and survival of industrial sectors.

Enekwe, Ordu, and Nwoha (2013) studied the effect of exchange rate fluctuations on the manufacturing sector in Nigeria over a period of 25 years (1985-2010). Data obtained from the CBN Statistical Bulletin and the Nigeria Bureau Statistics were analyzed using multiple regression analysis and descriptive analysis. The result of the analysis showed that exchange rate fluctuation has a positive and significant relationship with the manufacturing sector of Nigeria. The researchers recommended export diversification in agriculture, agro-allied industries and agro investment as this would improve the growth of the manufacturing sector in Nigeria.

Ehinomen and Oladipo (2012) also examined the relationship between exchange rate management and the manufacturing sector performance in the Nigerian economy over a span of 24 years (1986-2010). They estimated their data using the OLS multiple regression analysis. The result showed that in Nigeria, exchange rate appreciation has a significant relationship with domestic output and this contradicts the theoretical expectation that exchange rate depreciation will promote manufacturing export and encourage the use of input locally and growth in the manufacturing sector. They concluded that the exchange rate management policy which presently tends towards exchange rate depreciation has not contributed significantly to the growth of the manufacturing sector in Nigeria. This suggests that exchange rate appreciation is what we need to pursue instead of exchange rate depreciation.

Oladapo and Oloyede (2014) examined the relationship between foreign exchange rate management and Nigeria's economic growth from 1970-2012. Data was sourced from the CBN statistical bulletin and estimated with the use of OLS estimation techniques within the error correction model. The result showed a positive but insignificant relationship between exchange rate and economic growth. Although variables within an effective

Foreign Exchange Rate Management Policy affects Foreign Direct Investment which in turn affects economic growth.

Asher (2012) examined the impact of exchange rate fluctuation on the Nigeria economic growth for the period of 1980 – 2010. The result showed that real exchange rate has a positive effect on the economic growth.

In a similar study, Akpan (2008) investigated foreign exchange market and economic growth in an emerging petroleum-based economy from 1970-2003 in Nigeria. He found that a positive relationship exists between exchange rate and economic growth.

Obansa, Okoroafor, Aluko and Millicent (2013) also examined the relationship between exchange rate and economic growth in Nigeria between 1970 – 2010. The result indicated that exchange rate has a strong impact on economic growth. They concluded that exchange rate liberalization was good for the Nigerian economy as it promotes economic growth.

Azeez, Kolapo and Ajayi (2012) also investigated the effect of exchange rate volatility on macroeconomic performance in Nigeria from 1986 – 2010. They discovered that exchange rate is positive related to Gross Domestic Product.

METHODOLOGY

The researcher adopted the ex post facto research design for the study since the various elements of the design are not under the control of the researcher.

This study employed consolidated or aggregated data as available and applicable to Nigeria as regards the theoretically acceptable elements of sectoral foreign exchange allocation to the extent that data in each of these study elements will be available over the period of the study. To this extent, the population and sample of study elements on an aggregated basis are hoped to be the same. This entails a time series of all predictor and criterion variables from 1985 to 2018. This implies that the sample is chosen purely on the basis of purpose. In general, this paper utilizes secondary sourced time-series data, especially from reputable institutions. These sources border on the annual reports and statistical bulletins of the Central Bank of Nigeria.

This study developed a model in consonance with the classical linear regression model assumption and presented as follows;

The functional form of the model is;
$$GDP_t = f(ARG, IND, OIL, SEV, TRN)$$
 1

The mathematical form of model is;
$$GDP_t = \alpha_0 + \alpha_1 ARG_t + \alpha_2 IND_t + \alpha_3 OIL_t + \alpha_4 SEV_t + \alpha_5 TRN_t$$
 2

The econometric form of model is;



$$GDP_t = \alpha_0 + \alpha_1 ARG_t + \alpha_2 IND_t + \alpha_3 OIL_t + \alpha_4 SEV_t + \alpha_5 TRN_t + \mu$$

Where;

GDP = Gross Domestic Product,

ARG = Agricultural Sector,

IND = Industrial Sector,

OIL = Oil Sector,

SEV = Service Sector,

TRN = Transportation Sector.

