GROSS INVESTMENTS AND ECONOMIC GROWTH IN NIGERIA;
1970 – 2014. AN EMPIRICAL ANALYSIS

IMOISI, ANTHONY ILEGBINOSA

Abstract

Effective investment plays an important role in the attainment of major macroeconomic objectives of the Federal Government of Nigeria. It then implies that a reduction in investment reduces aggregate demand and slows down productive activities in the economy. The study examined the contribution of gross investments to Nigeria's economic growth from 1970 – 2014. The Unit root test, Johansen Co-integration test and Error Correction Model were employed to test the impact of gross investments on economic growth in Nigeria. Based on the results from these tests, the following recommendations were made: the activities of the Capital Market should be effectively regulated by the Securities and Exchange Commission so as to increase the confidence of foreign investors; effective monetary policies to control inflation, achieve real interest rate and ensure exchange rate stability should be implemented by the CBN so as to encourage private investment; the Federal Government of Nigeria should provide adequate infrastructural amenities and reduce the level of insecurity in the country to encourage more inflow of foreign direct investment.

Keywords: *Investment, Economic Growth, Aggregate Demand, Monetary Policy, Interest Rate and Inflation*

1.0 Introduction

Economic growth can be seen as a means through which the fruitful as well as the productive capabilities of any nation is enhanced overtime to cause rising levels of national income (Todaro 2005). More often than not economic growth is linked to growth of possible output that is productive capacity at full employment and economic growth is the main foundation of improvement in level of literacy, advancement of technology and increase in the stock of capital.

A major determinant in the process of assessing the performance of any economy is the level of investment. A good number of those economies that develop rapidly invest a substantial part of their Gross Domestic Product. In contrast the less developing economies are those nations that fail to invest. It is apparent that investment is a very important part of economic growth. As a result of investment, humans have advanced from caves to a more comfortable living standard.

Globally, developed and developing countries desire economic growth. One of the considerations of the international economy as well as the domestic economy has always been on the best means to accelerate the process of growth of their national income. All over the world, important macroeconomic objectives such as economic growth, price stability, full employment, favourable balance of payments etc of most governments are continuously being achieved through effective investment.

A good number of economists see investment as the production of goods that will be utilized to produce other goods. It is obvious that most economists have formed a general view about the positive impact of investment on the growth of an economy. However, no agreement has been reached that either private investment has a greater effect on economic activity or public investment. Globally, empirical evidence suggests that private investment is more productive than public investment. The Nigerian economy has had an abridged economic growth history. From 1960-70, the Gross Domestic Product (GDP) recorded a 3.1 per cent growth annually. During the oil boom era, approximately 1970-78, GDP grew positively by 6.2 per cent annually – an extraordinary growth. Though, in the 1980s, GDP had negative growth rates. In the era 1988-1997 which makes up the period of Structural Adjustment Programme and economic liberalization, the GDP responded and grew at a positive rate of 4 per cent (Ekpo & Umoh,

2010). Due to the privatization of the banking sector, the Nigerian economy attained higher levels of growth rate from the year 2000. From 2003 to 2005, economic growth in Nigeria was steadily sustained through the support of investments in the manufacturing and services sectors. In 2006, Nigeria's economic growth continued its drive by growing at 4 per cent. Significant investments in the crude oil, agriculture, industrial and services sectors contributed significant share to the nation's GDP respectively. However, risky security environment especially in the north eastern part of the country, political and economic uncertainty, poor law and order condition, inadequate foreign direct investment, inadequate levels of savings, rapid growing population, food and energy inflation as well as poor infrastructure both physical and institutional restrained investment during 2009 - 2013 and resultantly economic growth fell significantly (www.businessplannigeria.com).

2.0   Literature Review

Over the years, scholars have considerably discussed the role investment plays in the development of any nation. The level of advantages gotten from investment depends on the general macroeconomic and policy framework adopted by develop or less developing countries.

