THE EFFECT OF NON-OIL EXPORT ON ECONOMIC GROWTH IN NIGERIA (1980-2013)

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CERTIFICATION

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DEDICATION

This research work is dedicated to the ALMIGHTY GOD, the maker of heaven and earth, my CREATOR, the lifter of my head, my COMFORTER, my SAVIOUR, my ALL, and also to the most wonderful parents on earth, Mr. Lukman and Mrs. Anifat Adejare.

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TABLE OF CONTENT

| | | PAGE |
|----------|---|---------|
| T | itle Page | i |
| C | ertification | |
| D | edication | ii |
| A | cknowledgement | iii |
| | | iv-v |
| Ta | able of Content | vi-viii |
| Lis | st of Tables | |
| Lis | st of Figures | ix |
| | | ix |
| Abstract | | X |
| | | |
| СН | APTER ONE: INTRODUCTION | |
| 1.1 | Background to the Study | |
| 1.2 | Statement of the Problem | 1-5 |
| 1.3 | Objectives of the study | 5-6 |
| 1.4 | Research Hypothesis | 6 |
| 1.5 | Significance of the Study | 7 |
| 1.6 | Scope of the Study | 7-8 |
| 1.7 | Organization of the Study | 8-9 |
| CHA | PTER TWO: LIRERATURE REVIEW | |
| 2.0 | Introduction | 10 |
| 2.1 | Conceptual Issues | 10 |
| 2.1.1 | | 10-13 |
| | Problems of the Non-oil Sector in Nigeria | 13-15 |

| 2 | 2.1.2 Rationale for export diversification from oil to Non-Oil Export in N | igeria 15-18 |
|-------|--|--------------|
| 2 | .1.3 Government strategies to promote non-oil exports in Nigeria | 18-22 |
| | .1.4 Recommendation for Improving Non-oil Sector Performance | 23-24 |
| | 2 Theoretical Framework | 24 |
| 2. | 2.1 Absolute Advantage Theory | 25-26 |
| 2. | 2.2 Comparative Advantage | 26-27 |
| 2.2 | 2.3 Hecksher-Ohlin Theory | 28 |
| 2.2 | 2.4 Export-Led Growth Hypothesis | 28-31 |
| 2.3 | Empirical Review | 31-36 |
| | .1 Summary of Empirical Review | 37 |
| СН | APTER THREE: RESEARCH METHODOLOGY | |
| 3.0 | Introduction | 20 |
| 3.1 | Model Specification | 38 38-39 |
| 3.2 | A priori Expectation | 39 |
| 3.3 | Estimation Techniques | 39-40 |
| 3.4 | Sources and Method of Data Collection | 40 |
| CHA | APTER FOUR: DATA ANALYSIS AND INTERPRETATION | |
| 4.0 | Introduction | |
| 4.1 | Trend and Pattern of Non-Oil Export and Real Gross Domestic Pro- | 41 |
| | Nigeria | oduct in |
| 4.0 | | 41-42 |
| 4.2 | Empirical Result and Interpretation | 43 |
| 4.2.1 | Descriptive Statistics of Data | 43-44 |

| 4.2 | 2.2 Pre Analysis Test | |
|--------|---|-----------------|
| 4.2 | 2.2.1Unit Roots Test Result | 44 |
| | 2.2.2Co-integration Test Result | 44-45 |
| | | 46-47 |
| | .3 Post Analysis Test | 47 |
| | .3.1 Granger Causality Test Result | 47-49 |
| 4.2. | 3.2Analysis of Long run Effects of Non-oil export on Econom | ic growth 40.51 |
| CH | APTER FIVE: SUMMARY OF FINDINGS, CONCLUSION | ON AND |
| 5.0 | Introduction | 52 |
| 5.1 | Summary of findings | 52 |
| 5.2 | Conclusion | 52-53 |
| 5.3 | Recommendation | 53 |
| | | 53-54 |
| REFI | ERENCES | |
| | ENDIX | 55-58 |
| VI L E | INDIX | 50 67 |

LIST OF TABLES

Table 1: Incentive Schemes Adopted to Boost Non-oil Exports in Nigeria.