On a priori, $\alpha_0 > 0$, $\beta_0 > 0$, $\phi_0 > 0$, $\bar{\pi}_0 > 0$, and $\gamma_0 > 0$.

The study applied the unit root test, Johansen co-integration, Granger causality, and parsimonious error correction model; thus using the E-views 10.0 statistical package.

RESULTS AND DISCUSSIONS

Unit Root Test

The Augmented Dickey-Fuller (ADF) test of unit root was conducted in order to ascertain the level of stationarity amongst various data captured. Below is the table showcasing the unit root test;

Table 2: ADF Stationarity Results

Variable	ADF statistic	Critical Value			Order of Integration	Prob.
		1%	5%	10%		
GDP	-7.767390	-3.65379	-2.95711	-2.61743	I(1)	0.0000
ARG	-7.194958	-3.653730	-2.95711	2.617434	I(1)	0.0000
IND	-7.050320	-3.661660	-2.96411	-2.61916	I(1)	0.0000
OIL	-5.727731	-3.711457	-2.98138	2.62996	I(1)	0.0000
SEV	-8.34320	-3.653730	-2.95711	-2.61743	I(1)	0.0000
TRN	-2.99776	-3.689194	-2.971853	2.625121	I(1)	0.0000

Source: E-views Output

From the above table, it was noticed that all variables were non-stationary at level, but assumed stationarity after differencing once at 5% level. This is suggestive of all the variables being integrated of order one [I(1)].

Cointegration Test

Following the discovery, the Johansen cointegration approach to long-run detection was carried out to determine the validity of same trend movement between the variables.

Table 2: Johansen Cointegration Test Result

Date: 12/28/20 Time: 02:11
 Sample (adjusted): 1987 2018
 Included observations: 32 after adjustments
 Trend assumption: Linear deterministic trend
 Series: GDP IND OIL SEV TRN ARG
 Lags interval (in first differences): 1 to 1

Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.809652	125.9435	95.75366	0.0001
At most 1 *	0.619628	72.85865	69.81889	0.0280
At most 2	0.438663	41.92730	47.85613	0.1608
At most 3	0.348153	23.44945	29.79707	0.2247
At most 4	0.206967	9.755176	15.49471	0.3000
At most 5	0.070360	2.334668	3.841466	0.1265



Trace test indicates 2 cointegrating eqn(s) at the 0.05 level
 * denotes rejection of the hypothesis at the 0.05 level
 **MacKinnon-Haug-Michelis (1999) p-values

Source: E-views Output

The result of the Johansen co-integration test was based on both the trace and maximum eigenvalue statistics. As depicted in the table above, it can be gathered that the model has two co-integration equations hinging on both the trace test result and maximum eigen test result respectively. This is suggestive that the three variables of the model have long-run association

or they move together in the long run. The confirmation of a common long-run trend movement between the variables opens the door for the conduct of an ECM test to ascertain how the model adjust to long-run equilibrium following short-run fluctuation(s) in any or all the variables.

Error Correction Model

Table 3: Parsimonious ECM Result

Dependent Variable: D(GDP)
 Method: Least Squares
 Date: 12/28/20 Time: 03:01
 Sample (adjusted): 1987 2018
 Included observations: 32 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(ARG(-1))	0.026267	0.078090	0.336375	0.7403
D(IND(-1))	0.053146	0.059467	0.893708	0.3827
D(OIL(-1))	-0.009934	0.015533	-0.639553	0.5301
D(SEV(-1))	0.042974	0.118119	0.363822	0.7200
D(TRN(-1))	0.056496	0.051464	1.097767	0.2860
ECM(-1)	-0.474051	0.157686	-3.006291	0.0057
C	0.066465	0.507562	0.130950	0.8972
R-squared	0.974465	Mean dependent var	0.220967	
Adjusted R-squared	0.958338	S.D. dependent var	13.84132	
S.E. of regression	2.825183	Akaike info criterion	5.206227	
Sum squared resid	151.6516	Schwarz criterion	5.801682	
Log likelihood	-70.29963	Hannan-Quinn criter.	5.403603	
F-statistic	60.42385	Durbin-Watson stat	2.081844	
Prob(F-statistic)	0.000000			