Greene and Villannera (1991) carried out an empirical research on 23 countries and found out that public investment on infrastructures and amenities go together with private investment. Although, it should be noted that there is a boundary for domestic savings, in few cases, public investment would bring about a serious restriction for private investment and would crowd out private investment. Ekpo (1995) looked at the relationship between private and public investment in the Nigerian economy. He tried to discover the outcome of different forms of public expenditure on private investment. He isolated expenditure on infrastructure from expenditure on real sectors which competes with private investment. From his findings, social services crowd in private sector investment while expenditure on real activities crowd out private sector investment. Bogunjoko (1998) reviewed economic growth and policy reforms, public and private investment nexus in the Nigerian economy. He utilized the VAR approach to speed up and forecast inter-temporally, private investment response to its most important shocks namely, public investment, domestic credit and output shocks. The findings of the VAR show that the strategies of government that generates continuous growth of output, steady public investment and support the domestic credit availability to the private sector will encourage investment in the long run and short run. Ayashagba and Abachi (2002) conducted an empirical analysis on the impact of foreign direct investment on Nigeria's economic growth from 1980 to 1997. Their findings illustrated that foreign direct investment had a major effect on Nigeria's economic growth and thus concluded that foreign direct investment in developing countries mainly in Nigeria is not completely helpful. Serven and Salimano (1992) employing various terms of investments such as private investment, public investment, fixed investment and total investment to evaluate the issue of causality arrived at the conclusion that in India, capital accumulation is the outcome, rather than the cause of economic growth. Ayanwale and Bamire (2004) carried out a study on FDI and productivity of firms in Nigeria's agro allied sector; they discovered that FDI had a positive and significant impact on both local and foreign firm's productivity in Nigeria's agro allied sector. Akinlo (2004) examined the effect of foreign direct investment (FDI) on Nigeria's economic growth from 1970 - 2001. His findings indicated that private capital as well as lagged foreign capital has a statistical insignificant impact on economic growth and thus, supports the case that extractive FDI may not improve growth as much as FDI in manufacturing.

Udoh and Egwaikhide, (2008) investigated the impact of inflationary pressure and exchange rate volatility on FDI in Nigeria. They employed the GARCH model in their analysis and found out that inflationary pressure and exchange rate volatility had a negative and significant effect on FDI in Nigerian during the period under review. Osinubi and Amaghionyeodiwe, (2010) investigated the effect of foreign private investment on economic growth in Nigeria from 1970-2005. They discovered that foreign private investment, growth of domestic investment as well as growth of net export were positively related to Nigeria's economic growth and were statistically significant. Adesoye et al (2010) examined the

relationship between government expenditure and economic growth in Nigeria from 1977 – 2006 using time series data to evaluate the Ram (1986) model. In order to describe the precise relationship between public investment expenditure and economic growth in Nigeria, three variants of Ram (1986) model were developed in absolute terms by regressing real GDP on consumption expenditure, government investment, private investment and human capital investment. The results indicated that public and private investments do not have significant effect on economic growth for the period under review.

Lean and Tan (2011) examined the relationship between foreign direct investment, private domestic investment and economic growth in Malaysia from 1970-2009. They discovered that while real gross capital formation, proxy for private domestic investment, reduced economic growth, foreign direct investment directly led to economic growth. They concluded that there might be off setting impact between private domestic investment as well as foreign direct investment because both local and foreign businesses are competing for human capital and scare resources to use. Baghebo and Edoumiekumo (2012) investigated the relationship between Domestic Private Capital Accumulation and Economic Development in Nigeria from 1970-2010. The variables public investment, private investment, inflation, interest rate and GDP were employed for their study. Their results showed that private and public investment, inflation and interest rates positively influences GDP. Public and Private investment conform to apriori expectations while inflation and interest rate contradicts apriori expectations. Their analysis suggests a high level of macroeconomic stability as well as a low rate of inflation have a paramount significance to ensure a strong response of private investment to economic incentives.