Table 2: Summary of Descriptive Statistics of Data

Table 3: Correlation Matrix of the Variables

Table 4: Summary of ADF unit root test result

Table 5: Co-integrating Test Result

Table 6: Causality Test

Table 7: Short –run Dynamic/ Parsimonious Test

LIST OF FIGURES

Fig 4.1 Trend of Non-Oil Export and RGDP in Nigeria 1980-2013

ABSTRACT

The study examined empirically the impact of non-oil exports on economic growth in Nigeria. Annual data on Gross Domestic Product, Non-oil export, degree of openness, credit to non-oil sector, exchange rate, Real interest rate and inflation rate from 2014 Central Bank of Nigeria Statistical Bulletin covering the period 1980-2013 were utilized. The study checked for the time series properties of the variables that were used by adopting the Augmented Dickey-Fuller (ADF) test after which the Cointegration test was conducted using the Johansen Co-integration test. The study adopted the multiple regression method to ascertain the long run effect of non-oil exports on economic growth in Nigeria between the study periods. The study went further to ascertain the short run dynamic effect of the variables of interest. The results shows that in the long run, non-oil export, inflation rate and exchange rate have significant positive effects on economic growth, while real interest rate, degree of openness and credit to non-oil sector exhibit an inverse relationship with economic growth in Nigeria. The study went further to conduct the short-run dynamic disequilibrium analysis to see if there is a short-run relationship among the variables. The result shows that there is no short-run relationship due to the fact that none of the variables were significant. Consequently, the study recommends that export led innovations should be encouraged in favour of non-oil commodities not only to increase their contribution to GDP but to also help cushion the effect of price shocks in the international oil market. Furthermore, oil explorers, producers and exporters should be persuaded to diversify their interests into non-oil commodities as well. Finally, incentives attached to non-oil exports should be continually reviewed and improved as well as strictly implemented.

CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

The relevance of export in any nation's economic growth and development cannot be undermined. This is because export is often described as an accelerator that is necessary for the overall development of an economy as put by (Abou-Stait, 2005). Furthermore, it should be noted that a well developed exportation sector provides usage opportunity for the people with the attendant reduction in social costs of unemployment. Earnings from export also reduce the stress on the balance of payment position and even improve it in the long run. A rewarding export drive can turn of events a hitherto undeveloped economy into a prosperous economy. Exports help in increasing the horizontal surface of aggregate economic activities through its multiplier effects on the level of subject income (Usman and Salami, 2008). Income earned through exporting will help in increasing the level of demand within the economy.

Prior to the discovery of Oil in Nigeria, farming was the anchor of the economy. Among the commodities exported are hot chocolate, safety, palm oil, shea butter, cotton wool and wool to list a few. Nigeria was the largest exporter of cocoa and rubber in Africa. In fact, export proceeds from agriculture accounted for over 70 percent of foreign earnings asides the strength of agriculture. Nigeria is also blessed with a large repository of minerals such as lime stone, iron ore, tin, lead and copper. However, since independence, the discovery and commercial exploration of crude, further facilitated by the oil boom in the 1970s, brought

fundamental changes to the Nigeria economy. As such, Nigeria became a mono-cultural nation exporting more of oil-related production which invariably rendered the agricultural sector less competitive in the world market place. Other factors that contributed to the dwindling fortune of the agricultural sector include low yield, inconsistent production pattern, disease incident, pestilence attack and use of simple farm shaft.

2

Available data from the Central Bank of Nigeria (CBN) and Federal Office of Statistics (FOS) showed that oil export earnings accounts for about 80 percent of total foreign earnings. The volatility of oil tolls at the international market affectedness problems for oil dependent land like Nigeria. For instance, oil price increased from \$13 in 2000 to \$125 in 2009 and reduced to \$90 and \$60.55 in 2010 and 2014 respectively. Thus, the saving will swing according to the dictates/vagaries of oil prices at the international market. In ordination to improve agriculture in Nigeria, several policies have been introduced by politics. Prominent among this is the adoption of Structural Adjustment Programme (SAP) in 1986 as advocated by World Bank and the International Monetary Fund (IMF). The result of this insurance did not improve the prospect of the sector but rather compounded the problem.

