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Empirical analysis of multinational corporations and economic growth in Nigeria (1991-2014)

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ABSTRACT

The paper attempts to evaluate the relationship between empirical analysis of multinational corporations and economic growth in Nigeria using data spanning (1991-2014). Secondary data were used and were collected from the CBN statistical bulletin and national bureau of statistics. Hypotheses were formulated and tested using time series econometrics and the study reveals that the variables do not have unit roots. There is also long-run equilibrium relationship between economic growth and multinational corporations and the result confirms that about 73% short-run adjustment speed from long-run disequilibrium. There is a causal relationship between multinational corporations and economic growth. The coefficient of determination indicates that about 52% of the variations in economic growth is explained by changes in multinational corporations' variables. The study therefore recommends that multinational corporations should make life meaningful to the host country by providing infrastructural facilities. Government should ensure that multinational corporations plough back part of their profits to the development of the host communities in other to established good working relationship. Federal environmental protection agencies should also ensure effective monitoring of multinational corporations to avoid the violation of the lay down rules and regulations guiding their operations.

Keywords**:** empirical analysis, multinational corporations, economic growth

1. INTRODUCTION

According to some schools of thought, such as Ikelegbe (2005), Ogbgbo (2005) and Akerodolo (2010) multinational corporations are vital weapon for fighting the issue of under-development and they also view the multinational corporations as an engine of development that contributes to the growth of a nation. Despite their diabolic operations such as under involving of exports and over pricing of technology they still perform some useful roles which in one way or the other help to improve the living conditions of the people and the economy. Andabai (2010) noted that, multinational corporation has been seen as company that own and manage business in two or more countries. Multinational corporations are also business conglomerate that have company which has it parent headquarters located in a developed country and subsidiary operation in a number of other countries (Omotola, 2006). There are many multinational corporations in Nigerian economy examples are manufacturing companies, banking, automobile companies, mineral exploration, just to mention a few (Ake, 1998).

The concept of multinational corporations and its contributions to the development of Nigerian economy has been focused on the relationship between multinational corporations and its activities in Nigeria (Andabai, 2010). According to Odogbor (2004), Nigeria is less developed and shares the same characteristics with other less developed countries such as low level of savings, investment and lack of managerial skills etc. According to Edem (2004), Nigeria require the flow of resources from developed countries and multinational Corporations and he also observed that, like other business ventures, multinational corporations are to maximize profit. Akerodolo (2010) opined that, the oil industry which is one of the largest and important industries in the world, in its wide areas of operations, the industry affects almost all the country.

Vadevell (2000) maintained that, modern multinational corporations bear some resemblance to the transaction of merchants' and the colonial trading companies of the 17th and 18th centuries. The merchants and the colonial trading companies engages in merchandise trading within the colonial territories and laid a foundation of modern development and under-development of the less developed countries (Ldcs) but the present day multinational corporations are engaged in local productions (Enwereuzor, 2009). Onormode (2004) posits that, the contributions of the multinational corporations to the development of Nigerian economy during the past two or three decades cannot be over-emphasized.

Onuoha (2005) asserted that, one of the major arguments in the literature on international political economy has centered on the role of Multinational Corporation (MNCS) in the third world countries. Critics of the multinational corporations see themselves as center for international economy development in the Less Develop Countries (LDCs) (Raymond, 1999).

According to Andabai et al (2006), it is believed that, multinational corporations do participate in promoting national development, but the level of such participation shows more evidence of failures rather than achievement, and as such has been ignored by most areas which its operate. Awobajo (2006) reaffirmed that, there are strong belief in public opinions in Nigeria that the operation of oil multinationals has done more human than good to areas of which its activities is carried out. Nwosu (1985) concluded that, as a result of oil operations in these areas, Multinational Corporation has been described as agent of bringing economic and social degradation in their communities.

2. THEORETICAL FRAMEWORK

The theoretical framework of the study is the endogenous growth theory of Romer (1986) and is a new theory which explains the long-run growth rate of an economy on the basis of endogenous factors as against exogenous factors of the neoclassical growth theory. The endogenous growth models also emphasize technical progress resulting from the rate of investment, the size of the capital stock, and the stock of human capital. Nzimiro (1999) ended his article in multinational corporations in Africa by giving a rundown of multinationals in the less developed countries. For instance he is of the view that they create economic problem and disadvantages for the development of the African economy. Andabai (2009) observed that, because these foreign firms are subsidiaries or holding parent companies and co-operations abroad and as such their basic interest cannot be readily identified with Africa development.