Okoli and Agu (2015) investigated the effect of FDI flow on the performance of manufacturing firms in Nigeria. They employed the OLS and VECM in estimating the short and long run relationship between the variables in the model. From their findings, they recommended that government should implement policies that would maintain and encourage the inflow of FDI into the country particularly in the long run because of the positive effect of FDI on manufacturing firms. Imoisi, Abuo and Sogules (2015) carried out an empirical analysis on domestic investment and economic growth in Nigeria from 1970 – 2013. From their results, they discovered that private investment is positively related with economic growth, but not statistically significant; increase in government productive capital expenditure has a positive impact on economic growth, but not statistically significant; increase in government protective expenditure reduces economic growth, but not statistically significant; government expenditure on administration, economic services and social services crowded in private investment and was significant for the period under study.

3.0 Method of Study
This section explains the method of analysis. Thus this section describes the research design, data required, sources and collection of data, method of data analysis and model estimation.

3.1 Research Design
In order to form a more precise relationship between gross investment and economic growth in Nigeria, an empirical analysis of the presumed reasoning is needed. This research will utilize the Unit Root Test, Co-integration Test and Error Correction Mechanism in estimating the relationship between the variables in the model for the period under review.

3.2 Data Required and Sources of Data
The data used for this research were secondary time series data and they include:
RGDP = Real Gross Domestic Product, 1970 – 2014
FDI = Foreign Direct Investment, 1970 – 2014
FPI = Foreign Portfolio Investment, 1970 -2014

DPRI = Domestic Private Investment, 1970 – 2014
DPUI = Domestic Public Investment, 1970 - 2014
The data employed for this study were gotten from the publications of the Central Bank of Nigeria (CBN) statistical bulletin (2014) and the National Bureau of Statistics (various issues).

3.3 Method of Data Analysis
The research made use of the Unit Root Test, Co-integration Test and Error Correction Mechanism (ECM) techniques in estimating the models. First and foremost, the Unit Root technique was used to overcome the problem of spurious correlation often related with non-stationary time series data; while the Co-integration technique was used to test if there is any long run relationship between the variables in the model. Also, the concept of Co-integration (Granger, 1986; Mill, 1990) forms the connection of steady state equilibrium. The idea behind Co-integration is that though two different time series may not be stationary, a linear combination of them may indeed be stationary with the generalization to more than two series, (Komolafe 1996). Co-integration is important to integrate the short-run dynamics with long-run equilibrium (Adebiyi, 2002). The ECM technique was utilized to find out the rate at which the dependent variable will return to equilibrium as a result of a change in the independent variables in the model.

3.4 Model Specification
The variables chosen for our model were gotten from our literature. Thus, the model was formed and examined. The model follows the argument by Akinlo (2004), Serven and Salimano (1992), Lean and Tan (2011). Specifically, the research looks at the various components of gross investment and their impact on economic growth in Nigeria from 1970 – 2014. In line with the above, the functional relationship between the variables is stated as:

RGDP = f (FDI, FPI, DPRI, DPUI) 1

From equation 3.1, the stochastic model is formed as:

RGDP = α_0 + α_1FDI + α_2FPI + α_3DPRI + a_4DPUI + μ 2

Where:
FDI, FPI, DPRI and DPUI are defined above, μ = error or stochastic term, a_0 = the constant term, a_1, a_2, a_3, and a_4 are parameter estimates. The apriori expectation of these estimates is as follows: $a_1 > 0$, $a_2 > 0$, $a_3 > 0$, $a_4 > 0$.

4.0 Discussion and Analysis of Results
The time series properties of all the variables employed in this study were analyzed so as to avoid spurious regression results and to obtain dependable findings. Therefore, this process was performed using the Philips Perron test (PP). This occurs from the dominance of considerable co-movements between most time series data that have been argued in most economic literature as weakening the implications for policy that could be deduced from the modeling of such hypotheses (Engle & Granger 1987). The PP test is used to find out the number of times a variable has to be differenced before it is stationary i.e. order of integration.