The continued unimpressive performance of the non-crude oil sector and the vulnerability of the external sector thus dictate the urgent need for a reappraisal of the thrust and content of the exploitation policies and commitments on their implementation. Since the mid-1970s oil tax income has accounted for a very significant proportion (from 77.5% in 1975 to 82.4% in 2014) of total

revenue of the Nigerian government. Consequent to the phenomenal increase in oil revenue over the class with its associated wealth, various economic projects, programs, expenditures and even the national and commonwealth budgets have been closely tied to oil revenue (Edame & Efefiom, 2013). Also, the enormous oil wealth is expected to empower the government in the supply of staple infrastructural adroitness, building of industrial estate and even increase in the ability of the government to grant tax inducement and other manufacturing/industrial inducement which are necessity to spurring the performance of the non-vegetable oil sector.

The oil sphere's dominance of the country's export basket which began in 1973/74 was greatly magnified during the 1980s. The core of the job was that while oil export was growing, non-oil export were declining making the dominance much more rapid and pervasive (Osuntogun, Edordu, Oramah 1998). Teal (1983) stated that the output of export crops grew at an norm annual charge per unit of 4.7% in 1950-1957 and 7.4% in 1960-1965 and then declined by 17.3% in 1970-1975. According to Oyejide, (1986) the nominal non-oil export earnings fell from N363.5 billion in 1973 to N203.2 million in 1982. The decline was even more dramatic in real terms. Petroleum exportation in contrast rose phenomenally, from about N2 billion to about N8 billion in noun phrase terms during the same period. The crusades to reverse these trends (Menachem Begin in 1986) seem to be yielding very few results, as oil continues to dominate the country's export. Since the instauration of Structural Adjustment Programme (SAP), the non-oil export part of Federal Republic of Nigeria's total exports have

remained under 5% for most years. The only noticeable improvements are that the decline of the non-oil sector seems to have been arrested and that a number of non-traditional exports seem to have emerged in Nigeria's export basket including horticultural ware, garments, material, furniture components and other manufactures.

Complementarily, the government sequentially put together number of policy reforms and motivator to encourage the production and exportation of nonfossil oil tradable as well as broadening Nigeria's export market. Nominal naira exchange charge per unit devaluation, strict fiscal field, controlled monetary expansion and a more liberal patronage policy were initially introduced to ensure a wear and tear of the real exchange rate facing exporter. These were followed by the initiation of export incentives comprising a duty draw-back system explicit export incentive, currentness retention scheme and other direct fiscal incentives (such as the exemption of export dealing from pestle duties). Having ensured that appropriate macroeconomic and sectoral incentives had been instituted, the government established the Nigerian Export-Import Bank (NEXIM) in 1991 to provide necessary financial and risk management support to the export sector (Osuntogun, Edordu, Oramah 1998). The foregoing verbal description of various agricultural policies during the period under retainer represents an approximate measure of the degree of political science business concern for the domestic agricultural export commodity grocery. But despite the enormous macroeconomic reform, the output and export of agricultural crops have not yet regained a straight and sustained upward maturation trend. This suggests big challenges for non-oil export sector in Nigeria.

1.2 Statement of the Problem

Nigeria is considered a developing economy due to lack of structural variety, quantifiable development indices, among other factors. Also, it has been observed that there is a lack of economic variety which has caused the economy to rely heavily on oil for revenues and as the major export commodity in the economy (Osuntogun et al, 1997). Prior to the 1970s, Nigeria's exports were predominantly non-oil commodities with agricultural commodities account for the social lion share. However, since the 1970s, when the price of crude oil in the International market sky rocketed, the share of non-oil exports begins falling and has remained low ever since. This is mainly due to the money-spinning nature of oil exports which makes it more profitable compared to non-oil commodities. This has caused a rather heavy dependence on the oil sector and the proceeds from the export of crude oil. The heavy reliance subjects the country to difficulties when the price of crude-oil, the major export commodity, is low in the international market. While successive governments have introduced various strategies to boost non-oil exports and stabilize the economy, the functioning and contribution of the non-oil exports sector has remained very low. The sector has continued to perform below its full potential. This enquiry will identify the trend and structure of Nigeria's non-oil export since 1980 to 2013 and examine the ingredient responsible for the unimpressive performance of the non-oil sector of Nigeria. This study will also determine the extent to which the diversification of the economy will help enhance

