Foreign Direct Investment, Domestic Investment and Economic Growth: the Case of Nigeria

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ABSTRACT

The studies investigate the impact of foreign direct investment and domestic investment on economic growth in Nigeria. For a ceteris paribus effect, trade openness was employed as a control variable. The time series econometrics techniques was employed to investigate, whether short and long – run relationship exist between the series, between a period of 1980 – 2014. From the findings, we confirmed that there is a short and long run dynamic causality relationships between the series. From the Granger casualty test, we discovered a unidirectional relationship between the series. Direct investment in Nigeria was discovered to be output driven. Results from trade openness, revealed an interesting fact. The economy has not been benefitting from international trade, which was revealed by the inverse relationship between the series. Thus, we recommend the followings, that the foreign investment policies should be revisited. Nigerian government should create enabling environment for investors and lastly, issue of security should be handling properly.

Keywords: Foreign direct investment, domestic investment and real income.

Bu çalışma doğrudan yabancı yatırımın ve yerel yatırımın Nijerya'nın ekonomik büyümesi üzerindeki etkisini ölçmektedir. Ceteris Paribus etkisinden yola çıkarak ticari anlamda dışa açıklık kontrol değişkeni olarak atanmıştır. Araştırma kapsamında zaman serisi ekonometrik yöntemler kullanılmış ve 1980 – 2014 periyodu için kısa ve uzun dönem ilişkilerin olup olmadığı araştırılmıştır. Ampirik bulgular ışığında, kısa ve uzun dönem dinamik nedensellik ilişkisinin seriler arasında yer aldığı ortaya çıkmaktadır. Granger nedensellik testi sonuçları kapsamında seriler arasında tekli nedensellik ilişkisi öne çıkmaktadır. Nijerya'daki direkt yatırımın toplam çıktı üzerinde etkisi olduğu ortaya çıkmıştır. Ticari dışa açıklık ile alakalı daha ilginç sonuçlar açığa çıkmaktadır. Ülke ekonomisinin uluslararası ticaretten faydalanamadığı, seriler arasındaki ters ilişki neticesinde gözlemlenmiştir. Yabancı yatırım politikalarının bu bağlamda Nijerya için tekrardan analiz edilmesi gerekmektedir. Nijerya hükümetinin yatırımcıların yapabilirliğini artırıcı yönde önlemler alması ve son olarak güvenlik sorununun ayrıca ele alınması gerekmektedir.

Anahtar Kelimeler: Doğrudan Yabancı Sermaye, Yerel Yatırım ve Reel Gelir.

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They taught me that only those who risk going too far can possibly find out how far

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LIST OF ABBREVIATIONS

ADF	Augmented Dickey-Fuller
AIC	Akaike Information Criteria
TDI	Total Domestic Investment
ТОР	Trade Openness
ECM	Error Correction Mechanism
ECT	Error Correction Term
FDI	Foreign Direct Investment
GDP	Gross Domestic Product
PP	Phillips-Perron
SIC	Schwartz Information Criterion
VAR	Vector Auto Regressive
VECM	Vector Error Correction Model
DS	Domestic Savings
SAP	Structural Adjustment Program

Chapter 1

INTRODUCTION

1.1 Background of Study

Nigeria was the largest economy in Africa as at 2004, with middle income, emerging market and mixed economy, with growing financial, communication, service and technology etc. it's ranked the 21st largest economy in the world in terms of purchasing power parity (PPP). Nigeria has had advantage to attract huge amount of foreign direct investment (FDI) over the past decade.

In globalized world, understanding the impact of foreign direct investment and domestic investment on economic growth is a vital issue. Nigeria, introducing various economic policies such as Structural Adjustment Program (SAP), privatization, commercialization and indigenization. All which attract private investors, because investment in certain sectors of the economy can speed up the various economic challenges that the nation's economy is facing.

Several researchers on this literature weigh the association between FDI and economic growth also Domestic investment and economic growth from different angles. The role of FDI is outstanding toward economic development and growth in less developed countries with technology transfer, human capital and information transfer (Tang et al, 2008 and Li and Liu, 2005), and Nigeria is among such countries. According to United Nations Report in 2002, FDI has a vital contribution on economic growth and it is significant to developing counties through knowledge, job creation and encourages local entrepreneurship and competitiveness, potential to transfer of technology. (Reiter and Steensma, 2010).

FDI has a notable factor toward economic development not only through increasing supply of capital inflows but also supports the formation of human capital with technology transfer. Foreign direct investment boosts the economy of counties through direct, as well as indirect channels (Anwar and Nguyen, 2011). Foreign direct investment helps countries to tackle capital shortage and support domestic investment when FDI flows to high-risk places or new industries where domestic investments in host countries are limited (Tang et al, 2005). FDI also promotes host country's productivity toward economic growth as well as examine the significance of foreign direct investment on the plat form of direct capital financing but also in the face of externality by which it providing technology. (Alfaro et al 2009). (Katircioglu, 2006) also analyses the contribution of FDI to economic development through technology, market access and managerial skills. FDI is organized capital stock, technology and help to utilize the existing stock of knowledge availability through labour and skills training, transfer and some other alternative arrangement and management technique.

On the other hand, domestic investment comprises public and private investment and both of them have important parts in total domestic investment, for most economies, especially less developed countries. Because domestic investment have a larger share over foreign capital, which is other way round in most developing countries, in which their internal capital is not sufficient and allowed them to targeted investment. In the case of Nigeria both the public and private investment significantly small as percentage share of it GDP which enables it to depend heavily on foreign capital.

Domestic investment is a vital element to economic development. Domestic investment helps to increase the country's production. Thus, a country cannot have a stable economic growth and economic development without the achievement of domestic investments (Kostoglou, 2010). As domestic source accumulated lead to more domestic investment and theories associated to domestic saving and income was explained by Harrod (1939) and Domar (1946) models.

Domestic investment both private and public has a huge benefit, which include increase in per-capita income, job creation and reduction in level of poverty, and standard of living. They analyse the connection between DI and economic growth from different perspectives in some reviews. Such as Bosworth and Collins (1999), ascertain the effect of capital inflows on domestic investment for fifty-eight (58) selected less develop nations, in which they found that apart from dollars inflows in to the countries also domestics investment go with FDI by one for one increase. Adeolu, (2007) and Asiedu (2005). They found out individually that domestic investment and private investment affect the in inflows of FDI in Nigeria, both empirical results show that they have influence on FDI inflow. Domestic investment affects FDI through public investment in physical and human infrastructures. The better the infrastructures, the more profitable FDI would be (Ahmed, 2010).