Table 1 Unit Root Test

Variables	PP T-Statistic	Critical Value 1%	Critical Value 5%	Critical Value 10%	Prob.	Order of Integration
D(RGDP(-1),2)	-4.2112	-3.6752	-2.9665	-2.6220	0.0003	I(1)
D(FDI(-1),2)	-3.8636	-3.6661	-2.9627	-2.6200	0.0006	I(1)

D(FPI(-1),2)	-2.9808	-3.6852	-2.9705	-2.6242	0.0092	I(1)
D(DPRI(-1),2)	-2.9800	-3.6661	-2.9627	-2.6200	0.0070	I(1)
D(DPUI(-1),2)	-3.2620	-3.6752	-2.9665	-2.6220	0.0031	I(1)

Source: Computed Result - E-views 7.1

From the unit root test shown above in table 1, all the variables in the model for the period under review were not stationary at levels. Nevertheless, they were differenced further and attained stationarity at first difference. The long-run relationship among the variables was assessed after the unit root test with the Johansen (1997) co-integration test. The result of the Johansen co-integration test is shown below:

Table 2: Johansen Co-integration Test Result
Series: RGDP FDI FPI DPRI DPUI
Lags interval: 1 to 1

Hypothesized No of CE(s)	Eigenvalue	Likelihood Ratio	5% Critical Value	1% Critical Value
None **	0.9673	233.2629	68.5200	76.0700
At most 1 **	0.8751	127.2733	47.2100	54.4600
At most 2 **	0.7726	62.7934	29.6800	35.6500
At most 3 *	0.3479	16.8801	15.4100	20.0400
At most 4	0.1104	3.6268	3.7600	6.6500

*(**) denotes rejection of the hypothesis at 5%(1%) significance level
 L.R. test indicates 4 co-integrating equation(s) at 5% significance level
Source: Computed Result - E-views 7.1

The Johansen co-integration test above shows that there exist four (4) co-integrating equations which satisfy the condition for fitting in the error correction model (ECM). The test also indicates that there is a long run relationship between real gross domestic product, foreign private investment, foreign portfolio investment, domestic private investment, and domestic public investment. Table 3 below shows the result of the error correction model (ECM)

Table 3: The Error Correction Model (ECM) Result

Variable	Coefficient	T-statistic	Probability
C	7381.9720	0.3340	0.1432
D(FDI)	-3.2852	-2.5451	0.0510
D(FDI(-1))	0.1237	0.5044	0.1023
D(FDI(-2))	0.2228	0.8064	0.1129
D(FPI)	-2.6739	-2.5752	0.0463
D(FPI(-1))	0.7351	3.8964	0.0386
D(FPI(-2))	2.4662	8.9775	0.0102
D(DPRI)	0.5476	2.4886	0.0528
D(DPRI(-1))	0.7367	11.0298	0.0234
D(DPRI(-2))	0.7563	4.7294	0.0421
D(DPUI)	0.4494	1.0260	0.0345
D(DPUI (-1))	0.3492	1.9861	0.0655
D(DPUI(-2))	0.6857	3.0608	0.0322
ECM(-1)	-0.0178	3.3340	0.0224
$R^2 = 0.69$; Adjusted $R^2 = 0.51$; F – statistic = 9.76; Durbin Watson = 1.91			

Source: Computed Result - E-views 7.1

The Error Correction Model result in table 3 above indicates that Foreign Direct Investment (FDI) did not comply with our apriori expectation with a negative sign; however, after it was lagged twice, it conformed to our apriori expectation, though it was statistically insignificant at 5% level. This means that a rise in Foreign Direct Investment increases economic growth in Nigeria and vice versa. From the result, a unit rise in Foreign Direct Investment increases economic growth in Nigeria by 0.2228 units. The compliance of this variable to our apriori expectation may be attributed to the increasing number

of investment incentives and reforms the federal government of Nigeria has progressively introduced to increase foreign direct investment in Nigeria. Examples of such incentives and reforms include: privatization of backbone services such as power, telecommunication etc; trade liberalization policy such as reducing the restrictions on foreign trade; liberalization of the labour markets to provide foreign investors the free hands to their workers in a cooperate environment; environmental protection; competition policy; taxation concessions such as **a** 30% tax concession for 5 years for foreign companies that achieve minimum utilization of domestic raw materials as follows – petro-chemical 70%, engineering 65%, agro allied 70%, chemical 60% and agro 80%;. a significant attempt to fight corruption at all levels (federal, state and local levels) is also taking place in the Nigerian economy. However, foreign direct investment was statistically insignificant with economic growth for the period under review due to contract fees, interest payments of foreign loans, repatriation of profits etc. This view is supported by Akinlo (2004), who examined the effect of foreign direct investment (FDI) on Nigeria's economic growth from 1970 - 2001. His findings indicated that private capital as well as lagged foreign capital has a statistical insignificant impact on economic growth