the economic growth of the economy and discuss the contributions of the non-oil export sector to the economic growth of the Nigerian economy. In addition, this study will re-emphasize to the stock of knowledge available on non-oil export which other researchers had conducted in the past.

1.3 Objectives of the study

The main objective of this research work is to examine the effect of non-oil exports on economic growth in Nigeria. However, the following are the specific objectives of this current study:

- ❖ To examine the trend and composition of non-oil export in Nigeria from 1980 to 2013;
- ❖ To identify the factors responsible for the unimpressive performance of the sector and proffer possible solution;
- To evaluate the federal government's incentives and schemes established to promote non-oil exports and the agencies responsible for non-export trade promotion in the country; and,
- To examine the relationship between non-oil export and economic growth.

1.4 Research Hypothesis

The hypotheses tested in the course of this research work are stated below:

 H_0 : Non-oil export has no significant impact on economic growth in Nigeria.

H₁: Non-oil export has a significant impact on economic growth in Nigeria.

H_o: Non-oil export has no causality effect on economic growth in Nigeria.

H₁: Non-oil export has a causality effect on economic growth in Nigeria.

1.5 Significance of the Study

Exportation is required by any economy to enhance revenue and usher in economic growing and development. It is therefore crucial for economic forward motion and this has informed the musical theme of export-led outgrowth. According to Abou-Straits (2005), export is a catalyst necessary for the overall development of an economy as it increment the net income of the area thereby creating an avenue for growth by breeding the national income of the country. This study provides an econometric judgment of the performance of the performance of the Nigerian non-oil export in relation to economic growth in Nigeria. It also identifies the factors that are responsible for the poor performance of the non-oil export in Nigeria. In addition, this study adds to the existing body of knowledge on non-oil exportation and the Nigerian economy as it makes case for the appreciation and significance of a balanced economic model in order for Nigerian to achieve her yearning for a developed economy.

1.6 Scope of the Study

This project work focuses on the role of the non-oil export sector in the economic growth and development of Nigeria. The causes and effect of the neglect of the non-oil export shall be discussed in detail. The study is diachronic in orientation as it undertakes a historical examination of the contribution of the non-oil export to the economic growth of Nigeria from 1980 to 2014.

1.7 Organization of the Study

The study is split into five chapters. Chapter One is concerned with General Introduction and these are realized under headings such as Background to the

Study, Statement of the Research Problem, Research Objectives, Research Hypothesis, Significance of the Study, Scope of the Study, Limitation of the Study and Operational Definition of Terms. Chapter Two presents a review of literature and relevant research associated with the problem addressed in this study. Chapter Three presents the methodology and procedures used for data collection and analysis. Chapter Four contains an analysis of the data and presentation of the results. Chapter Five offers a summary and discussion of the researcher's findings, implications for practice, and recommendations for future research.

1.8 Operational Definition of Terms

For the purpose of this research, the under-listed terms are defined thus:

- ❖ Economic Growth: This is one of the objectives of macroeconomic policies. It can be seen as the increase over time of an economy's productive capacity as regards the goods and services needed to improve the welfare of its citizens. It can also be said to be a steady process by which the productive capacity of the economy is increased overtime to bring about rising levels of national income (Todaro, 1977).
- ❖ Gross Domestic Product: This implies the market value of all officially recognized final goods and services produced within a country in a given period. GDP per capita is often considered as an indicator of a country's standard of living. It is customarily reported on an annual basis. It is defined to include all final goods and services, that is, those that are produced by economics resources located in that nation regardless of their ownership and are not resold in form (Todaro, 1977).