Magdoff (2002) equally believed that, they have an African created neo-colonial economy, by so doing many African countries have remained on export oriented economy whose industrial unit are vertically integrated with the parent industries in the metropolis with no or very little integration with other industries or sector of the neocolonial. Nwankwo (2002) also believes that, their existence makes it impossible to develop indigenous enterprises. Onormode (2004) posits that, these multinational corporations swallow indigenous firms in the name of improving our economy. According to Onuoha (2005), when it becomes more prosperous and by so doing can regulate industries and agriculture, thus distorting the patterns of economic development of a given country.

Omotola (2006) is of the opinion that, multinational corporations help to create a parasitic class with the society, a class that is essentially committed to the doctrine of capitalism, through so many means. This can be created according to their own image and likeness to ensure the presentation of the economic mainstay of the multinational corporations. Andabai (2010) reaffirmed that, the multinational corporations, because of their desire to maximize profit, do everything in their power to give false information to any given government about their real economic activities such as turnover and profit. Rodney (2004) asserted that, they do this by keeping into account that the countries concerned do not have the manpower in the most sophisticated manner and who might successfully probe the intricacies of the economic manpower of the giant long standing organization. According to Kehinde (2007), the most serious consequence of these multinational control mechanisms over African economies is recapitalization of local entrepreneurship. According to Olukoshi (2004), meaning out right transfer of capital from African to the advanced countries and local displacement constitutes two basic ways in which the multinational corporation generate and sustain the under development of the region. This school of thought often sees the multinational corporations as causing structural distortion with respect to sectoral and regional imbalances, income, wealth and other structural imbalances of warped industrialization programme (Mbanefo, 2003).

Shelock (2007) stressed that, in their obsession with fast and must profit, multinational corporations based on their investment in the lucrative areas. Such as mining, commerce, finance, manufacturing, construction and services while neglecting other sector of the economy especially agriculture. The result of this is stagnated agriculture, the collapse on the rural economy and food crises in their host economy (Kodjo, 1999). Akinsanya, (1994) maintained that, there is little technology transferred by multinational corporation to their host country not only because research and development efforts are concentrated in the home countries of the multinational corporations attempt to retain monopoly over their technology. Another reason is because of the capital intensity of the multinational corporations method of production and because considerable adaptation of production has not taken place (Stochersten, 1980). Some of them have established their own training institutions of both personal and for the benefit of their employees…such that training is necessary for improving the efficiency and productivity of the employees. Olukoshi (2004), analyzing legal, sociological and other research is a new form of transaction activities such research is aimed at working out recommendations for the improvement of the economic, legal and other activities of the multinational corporation in the developing world. According to Eleazu (2005), the scientific and technological revolution and more supplicated production call for a better quality of new enterprises and their reliability.

According to Vanden Hoven (2005), companies like ours, which can draw on a large bases in the industrialized world and many years of experience in developing countries, and on many effective instrument for the transfer of capital, management skills, organization and technological know how. According to Barnet and Muller (2004), multinational corporations are vehicles for the development and transfer of capital resources from investors-state to the less develop countries and that, in general, multinational corporations are engines for development. According to Ake (1990), multinational corporations are said to be good citizens, they pay high rate of tax and they also contributed to government revenue required for the provision of social amenities and of infrastructure for socio-economic development. According to Nwankwo, (2002) multinational corporations provides finance for investment, these corporations provide employment for the nationals of developing countries and also help them to solve their unemployment problems. Gunder (2003) contended that, the satellites (that is the economically dominated countries) experience is the greatest economic development especially their most classical capitalist industrial development. Jack (2004) asserts that, large corporations which has a substantial overseas investment in operating subsidiaries or affiliates sometimes, including licenses (A Sizable Export volume out of the total, would indicate increased capital formation). Finally, Muller (2003) has especially or specifically analyzed the role of multinational corporations in developed countries. He argued that, these corporations do not bring their own financial capital from abroad rather a much greater past of their finance is derived from the local or host country’s economic activities.

