

ÇANKAYA UNIVERSITY
GRADUATE SCHOOL OF SOCIAL SCIENCES
DEPARTMENT OF ECONOMICS
MASTER'S THESIS

**FOREIGN DIRECT INVESTMENT AND ECONOMIC GROWTH IN
NIGERIA:**
**EVIDENCE FROM AUTOREGRESSIVE DISTRIBUTED LAG (ARDL)
MODELS**

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JUNE 2015

Title of Thesis: **Foreign Direct Investment and Economic Growth in Nigeria:
Evidence from Autoregressive Distributed Lag (ARDL) Models**

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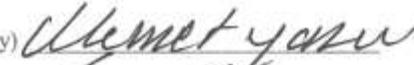
Examination Date: June 15, 2015.

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STATEMENT OF NON PLAGIARISM

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ABSTRACT

FOREIGN DIRECT INVESTMENT AND ECONOMIC GROWTH: EVIDENCE FROM AUTOREGRESSIVE DISTRIBUTED LAG (ARDL) MODELS

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M.Sc Financial Economics

Supervisor: Prof. Dr. Ergun DOĞAN

June 2015, 55 Pages

This study investigates the relationship between foreign direct investment (FDI) and economic growth in Nigeria. Bounds testing approach and Autoregressive Distributed Lag (ARDL) model were used in model estimation for the period covering 1981- 2013. The results do not indicate that FDI has an effect on real GDP neither in the long run nor in the short run. Only international trade and population growth have statistically significant effect on real GDP.

Key words: FDI, Nigeria, ARDL

ÖZET

DOĞRUDAN YABANCI YATIRIMLAR VE NİJERYANIN EKONOMİK BÜYÜME
ARASINDAKİ İLİŞKİSİ:
AUTOREGRESSIVE DISTRIBUTED LAG (ARDL) MODELLERİNDEN KANITLAR

Emmanuel Agaziem OSUJI

Finansal Ekonomi Yüksek Lisans Programı

Danışman: Prof. Dr. Ergun DOĞAN

Haziran 2015, 55 sayfa

Bu çalışma doğrudan yabancı yatırımlar (DYY) ile ekonomik büyüme arasındaki ilişkiyi Nijerya için incelemektedir. Çalışmada ARDL bounds test yöntemi ve 1981-2013 dönemi zaman serileri kullanılmıştır. Sonuçlar DYY ile reel GSYİH arasında kısa ve uzun dönemde bir ilişki olduğunu göstermemiştir. Sadece uluslararası ticaret ve nüfus artışı reel ile GSYİH arasında istatistiksel olarak anlamlı bir ilişki bulunmuştur.

Anahtar kelimeler: Doğrudan yabancı yatırımlar, Nijerya, ARDL

ACKNOWLEDGEMENT

This study wouldn't have been successful without the support of a number of people who I owe gratitude in measures. I therefore wish to acknowledge my family for their uncommon show of love and the Federal University of Technology Owerri for the opportunity given to me to execute this program as well as the Department of Management Technology for all their support and encouragement.

I also wish to acknowledge my academic advisor and thesis supervisor Prof. Dr. Ergun DOĞAN for always making himself available and for his invaluable comments and criticisms which were both eye-opening and insightful. My gratitude equally goes to Prof. Dr. Mehmet YAZICI whose cooperation and support made things a lot easier and to my friend Yannick LANGUI for being a friend indeed.

Finally, I am immensely grateful to the Almighty God for the gift of life and to my Lord Jesus Christ for His saving grace.

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CHAPTER 1

INTRODUCTION

1.1 Background and motivation

There exists some evidence to suggest that there is a close relationship between the movement of international capital and the rate of economic growth.

The researcher's source of interest in this topic is based on his observation that the level of economic activity in an economy is greatly influenced among other things, by capital investment which is in turn influenced by foreign capital inflow especially in an emerging economy like Nigeria.

Nigeria and other sub-saharan African countries have witnessed increases in foreign capital inflows but unemployment seems to be yet untamed. This could probably be because a sizeable amount of these capital inflows come in as portfolio investment which does not necessarily create direct jobs. Additionally we suspect that the direct investment inflows are not made in sectors with the highest job-creating potential such as agriculture (Akinlo, 2004).

They are mostly directed to the oil and gas sector where return on investment is higher but which requires highly advanced technical skills for which there is a deficit of local manpower. This creates a situation where a significant proportion of manpower for the industry is sourced abroad and the chances for controlling unemployment low. Thus, Foreign Direct Investment (FDI) has not completely benefitted host economies.

Also, it has been observed that the entire corporate profits made by these foreign corporations mainly from China (Nigeria's largest trading partner), France, Britain, The Netherlands and the United States of America are taken out of the country because such corporations are not listed on the Nigerian Stock Exchange.

A considerable amount of research has been done about the relationship between capital flows and GDP but co-integration analysis only constitute a small fraction of these research. It is therefore, not out of place to give further impetus to the study using co-integration analysis.

1.2 Problem statement and significance

It is on record that FDI inflows have not really translated to growth in developing nations (Makwembere, 2014). This is despite the widely publicized theory linking FDI to economic growth. This is surely a cause for concern for policy makers in government in developing nations where annual FDI flow has been substantial in the past decades. The much needed job creation and technology transfer have been sparsely seen in these countries and Akinlo (2004) observed that a probable reason for this could be that most of the multinational companies bringing in foreign capital tend to direct their operations to the extractive or mining sectors which are usually not the major employers of labour.

Also, the bulk of existing literature about the topic of interest relates to research done in economies where FDI is in the manufacturing sector (Akinlo,2004). It thus seems that not much has been done to investigate this topic for an oil-dependent economy like Nigeria. It is therefore necessary for policy makers to have well tested empirical evidence on this matter as it concerns the researcher's home country of Nigeria.

1.3 Research objective and hypothesis

The broad objective of our study is to ascertain whether FDI affects economic growth positively or negatively. However, we shall specifically be investigating the nature of long-run relationship between FDI and GDP. The specific hypothesis that we test is.

H_0 : There is no long-run relationship between FDI and economic growth.

1.4 Scope and limitations

Our study shall commence with determining the nature of long-run relationship between the variables. This means that we shall conduct a test of cointegration and based on the test results, we shall estimate an appropriate model. Further, we shall subject the estimated model to the diagnostic test of serial correlation and test for sensitivity.

The major period of focus for our study is 1981-2013 and the scope shall be extended to explore the effect of international trade and government's macroeconomic policy on the relationship between FDI and economic growth. Therefore, we shall incorporate inflation and foreign trade as control variables in our model estimation.

This research study was limited by certain constraints which were beyond the control of the researcher. Notable among these is the limited availability of data on labour force and its growth rate which was only available from 1990.

1.5 Organization of the report

The report of this study is presented in six chapters. Chapter one which represents the introduction discusses among other things, the problem statement, research objective and hypotheses to be tested. It also discusses the scope and limitations of the study.

Chapter two discusses an overview of the Nigerian economy with a focus on the history of economic policies and structure of the economy. The researcher deems it necessary to discuss these because it is clear that macroeconomic policies have an influence on the flow of FDI and also affects the extent to which the economy harnesses the benefits of such flow. In addition, it will acquaint a reader not familiar with the Nigerian economy with the knowledge to follow, appreciate and even evaluate the empirical results or major conclusions from the study.

Chapter three looks at the definitions of FDI and economic growth and the trends in global and regional FDI flows. It also discusses the literature behind the study, throwing light into the debate among concerned economists on the impact of FDI on

growth. In addition, the chapter specifies the economic model which we intend to test empirically.