1.2 Statement of the Problem

Therefore, looking on how government at any giving opportunity works hard in order to attract more investment in various sectors of the economy, the motive for this is not doubtful. Investment both domestic and foreign come with a lot of benefits such as Job creation, increase in per-capita income, and increase in standard of living and reduction in poverty.

This present study aims to estimate the effect of the FDI, and DI on economic growth, where we employed trade openness (TOP) as control variable. Best on time series analysis, with the help of vector technique. The study also try to identify the existence of long run correlation between the variables, if any, using the Johansen Test. The study differ from the earlier work of Tang et al. (2008). About China and Taspinar (2011). About Turkey and Ahmed (2010) in which Tang el at. (2008) test the effect of FDI, DI in China but using monthly data and Taspinar (2011) test the effect of FDI and DS in Turkey. While the present study test the impact of FDI, DI in Nigeria using annual data and also employ TOP as control variable.

1.3 Objectives of the Study

The world becoming more globalized, understanding the relationship between FDI and DI and their importance to economic growth and development it is very important for developing countries. Government and policy makers should understand the impact and effect of both investments i.e. FDI and DI on growth keeping in mind its makes new changes either an increase or decrease the barriers for a nation and encourage more investment to the nations. The study try to recognize the presence of long run or short run relationship among the variables if any. Secondly, the direction of their causality in case of Nigerian economy as one of the developing country which create an environment for foreign investors. Finally, foreign direct investment may contribute a lot, such as job creation, increasing percapita income, and increasing the level of standard of living

1.4 Research Methodology

The present study employ a time series technique to investigate the contribution of FDI, DI to economic growth in Nigeria, for the period of 1980 – 2014. Unit root test was carried out through the use of ADF and PP tests to check the level of stationarity on the variable included in this study. It's well established fact that income per-capita (GDP) is usually difficult to be stationary at level form. Cointegration test will also be employed to check for long run equilibrium relationship between the variable and VECM.

1.5 Organizational Structure

The study has the following structure which comprise six chapters: Chapter one includes introduction and background of the study, articulation of the issue/motivation, objective of the research, methodology and organizational structure.

Chapter two analyse the various relevant reviews of the empirical framework which are based on the previous work of the subject of discussion.

An overview of Nigerian economy, FDI, DI are analysed in chapter three, while the next chapter which is chapter four, focuses on research methodology, and data collection, nature of the data are examined.

Chapter five of this study comprises data presentation, data analysis, discussion of finding and their interpretations.

Final chapter on this study gives the summary, conclusion and policy implication.

Chapter 2

THEORETICAL CONSIDERATIONS AND EMPIRICAL STUDIES

Despite large reviews on the point, the significance of FDI in economic growth remains exceedingly disputable. Some of the Authors contend FDI advance that promotes economic growth through technology diffusion and human capital development are Van Loo, (1977); Borensztein et al., (1998); de Mello, (1999); Liu et al., (2002); Shan, (2002); and Kim and Seo, (2003). This is especially the situation when multinational enterprises (MNEs) in a host economy have vertical inter-firms linkages with domestic firms or have sub-national or sub-regional clusters of interrelated activities. Through formal and casual relationship and social contacts among employees, MNEs diffuse technology and administration know-how to local firms. Consequently, economic rents are created accruing to old technologies and conventional administrative styles. In addition, FDI helps in tackling capital shortage in host state and complements local investment when FDI flows to high-risk areas or new industries where domestic investment is constrained. (Noorzoy, 1979).

At a particular point when FDI occurs in an industry, domestic investment in related industries may be fortified. In addition, FDI may result in to an expanded interest for exports from the host nation, by pulling in attract investment in the export sectors.

2.1 Foreign Direct Investment and Economic Growth

Kunle et al. (2014) analysed the contribution of FDI to Nigerian economy during the period of 1999 to 2013. The paper build on ordinary least square (OLS) technique, via Gross domestic product, exchange rate and export in which GDP stand as dependent variables. The study found out that the entire variables are positive and significant, and there is strong correlation between FDI and GDP.

The empirical work of Ogunleye (2014) examined the association that occurs between the host country and foreign direct investment. The paper build on qualitative research technique. The study found that FDI allow host country to achieve positive economic growth through investment, which overcome that of domestic investment. The paper suggest that increase in capital formation in long run in both private and public sector will lead to growth. The study pin point some factors that will keep in FDI backward which are lack of infrastructures facilities, human capital and lack of skills.

Abdu (2013) Investigate the link between foreign direct investment and economic growth in Nigeria, where the author seeks to find out the benefit from FDI, if any. The paper employed statistical analysis with the help of secondary data for the investigation over the period of 10 years. The study found a positive and significant relationship between economic growth and FDI. The author also capture the effect of balance of payments and foreign trade, which both have negative effect whereas exchange rate and export jointly have positive effect on growth. In conclusion, FDI contributes positively to economic growth in Nigeria during the period of study.

Gungor et al. (2013) examines the link between financial development, foreign direct investment and economic growth in Turkey. The paper carried out second-generation economic analysis to figure out the nexus from 1960-2011. The authors employed time series analysis with multiple structure breaks in in the data. The result show a positive and significance relation between financial sectors and FDI in Turkey and also confirm that both financial development and FDI have long-term relation to growth. The research recommended that employing new approach to annual data in order to test the impact since the debate arise between financial development and growth is still inconclusive.

Imoudu (2012), the proponent analyses the benefit of foreign direct investment in Nigerian economy, He employed Johansen's co-integration approach from the period of 1980 to 2009. Imoudu established his study also on augmented production function. The study found out that FDI has a positive and significant effect on real growth in Nigeria, but in long run via manufacturing, mining, agriculture, petroleum and telecommunication. The study also show that openness and political situation does not provide investment friendly environment for foreign investors and they have negative effect on FDI during the period. Finally the outcomes also show that Nigeria is not fully maximized the benefit of FDI.