Foreign Portfolio Investment did not comply with our apriori expectation with a negative sign, though, after it was lagged twice, it conformed to our apriori expectation, and was statistically significant at 5% level. This means that a rise in Foreign Portfolio Investment increases economic growth in Nigeria and vice versa. From the result, a unit rise in Foreign Portfolio Investment increases economic growth in Nigeria by 2.4662 units. The compliance of this variable to our apriori expectation may be attributed to the financial liberalization policy of the Nigerian government in the mid-2000. An example of such financial liberalization policy of the federal government of Nigeria is the internationalization of the Nigerian Stock Exchange, issuing of the first federal government of Nigeria bond series by the federal government through the debt management office. Other factors that can encourage the inflow of Foreign Portfolio Investment into the Nigerian economy include: increase in bonds yields in Nigeria (increase in the returns on bonds market in Nigeria), increased real interest rate (increase in the rate of interest, an investor expects to receive after allowing for inflation), depreciation of exchange rate (it makes the Nigerian currency cheaper when compared with other currencies of the world), increased market capitalization (increase in the value of all bond securities based on their market prices), etc. This view is supported by Ololade & Ekperiware (2015), who were of the opinion that exchange rate, real interest rate, inflation rate, market capitalization and external reserves are positively related to foreign private investment and were statistically significant; while bonds yield and external debt are negatively related to Foreign Private Investment and are statistically significant.

Domestic Private Investment complied with our apriori expectation with a positive sign and was statistically significant at 5% level. However, after it was lagged twice, it provided a better result. Since Domestic Private Investment is positively related to economic growth, it means that a rise in Domestic Private Investment increases economic growth in Nigeria and vice versa. From the result, a unit rise in Domestic Private Investment increases economic growth in Nigeria by 0.7563 units. The compliance of this variable to our apriori expectation may be attributed to the Federal Government of Nigeria macroeconomic policies to increase domestic private investment. Such macroeconomic policies includes: policies to control inflation; policies to ensure exchange rate stability; policies to set interest rate at a realistic level; policies to avoid large budget deficits etc. This view is supported by Business Plan Nigeria (2015) that policies to control inflation, ensure exchange rate stability and achieve realistic interest rates will increase growth and productivity by attaining macroeconomic stability and accelerate private domestic investment by removing distortions; while if there were no policies to cut large budget deficits, it would crowd out private domestic investments due to high lending rates.

Domestic Public Investment complied with our apriori expectation by bearing a positive sign. It is also significant at 5% level and was lagged twice to provide a better result. This implies that increase in Domestic Public Investment increased economic growth during the period of this study and vice versa. From our result, a unit rise in Domestic Public Investment increases economic growth by 0.6857 units.

The compliance of this variable to our apriori expectation may be attributed to the increase in the federal government of Nigeria debts (both domestic and external), which are invested in productive activities and capital projects. Also, Nigeria aims to be among the leading nations by the year 2020. In order to achieve this, the government must develop her human capital, reduce poverty and ensure sustainable development. The federal government of Nigeria over the years has increased her investments on education and health in order to achieve this. All things being equal, an increase in public investment towards human capital development through increase government spending of education and health, can help build an adequate capital base, which in turn raises efficiency and productivity, a large pool of well educated and skilled labour force will increase the growth of the Nigerian economy (Business Plan Nigeria, 2015).