In chapter four, we present the data and method of analysis. The chapter simply describes the type of data as well as its source and goes further to explain the method of testing for unit roots, cointegration and estimating the empirical model. It also explains how we intend to test for the various hypotheses and how the diagnostic tests especially serial correlation would be done.

Chapter five will present the results of tests and attempt an analysis of the results based on the specified methodology. The analysis will conclude in the last chapter by making sure that the research objectives have been achieved.

CHAPTER 2

OVERVIEW OF THE NIGERIAN ECONOMY

2.1 Brief history of economic policy development in Nigeria

Nigeria has over the years seen the development and implementation of several policies for her economy. From the policy of import substitution in 1960 which like its name suggests, had the objective of substituting importation with local production of goods to the indigenization policy of 1972 and the policy of trade liberalization in 1986 when the Structural Adjustment Program (SAP) was introduced, efforts were made to restructure the economy which was mostly agriculture-based.

During these periods, agriculture was the economy's main stay, accounting for over 70% of the nation's Gross Domestic Product, employing a large proportion of the population and providing about 90% of foreign exchange to the government (Fahad, 2014). These policies were frequently abandoned or amended because of their perceived poor performance.

The indigenization policy was meant to among other things, increase the participation of local citizens in the ownership and control of foreign enterprises. The indigenization policy was later amended by the Nigerian Enterprises Promotion Act 1977 to reflect the realities of the day.

Most recently, the economy has welcomed the birth of the National Economic Empowerment and Development Strategy (NEEDS) in 2003 with objectives which though are similar with that of its predecessors, have job creation and economic diversification as a focal point (Fahad, 2014).

2.2 Current structure of the Nigerian economy

It is important to mention the recent rebasing of the economy which revealed significant changes in the structure of the economy over the years. Rebasing an economy involves changing the base year used in GDP computation to a more recent year which reflects the current economic realities.

Following the rebasing exercise last year, Nigeria has seen her economy grow from approximately \$270 billion in 1990 to roughly \$510 billion in 2014, displacing its South African counterpart to become the largest economy in the entire African continent and the twenty sixth largest in the world (Oyedele, 2014, Para. 2). This represents a 40.5% growth in the economy over the twenty four-year period.

The modern Nigerian economy enjoys more contribution from the wholesale and retail services, financial services, information and telecommunication services and the entertainment and performing arts industry. These sectors were initially not covered or under-reported in the process of GDP computation (Oyedele, 2014, Para. 2).

2.3 Oil and the Nigerian economy

Nigeria has been the largest producer of oil in Africa and currently ranks as the second largest proven oil reserves holder (behind Libya) on the continent. She also ranks among the top ten countries with the highest proven reserves of oil and gas in the world.

The Nigerian economy has for long been described as an oil economy because of the undeniable significance of oil revenue to the federal government. Though the rebased economy now shows a lower proportion of oil and gas in the estimate of GDP, oil still represents a large part of export revenues (World Bank Economic Report on Nigeria, 2014; 5).

Currently at 35% of GDP, oil accounts for 95% of foreign exchange earnings and 75% of government's revenue (Geoffrey, 2015, Para. 7). The recent decline in international oil prices has taken a toll on the Nigerian economy. The effects are legion; drop in government revenues, depletion of foreign reserves, increases in inflation rates and interest rates and fall in the value of stock market index to mention a few.

Indeed, the pressure on the local currency (the naira) due to import dependency and unfavorable exchange rate movements has made the Central Bank of Nigeria (CBN) to use the foreign reserves to defend the naira – a remedial measure which is hardly sustainable. The reserves currently at \$34 billion have lost 20% of its value a year ago. Interest rates have also been jerked up to 13% to defend the local currency which has lost no fewer than 17% of its value in the last six months (Geoffrey, 2015, Para. 8).

The situation calls for diversification of the federal revenue base away from oil and gas and steering the economy away from import dependency to an export-oriented economy. This will reduce the need for the CBN to spend foreign reserve in defense of the local currency as according to the CBN governor Emeziele, “the more we import, the more we deplete reserves” (Geoffrey, 2015, Para. 15 & 16).

Despite the challenges associated with oil dependence, some researchers have found that there is still a positive side to it. According to Igberaese (2013), there actually exists a significant and positive relationship between oil dependence and economic growth in Nigeria.

2.4 Exports and the Nigerian economy

The bulk of Nigeria’s export trade revolves around oil and gas with China, India and Brazil currently ranking as her major trade partners. There is a debate among research scholars about the significance and causality of exports to economic growth in Nigeria. Some have argued that a long-run relationship exists between trade, exports and economic growth while others have an opposing view. In their study, Edoumiekumo et al (2013), found a significant positive relationship between exports and growth while Ewetan et al (2013) did not find any significant relationship among the variables.

Some studies have also dissected the export component in order to investigate the impact of non-oil exports. Abogan et al (2014) conducted a study on the relationship between non-oil exports and economic growth in Nigeria and found that a significant long-run equilibrium relationship exists between the variables.

While our study is not primarily focused on exports but on foreign investments, the insights given by previous research efforts on the nature of relationship between exports and economic growth in Nigeria may come in handy when we begin to build the theoretical model which may incorporate exports as a control variable.

CHAPTER 3

REVIEW OF RELATED LITERATURE

3.1 Introduction

Generally, capital tends to flow into economies where profit potential on businesses and investments is high. Foreign capital investment in an economy usually takes the form of direct investment or portfolio investment. Foreign Direct Investments (FDI) are usually long-term investments made in the real sectors of the economy which create direct jobs and usually lead to the transfer of technology to local manpower.

Foreign direct investment could be viewed as investments in real assets such as lands and buildings in a foreign corporation for the purpose of making profits from business. It could also take the form of at least 10% purchase in the equity capital of a local company. Ademola (2013, Para. 7) observed that FDI in Nigeria has traditionally been directed to the oil and gas sectors.

According to Dutse (2008) FDI could be seen as a long-term investment by a foreign corporation representing management interest and control in a local firm which is not in the investor's country of origin. He also observed that apart from direct investment of capital to purchase voting stock, it could take the form of mergers and acquisitions or reinvestment of earnings.

It is also necessary having defined foreign direct investment, to also throw some light into the concept of economic growth. Economic growth refers to a sustained increase in the level of economic output or Gross Domestic Product (GDP) of a nation in the long-term (Okoro & Atan, 2013). GDP itself captures the total monetary value of all final goods and services produced within the geographical boundaries of a nation by all economically active individuals whether local or expatriate. It represents a good measure of market size and the level of economic activity in a country.

There has been a series of debate among concerned economists about the implications of increasing FDI inflow for our economy. Some have argued in favor of it because of its positive effect on national output while others have argued against it because of its vulnerability and the negative impact it could have on the economy during periods of external macroeconomic shocks such as the financial crisis of 2008 and the current price war in the international oil market.

3.2 Global and regional trends in foreign investments

According to an OECD 2008 report, FDI has since the mid-nineties been a major source of external financing for developing economies and has generally outperformed Official Development Assistance. Much of the FDI coming into Africa has historically been channeled to Nigeria for reasons not far from the nation's sheer economic size, large consumer market and her enormous oil and gas resources. In addition, there are large deposits of minerals such as aluminum, zinc, iron ore, limestone, etc and vast areas of arable land for agriculture. Resource rich developing countries in Africa have been known to be among the top FDI destinations (Ramirez, 2000).