Anitha, (2012), examine the effect of FDI inflow in to India during two different periods that is Pre and Post liberalization. The researcher constructed Annual Growth rate and compounded Annual growth rate for analysing the periods. The paper employed Autoregressive integrated moving average (ARIMA) model to forecast FDI inflow, multiple regression analysis are use to examine the key factors, which influence the FDI in Indian economy. The research found out that there is strong and positive relationship between the variables, which is the FDI and economic growth in India during the period of study.

Umoh et al. (2011) the authors set to disserted the causal relationship between FDI and economic growth in Nigeria over the period of 1970 to 2008. The study make proposition that there is endogenuity. They constructed on Augmented Cobb Douglas production function, based on the econometric result they explored out that FDI has a significant and positive bond to economic growth and are truly endogenous in the equation.

Ehimare, (2011) the author investigate the effect of foreign direct investment in Nigerian economy over the span of 30 years precisely from 1980 to 2009. He also try to see the effect of the following variables on FDI, which are Balance of payments, and Inflation and Exchange rate. The study employed Annual time series to test the effect in which he found out that FDI has a positive effect though it's not statistically significant on GDP during the period of study. That is the inflow of FDI in Nigeria has no major contribution to the economic growth. However, the result shows that the FDI has a positive and significant impact on balance of payments through current account.

Oladipo, (2010) asserted the determinants factors of FDI, and the casual link among factors affecting economic growth in Nigeria. The researcher capture the span from 1970 to 2005, which he employed time series technique. The author construct his data on the following variables: FDI as dependent variable while Growth rate of real

GDP, Real GDP per capita, Export, Inflation, Adult illiteracy, capital formation, Telephone line and liberalization. As independent variables. The outcome of the paper show that FDI has a positive and significant relationship to economic growth. In addition the government consumption expenditure, trade openness and human capital are complementary to economic growth which are all supported. The paper suggest that the government needs to focus on enhancing the investment atmosphere through measure of liberalization and efficient sector that will encourage the entry and fast operation of foreign investors.

Osinubi and Amaghionyeodiwa (2010), examine the direction and significance of foreign direct investment on Nigerian economy. The study employed time series analysis from the period of 1970 to 2005. The study modeled on the variables which are foreign direct investment, domestic investment growth rate, Growth rate of net export where all are independent variables while gross domestic per capita (GDP) is the dependent variable. The study confirmed that all the variables are jointly significant, therefore, FDI contributed to the economic growth in Nigeria during the period of study.

Akinlo (2004) examine the effect of FDI on economic growth of Nigeria. The study employed time series technique from the period of 1970 to 2001 which is 31 years. The study build on the variables such as Labor, stock of private and foreign capital, Real government consumption, Real export, Human capital and Money supply where all are independent variables while GDP is a dependent variable. The research found out that FDI has a positive and significant impact on growth after considering the subsequent lag. It also demonstrate that extractive FDI particularly oil might not be growth enhancing as much as manufacturing FDI. He also found that export, labor and human capital are positively related to economic growth in Nigeria during his research period.

Balamurali and Bogahawatte (2004) examine the correlation between FDI and economic growth in Sri Lanka from the period 1977 to 2003. The study employed time series technique (Johansen). They try to test the link between real gross domestic product, foreign direct investment, domestic investment and trade openness policy. The study found a positive significant and the entire variable have an autonomous impact on economic growth and they all have bi directional casualty link between FDI and economic growth in Sri Lanka.

Borensztein el at. (1998) examine the effect of FDI on growth in 69 less develop nations over the period of 1970 to 1989. The study employed panel data technique to analyze the effect on economic growth. The study found that over the period, human capital and FDI has a positive and significant impact on growth.

The above study's find out that FDI contribute strong and positively to the economic growth. While other authors find out that FDI is not driving tool for economic growth such as;

Ilegbinosa et al. (2015) examine the effect of foreign direct investment on Nigeria's economic growth over the span of 1990 to 2012. The study employed of ordinary least squares (OLS) estimation techniques. The study modelled several variables such as FDI, Import Export, Inflation rate, Exchange rate, Technology and Interest

rate all are explanatory variables while GDP as dependent variable. The study found an inverse relationship between GDP and FDI. While other variable are significant. The study suggest that if due attention are place on favourable economy and political policies in Nigeria it will address and encourage inflow of FDI and exportation of good and services in Nigeria.

Falki (2009) ascertain the effect of FDI on economic growth in Pakistan during the period of 1980 to 2006. The study analysed through augmented production function based on endogenous growth theory. The author also used other variables such as domestic capital, labour and trade openness. The result shows that there is negative and insignificant relationship in the middles of GDP and FDI inflow in Pakistan.

Adegbite (2007) examine the effect of FDI and economic growth in Nigeria over the spells of 1980 to 2007. The researcher employed a time series data technique. The econometric outcome show that foreign direct investment has no contribution to the economic output in Nigeria during the period due to poor or limited infrastructures according to the investigation, he also found out that FDI influence export of good and services.

Fry (1992) examine the effect of FDI on economic growth of 16 developing countries during the spans of 1968 to 1988. The study employed pooled panel data technique. The investigation show that FDI has a negative effect on growth. But it has a significant effect on domestic investment. The paper suggests that FDI crowds out domestic investment.

2.2 Domestic Investment and Economic Growth

Ilegbinosa et al. (2015) examine the impact of domestic investment on the economic growth of Nigeria. The study capture from the period of 1970 to 2013, they employed time series technique to test the impact. The study shows that private domestic investment and government productive expenditure support economic growth positively but it not sufficient during the period. The study suggest that government should encourage bank deposit and provided a long run loans to real economic sectors and also its should give more priority to expenditure on economic growth that will make private investment rather than expenditure on other things such as national assembly.

Oyinlola and Akinnibosun (2013) Investigates the link between public expenditure and economic growth in Nigeria. The study capture from the period 1970 to 2009. The study employed Gregory-Hansen structural breaks co-integration technique. The work shows that government expenditure has effect to economic growth in Nigeria during the period.

Nasiru and Usman (2013) explore the correlation between domestic saving and investment in Nigeria, on the spell of 1980 to 2011. The study employed Feldstein-horioka (1980) hypothesis to test the impact. Where gross national investment as gross domestic product (GDP) share as dependent variable and Gross national saving as proportion of GDP is an independent variable. The outcome of the researcher support the hypothesis of Horioka, which show that there is positive correlation between saving and investment in the long run. Also the study recommends adequate supply of saving to maintain as a central policy for economic stability.