3. ISSUES AND PERSPECTIVES

Odogbor (2004) reaffirmed that, over seventy percent 60% of the working population in Nigeria are in the agricultural sector while the remaining thirty percent 40% are shared both in the public and private sector of which the multinational corporations belongs to the private sector plays a very significant role. This regards has been noticed that, these corporations generally pay their employees high salaries and provide generous fringe benefits than domestic firms’ hence the tendency is for most Nigerian to prefer seeking employment in the private sector than the public section. Edem (2004) stressed that, the activities of the multinational corporations create large employment opportunities for the citizens of the country. Kodjo, (1999) observed that, although criticism admits that multinational corporations might have well created jobs and at the same time employed capital intensive technologies which are inconsistent and Inappropriate with the Factor Endowment of the third world countries. But on the whole, it must be admitted that foreign companies have provided substantial employment to large number of Nigeria. This has gone a long way to alleviate unemployment problems in the country (Ake, 1998). According to Neil (2004), the multinational corporations (MNCS) have contributed immensely in terms of income, they create income in two ways (i) income generated through employment (ii) profit paid to the government as royalties.

Ikelegbe (2005) maintained that, multinational corporations bring in capital which is a means of aiding run in production of which with the capital lot of activities are undertaken in the various sector of the economy viz. industries, Agriculture and services. These activities contributed to increased output in the economy, and also create job opportunities (Enwereuzor, 1998). Mbanefor (2003) posits that, based on the profit of which the multinational corporations realized they generally pay their employees higher salaries and provide fringe benefits than domestic firms. Onuoha (2005) reaffirmed that, this goes a long way to raise the standard of living of the employees. Because third world countries are generally assumed that the very act of direct or indirectly in a capital transfer in from capital rich country to a capital poor country. Awobajo (1981) stated that, the multinationals through economics activities pay royalties and project tax to the government and in the process increase the income of the government. The multinational corporations dominates the private sector which are indeed oil exploration, and has significantly contributed much to the growth of the economy (Andabai, 2006).

Ogbogbo (2005) opined that, another factor that contributes to the development of multinational corporations in Nigeria. Nwankwo (2002) observed that, the transfer of technology to developing countries according to some schools of thought multinational corporations can assist in bridging the ever increasing gap between the industrialized countries of the North and the agrarian countries of the south" by sharing their advance technology with the less develop countries (Idcs) so as to help them increase their productivity, on which rapid economic growth depends. According to Eleazu (1995), much more controversial is their contributions in the so called transfer to technology, by technology we include organizational and managerial skills that these companies can be (eradicated) with the training of the managers that exist today in the private sector. According to Olukoshi (2004), the multinational corporations (Mmcs) have steam lined, with contractual base on their activities. The scientific and technological revolution and more sophisticated production call for a better quality of new enterprises and for their reliability.

Ikelegbe (2005) confirmed that, the supply of technology was regarded as the most important contribution of the multinational corporations (MNCS) to the economy of the developing countries. Chairman of Uniever Nigeria Limited TlifHover, expressed this in a speech which they declared in a general meeting in London and Rotterdam respectively in May 1976. He declared that companies, like ours, which can draw on a large base in the industrialized world and on many years of experience in developing countries, are affective instrument, managerial skills, organizations and technical know how. Kehinde (2007) stressed that, this contributions make the effect on foreign investment on the economy of the host country much larger than that of the bearing figures of investment in financial terms would suggest, though, in most cases technology transferred are appropriate and disquietly guided, the fat still remains at most of the technologies transferred by the multinational corporations to the development of a nation.