Corporations such as Exxon Mobil, Chevron, Shell and Total are among those significantly bringing foreign capital into Nigeria. It is therefore on record that the USA, France, Netherlands and recently China are among the major countries that supply foreign capital to Nigeria and that the bulk of this capital goes into the oil sector (Oji-Okoro & Huang, 2012). Further to this, Akinlo (2004) observed also that much of the inward flowing FDI has been historically directed to the mining sectors of oil and gas.

Also, according to UNCTAD's Global Investment Trends Monitor (2014), there has been an 8% fall in global FDI flows due to uncertainties occasioned by a lull in the global economy, economic sanctions against Iran and Russia and political unrest in Africa (Libya, Nigeria and Central African Republic) and the middle east (Iraq, Syria and Yemen). The total FDI flow in 2014 was approximately USD1.26 trillion. While FDI flows to developed economies fell by 14% last year to about USD 511 billion,

developing nations experienced a 4% growth in FDI flows, attracting a little over USD700billion.

Developing economies currently hold 56% of global FDI flows mainly accounted for by developing Asian economies especially China which at USD128 billion now receives the largest share of global FDI flows. Also, UNCTAD's World Investment Report (2014) shows that Africa's FDI receipt decreased by 3% to about USD55 billion mainly due to the political situation in Libya and the security situation in Nigeria. The report noted that FDI flows to Nigeria had fallen due to concerns about the security situation and the delay in passing the Petroleum Industry Bill (PIB). It also observed that the bulk of Nigeria's flow goes into the oil and gas sector. This, notwithstanding, Nigeria still ranks among Africa's top ten recipient nations.

That FDI boosts a nation's exports, improves infrastructure, stimulates employment generation and ultimately encourages GDP growth is not in dispute (Jenkins and Thomas, 2012). It is however of more importance to understand how FDI stimulates growth so that growth itself would reflect in development.

3.3 Foreign direct investment and economic growth

Economic literature is replete with research about foreign direct Investment. This is due to its undeniable advantages which include stimulating long term growth and productivity through the transfer of technology which is not available locally and also through the transfer of managerial know how and technical skills to local manpower. This is because most of the FDI come in as partnership between local firms and multinational corporations on various areas of business operations including research and development. In addition, FDI enhances the process of globalizing world economies and enhancing trade (Ramirez, 2000).

However, it has been argued that the benefits of FDI are not all that there is to it. It seems though that FDI also comes with some demerits such as the reverse cash flow that it generates in the form of repatriation of profits and payment of dividends to parent companies and transfer pricing² (Akinlo, 2004). For these reasons, it has been advocated that recipient nations should while trying to reap the benefits of FDI, keep a

close watch on the activities of key firms bringing foreign capital into the economy in order to be able to determine at what point its costs outweigh its benefits.

This is especially important when we factor in the concessions made by governments to attract foreign capital (Ramirez, 2000). These concessions include but not limited to assistance to acquire land at little or no cost, waiver of duty on imported capital equipment and sometimes, tax holidays. In any case, whether FDI will positively impact an economy's growth depends on the quality of the financial environment and degree of preparedness of the receiving nation (Oji-Okoro & Huang, 2012).

It is of interest to this study to analyze the debate about the nature and significance of long-run relationship which exists between FDI and economic growth. Some researchers have found empirical proof in support of a strong relationship between these variables while others' findings do not show any evidence of a significant relationship. We take a look at some of the previous research on these variables. Ramirez (2000) investigated the relationship between FDI and growth in his home state of Mexico and found a positive and significant relationship. Also, Jacques (2010) in his study of ten sub-Saharan African nations including Nigeria found a positive long-run relationship among the variables and a bi-directional causality. In addition, Ilemona (2010) conducted a similar study on the Nigerian economy and found a positive, though insignificant effect of FDI on growth. Furthermore, Osinubi et al (2010) not only found long-run relation between FDI and growth but also found a significantly strong positive impact of FDI on growth. Finally, Babalola (2012) found results that are pretty much correlated with those discussed above.

However, some studies have shown a negative relationship between FDI and growth. Alfaro (2003) did a sectoral analysis of the effect of FDI on GDP in a group of countries in Africa, Asia, Europe, North and South America and found that results were inconclusive. Specifically, his results show that FDI and GDP have a negative relationship in the primary sector of the economy, a positive relationship in the Manufacturing sector of the economy and no clear-cut relationship in the service sector.

This position was also supported by Akinlo (2004) whose study found a statistically insignificant relationship between FDI and growth in Nigeria. Again,

Imoudu (2012) found long-run association between FDI and growth in the agric and manufacturing sectors, though, FDI did not positively impact growth in the petroleum sector. In addition, Omoke (2010) did a study and found no long-run association between growth and investments, even though, he found a bi-directional causality between them which was insignificant. Furthermore, Okoro & Atan (2013) in their study found that FDI does not enhance growth in Nigeria. They found a negative relationship which was statistically significant between FDI and growth in Nigeria.

A possible inference from these studies is that though in economic theory, it is believed that FDI positively impacts growth, empirical results show that FDI could sometimes negatively impact growth. This position is supported by the studies of Akinlo (2004), Okoro & Atan (2013), etc. mentioned above and Insah (2013) who found long-run relationship but observed that lagged variables of FDI indeed hindered growth in the Ghanaian economy. We are keen on seeing whether the empirical results from this study will validate this theory or not.

CHAPTER 4

DATA AND METHODOLOGY

This chapter describes the theoretical model, the data and the empirical methodology used in the study.

4.1 Theoretical framework

Our study will employ a modified version of the endogenous growth model of Ramirez (2000) who used an augmented Cobb-Douglas production function reproduced below.

$$Y = Af(L, K_p, E) = AL^\alpha K_p^\beta E^{(1-\alpha-\beta)}$$

where Y represents real domestic output, A is the efficiency of production while L, K_p and E respectively are labour, private capital stock and the externality from the inflow of foreign capital. Also the sum of α and β is less than one.

This model takes FDI as an integral factor of production and national output. To adopt this model, our study shall consider production as a function of capital and labour but we shall be controlling for the impact of macroeconomic policy and international trade. Thus our theoretical model is specified below.

$$RGDP = f(FDI, LF, GCF, TRADE)$$

where the dependent variable is real GDP and, LF, GCF and TRADE represent labour force, gross capital formation, and international trade, respectively.

4.2 Description of data

The estimation and analysis of our models were done using secondary time series data on the variables of interest, measured on annual basis. These were obtained from the databases of the World Bank, specifically its development indicators. Table 4.1 gives a summary description of the data set.

Table 4.1 Descriptive Statistics

Variables	Description	Maximum value	Minimum value	Mean	Standard deviation
RGDP	Real Gross Domestic Product (in millions of USD)	183,309.43	43,697.11	113,503.27	98,720.82
FDIP	Foreign Direct Investment as a percentage of GDP	10.8325	0.6637	5.7481	7.1905
GCF	Gross Capital formation as a percentage of GDP	34.0208	14.7198	24.3703	13.6479
POPG	Population Growth Rate	2.7927	2.4953	2.6440	0.2103
TRADE	International Trade as a percentage of GDP	81.812849	23.608882	52.637640	15.79951
INFRATE	Inflation rate based on Consumer Price Index	72.83	5.38	39.11	47.70

Period:1981 – 2013. Source: World bank development indicators 2014.