Moses et al. (2013) scrutiny the impact of domestic investment on foreign direct investment inflow in Nigeria over the period of 1970 to 2009. The study employed time series analysis to test the Impact, and found out that there is a negative relation between public and private investment and foreign direct investment flow in Nigeria during the period. They suggest that government should upgrade national infrastructure in all sectors.

2.3 Mixed Relation on GDP (FDI, DI)

Taspinar (2011) The study inspect the long run relationship that links GDP foreign direct investment and domestic saving in Turkey. The paper employed time series technique from 1960 to 2008. The study constructed on the following variables such as FDI and DS are the explanatory variables while GDP as dependent. After the econometric analysis the paper show that FDI and DS have a long run association with GDP in Turkey. However FDI has a significant and positive impact on Turkey's GDP in the long run, domestic saving is not significant. Also the study proved that in Turkish economy, domestic saving is an output engine, any casualty would be obtain in that long run from FDI and DS.

Tang et al. (2008) They try to investigate whether FDI can Crowd out domestic investment in China, and whether if the variables has any casual effect on China's economic growth, and to find the causality among them. The study employed time series technique. In which they construct the variables as, GDP as dependent variable while FDI and DI as explanatory variables. The paper find out that FDI has a significant effect on Chinese economy and it also complements domestic investment. It's also show that domestic and economic growth in china has a positive correlation. Both domestic investment and GDP do not have long run impact on FDI, that is casual link between GDP and DI is bi directional. Finally, the paper show that DI has greater impact on GDP in china over FDI have during the period of their study.

Chapter 3

THE HISTORY OF NIGERIAN AND ECONOMY

3.1 The Nigeria Economy

The name federal republic of Nigeria was given after the independence in 1960. Nigeria was one of the British colony, where it was located geographically on the sub-Sahara of the western region of African continent. It was classified as one mixed economy, which already mid up with the middle-income status according to World Bank (2006). The country has different ethic and culture with over 370 languages. The country population is around 181 million as of 2014. Due to the abundant natural resources, with well develop financial sector, stock market, legal and communication sectors, make it African largest in term of economy and population. In 2014 the estimated GDP is around \$502 billion US Dollars. Since after the discovery of oil in 1958, the dominant source of government income (revenue). Administrative constraints and risk in security make the investment in both line oil and gas limited, the country's production of oil in 2013 was contracted. Nevertheless, the economy of Nigeria in general keep on growing annually by 6 to 8% during the period, other sector such as agriculture, telecommunication and service are the driven head which they outlook Nigerian to good status, when we assume the stable oil output and strong oil price (CIA World fact, 2015).

Nigeria is one of the largest oil producers in the world marked as 12th in 2008. And 10th largest proven reserve, 8th largest petroleum exporters (Paul, 2008). Nigeria

depends heavily on petroleum due to high significant impact that it play in the country's economy, accounting for 40% of the GDP and 80% of government earnings. Nevertheless, the punch that the public finance face in the country is lower oil price during the period which it pose a major constraint on the ability of the new government also on not to level some of its ambitious programs.

Regardless of crude oil in Nigeria the country also has a wide exhibition of under exploitation in its resources such as natural gas, limestone, bauxite, gold, tin, iron ore, lead and zinc. Peter (2007). Hence after all this resource the country mining sectors still in its infancy.

Nigeria has some manufacturing industries which incorporate the leather and textile in Kano, Abeokuta and Lagos. Also metals industry with car manufactures and assembly in Kaduna, Kano and Lagos, such car industries are Bedford from America and French car such as Peugeot.

Nigeria at one time its Agriculture sectors catalyse for foreign earners it was the largest exporters in Groundnut, Cocoa, and palm oil in the world which make the country GDP around 60%. Nigeria directly or indirectly in that sectors has a vest area but it is mismanage it (Ake, 1996).

3.2 Foreign Direct Investment in Nigeria

Economists have been increasingly emphasizing the fruit of openness and discouraging import substitution policies in recent economic policy literatures. (Maneschiold, 2008). Too much import has already been considered as a problem to balance of trade, damage to currency exchange rate and disadvantage to the domestic

production and employment.(Ullah, Uz-Zaman, Farooq, & Javid, 2009; Abou-Stait, 2005).

Generally, the major driving force to FDI inflows to any country is basically it's endowments of natural resources, size of market, favourable political and institutional reforms as well as market policies (John C, 2011).

In the Federal Republic of Nigeria, foreign direct investment (FDI) is define as investment undertaken by an enterprise that is either wholly or partly foreign-owned. The Investment Code that created the Nigerian Investment Promotion Commission (Decree No. 16 of 16th January 1995) and the Foreign Exchange (Monitoring and Miscellaneous Provision) also enacted in 1995 give full legal backing for FDI in the country (UNCTAD, 2006).

The key source of FDI to Nigeria in terms of project are United States, the United Kingdom, the Republic of South Africa, India and France. Measured in terms of capital invested the United States, Canada, France, China and India (Adebowale, 2014).

The major capitals invested in Nigeria that have traditionally attracted FDI have been petroleum (oil and gas) and petroleum services, telecommunications, hotels and tourist, chemicals and real estate. In terms of new projects, the key sectors that have attracted FDI include oil and natural gas, financial services, telecommunications, business services, food and tobacco. There has likewise been a perceivable increment in FDI into the quick moving buyer products part. The government is keen to attract FDI into key areas of the economy such as power, infrastructure development and agriculture (Adebowale, 2014).

3.3 Domestic Investment in Nigeria

Domestic investment comprises public and private investment and both of them has an important part in total domestic investment, for most economy especially less developing countries. Because domestic investment sometimes have a large share over foreign capital, which it shows opposite in most developing countries, in which their internal capital is not sufficient and allowed them to targeted investment. Nigeria as a case both its public and private investment significantly small as percentage share of GDP which enable it to depend heavily on foreign capital.