Ajala (2005) observed that, in the area of employment, the above class' shows in their study of multinational corporations that the corporations uses more capital per employer and because of this phenomenon, the multinational corporations are unable to employ a large number of labour of their host countries in which-there exists abundant labour. Onimode (1999), accused the multinational corporations of contributing to unemployment crises in Africa. Alapiki (1996) viewed that, the four major sources of unemployment created by the multinational corporation (MNCs) are the initial proliferation of the Africa labour, oppressive taxes, and alienation in appropriate capital intensive technology and the impact of labour into Africa through the expatriate quota. Adebisi (2005) reemphasized that, other charges against foreign investment by theses class centers on its effect on local indigenous enterprises. Marta (2001) for example, maintained that the expansion of private foreign investment and the development of indigenous entrepreneurship may naturally re-enforce each other in the early stages of their entrants. Agbu (2005) stressed that, they tend to become competitive and antagonists at the later stages and the more expensive the multinational corporation becomes in such late stages, the less room for indigenous industries to develop. Hassin (2008) is of the opinion that, one of the root economic backwardness of most host countries of multinational corporations is the prolonged sojourn of private foreign investment in them.

Isike (2004) argued that, failure to stimulate indigenous entrepreneurship in Nigeria can be attributed to capital shortage, inadequate managerial skills, negative socio-cultural and motivational characteristics of the world of private indigenous and private foreign investors in the economy. Odorgbor (2004) argued that, in particular, the foreign owned commercials banks which dominated the credit system had demonstrated a strong unwillingness to help indigenous business to rise. Corroborating this ascertain further, Ogbogbo (2005) multinational corporations are harassing and eventually competing and eliminating local infant industries gradually but infallibly making the national economy fall prey to such giant multinational firm which transforms confidently into their exclusive preserve profit making. This tendency according to Omotola (2006) is the combined form of the horizontal and vertical integration of the major and relevant economic activities under the hegemony of multinationals. Odogbor (2001) observed that, those who argued that foreign private investment take out more than what they put in tends to support this with the fact that in the long run, profit remittance generally exceeds investment flows. And this vices was seen by Kodjo (2010) as those foreign investors who are neither human Italian nor altruistic in their dealing with Nigeria, economically.

Sherlock (2007) stated that, there are egoistic and egocentric and therefore given their interest a priority to the detriment of the host countries. The conclusion of such argument is that the net contributions foreign private investment to the host country is negative. Ady (2004) maintained that, the balance of payment affect on foreign investment on the less developed countries (Idcs) effect on the balance of payment side there is an initial favourable impact of in-flow of capital from the developed countries, overlong run, repatriation of profit and the more remote possibility of disinvestment that they will not complain during this period. According to Ibeanu (2001), a multinational corporation may be looked from the various dimensions. First, from the proportion of its total employment, assets sales or profit derived from foreign operations. Secondly, more appropriate criteria might be contribution of subsidiaries of foreign owned multinational producing enterprises (MPES) to domestic output or capital formation or the impact of the foreign of operation of domestically owned multinational producing enterprises of the balances of payment.

Isike (2004) stated that, it is the value of goods and services produce within a given geographical boundary and also, calculating the GDP he takes into consideration the output of nationals and non-nationals living in a country. The multinational corporation dominates private sector and indeed oil exploration and has significantly contributed to the economy growth of the country. According to Andabai et al (2006), it is believed that, multinational corporations do participate in promoting national development, but the level of such participation shows more evidence of failures rather than achievement, and as such has been ignored by most areas of operation. Awobajo (2006) reaffirmed that, there are strong belief in public opinions in Nigeria that the operation of oil multinationals has done more human than good to areas of which its activities is carried out. Nwosu (2008) concluded that, as a result of oil operations in these areas multinational Corporations had been described as agent of bringing economic and social degradation in their communities.

4. RESEARCH METHODOLOGY

The study adopted *ex-post-facto* research design. Secondary data were used and were collected from National Bureau of Statistics and Central Bank of Nigeria Statistical Bulletin (1991-2014). The study used annual data, because quarterly data may not be accessed for some of the variables. The GDP 1990 at current market price was employed as the dependent variable to measure the rate of economic growth, while oil and gas, construction and service sectors were also employed as independent variables to measure multinational corporations as indicated in **Appendix 1.**