4.3 Empirical methodology

The ARDL bounds testing methodology involves testing for cointegration and deriving the error correction model and the long run coefficients next. We use POPG, and natural logarithms of RGDP, FDIP, GCF, TRADE (LRGDP, LFDIP, LGCF, LTRADE, respectively) in our model. Hence our test equation is:

$$\begin{aligned}
\Delta LRGDP_t = & \alpha_0 + \sum_{i=1}^P \delta_i \Delta LRGDP_{t-i} + \sum_{i=0}^p \gamma_{i+1} \Delta LFDIP_{t-i} + \sum_{i=0}^P \tau_{i+1} \Delta LGCF_{t-i} \\
& + \sum_{i=0}^p \theta_{i+1} \Delta LTRADE_{t-i} + \sum_{i=0}^p \rho_{i+1} \Delta POPG_{t-i} + \mu_1 LRGDP_{t-1} + \mu_2 LFDIP_{t-1} \\
& + \mu_3 LGCF_{t-1} + \mu_4 LTRADE_{t-1} + \mu_5 POPG_{t-1} \\
& + \varepsilon_t \tag{4.1}
\end{aligned}$$

where α_0 and ε_t are intercept and random error term respectively, while Δ is the first difference operator. The short-run relationships are measured by δ , γ , τ , θ , and ρ , while long-run relationships are measured by μ s.

While there are no standard rules for selecting the number of lags, it is recommended that researchers select the number of lags that minimizes an information criterion (Brooks, 2008). Consequent upon this, our study will rely on the Akaike Information Criterion (AIC) for general lag selection.

To use the model for further analysis, the diagnostic checks for serial correlation, heteroscedasticity, functional misspecification, and normality of residuals must be done. We shall employ the Breusch-Godfrey test to investigate serial correlation, the Jarque-Berra test for normality, Ramsey's RESET test of functional misspecification, and the Breusch-Pagan-Godfrey test for heteroscedasticity. In addition, we shall do a stability test for the model using the cumulative sum of squares (CUSUMSQ) method and test for sensitivity of the estimates.

The following null and alternative hypotheses are used to do bounds testing for cointegration:

$$H_0: \mu_1 = \mu_2 = \mu_3 = \mu_4 = \mu_5 = 0$$

$$H_1: \mu_1 \neq 0, \mu_2 \neq 0, \mu_3 \neq 0, \mu_4 \neq 0, \mu_5 \neq 0,$$

Null hypothesis indicates the absence of a long-run relationship. The test computes an F-statistic in order to examine the significance of the lagged values of variables in an unrestricted error correction regression (Pesaran, Shin and Smith, 1999).

It also computes two asymptotic critical values, the lower bound and the upper bound. The lower bound critical value is based on the assumption that all the causal variables are I(0) while the upper bound critical value assumes that all the regressors are I(1). The null hypothesis of no long-run relationship between the levels of the variables is rejected if the F-statistic is greater than the critical value at upper bound indicating that a long-run relationship exists. On the other hand, the null would not be rejected if the F-statistic is less than the critical value at lower bound, meaning that no long-run relationship exists. If however, this statistic falls between both bounds, the test becomes inconclusive and we will need more information about the order of integration of each of the variables before reliable inferences can be done (Pesaran, Shin and Smith, 1999).

In the second step, long-run and short-run models implied by equation 4.1 are expressed in equations 4.2 and 4.3, respectively:

$$LRGDP_t = \alpha_0 + \mu_1 LRGDP_{t-1} + \mu_2 LFDIP_{t-1} + \mu_3 LGCF_{t-1} + \mu_4 LTRADE_{t-1} + \mu_5 POPG_{t-1} + \varepsilon_t \quad (4.2)$$

$$\begin{aligned} \Delta LRGDP_t = & \alpha_0 + \sum_{i=1}^p \delta_i \Delta LRGDP_{t-i} + \sum_{i=0}^p \gamma_{i+1} \Delta LFDIP_{t-i} + \sum_{i=0}^p \tau_{i+1} \Delta LGCF_{t-i} \\ & + \sum_{i=0}^p \theta_{i+1} \Delta LTRADE_{t-i} + \sum_{i=0}^p \rho_{i+1} \Delta POPG_{t-i} + \varphi EC_{t-1} \\ & + \varepsilon_t \end{aligned} \quad (4.3)$$

The error correction term, EC_{t-1} captures the short-run dynamics.

4.3.1 Stationarity and unit root test

Our analysis focuses on investigating the nature of long-run relationship among the variables of interest. To achieve this, our study uses the bounds testing approach to cointegration. Before doing the bounds test, it is necessary to ensure that none of the

variables has an order of cointegration greater than one. We shall do this by testing for a unit root.

Stationarity implies that a series has a constant mean, constant variance and constant auto covariance structure at any given lag. One important characteristic of a stationary series is that the effect of shocks to the system at current time is always smaller compared to that in the previous time. In effect, shocks gradually die away with the passage of time and the system returns to equilibrium (Brooks, 2008).

This property is highly desirable in econometric analyses and the non-stationarity being discussed here is said to be stochastic because of the presence of a stochastic trend in the data and is mathematically represented below.

$$y_t = \mu + y_{t-1} + u_t$$

Applying first differencing, produces a new stationary series having a difference operator.

$$\begin{aligned} y_t - y_{t-1} &= \mu + u_t \\ (1 - L)y_t &= \mu + u_t \\ \Delta y_t &= \mu + u_t \end{aligned}$$

The variable Δy_t is the result of differencing and the process is described as a unit root process where the characteristic polynomial $(1 - Z) = 0$, will always be one.

A series stationary at level form is said to be I(0) while stationarity after first differencing is described as I(1).

In our analysis, we ascertain the order of integration by conducting the unit root test which is a standard test of hypothesis using the Augmented Dickey-Fuller (ADF) technique whose test statistic is given below.

$$ADF \text{ statistic} = \frac{\psi}{SE(\psi)}$$

where the numerator represents the coefficient of the regression $\Delta y_t = \psi y_{t-1} + u_t$ and the denominator is its standard error.

The null hypothesis here is that the series under examination has a unit root, and rejecting this hypothesis means that no unit root exists. The null can be rejected or

accepted by comparing the ADF test statistic with the critical value at the specified significance level, which in our case is five percent.

CHAPTER 5

EMPIRICAL RESULTS

In this chapter, we present the results of the various analyses that were done using the data set and the methods described in the penultimate chapter. The analysis was done in two stages: The first stage involved testing for unit root and determining the order of integration of the various series, while the second stage involved bounds testing and ARDL estimation.

5.1 Unit root tests

We conducted the tests for unit root using the Augmented Dickey Fuller (ADF) method together with Akaike information criterion (AIC). We can reject the null hypothesis of a unit root by comparing the ADF statistic with the critical values. Specifically, when the test statistic is more negative than the critical value, we reject the null hypothesis, otherwise, we accept it. The following series were tested for unit root: LRGDP, LFDIP, LGCF, POPG, and LTRADE. Test results are presented in Table 5.1.

Table 5.1 Unit Root Tests (Sample Period 1981-2013)

<u>Panel (A): ADF test for unit root with constant only.</u>					
Variable	level	first difference	5% critical value	1% critical value	Integrating Order
LRGDP	1.725328	-4.187769	-2.957110	-3.653730	I(1)
LFDIP	-2.990305	-9.694957	-2.957110	-3.653730	I(0)
LGCF	-2.906268	-5.527109	-2.957110	-3.653730	I(1)
POPG	-3.635279	-2.206690	-2.991878	-3.737853	I(0)
LTRADE	-1.936404	-7.208279	-2.957110	-3.653730	I(1)

Panel (B): ADF test for unit root with constant and trend.

Variable	level	first difference	5% critical value	1% critical value	Integrating Order
LRGDP	-1.777469	-4.912070	-3.557759	-4.273277	I(1)
LFDIP	-2.740934	-10.20693	-3.557759	-4.273277	I(1)
LGCF	-2.210605	-6.649471	-3.557759	-4.273277	I(1)
POPG	-3.774076	-0.266884	-3.612199	-4.394309	I(0)
LTRADE	-0.102788	-5.335296	-3.603202	-4.374307	I(1)

Note: H_0 : Series has a unit root. The critical values reported are based on level tests. Critical values based on first differences are not significantly different from those of the level test and the overall test results are essentially the same.