After the independence that is during the first decade, Nigerian public investment as a percentage of GDP was on average below 5 percent. During the period urban areas was dominate almost all the social capital project while the rural were disconnected from the project. After discovery of oil in some part of Niger delta region it made the government revenue to boost up and capital expenditure for the government goes up to some level. From empirical Public investment increase by 400 percent as percentage of GDP. That score was remain impressive, so maintaining the average 15 percent, GDP until oil market turn down in late 70s, which make the revenue fall and public investment by the government to also fall. During the period of 1982 to 83 the public investment soared, in 1986 the value was accounting for 12.3 percent which was resulting from augmentation of domestic revenue for both World Bank and IMF, the value was stay at around 10 percent thereafter. Public investment rapidly fall in the mid- 2000s this could be link to global financial crises that happen during the period, which affect the government revenue earns from oil.

Gross capital formation which account for overall investment undertaken by private individuals, domestic economy follow public investment, in 70 and 80s investment follows the same trend pattern with public investment in Nigeria. As percentage of GDP, private investment was averaging 25 percent annually, during the period private investment is higher than public investment. After 1995, private domestic investment has been falling, which range below 10 percent annually.

Chapter 4

METHODOLOGY AND DATA

The present dissertation was built on time series technique to bolster the goal of this study. The spell of the study was 34 years that is between 1980 and 2014. The information and data will be source from World Bank Database (WBD). The examination also utilize (ADF) Augmented Dickey Fuller and Phillips-Person (PP) unit root test, to test for stationarity for all the variables concerned to circumvent a meaningless (spurious) regression analysis.

It is a well-known fact that upward and downward trend are been associated with most economic variables. The work in addition used Johansen co-integration test in other to test for long-run link between the variables, in this situation they are not stationary at levels. VECM model will be used to capture the adjusted speed for the short-run to the long run path. Granger Causality also employs to test which of the variables granger cause and possible predictor of the other.

The variables employed in the research for the model specification are GDP per capita which is used to measured economic growth. GDP is the dependent variable while the major explanatory variables are FDI and DI, while Trade Openness (TO) will be used as a control variable.

4.1 Model Specification and Variables

The study specifies the following functional form in order to analyze the influence of foreign direct investment and domestic investment on Nigerian economic growth. Besides, the research also includes trade openness to control for different factors augmenting or reducing economic growth.

The model specification:

GDP = F (TDI, FDI, TOP)(1)

The stochastic form of the model is as follows.

$$\ln GDP = \beta_0 + \beta_1 \ln FDI + \beta_2 \ln TDI + \beta_3 \ln TOP + \mu_t$$
(2)

Where,

*In GDP= natural log of real income, Gross Domestic Product Per Capita

* β_0 = Intercept (constant term)

* lnTDI= Total Domestic Investment is in natural log

* lnFDI = natural logarithm of Foreign Direct Investment

- * lnTOP = Trade Openness is in natural log form
- * μ_t = Stochastic term (undeserved)
- β 1, β 2, β 3 are slope coefficients.

We are expecting a positive sign from the coefficient, which will confirm that an increase in any of the explanatory variable will lead to an increase in the independent variable.

Annual percentage growth rate of GDP at market price based on constant local currency. The total currency depend on steady 2005 U.S. dollars. GDP is the sum of gross value added by all individuals' and producers in the economy plus any product

taxes and minus any subsidies with the exclusion in the value of the products. It is ascertain without making any deductions for depreciation of fabrication assets or for depletion and degradation of natural resources. FDI is the net inflows of investment to get rid of lasting management interest in an enterprise operating in an economy other than that of the investor. It is the summing up all the equity capital and reinvestment of earnings, other long-term capital, and short-term capital as seen in the balance of payments. Gross private domestic investment is the measure of physical investment utilized in estimating GDP in the measurement of nations' economic activity. This is an essential part of GDP because it provides an indicator of the future productivity capacity of the economy. Domestic investment is an investment in the companies of someone's own country instead of those of foreign nations. Trade Liberalization' the evacuating or reduction of limitation or barriers on the free exchange of goods between nations. This incorporate the removal or reduction of both tariff (duties and extra charges) and non-tariff barriers (like licensing rules, quotas and other requirements). Trade is the aggregate of exports and imports of goods and services offers as a share of gross domestic product. World Bank (2014)

4.2 Unit Root Test

Consequently, before indicating a model, it's essential to consider Stationarity test for all the economic variables in this study to keep away from futile spurious result and to decide the consistency of the series, and to validate the auto regressive lag level of the variable. Most of economic variables are not stationary (Gujarati, 2009). This will help the researcher identify whether if the variables both regressand and explanatory are on the same integral order. For instance, any model that we fail to reject the hypothesis for explanatory that expressing a present of unit root at level order, yet demonstrate no unit root at first difference contrast might be problematic if we run and found stationary at level order. In such a situation, the model variables are mutilated and may not be indistinguishable of same order. To overcome the stationary, ADF and PP (1988), were conducted in other to achieve co-integration as possible.

Augmented Dickey Fuller: ADF and PP are employ to test the stationarity of time series in this current postulation. ADF is a broadened type of Dickey-fuller test for stationarity it has been propounded by Dickey and Fuller (1981) with a specific end goal to legitimize for unit root in circumstance where Et is not a white noise. It include for frequency of serial relationship entitle as the "repetitive sound", the Augmented Dickey-fuller includes for an occurrence of serial correlations, it also sound as white noise innovations, (Enders 1995).

$$\Delta Y_{t} = \alpha_{1} + \alpha_{2t} + \lambda^{*} Y_{t-1} + \sum_{i=1}^{m-1} \beta_{i} \Delta Y_{t-i} + \varepsilon_{t}$$
(3)

with,

$$\beta_i = \sum_{k=i-1}^m \lambda k$$
 and $\lambda^* = \left(\sum_{i=1}^m \lambda_i\right) - 1$

 ε_t are used to donate disturbance term, Y is the series for regressand; t -time; α - capture; and m - the lag level. "m" is number of lag time of regressand, characterized by the Akaike Information Criteria (AIC) structure to guarantee that the error are white noise or other option test for ideal lag (Dickey and Fuller, 1981). It's part of the Augmented Dickey-Fuller advantage to carry the high order autoregressive procedure (Greene 2003). The formula above lay out unit root which carry intercept and trend. The test are normally base on trend, Intercept and none. With trend and

drift refuse to give improperly, the power of the result drop to low level or even zero (Campbell and Perron, 1991). Low power in any research will lead to in correct result according to Enders (1995).