The coefficient of determination (R^2) of 0.69 indicated that 69% of the total variation in the model is explained by foreign direct investment, foreign portfolio investment, domestic private investment and domestic public investment, while the remaining 31% are explained by factors not included in the model, but captured by the random or stochastic term during the period of this study. Also, the Durbin Watson statistic of 1.91 indicates the presence of minimal serial correlation; whereas the F statistic of 9.76 shows that the overall model is statistically significant. Lastly, the Error Correction Model bearing the right sign and its significance at 5 percent level shows that the model quickly adjusts to long run dynamics.

4.1   Summary of Findings

After critically analyzing our results, we found the following:

a) Foreign Direct Investment (FDI) did not comply with our apriori expectation with a negative sign; however, after it was lagged twice, it conformed to our apriori expectation, though it was statistically insignificant at 5% level. This shows that for the period under review, the Federal Government of Nigeria has progressively introduced incentives to encourage Foreign Direct Investment in Nigeria. However, it was statistically insignificant with economic growth due to contract fees, interest payments of foreign loans, repatriation of profits etc.

b) Foreign Portfolio Investment did not comply with our apriori expectation with a negative sign, though, after it was lagged twice, it conformed to our apriori expectation, and was statistically significant at 5% level. The financial liberalization policy of the Nigerian government in the mid-2000 aided the inflow of Foreign Portfolio Investment into the country for the period under review

c) Domestic Private Investment positively affected economic growth and was significant for the period under review. The Federal Government of Nigeria has introduced several macroeconomic policies to increase Domestic Private Investment for the period under review and such policies include: inflation control policies; exchange rate stability policies; realistic interest rate policies etc.

d) Increase in Domestic Public Investment increases economic growth and was significant for the period under review. The Federal Government of Nigeria has steadily increased the development of human capital in the country by investing in education and health to ensure adequate economic growth for the period under review.

5.0   Conclusion and Recommendations

The research examined gross investments and economic growth in Nigeria from $1970 - 2013$. Investment programmes in the Nigerian economy are formulated based on domestic and foreign investments. The major objective of this study is to assess the impact of gross investments on Nigeria's economic growth for the period under review. In order to achieve this objective, the study employed the PP test, Johansen Cointegration test and the ECM test to analyze the data gotten from secondary sources of the CBN statistical bulletin and the NBS various issues. From the results, it was discovered that after Foreign Direct Investment and Foreign Private Investment were lagged twice, they complied with apriori

expectation and were statistically significant with economic growth in Nigeria for the period under review; Domestic Private and Public Investments complied to apriori expectation and were statistically significant with economic growth in Nigeria, though they were lagged twice to give a better result. Based on this results, the following recommendations were made: the activities of the Capital Market should be effectively regulated/monitored by the Securities and Exchange Commission so as to increase the confidence of foreign investors; effective monetary policies to control inflation, achieve real interest rate and ensure exchange rate stability should be implemented by the CBN so as to encourage private investment; the Federal Government of Nigeria should provide adequate infrastructural amenities and reduce the level of insecurity in the country to encourage more inflow of foreign direct investment. Also, no nation can develop without developing its human capital, and as such, in order to ensure adequate growth and development of the Nigerian economy, the Federal Government of Nigerian should increase her expenditure on health and education

References

Adebiyi, M. A. (2002): Debt Service – Education Expenditure: The Nigerian Experience, *Journal of Nigerian Economic Society*

Adesoye et al (2010): Dynamic Analysis of Government Spending and Economic Growth in Nigeria; *Journal of Management and Society.* Vol. 1 (2), pp 27-37, Dec. edition

Akinlo, A. E. (2004): Foreign direct investment and growth in Nigeria: An empirical investigation. .*Journal of Policy Modeling*, 26, pp. 627 – 39

Akpakpan, E. B. (1999): *The economy: towards a new type of economics*. Belpot (Nigeria) Company, Port Harcourt

Ayanwale, A. B. & Bamire, S. (2004): Direct Foreign Investment and Firm-level Productivity in the Nigerian Agro/agro-allied Sector. *Journal of Social Sciences.* 9 (1): 29 - 36.