Panel A in Table 5.1 shows the results of ADF test with constant only. The results show that all the variables, except FDIP and POPG, are integrated of order one, I(1). The population growth rate (POPG) is integrated of order zero or I(0) since when levels are used unit root hypothesis is rejected. Panel B in Table 5.1 shows the results of ADF test with constant and trend, and support the results reported in the upper panel (with only a constant included in the model). Since, none of the variables are I(2) the bounds testing approach can be used to check for cointegration.

5.2 ARDL model

We estimate equation 4.1 next. An ARDL (1, 3, 4, 4, 1) model was selected by using Akaike information criterion (AIC) out of 2500 models evaluated. The estimates are reported in Table 5.2.

Table 5.2 Estimates of the ARDL Model

Variable	Coefficient	Std. Error	t-Statistic	Prob.*
LNRGDP(-1)	0.602800	0.149970	4.019480	0.0020
LNTRADE	-0.029968	0.079597	-0.376502	0.7137
LNTRADE(-1)	0.157154	0.081355	1.931706	0.0796
LNTRADE(-2)	0.112855	0.093412	1.208146	0.2523
LNTRADE(-3)	0.188130	0.075400	2.495092	0.0298
LNGCF	-0.139722	0.086153	-1.621781	0.1331
LNGCF(-1)	0.072444	0.068225	1.061843	0.3111
LNGCF(-2)	-0.138524	0.081709	-1.695341	0.1181
LNGCF(-3)	0.260972	0.087989	2.965962	0.0128
LNGCF(-4)	0.118742	0.090799	1.307742	0.2176
POPG	9.884318	3.439055	2.874138	0.0151

POPG(-1)	-14.05413	9.730391	-1.444355	0.1765
POPG(-2)	2.708002	12.48495	0.216901	0.8323
POPG(-3)	8.941713	9.390040	0.952255	0.3614
POPG(-4)	-6.126740	3.685377	-1.662446	0.1246
LNFDIP	-0.005379	0.019638	-0.273891	0.7892
LNFDIP(-1)	-0.023236	0.020915	-1.110980	0.2903
C	4.391658	1.079789	4.067144	0.0019
<hr/>				
R-squared	0.997439	Mean dependent var	25.10121	
Adjusted R-squared	0.993481	S.D. dependent var	0.456292	
S.E. of regression	0.036842	Akaike info criterion	-3.492377	
Sum squared resid	0.014931	Schwarz criterion	-2.643711	
Log likelihood	68.63947	Hannan-Quinn criter.	-3.226585	
F-statistic	251.9968	Durbin-Watson stat	2.169580	
Prob(F-statistic)	0.000000			

Notes: *p-values and any subsequent tests do not account for model selection.

Dependent Variable: LNRGDP

Method: ARDL

Sample (adjusted): 1985 2013

Included observations: 29 after adjustments

Maximum dependent lags: 4 (Automatic selection)

Model selection method: Akaike info criterion (AIC)

Dynamic regressors (4 lags, automatic): LNTRADE

LNGCF POPG LNFDIP

Fixed regressors: C

Number of models evaluated: 2500

Selected Model: ARDL(1, 3, 4, 4, 1)

Before the model can be used to calculate the long run coefficients and to derive the error correction model, diagnostic checks must be done. This is also the first step for bounds testing. Lack of serial correlation is especially important. We summarize the results in Table 5.3.

Table 5.3 Diagnostic Tests

Test Statistics	LM Version	
A:Serial Correlation	CHSQ(1) = 0.64664	[0.421]
B:Functional Form	CHSQ(1) = 1.0102	[0.315]
C:Normality	CHSQ(2) = 0.088069	[0.957]
D:Heteroscedasticity	CHSQ(1) = 0.63947	[0.424]

Notes: p-values are in brackets. Test results were obtained by using *Microfit*.

ARDL(1, 3, 4, 4, 1) selected based on Akaike Information Criterion. Dependent variable is LRGDP. 29 observations used for estimation from 1985 to 2013.

A:Lagrange multiplier test of residual serial correlation

B: Ramsey's RESET test using the square of the fitted values
C: Based on a test of skewness and kurtosis of residuals
D: Based on the regression of squared residuals on squared fitted values

Diagnostic test results show that we cannot reject the null hypothesis in all cases. This means that our model is free from serial correlation, heteroscedasticity, and normality problems. In addition, RESET test shows that the model is not misspecified.

5.3 Stability condition

Cumulative sum (CUSUM) and cumulative sum of squares (CUSUMSQ) methods are used to check the stability conditions. The null hypothesis of all coefficients are stable cannot be rejected if the two plots of the CUSUM and CUSUMSQ remain within the critical bounds of a 5% significance level, which is the case here.

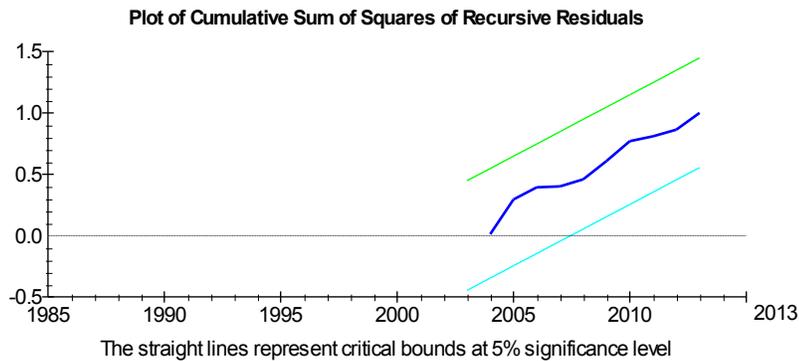
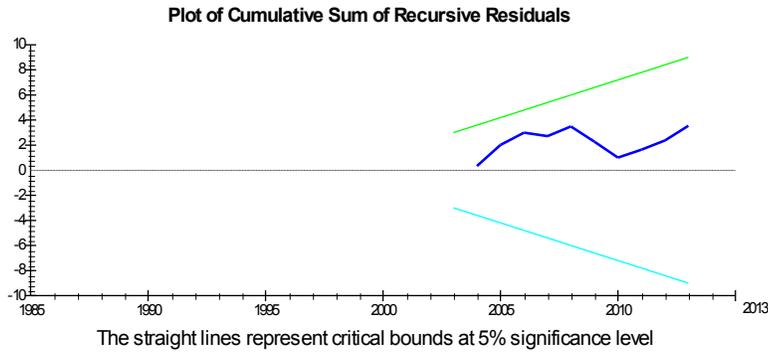


Figure 5.1 Plots of the CUSUM and CUSUMSQ Stability tests (obtained by using *Microfit*)

5.4 Bounds test

The test results are summarized in the Table 5.4. We can reject the null hypothesis by comparing the F-statistic with the critical value at 5%. Thus, we reject the null hypothesis of no long-run relationships exist if the value of the F-statistic is greater than the upper bound critical value. With an F-statistic of 4.335115 and a five percent upper bound of 4.01, we reject the null hypothesis and conclude that a long-run cointegrating relationship exists between LRGDP and all the other regressors.