Phillips-Perron test: The test get the t-statistics adjustment coefficient from the AR (I) to check for the correlation in the error term (Phillips and Perron 1988). The test was an advance of ADF and it non parametric which eliminate high order correlation Phillip's (1987) and Perron (1988). To be sure that the series are of same order of first simple autoregressive AR (I). Its estimate the variance by taking the wildly Newey west technique by eliminating the heteroscedasticity and autocorrelation. The pp. are estimated as follows:

$$\omega_{k} = \frac{1}{T} \sum_{S=K+1} \iota_{t} \iota_{t-S}$$

$$\omega_{0} = \left[\frac{(T-K)}{T}\right] S^{2} \qquad \qquad Where \quad S^{2} = \frac{\sum_{t=1}^{T} l_{t}^{2}}{T-K}$$

$$\gamma = \omega_{0} + 2 \sum_{K=i+1}^{n} \left(1 - \frac{K}{n+1}\right) \omega_{k} \qquad (4)$$

Т

In the above equation *n* show the lag restriction structure for estimating PP statistic and ω_k is the residual coefficient correction changes. The two test that is ADF and PP are both profounder toward wiping out possible unit root. In both test there are two possible hypothesis null and alternative;

Null hypothesis (Ho) signify the presence of unit root test.

While the Alternative (Ha) show no unit root that is the series are stationary. In each there is a table that validates the estimation that is calculated statistics values. If the calculated value is greater than critical value then we can reject the null and vise visa. If the variables are at level form that is have no unit root, then that is the basic stationarity condition for long run.

Contrarily if we didn't reject the null that is by accepting it at level (i.e. $\lambda^* = 0$), we can proceed by taking the first difference of the equation to get stationary which make our equation an ARIMA(*m*-1, 1, 0) model for Yt.

4.3 Cointegration Test

As mentioned ealier, it is possible for series to be non stationary at level structure which is common to GDP, and trade. At this junction, a cointegration is very vital to investigate long run cointegration equilibrium among selected variables. Granger (1981), expressed it out that running a non stationary against non stationary will result to a problematic out come. To over come such problem granger (1986) and Engle (1987) have profounded a cointegration test for long run association.

This paper employed the common cointegration test johansen (1990). Where the trace statistic signify the presence of cointegrating vectors within different variables. Johansen suggest that for better analysis the series must be on same order which trace was used to support that.

The trace of Johensen help us to get rid of explored the number of cointegration vectors, among variables. At least if one cointegration vector found, it qualifies the variables to stand the test. Johansen trace test are more realiable than the maximum eigen values when testing the variables even individually. (Johansen S. 1988). The trace are also utilize to solve problem which occour in the endogeneity predictors by

putting it in EC model. VAR model are mostly employed for short run interaction when found some variable are in different order.

The model of VAR are as follows;

$$X_{t} = \Pi_{1} X_{t-1} + \dots + \Pi_{k} X_{t-k} + \mu + \varepsilon_{t} (for \ t = 1 \dots T) \dots \dots \dots \dots \dots \dots \dots (7)$$

From the above equation the values of lags levels are $X_t, X_{t-1}, \dots, X_{t-k}$ respectively, the Π_1, \dots, Π_k represent I(1) in the model. All the coefficient are in matrices of P by P, μ is the vector intercept. It also counts for dummy variables in order to save the occurance of error. In additon ε_t capture the error (Engle el at. 1987). Its also by the assumption that error term in the equation are not correlated. The power Π is the cointegration vector numbers (r) which determine by the Eigen value (λi) are significant. The trace ($\lambda trace$) can be constructed as follows:

$$\lambda_{trace} = -T \sum ln (1 - \lambda i), \qquad i = r + 1, \dots, n - 1$$
(8)

and the null hypothasis are

The null hypothesis expressed no cointegration vectors. While the alternative suggest presence of co-integration.

4.4 Error Correction Model

The above explanation it is for vector autoregressive (VAR) model. This construct under ECM and it is a little bit different with expansion of ECT. Short run equilibrium might likely converge in the long run by keeping adjusting so as to run with time. The modification procedure can be distinguishing by using the ECT. Subsequently, the dispense between long run and short term can be researched by the accompanying ECT. Hence, the discrepancy between long run and short run can be investigate by the following EC model:,

$$\Delta lnY_t = \alpha \beta' X_{t-1} + \varepsilon_t \tag{9}$$

$$\Delta lnGDP_t = \beta_0 + \sum_{i=0}^n \beta_1 \Delta lnGDP_{t-j} + \sum_{i=0}^n \beta_2 \Delta lnFDI_{t-j} + \sum_{i=0}^n \beta_3 \Delta lnTDI_{t-j} + \sum_{i=0}^n \beta_4 \Delta lnTOP_{t-j} + \varepsilon_t$$

The Δ signifie the responsiveness in the model's variables also ε_{t-1} is the lagged period of the ECT, the above equation indicates the disequilibrium between long term and short term values of the series.

4.5 Granger Causality Test

In the event that no stationarity exists in time series, spurios result emerge, accordingly to prevent such condition, Granger test was set in this dissertation so as to gauge the hidding causality among variables. Granger test were set under VEC when there is casual link between variables. In any cointegration vector methodology of VEC can not be embraced for basic test of Granger.

Granger (1988) Highlight the concern relationship among Granger causality and cointegration. Cointegration is about long run equilibrium relationship. Also VECM are used to identify the causality between two or more variables for thier short run period. In adition VECM also capture the adjustiment speed of short run values approaching focused in long trem equilibrium values.

Their is unique model to test the causality which is introduce below:

$$\Delta lnY_t = C_0 + \sum_{\substack{i=1\\k}}^k \beta_i \,\Delta lnY_{t-i} + \sum_{\substack{i=1\\k}}^k \alpha_i \,\Delta lnX_{t-i} + \varphi_i ECT_{t-1} + \mu_t (X \longrightarrow Y) \quad (10)$$

$$\Delta ln X_t = C_0 + \sum_{i=1}^{n} \gamma_i \,\Delta ln X_{t-i} + \sum_{i=1}^{n} \varsigma_i \,\Delta ln X_{t-i} + \phi_i E C T_{t-1} + \varepsilon_t (Y \longrightarrow X) \quad (11)$$

The value of Y and X are the terget variables and ECTt-1 speak the error in both models also the coefficent are φ i and φ i, while the Δ represent the first difference in the equations. The equation 10 signify that X granger causes Y and vise visa in equation 11.