4. 1. Model Specification

The study was based on the null hypotheses that: (i) There is no significant long-run relationship between multinational corporations and economic growth in Nigeria, (ii) There is no causality between multinational corporation.(iii) To ascertain whether unit roots exist among the variables. The study also adopted Juselius (1990) and Johnsen's (1991) multivariate co-integration procedure. The co-integration test was based on Vector Error Correction Model (VECM):

$$\Delta Y_t = \delta o + \Sigma \ \delta_i \ \Pi \Delta Y_{t-1} + \Pi\beta \ \ Y_{t-p} + \ \ \mu_t \quad \text{.............}(1)$$

where, Δ is the first difference operator, Yt represents (GDPt), δo represents the intercept, and μ represents the vector of white noise process. The matrix β consists of r ($r \leq 1$) co-integrating vectors. Matrix Π contains the error parameters and the Johansen and Juselius co-integration procedure yields two statistics (i.e maximum eigenvalue and the trace statistics). The study estimates the following VECM to determine the long and short-run dynamics between multinational corporations and economic growth in Nigeria.

$$\Delta Y_t = \Pi + {}_{i=1}\overset{a}{\Sigma} \ \Pi_i \Delta_{t-1} + \overset{b}{\Sigma}\Pi_{i\ t-1} + \Sigma\Pi_{it-1} + \ \Pi R_{t-1} \quad \text{...........}(2)$$

where Δ stands for difference operator; GDP represent economic growth and multinational corporations represented by (SESt, COSt, OGSt); the error correction assesses the deviations of the variables from the long-run equilibrium relationship. Therefore, the modify model for the study is stated as:

$$\Delta GDP_t = \Pi + \sum_{i=1}^{a} \Pi_i \Delta SES_{t-1} + \Sigma\Pi_i \; COS_{t-1} + \Sigma\Pi_i \; OGS_{t-1} + \Pi R_{t-1} \ldots (3)$$

b

where: GDP = Gross Domestic Product.
SES = Service Sector.
COS = Construction Sector.
OGS = Oil and Gas Sector

4. 2. Estimation Technique

Estimating the VECM proceeds in the following manner, Pre-test for stationary, lag-length, and test for co-integration and this is to ensure that the variables are stationary and that shocks are only temporary and will dissipate and revert to their long-run mean. The test for stationarity or unit roots employed for this study was the Augmented Dickey-Fuller (ADF) test which was performed on the variables at levels and first differences. Co-integration requires that all the variables be integrated of the same order and to test for unit roots, we used the ADF to test the null hypothesis of H o: yα = 0 in

$$\Delta yt = \beta_o + \beta_{2t} + \delta y_{t-1} + \sum_{t=1}^{b} \alpha, \; \Delta y_{t-1} + \varepsilon_t \ldots\ldots\ldots\ldots\ldots (4)$$

To examine whether a unit root exist the ADF test assumes the asymptotic normality of the idiosyncratic error term, ε_t, in (4). The choice of lag-length may be decided using Sims likelihood ratio test and the appropriate lag length is important as too many lags reduce the power of the test due to the estimate of additional parameters and a loss of degrees of freedom. In contrast, too few lags may not capture the dynamics of the actual error correction process, resulting in poor estimates of growth and its standard errors.

4. 3. Data Analysis and Results

The Augmented Dickey-Fuller (ADF) unit root test statistics was used to test for stationarity; and to establish the order of integration of each. The null hypotheses of non-stationarity of oil and gas sector, construction sector and service sectors are tested against the alternative hypotheses.

The results were presented in **Table 1** which indicates that only gross domestic product (GDP) is stationary at levels while other variables are stationary after first differencing. However, all the non-stationary variables are stationary based on ADF critical values of -2.9558 at 5 percent level of significance and these imply that all the variables except gross domestic product is integrated of order one at levels.

Table 1. Unit Root Test Statistics.

Variables	Level	1st Difference	Decision	Remarks
GDP	-4.544217*		1(0)	Stationary
SES	-0.466841	-4.756492*	1(1)	Stationary
COS	-1.532632	-3.526812**	1(1)	Stationary
OGS	-2.248923	-6.766232*	1(1)	Stationary

Source: E-views Econometrics 5.0
* (**) indicate statistical significance at the 1 percent and 5 percent level, respectively. The critical values at the 1 percent and 5 percent significance levels are -3.6496 and -2.9558 respectively and the critical values of ADF are from Mackinnon.