Ayashagba, G. I., & Abachi, P. I. (2002): The Impact of Foreign Direct Investment on Economic Growth of the less Developed Countries (LDCs): A Case of Nigeria (1980-1997). *Journal of Economic and Social Research*, 1:108 - 125.

Bogunjoko, J. O. (1988). Private and public investment nexus, growth, and policy reforms in Nigeria: An empirical investigation, rekindling investment for economic development in Nigeria (pp.273-294). *Proceedings of the Annual Conference of the Nigeria Economic Society*

Bagheho, M. & Edoumiekumo, S. (2012): Public Capital Accumulation and Economic Development in Nigeria, 1970 – 2010. *International Journal of Academic Research in Business and Social Sciences,* vol. 2 (6), 213 – 237

Business Plan Nigeria (2015) – Financing Investment for Growth – The Nigerian Experiences www.businessplannigeria.com.ng/finance-investment-growth-Nigerian experiences

CBN Statistical Bulletin. (2014). Retrieved from http://www. cenbank.org/OUT/PUBLICATIONS/STATBULLETIN/RD/2010/STABUL L 2013.PDF

Ekpo, A. H. (1995). Public Expenditure And Economic Growth in Nigeria 1960-1992. Final Report, *African Economic Research Consortium (AERC),* Nairobi, Kenya.

Engle, R. F. & Granger, C. W. (1987): Co-integration and error correction: Representation, estimation and testing. *Econometrica, 55*(2), 251-276.

Greene, J., & Villanueva, D. (1991, Mar.). Private investment in developing countries: an empirical analysis. *IMF Staff Papers*, Palgrave Macmillan, 38(1), 33-58.

Granger, C. W. (1986): Development in the study of co-integrated economic variables. *Oxford Bulletin of Economics and Statistics, 48*(3), 213-228.

Imoisi, Abuo & Sogules (2015): Domestic Investment and Economic Growth in Nigeria from 1970 - 2013: An Econometric Analysis. *Canadian Journal of Social Sciences*, vol. 11(6) pp 70 - 79

Johansen, S. (1997): Estimation and Hypothesis Testing of Co-integration vectors in Gaussian Vector Autoregressive Models. *Econometrica, 59: 1551-1580.*

Komolafe, S. O. (1996): *Cointegration Theory: Technique and Application.* Chapter 13 In: *Macroeconomic policy Analysis, Tools, Techniques and Application to Nigeria*. Obadan, M. I. and M. A. Iyoha, eds Ibadan: NCEMA.

Lean, H. H & Tan, B. W. (2011): Linkages between Foreign Direct Investment, Domestic Investment, and Economic Growth in Malaysia. *Journal of Economic Cooperation and Development, Vol. 32, No. 4, pp. 75-96.*

Mills, T. C. (1990): *Time series techniques for Economists*, Cambridge: Cambridge University Press

Ololade & Ekperiware (2015): Foreign Portfolio Investment and Nigerian Bond Market Development. *American Journal of Economics*, vol. 5 (3), 370 - 384

Osinubi, T. S. & Amaghionyeodiwe, L. A. (2010): Foreign Private Investment and Economic Growth in Nigeria. *Review of Economic and Business Studies*, 3(1), 105-127.

Okoli, T, T. & Agu, O. C. (2015): Foreign Direct Investment Flow and Manufacturing Sector Performance in Nigeria. *International Journal of Economic, Commerce and Management*, 3(7): 413-428

Perron, P. (1994): Trend, unit root and structural change in macroeconomic time series data, in Rao B. B. (ed.) Co-integration for the Applied Economist. Lon Macmillan.

Ram, R. (1986): Government Size and Economic Growth: A New frame Work and Some Evidence from cross section and time series Data. *AM. Economy, Vol. 70, No. 1.*

Serven, L. & Salimano, A. (1992): Private Investment and Macroeconomic Adjustment: A Survey. *The World Bank Research Observer* 7(1): 95-114

Udoh, E. & Egwaikhide, F. O., (2008): Exchange Rate Volatility Inflation Uncertainty and Foreign Direct Investment in Nigeria. *Botswana Journal of Economics*, 5(7), 14 - 31.