Chapter 5

EMPIRICAL RESULT

5.1 Unit Root Test for Stationarity

Stationary is an important issue in every time series. ADF and PP test are carry out to investigate the nature of the variable in this work. As mention earlier in chapter 4, all variables were test for unit root at level form and their first different. Table 5.1 shows the ADF and PP results. The result in table 5.1 shows that all the variables are stationary at first difference.

Statistics (Level)	LGDP	lag	LFDI	lag	LTDI	lag	LTOP	Lag
τ_{T} (ADF)	0.535	(0)	-2.224	(1)	-2.615	(3)	-1.884	(0)
$\tau_{\mu}(ADF)$	-1.908	(0)	-3.152	(0)	-2.991	(2)	-1.748	(0)
τ (ADF)	1.146	(0)	-0.774	(1)	-0.007	(2)	-0.481	(0)
τ_{T} (PP)	0.254	(2)	-3.165**	(2)	-4.461**	(3)	-1.901	(2)
τ_{μ} (PP)	-1.911	(3)	-3.074	(2)	-4.403**	(4)	-1.792	(2)
τ (PP)	0.932	(3)	-1.130	(1)	-0.019	(3)	-0.501	(3)
Statistics	ΔlnGDP	lag	ΔlnFDI	lag	ΔlnTDI	lag	ΔlnTOP	lag
(First Difference)								
τ_{T} (ADF)	-4.258**	(0)	-9.867**	(0)	-6.570**	(1)	-7.407**	(0)
$\tau_{\mu}(ADF)$	-4.958**	(0)	-10.099**	(0)	-6.548**	(1)	-7.536**	(0)
τ (ADF)	-4.155**	(0)	-10.005**	(0)	-6.685**	(1)	-7.519**	(0)

Table 5.1: ADF and PP Test of Unit Root.

τ_{T} (PP)	-4.243**	(1)	-10.339**	(6)	-8.794**	(3)	-7.407**	(0)
τ_{μ} (PP)	-4.910**	(4)	-11.798**	(3)	-8.692**	(3)	-7.618**	(3)
τ (PP)	-4.212**	(2)	-9.998**	(1)	-8.976**	(3)	-7.445**	(3)

Note:

GDP represents real gross domestic product; FDI is the foreign direct investment inflows; TDI is the domestic investment; TOP is the trade openness. All of the series are logarithmic. τT stands for the most general model with an intercept and trend; $\tau/$ is with an intercept but without trend; τ is the one without intercept and without trend. Numbers in parentheses are optimum lags in the case of ADF test (AIC). In the case of PP test, numbers in parentheses represent Newey-West Bandwidth (Bartlett-Kernel). Unit root tests were performed from the most general to the most restricted model as also suggested by Enders (1995). *, ** and *** represent the rejection of the null hypothesis at alpha 1 percent, 5 percent and 10 Percent respectively. Tests were carried out in E-VIEWS 9.0.

5.2 Co-integration Analysis

Johansen cointegration test are used when the series are of same order that is after the series are stationary. We found out all the variables are of same order I(1). Its gives the possibility to check for cointegration among the variables. Table 5.2 based on the hypothesis, johansen null hypotheses express that no cointegration while the alternative suggest the presence of it.

The result in table 5.2 following measure in the main theory are prominent than basis estimation of alpha 5%, hence we reject the null at level and end up with one cointegration vector and say that there is a long run association between the variable concerned.

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.767392	60.85064	47.85613	0.0019
At most 1	0.269334	15.64025	29.79707	0.7373

Table 5.2: test for cointegration

At most 2	0.131214	5.912485	15.49471	0.7059
At most 3	0.048834	1.552067	3.841466	0.2128

Note: trace test indicate 1 cointegration equation at 5% level as * donate rejection of the hypothesis at 5% level.

5.3 Error Correction Models Estimation

From the cointegration results in 5.2 we found a long run vector linking the variables therefore we need to estimate the level coefficient.

The table 5.3 provide the short run coefficient; the coefficient of FDI was found significant but only at lag 2. An increase in FDI by 1%, GDP in Nigeria also increase by 0.089% in short term, while coefficient of TDI are all not statistically significant at α level in short run. In addition, the coefficient of TOP also found significant at lag 2. If there is an increase in TOP by 1%, GDP will decrease by 0.140 % in Nigeria in short term. Table 5.3 also found that ECT is 9.4981%, positive, and significant at 5% level. 0.094981 point out that short run estimation of GDP will eventually, diverge from the long run equilibrium level by 9.498 % speed of adjustment every years with the contributed by variables concerned.

Based on the level equation table, we can also find that, when FDI increase by 1% GDP in Nigeria also increase by 1.212 % in long run term and it's statistically significant at α =0.05. On the other side, if TDI increase by 1% GDP will increase by 3.466% in long term and its significant while decrease in TOP by 1% in Nigeria will increase the GDP by 3.0907% in long run term and it's also significant.

Table 5.3: Error (Correction Model
--------------------	------------------

	CointegrationEq:	CointEq1
	LGDP(-1)	1.000000
	LFDI(-1)	-1.211704
		(0.14652)
		[-8.26965]
	LTDI(-1)	-3.466436
		(0.56912)
		[-6.09089]
	LTOP(-1)	3.090722
		(0.33943)
		[9.10560]
	С	-7.745804
-	Error Correction:	D (LGDP)
	CointEq1	0.094981
	·	(0.04098)
		[2.31747]
	D(LGDP(-1))	-0.083442
		(0.27812)
		[-0.30003]
	D(LGDP(-2))	-0.340785
		(0.20149)
		[-1.69130]