Table 5.4 ARDL Bounds Test

Sample: 1985 2013
Included observations: 29
Null Hypothesis: No long-run relationships exist

Test Statistic	Value	k
F-statistic	4.335115	4

Critical Value Bounds

Significance	I0 Bound	I1 Bound
10%	2.45	3.52
5%	2.86	4.01
2.5%	3.25	4.49
1%	3.74	5.06

5.5 Error correction models and the long run coefficients

In this section we present and discuss the features of our model in the short and long run. The error correction model (ECM) is responsible for restoring the model to equilibrium following any shock to at least one of the independent variables. This model usually has an error correction term (ECT) which shows the speed of adjustment in the short run. The ECT should be negative and statistically significant for a reliable model. If the ECT is positive, it means that the model is explosive because the error correction model does not bring the model to long run equilibrium following any shocks in the short run. Another major property of a good ECM which is less highlighted is that its ECT should have an absolute numerical value which lies between one and zero. The error correction model and the long run coefficients are presented in Table 5.5.

Table 5. 5 ARDL Cointegrating and Long Run Form

Dependent Variable: LNRGDP

Selected Model: ARDL(1, 3, 4, 4, 1)

Sample: 1981 2013

Included observations: 29

Cointegrating Form				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LNTRADE)	-0.029968	0.079597	-0.376502	0.7137
D(LNTRADE(-1))	-0.112855	0.093412	-1.208146	0.2523
D(LNTRADE(-2))	-0.188130	0.075400	-2.495092	0.0298
D(LNGCF)	-0.139722	0.086153	-1.621781	0.1331
D(LNGCF(-1))	0.138524	0.081709	1.695341	0.1181
D(LNGCF(-2))	-0.260972	0.087989	-2.965962	0.0128
D(LNGCF(-3))	-0.118742	0.090799	-1.307742	0.2176
D(POPG)	9.884318	3.439055	2.874138	0.0151
D(POPG(-1))	-2.708002	12.484945	-0.216901	0.8323
D(POPG(-2))	-8.941713	9.390040	-0.952255	0.3614
D(POPG(-3))	6.126740	3.685377	1.662446	0.1246
D(LNFDIP)	-0.005379	0.019638	-0.273891	0.7892
CointEq(-1)	-0.397200	0.149970	-2.648534	0.0226

$$\text{Cointeq} = \text{LNRGDP} - (1.0780 * \text{LNTRADE} + 0.4378 * \text{LNGCF} + 3.4067 * \text{POPG} - 0.0720 * \text{LNFDIP} + 11.0565)$$

Long Run Coefficients				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
LNTRADE	1.077972	0.346786	3.108469	0.0100
LNGCF	0.437845	0.551839	0.793429	0.4443
POPG	3.406745	1.660470	2.051675	0.0648
LNFDIP	-0.072042	0.060829	-1.184326	0.2612
C	11.056545	3.764479	2.937071	0.0135

Error correction model is in the upper panel of Table 5.5. Changes in LTRADE (DLNTRADE(-2)), LGCF (D(LNGCF(-2))) and POPG (D(POPG)) are the only variables that are statistically significant in the short-run. Error correction model reports a negative error correction coefficient (coefficient of lagged CointEq), which is

statistically significant. The model shows that approximately 39.7 percent of error is corrected per year in the short run.

To analyze what happens in the long run, long run coefficients presented in the bottom panel of Table 5.5 is used. The results show that in the long run, FDIP and GCF do not have an impact on real GDP. Only, TRADE and POPG have a statistically significant effect on real GDP. One percent increase in TRADE increases RGDP by approximately 1%, and one percentage point increase in POPG increase RGDP by 3.41 percent.

5.6 Sensitivity analysis

We included a linear trend in our model. Cointegration was established and the trend coefficient was positive but insignificant at %5. On the flipside, the model suffered from serial correlation problem.

Next, we try to analyze how our model behaves with different control variables or without them. We first tried replacing LNTRADE with another control variable, which is the inflation rate. When modeled with inflation rate cointegration was found, but residuals were serially correlated. When we repeated everything with a linear trend there was no cointegration.

Finally, we tried the model without any control variable. With only a constant included there was no cointegration but we found cointegration when a linear trend was included. Estimated ARDL model passed all diagnostic tests but the lagged error correction term, even though negative and significant, was greater than 1 in absolute value.

CHAPTER 6

CONCLUSIONS

We begin this section by considering the main findings of our study. In this study we considered the relationship between FDI and economic growth in Nigeria using the bounds testing and ARDL methods, and annual data obtained from the World Bank.

Findings from our analysis show that in the long run, foreign direct investment (FDI) and gross capital formation do not affect real GDP. Only, the trade ratio (total trade as a percentage of GDP) and the population growth rate have a statistically significant effect on real GDP. The same is true in the short run.

It is not encouraging to realize that FDI does not have a significant impact on growth in Africa's largest economy especially when we consider the fact that Nigeria ranks among the top three FDI destinations in Africa. This negative development definitely has policy implications and an understanding of the probable reasons for it could be the basis for the formulation of strategic plans meant to turn things around. Our findings are not significantly different from those of Akinlo (2004) who also found no statistically significant impact of FDI on economic growth in Nigeria. What is even a bigger cause for concern is that after almost a decade since Akinlo's (2004) study, the nation is yet to feel the impact of foreign investment.

We believe that one reason for this trend is that the bulk of foreign investment flows is in the highly lucrative oil and gas sector which unfortunately is neither a major employer of labour nor integrated into the major economy. Another reason for this is probably that the minimum level of human capital stock required to harness the benefits of foreign investment as argued by Borensztein et al (1997) is not available in the country.

To stem the tide and ultimately change the status quo, we are of the view that first, the government needs to use policy incentives to encourage FDI to the nation's agricultural and manufacturing sectors which are still largely underdeveloped. This is because these two sectors to a great extent represent the real economy where the potential for job creation is high. The importance of FDI to the development of these sectors lies in the fact that it provides not only the capital but also the technology and development of human capital required to transform the real economic sectors. Secondly, the government needs to review policies on education and the training of human resource. Emphasis should be placed on acquiring technical and entrepreneurial skills which are not only relevant for employment and job creation but also transferable.

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APPENDIX

SUMMARY OF RESEARCH PAPERS CONSULTED

AUTHOR	VARIABLES	PERIOD/ FREQUENCY	METHOD	RESULTS & CONCLUSIONS
Babalola, Dogon-daji & Saka (2012)	Key: Real Exports, FDI & Real GDP. Control: Degree of openness, Gross Fixed Capital Formation, Inflation rate, Real exchange rates, Real imports and Terms of Trade	1960-2009 Annual	Johansen method of co- integration.	Co-integration was found and the associated error correction model shows evidence of approximately 48% correction the next year. They also concluded that increases in exports and hence degree of openness led to increased FDI flow, Gross fixed capital formation and stability in both inflation and exchange rates. Therefore they advocated for policies that will boost openness and FDI flow since they were found to be significant drivers of economic growth in Nigeria.
Osinubi & Amaghionyeodiwe (2010)	Foreign Private Investments, Gross Fixed Capital Formation, Net Exports and GDP growth	1970-2005 Annual	Johansen Test for Co- integration	Variables were jointly co- integrated and positively related to economic growth in Nigeria, with a high