4. 4. Test for Co-integration

Having found that all the variables are integrated, the next step is to perform Johansen co-integration procedure to ascertain whether oil and gas industry, construction industry and service industry are co-integrated. The results of the test are presented in **Table 2** and the null hypothesis of no co-integration among the variables (that is, r = 0) is tested against the alternative hypothesis of co-integration among the variables (that is r = 1).

The null hypothesis of no co-integration is rejected at the 5 percent significance level. However, the null hypothesis that rd” 1 could not be rejected against the alternative r = 2 and r = 3, suggesting the presence of a unique co-integrating relationship among variables. Therefore a long-run relationship exists among the variables as indicated by the likelihood ratio that is greater than the critical values both at 1 percent and 5 percent level of significance in **Table 2**.

Table 2. Multivariate Johansen’s Co-integration Test Result Lags interval: 1 to 2.

Null hypothesis	Alternative hypothesis	Eigen value	Likelihood ratio	Critical values 5%	Critical value 1%	Hypothesized No. of CE(s)
r = 0	r = 1	0.8786	64.9788	47.31	67.31	None **
rd ≤ 1	r = 2	0.7676	46.6446	38.42	40.62	At most 1
rd ≤ 2	r = 3	0.5608	25.8665	19.36	24.31	At most 2
rd ≤ 3	r = 4	0.4665	188768	10.62	13.43	At most 3

Source: E-views Econometrics 5.0
Note: * (**) denotes rejection of hypothesis at 5% (1%) significance level.

4. 5. Vector Error Correction Model

The existence of long-run cointegrating equilibrium provides for short-run fluctuations and in order to straighten out or absolve these fluctuations, an attempt was made to apply the Error Correction model (ECM). The Error Correction coefficient contains information about whether the past values affect the current values of the variable under study. A significant coefficient implies that past equilibrium errors play a role in determining the current outcomes and the information obtained from the ECM is related to the speed of adjustment of the system towards long-run equilibrium and the short-run dynamics are captured through the individual coefficients of the difference terms.

Table 3. Vector Error Correction Estimates.

Variables	Coefficient	Std. Error	t-Statistic	Prob.
(ECM_{-1})	-0.731762	-0.423205	0.000771	0.010008
D(GDP(-1))	0.155939	-1.064438	-0.000384	0.002548
D(GDP(-2))	0.490521	-3.865473	0.000163	0.008540
SES(-1)	0.200110	-0.98673	0.319891	0.18297
COS(-2)	1.013521	-0.611899	-2.72E-07	0.000245
OGS(-3)	1.246699	-0.641147	-5.58E-07	0.000335
C	0.482898	-2.20139	-1.48661	0.008760
R-squared	0.527145	Mean dependent var		0.014004
Adj. R-squared	0.501216	S.D. dependent var		0.336903
S.E. of regression	4.010042	Akaike Info. Criterion		5.855418
F-statistic	6.764345	Schwarz criterion		6.304378
Log likelihood Prob. (F-statistics)	-147.5450 0.000018	Durbin-Watson Stat.		1.991375

Source: E-views Econometrics 5.0

The error-correction coefficient is statistically significant and has a negative sign, which confirms a necessary condition for the variables to be co-integrated. This also implies that the speed with which oil and gas, construction and service sectors, adjust from short-run disequilibrium to changes in economic growth in order to attain long-run equilibrium is 73% within one year. The coefficient of determination (R^2 = 0.527145) indicates that about 52% of the variations in economic growth is explained by changes in multinational corporations variables (SES, COS, OGS) in Nigeria. This implies that a good portion of economic growth trends in Nigeria is explained by multinational corporations' variables. The F-statistics of 6.764345 which is significant at 5% confirms the impact of multinational corporations on economic growth and further more, the influence of the explanatory variables on the dependent variable is statistically significant and this is also confirmed by the F-probability which is statistically zero and finally, the value of Durbin–Watson (DW) indicates absence of autocorrelation.

Table 4. Result of Pairwise Granger-Causality Test (1991-2014) with 2-period Lag length.