D(LGDP(-3))	-0.150637
	(0.26363)
	[-0.57140]
D(LFDI(-1))	0.066353
	(0.04134)
	[1.60494]
D(LFDI(-2))	0.089084
	(0.04060)
	[2.19408]
D(LFDI(-3))	0.061386
	(0.03379)
	[1.81663]
D(LTDI(-1))	0.077166
D(LTDI(-1))	0.077166 (0.10818)
D(LTDI(-1))	
D(LTDI(-1))	(0.10818)
D(LTDI(-1)) D(LTDI(-2))	(0.10818)
	(0.10818) [0.71328]
	(0.10818) [0.71328] 0.032437
	(0.10818) [0.71328] 0.032437 (0.10162)
	(0.10818) [0.71328] 0.032437 (0.10162)
D(LTDI(-2))	(0.10818) [0.71328] 0.032437 (0.10162) [0.31921] -0.016375 (0.07849)
D(LTDI(-2))	(0.10818) [0.71328] 0.032437 (0.10162) [0.31921] -0.016375
D(LTDI(-2)) D(LTDI(-3))	(0.10818) [0.71328] 0.032437 (0.10162) [0.31921] -0.016375 (0.07849) [-0.20863]
D(LTDI(-2))	(0.10818) [0.71328] 0.032437 (0.10162) [0.31921] -0.016375 (0.07849) [-0.20863] -0.094956
D(LTDI(-2)) D(LTDI(-3))	(0.10818) [0.71328] 0.032437 (0.10162) [0.31921] -0.016375 (0.07849) [-0.20863]

D(LTOP(-2))	-0.140820
	(0.06328)
	[-2.22539]
D(LTOP(-3))	0.020339
	(0.07285)
	[0.27919]
С	0.025100
	(0.01244)
	[2.01748]
R-squared	0.581215
Adj. R-squared	0.240953
Sum sq. resids	0.054152
S.E. equation	0.058177
F-statistic	1.708138
Log likelihood	52.18912
Akaike AIC	-2.545941
Schwarz SC	-1.892049
Mean dependent	0.019827
S.D. dependent	0.066775

Determinant resid covariance (dof adj.)	3.93E-07
Determinant resid covariance	3.18E-08
Log likelihood	88.70175
Akaike information criterion	-1.913450
Schwarz criterion	0.888945

5.4 Granger Causality Test

After co-integration test and ECM analysis are been carryout and co-integration among variable found. Then Granger causality test follows under VECM as mentioned in earlier. Table 5.4 provide the result of granger causality test. The Null hypothesis of the Approach express that the non-causality links among variable. As such if the null was rejected that in X variable Granger causes the Y variable.

Null Hypothesis:	Obs	F-Statistic	Prob.
LFDI does not Granger Cause LGDP	32	0.99188	0.3840
LGDP does not Granger Cause LFDI		1.12509	0.3394
LTDI does not Granger Cause LGDP	32	0.39735	0.6760
LGDP does not Granger Cause LTDI		0.08076	0.9226
LTOP does not Granger Cause LGDP	32	3.71292	0.0376
LGDP does not Granger Cause LTOP		1.95395	0.1612
LTDI does not Granger Cause LFDI	32	1.99598	0.1554
LFDI does not Granger Cause LTDI		0.72758	0.4923
LTOP does not Granger Cause LFDI	32	0.17364	0.8415
LFDI does not Granger Cause LTOP		4.29757	0.0240
LTOP does not Granger Cause LTDI	32	0.70254	0.5042
LTDI does not Granger Cause LTOP		0.47089	0.6295

Table 5.4:	Granger test	(pairwise)
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Under the literature, different ways or methods are used for selection of optimal lag. For instance, Schwartz information criteria (SIC), Akaike information (AIC) and Hsiao's (1979) sequential procedure. Granger is more sensitive to lag length selection, Pindyck (1991).

The Table 5.4 above shows the granger causality test output. From the table, it was discovered that unidirectional relationship exist between the variables. These exist between, LTOP to LGDP and between LFDI to LTOP. From the result above, we can deduce that, TDI and FDI is not a useful predictor of one another in case of Nigeria. The level of direct investment in Nigeria solely depends on the level of output, while the level of output depends on the openness to international trade. This in one way or another conform to the fact that, Nigeria's economy is an extractive economy, that depends on the international markets or trade for its manufactured goods. This is one basic reason, the economy have not been able to benefit from international trade.

Chapter 6

CONCLUSION AND POLICY RECOMMENDATIONS

6.1 Conclusion

The purpose of this study is to analyze the impact of foreign direct investment and domestic investment on Nigerian economic growth. Besides, the research employed trade openness to control for different factors augmenting or reducing economic growth. In other to arrive at a scientific conclusion for the empirical analysis, time series econometrics was employed to investigate whether short – run and long – run relationships exist between the variables at hand. The study covers a period of 34 years precisely, from 1980 to 2014. The data was sourced from the World Bank Database (WBD).

From the findings, it was discovered that the co-integration and VECM analysis carried out and, foreign direct investment and domestic investment exhibit a short – run relationship and with a reasonable 9.498% speed of adjustment, and it has a tendency of adjusting towards long run equilibrium relationship with the Gross Domestic Product, which is a good measure of growth in Nigeria, like any other economies. This confirm the work of Taspinar (2011) about Turkey and differ with Tang (2008) about China. While from the Granger causality we found that unidirectional relationship exist between the variables. Direct investment in Nigeria is output driven, while output itself depends on the openness to international trade. This in one way or another conform to the fact that, Nigerian economy is an

extractive economy, that depends on the international markets or trade for its manufactured goods. On the other hand, the domestic investment was found positive but insignificant. The reason behind this cannot be farfetched. There is a high dependency on foreign inputs for domestic production by local investors. This has led to persistent increase in cost of production and domestic prices. Consumer on the other hand, would prefer to purchase imported goods rather than the locally made ones. This in one way or the other, has helped in the discouragement of local investors, which are largely producing on a small scale. Thus, there has been little or no contribution of the local industries to the economic growth. This also take credence to the inverse relationship found between the trade openness and the economic growth, and one basic reason, why the Nigeria economy have not been able to benefit from international trade. Our import and has been over the years outweigh our export.

6.2 Policy Recommendations

Nigeria's economy is among the fastest growing economies in the world. It is a big market for any level of investment opportunities. One will but wonder, despite the huge population and markets, much has not been gained from its international transactions. The domestic investment has been output driven, and the output itself depends international trade. This explains the current tussle going on with the monetary authorities. The currency suddenly lost its value as the oil price keeps collapsing by the day. Most of the foreign investment has majorly being to mobilize capital out of the economy, as the findings show, foreign direct investment has not been a useful predictor of the level of output in the economy for the year of coverage.

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