	rate.			statistical significance.
Imoudu.E. C (2012)	Degree of openness, GDP and FDI in the Agric, Mining, Manufacturing, Telecoms and Petroleum sectors.	1980-2009 Annual	Johansen Co-integration Approach	Results showed that all the variables used had long-run association except for FDI in the Petroleum sector. It also advocated for the implementation of policies aimed at opening the economy further so as to maximize the benefits of FDI in Nigeria.
Ogbonna C, Uwajumogu N, Nwokoye E & Nzeribe G. (2012)	GDP, FDI, Gross Fixed Capital Formation (a proxy for investment), Net Exports, Exchange rates & CPI (a proxy for inflation rate).	1986-2010 Annual	OLS and Granger Causality	Results show that 1% increase in FDI leads to 13% increase in GDP though the relationship was insignificant. Also, a bi-directional causality was established between FDI & GDP. The paper concluded by calling for deregulation of other sectors of the Nigerian economy to encourage investor participation in the productive sectors of the economy.
Okoro M & Atan J. (2013)	FDI, GDP & Exports	1987-2006 Annual	OLS and Granger Causality	The study found that exports had a strong positive

				effect on economic growth in Nigeria while FDI surprisingly had a negative and statistically significant effect on GDP.
Olayiwola K & Okodua H. (2009)	GDP, FDI & Non-oil Exports	1980-2007 Annual	Johansen Co-integration, Vector Error Correction Model, Granger causality, Impulse response & Variance decomposition	Empirical evidence from data used for the study shows that economic growth was not export led. However, there was uni-directional causality from FDI to non-oil exports. Results of variance decomposition show that policy shocks to FDI, non-oil exports and economic growth in Nigeria do not show immediate responses in the expected directions.
Oyatoye E.O, Arogundade K.K, Adebisi S.O & Oluwakayode E.F. (2011)	FDI, GDP & Exports	1987-2006 Annual	Ordinary Least Squares	Results showed the existence of a positive relationship between FDI & GDP. Specifically, a ₦1 increase in FDI led to ₦104.749 increase in GDP. Thus, they advocated for policies that would enhance FDI

Adesoji A.A & Sotubo O.D. (2013)	GDP, Non-oil exports & Exchange rates	1981-2010 Annual	Ordinary Least Squares	inflow into the Nigerian economy. The conclusions drawn are that non-oil exports have performed below expectations and that export promotion strategies of the government have not been effective. The study therefore made recommendations for the diversification of our revenue base away from oil (a major revenue earner) in order to boost the productive capacity of non-oil sectors in the Nigerian economy.
Mehrara M, Haghnejad A, Jalal D & Meybodi J. (2014)	FDI, Exports & GDP	1980-2008 Annual	Panel Unit-roots test, Panel Co-integration, Panel Fully Modified OLS, Panel VECM & Generalized Method of Moments (GMM) Estimator.	The study found evidence of bi-directional causality between FDI and economic growth in 57 developing countries in different parts of the world including Nigeria. It also found a unidirectional causality from exports to economic growth both in the long-

Bin Shaari M, Hong H & Shukeri N. (2012)	FDI & GDP	1971-2010 Annual	Johansen Co- integration, Vector Error Correction Model (VECM) and Granger causality.	run and in the short-run, thereby lending support to the Export Led Growth (ELG) Hypothesis. It was recommended that developing countries should pursue policies aimed at stimulating exports and attracting FDI. Findings from this study show that FDI had a significant impact on real GDP in Malaysia during the period under review. Also a 1% increase in FDI caused Malaysia's GDP to increase by 49.135%. The results of Granger analysis show that a bi-directional Granger causality exists between FDI and GDP The study analyzed the impact of FDI and trade on GDP in Ghana in the long-run. The variables were found to be co-integrated. However, empirical evidence showed that only trade had a
Oteng A, E. & Frimpong J, M. (2006)	FDI, Trade Openness (ratio of sum of exports & imports to GDP) & GDP	1970-2002 Annual.	OLS & Bounds testing approach to co- integration (ARDL)	The study analyzed the impact of FDI and trade on GDP in Ghana in the long-run. The variables were found to be co-integrated. However, empirical evidence showed that only trade had a

Grafoute Amoro & Yao Shen (2013)	Rubber/Cocoa exports, rubber/cocoa output, exchange rates, Producer prices, interest rates, domestic consumption and average annual rainfall	1961-2005 Annual	Ordinary Least Squares	significant positive effect on growth. The paper reviewed the factors influencing agricultural exports in Ivorycoast and found that domestic rubber production, producer prices, exchange rates, domestic consumption & interest rates to be major drivers of rubber exports while domestic cocoa production & consumption as well as rainfall significantly influenced cocoa exports. Finally, the addition of value to the cocoa produced before exportation was strongly recommended.
Sakiru A.S & Muhammad S. (2015)	FDI, GDP, Trade Openness, Capital formation & Natural gas consumption.	1971-2012 Annual	Bounds/ARDL approach to Co-integration.	The study looked at the role that FDI, capital formation & trade openness played in the economic growth of Malaysia by considering her oil & gas sectors. The study found that FDI and natural gas consumption

				had positive effect on growth and that natural gas consumption causes FDI.
Masoud R, M Shivee R, K Normaz W, I & Anzman-Saini W. (2014)	GDP per capita, Net Official Development Assistance (ODA), Trade Openness & FDI	1998-2010 Annual	Generalized Method of Moments (GMM)	The study analyzed the impact of FDI and Foreign AID on economic growth in 41 countries (including Nigeria) of sub-saharan Africa and concluded that though Foreign AID negatively affected growth, FDI positively influenced growth although this influence was statistically insignificant.
Antwi S, Mills A & Zhao X. (2013)	FDI, GDP, GDP growth rate, GDP per capita, Industrial Production & Consumer Price Indices CPI.	1980-2010 Annual	OLS Method	The study tried to find out the degree to which the variables were related and based on the results obtained, it was concluded that GDP and its growth rate, industrial production and inflation were all significant in explaining FDI in Ghana.
Omoke P, C (2010)	GDP, Investments & Exports	1970-2005 Annual	Johansen Co-integration & Granger	The paper represents an attempt to

			causality	investigate the relationship between economic growth, investments and exports in Nigeria. Empirical results showed no long-run relationship among the variables though it showed a bi-directional causality between investments and economic growth and between investments and exports, although this causality was insignificant.
Akinlo A, E & Akinlo O, O. (2009)	GDP, Market Capitalization, Number of listed securities & Market Indexes	1990-2005 Annual	ARDL/Bounds testing approach	The study looked at the long-run causal relationship between stock market development and economic growth in seven countries of sub-saharan Africa. Results showed that economic growth and stock market development were co-integrated in Egypt and South Africa, with a statistically significant long-run effect on growth. Also, there was evidence of

Ogunmuyiwa M, S. (2011)	GDP & External debt	1970-2007 Annual	Johansen Co- integration, VECM & Granger Causality	<p>Granger causality from stock market development to economic growth in Egypt and South Africa. The results were however, a little different in Ivory Coast, Kenya, Morocco, Zimbabwe and Nigeria where bi-directional causality existed between stock market development and economic growth, though it was statistically insignificant.</p> <p>The study examined the impact of external debt on economic growth in Nigeria and found that there was no Granger cause between external debt and economic growth in Nigeria. The paper thus opined that the probable reason for the disconnection that exists between our huge and increasing level of external debt and economic growth is that there is high level of financial</p>
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				recklessness and wasteful expenditures and thus called on the current leadership of the nation to change the status quo.
Insah, B. (2013)	GDP & FDI	1980-2010 Annual	Dynamic Ordinary Least Squares (DOLS) & Engle-Granger Causality	The study x-rayed the relationship between FDI and economic growth in Ghana. The variables were found to be co-integrated with a 3% error correction per period. However, it was found that lagged values of FDI had inverse relationship with economic growth. The study thus called on policy makers to consider the effect of past FDI inflows (alongside those of current FDI inflows) on current levels of economic growth.
Zenegnaw A, H. (2010)	Exports to GDP ratio, Imports to GDP ratio, Balance of Trade to GDP ratio & FDI to GDP ratio.	1980-2007 Annual	Least Square Dummy Variable (LSDV) regression method	The paper examined the relationship between FDI and Trade balance in 16 African countries including Nigeria and found that Multinational