Null Hypothesis:	Obs	F-Statistic	Probability	Decision
SES does not Granger Cause GDP	22	5.65308	0.00298	Causality
GDP does not Granger Cause SES		6.66178	0.04167	Causality
COS does not Granger Cause GDP	22	8.84108	0.01836	Causality
GDP does not Granger Cause COS		7.86735	0.00065	Causality
OGS does not Granger Cause GDP	22	8.43756	0.02532	Causality
GDP does not Granger Cause OGS		8.18554	0.02387	Causality
COS does not Granger Cause SES	22	5.65523	0.00865	Causality
SES does not Granger Cause COS		6.43137	0.00686	Causality
COS does not Granger Cause SES	22	7.12643	0.01108	Causality
SES does not Granger Cause OGS		5.08623	0.00976	Causality
OGS does not Granger Cause COS	22	7.34954	0.00656	Causality
COS does not Granger Cause OGS		6.06423	0.02064	Causality

Note: The decision rule of a causality test states that if the probability value of the estimate is higher than the 5% (or 0.05) level of significance, we accept the null hypothesis, and vice versa.

To determine the direction of causality between the variables, the Engle and Granger (1987) causality test was performed on the variables as indicated in **Table 4.** The Granger causality investigated the predictive content of one variable beyond that inherent in the explanatory variables itself. The results of the Granger causality test indicate that economic growth (GDP) has causality with SES (service sector, COS (construction sector) and OGS (oil and gas sector). This implies that there is a causal relationship between multinational corporations' and economic growth in Nigeria.

5. CONCLUSION AND RECOMMENDATIONS

Multinational corporations serve as the engine-room for promoting economic growth and development in an economy through foreign direct investment; hence the study reveals that the variables do not have unit roots and there is also long-run equilibrium relationship between economic growth and multinational corporations. The result confirms that about 73% short-run adjustment speed from long-run disequilibrium and the coefficient of determination indicates that about 62% of the variations in economic growth can be explained by changes in multinational corporation's variables. The study therefore recommends that multinational corporations should make life meaningful to the host country by providing infrastural facilities. Federal government should ensure that multinational corporations plough back part of their profits to the development of the host communities in other to established good working relationship. Federal environmental protection agencies should ensure effective monitoring of multinational corporations to avoid the violation of the lay down rules and regulations guiding their operations.

Contribution to Knowledge

The study was able to modify the Juselius (1990) and Johnsen's (1991) co-integration model and expanded the existing contemporary literatures, empirical review, geographical spreads and updated the data of the study that will enable researchers and scholars to use it for further studies. Consequently, from the results, the study has also contributed to knowledge by discovering that multinational corporation's has a direct causal relationship with economic growth.

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Appendix 1: Gross Domestic Product and Private Sector Economy in Nigeria (1991 -2014).

Years	GDP at current market (₦' Billion)	Service Sector (₦' Billion)	Construction Sector (₦' Billion)	Oil and Gas Sector (₦' Billion)
1991	545.7	44.0	9.5	198.9
1992	875.3	57.9	11.8	369.4
1993	1,089.7	75.7	15.5	361.9
1994	1,399.7	114.5	19.9	326.9
1995	2,907.4	166.3	26.6	1,150.7
1996	4,032.3	208.4	31.0	1,739.7
1997	4,189.2	250.5	36.2	1,605.5
1998	3,989.5	308.8	48.0	1,104.2
1998	4,679.2	377.0	53.1	1,536.5
2000	6,713.6	470.4	59.1	3,282.9
2001	6,859.2	598.9	78.6	2,501.6
2002	7,795.8	725.0	94.4	2,695.9
2003	9,913.5	879.2	118.6	4,113.9
2004	11,411.1	1,246.7	166.1	4,247.7
2005	14,610.9	1,621.2	215.3	5,664.9
2006	18,564.6	2,143.5	250.3	6,982.9
2007	20,657.3	2,502.8	266.5	7,533.0
2008	24,296.3	2,785.7	306.6	9,097.8
2009	24,794.2	3,106.8	347.7	7,418.1
2010	54,204.80	3,436.2	394.7	14,505.8
2011	63,258.58	3,942.0	456.3	15,285.0
2012	71,186.53	4,480.2	539.7	15,004.6
2013	80,222.13	5,129.3	627.6	13,750.7
2014	94,766.70	6,707.9	762.5	14,617.8

SOURCES: (i) National Bureau of Statistics (1991-2014).
(ii) Central Bank of Nigeria Statistical Bulletin (1991-2014).