From the result of the error correction model test above, a positive and insignificant relationship exists between agricultural sector, industrial sector and gross domestic product in Nigeria. While a negative and insignificant relationship was discovered between oil sector output and gross domestic product in Nigeria. However, a positive and insignificant association was discovered

among service sectors and gross domestic product in Nigeria. While an insignificant and positive relationship was discovered among TRN and gross domestic product in Nigeria. In order to avoid a spurious analysis, it was also unravelled that the model has a good speed of adjustment with ECM coefficient value of -0.474051 and prob. value of 0.0057.



Granger Causality Test

Table 4 Pairwise Granger Causality Test

Pairwise Granger Causality Tests
 Date: 12/28/20 Time: 02:49
 Sample: 1985 2018
 Lags: 2

Null Hypothesis:	Obs	F-Statistic	Prob.
IND does not Granger Cause GDP	32	0.12072	0.8868
GDP does not Granger Cause IND		1.44092	0.2543
OIL does not Granger Cause GDP	32	1.41664	0.2600
GDP does not Granger Cause OIL		0.81820	0.4519
SEV does not Granger Cause GDP	32	0.49001	0.6180
GDP does not Granger Cause SEV		0.04308	0.9579
TRN does not Granger Cause GDP	32	2.83731	0.0761
GDP does not Granger Cause TRN		0.87269	0.4293
ARG does not Granger Cause GDP	32	0.09408	0.9105
GDP does not Granger Cause ARG		1.90330	0.1685

Source: E-views Output

The output above shows that all employed variables have no directional causality as they all exhibit a pair probability higher than the accepted significant level of 0.05. This connotes that industrial sector output, oil sector output, service sector output, transportation sector, agricultural sector output and gross domestic product have no directional causality.

4.2 DISCUSSION OF FINDINGS

Agricultural sector Output has a positive and insignificant influence on gross domestic product in Nigeria. The insignificant influence that agricultural sector output has on gross domestic product could be as a result of over reliance on oil revenue in Nigeria since the oil boom in the 1970's. It could also be caused be the poor attitude of citizens' over-involvement in agricultural activities. Additionally, it could be as a result of poor funding by government of Nigeria.

Industrial Sector Output has a positive and insignificant influence on gross domestic product in Nigeria. This could be caused by poor enabling environment that has affected the industries dramatically. In Nigeria for years now, power supply and bad roads have been a great challenge to many involved in the production of goods and services.

- i. Oil sector Output
- ii. Service Sector Output
- iii. Transportation Sector Output

CONCLUSIONS AND RECOMMENDAT

CONCLUSIONS

Having examined foreign exchange sectorial allocation, we generated several empirical findings from which we drew conclusive inference. Beginning from the Unit root test the series are all integrated at first difference, hence potentially commove in the long run. When we applied the Johansen cointegration there is evidence of a long run relationship between foreign exchange sectorial allocation and economic growth in Nigeria. Likewise, the Error Correction Model of the study conclusively indicates adjustment to equilibrium at moderate speed.

Nevertheless, Granger causality estimates all the variables of the study are causally neutral showing that neither foreign exchange allocated to the sectors nor the growth in the economy causes each other across periods.

LIMITATION OF THE STUDY

In the course of developing this work we encountered several difficulties. Notable among them is the reliance of our study on reported documents. Similarly, this study is specifically a Nigerian based study and the findings might not be applicable to other countries and beyond.

RECOMMENDATIONS

1. The study recommends that government should support economic growth using other



policies apart from foreign exchange allocation. This is because foreign exchange allocation has impact on the economic growth in Nigeria.

2. There is need for government to encourage trading of foreign currencies in the economy.
3. Finally the study also recommends that government should support agricultural sector, to boost the economic output in Nigeria.

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