<p>Nyarko P, A Amponsah E, D & Banor, C (2011)</p>	<p>FDI, Exchange Rate Regime & Trade Openness</p>	<p>1970-2008 Annual</p>	<p>Ordinary Least Squares & Co- integration analysis</p>	<p>Corporations played a significant role in foreign trade in Sub-Saharan Africa. It also found that 1% increase in FDI in the previous year resulted in 0.043% increase in exports of the next year. Thus, FDI is a significant contributor to the continent's exports. Consequent upon this, the paper advocated for policies that will encourage export promotion, import substitution and local factor-intensive investments. The paper examined the effect of exchange rate regime on FDI inflows in Ghana and found co-integration among the variables though exchange rate was not found to be statistically significant in explaining Ghana's FDI. However, it was found that democracy was a</p>
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Nurudeen Abu	GDP, Trade Openness, All-Shares Index, Discount Rates, Market Capitalization & Market Turnover.	1981-2007 Annual	Ordinary Least Squares (OLS)	significant determinant of FDI inflow. The study investigated the relationship between stock market development and economic growth in Nigeria and found that stock market development increases economic growth. Recommendations were made for the removal of impediments to market development such as capital market malpractices from operators and speculators as well as weak market regulation in order to boost investors' confidence – a sine qua non for market development.
Adofu Ilemona (2010)	FDI, Exchange Rate, GDP & Total Domestic Savings.	1986-2004 Annual	Ordinary Least Squares (OLS)	The study examined the impact of FDI on the economic growth of Nigeria. Empirical results reveal that FDI has a positive effect on growth though it was statistically insignificant. The

Esso Loesse Jacques (2010)	FDI, GDP per capita & FDI to GDP ratio.	1970-2007 Annual	BOUNDS testing method of Co- integration	<p>paper concluded by advising the government to create a conducive environment for FDI flow into Nigeria by stabilizing the macro economy. The study tried to reassess the relationship between FDI and economic growth in ten Sub-Saharan African nations including Nigeria. It was found that a long-run relationship existed between FDI and economic growth and a bi-directional causality was also established between FDI and economic growth.</p>
Ogbole F, Amadi S & Essi I. (2011)	GDP, Government Expenditure, Private Investment, Inflation Rate & Capital Inflow.	1970-2006 Annual	Ordinary Least Squares & Johansen Co-integration	<p>The study represents a comparative analysis of the relationship between economic growth in Nigeria and fiscal policy variables during the periods of regulation and deregulation. The study not only found co-integration among the variables but</p>

Sackey F, G Keyeke G, C & Nsoah J. (2012)	GDP & FDI	2001Q1- 2010Q4 Quarterly	Johansen Co- integration	<p>also established that fiscal policy was more effective during the period of deregulation, though, this was statistically insignificant. It concluded by calling for an increase in capital expenditure especially for public goods and diversification of the economy in order to encourage sustainable growth. The study examined the effect of FDI on Ghana's economic growth. It considered the nature of long-run relationship between the variables of interest. The findings show that a positive long-run relationship exists between FDI & GDP ie foreign direct investment is positively related to economic growth. Hence, the paper concluded by making recommendations for both foreign</p>
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Odularu G, O. (2008)	GDP, International Oil Prices, Domestic crude oil consumption & Value of crude oil exports.	1970-2005 Annual	OLS Regression model	<p>policy and economic reforms to attract more FDI.</p> <p>The study examined the relationship between the Nigerian oil sector and her economic performance. Specifically, it tried to determine the impact of crude oil production and consumption on economic growth. Empirical evidence shows that oil consumption and exports have contributed significantly to economic growth. Consequently, calls were made for the government to implement policies that would encourage local private sector participation in the expatriate-dominated oil sector.</p>
Taiwo M, Abayomi T & Damilare O. (2012)	GDP, International oil prices, Interest rates & Exchange rates.	1980-2010 Annual	OLS & Johansen Co-integration method	<p>The paper analyzed the effects of crude oil prices on economic growth. Results show that the variables were co-integrated and that</p>

Esfahani S, Mohaddes K & Pesaran M. (2012)	Real output (GDP), Oil reserves to production ratio & Oil Exports to GDP ratio.	1979Q1- 2009Q4 Quarterly	Johansen Co- integration, VAR & Impulse Response.	<p>they significantly influenced growth in the Nigerian economy. In sum, the paper called on the Central Bank of Nigeria to take measures to ensure better interest rate and exchange rate management and also recommended the diversification of the economy away from oil in order to check the adverse effects of oil price shocks.</p> <p>The paper analyzed the long-run growth model for a major oil exporting economy. Data from nine major oil exporting nations (six of which are OPEC members including Nigeria) were used in the analysis and results show that a long-run relationship exists between real output and oil income.</p> <p>The study investigated the causality relationship between oil prices and major macroeconomic</p>
Ani W, Ugwunta D, Inyama O & Ike-Ekweremadu N (2014)	GDP, International Oil Prices, Interest Rates & Exchange Rates.	1980-2010 Annual	OLS & Granger Causality.	<p>The study investigated the causality relationship between oil prices and major macroeconomic</p>

				variables in Nigeria. The study found a positive but insignificant relationship between oil prices and GDP. In addition, there is evidence that oil prices have no causal relationship with economic growth. This confirms the paradoxical Dutch disease- a situation where a resource-rich country's fortune ultimately becomes detrimental to its economy.
Musa Yusuf (2015)	GDP, International Oil prices, Exchange rates & Agricultural output	1970Q1-2011Q4 Quarterly.	Johansen Cointegration, Structural VAR, Impulse Response & Variance decomposition.	The study evaluated the long-run relationship among the variables. Empirical evidence show that the variables have long-run impact on economic growth in Nigeria. Thus, the study concluded by recommending the diversification of the economy away from oil and improvement in the security situation in the Niger Delta in

Ayadi Felix & Ayadi Folorunso (2008)	Total debt to exports ratio, Total debt to GDP ratio, Debt service to exports ratio & Debt service to GDP ratio.	1994-2007 Annual	Ordinary Least Squares (OLS) & Generalized Least Squares (GLS)	order to ensure sustainable economic progress. The paper investigated the impact of external debt on the economic growth of Nigeria and South Africa. Results show a negative impact of external debt and debt servicing on the economic growth of Nigeria and South Africa, though, South Africa performed better than Nigeria in the use of foreign debt to enhance economic growth. The study concluded by advocating the use of external debt only for high priority, well evaluated and self-liquidating public projects.
Ayadi Felix O (2005)	International Oil prices, Exchange rates, Interest rates, Industrial Production, Inflation (CPI) & Money supply.	1980-2004 Annual	VAR model & Variance decomposition.	The study examined the impact of oil shocks on economic growth through industrial production and exchange rates. According to the results, oil prices have a significant

Miguel Ramirez (2000)	Foreign Private Capital, Labour Force, Exports and GDP	1960-1995 Annual	Johansen Cointegration	effect on real exchange rates while its impact on industrial production was however, insignificant. The variables were found to be cointegrated for the Mexican economy and the VECM had a negative and statistically significant correction term.
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EDUCATION

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B.Tech	Federal University of Technology Owerri, Financial Management	2009
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School Certificate	Starlight Model College Lagos	1999

WORK EXPERIENCE

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2011-2012	Summit Finance Company ltd	Trainee Treasury Officer
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HOBBIES

Surfing the net, following the news and spending time with loved ones.