- Non-oil Export: These include the exportation of the non-oil produces among which are agricultural, industrial and manufacturing outputs (Lipsey, 1995).
- Non-oil Export Index: This is the fraction of the total export of goods and services that are produced within the economy that are not directly related to the oil sector of the economy. The non-oil products exports are unlimited as they include cash crops, food crops, manufacturing, entertainment, tourism etc. the value of the non-oil export index shall be used for measuring the non-oil export (Lipsey, 1995).
- ❖ Inflation: This is defined as a generalized increase in the level of price sustained over a long period in an economy (Lipsey, 1995). It is a rise in the general level of prices of goods and services in an economy over a period of time.
- Exchange Rate: An exchange rate (also known as foreign exchange rate) between two currencies is the rate at which one currency will be exchanged for another. It is regarded as the value of one country's currency in terms of another currency. Exchange rates are determined in the foreign exchange market, which is open to a wide range of different types of buyers and sellers where currency trading is continuous (Barro and Sala-I-Martin, 199)

CHAPTER TWO

LITERATURE REVIEW AND THEORETICAL FRAMEWORK

2.0 Introduction

This chapter focuses on the review of literature that is relevant to the research under study. In view of this, the researcher examined and discussed various contributions and works that had been done in relation to the keywords in the present study.

2.1 Conceptual Issues

The exportation sector of a nation serve as a wall plug for commodity manufactured domestically from constituent sectors of its thriftiness. In Nigeria, the domestic sectors are categorized as: crude fossil oil and non-oil sectors. The non-oil sector comprises those groups of economic activities which are outside the petroleum and gas industry or those not directly linked to them. It consists of sectors such as manufacturing, agriculture, telecommunication, service, finance, tourism, real estate, construction and health sectors. Some non-oil (mostly agricultural) products such as groundnuts, palm kernel, palm oil, cocoa, rubber, cotton fiber, coffee, beans, hides, skin and cattle dominated Nigeria's export business deal in the 1960s. However, the discovery of crude oil in commercial quantity since the 1970s shifted the attention from non-oil export to a "petroleum mono-cultural economy". This lead to the decline of non-oil exports and facilitated the ascendance of oil export over non-oil export.

Exports are the goods and armed service produced in one country and sell to earn foreign exchange, which can be used to purchase goods and services from another

country (Daisi, 2011). Non-petroleum exportation is export merchandise such as agricultural/farm produce, trucking rig-manufactured and manufactured goods, and mineral exportation and services export. The Nigeria's non-oil export sector is structured into four broad constituents which are the agricultural exports, manufactured exports, and solid mineral exports and services exports. Each constituent will be adequately profiled.

➤ Agriculture Export

Nigeria's non-oil exports are mostly agricultural/farm produce which are normally referred to as her traditional export commodities. These are cocoa, rubber, oil-palm, coffee, cotton, wood products, cassava, ginger, fish and shrimps etc. It is important to mention that cocoa exports had preeminence as Nigeria's most exportable non-oil agricultural commodity until the oil boom (CBN and NEXIM, 1999).

Manufactured Export

The manufactured exports to the international export market comprise agro-allied and manufactured goods. The agro-allied export products are cocoa butter, cocoa powder, cocoa cake, cocoa paste, groundnut cake and wood products including furniture and fixtures etc. while main manufactures are textiles, chemical products, beer and beverages, urea-ammonia, insecticides, soap and detergents, plastics and non-metallic mineral products and processed skin etc.

Solid minerals export

Solid minerals exports from Nigeria are cassiterite, coal, columbite, charcoal, asbestos, processed iron ore and marble. They had been minimal in terms of their volume and share of the exports earnings. Prior to independence, the solid minerals export were to satisfy the demand from industrial base of the British imperialism. After independence, the government has avoided direct participation in the mining of solid minerals due to large capital outlay involved, reoccurring flooding of mines, high risks and intricate technology; instead mining was left to private firms.

> Services export

Service export is the export of services such as education, consultancies, nursing and tourism. There are unique benefits to service exports that do not apply to goods, such as no or low freight costs. Service exports also come with some risks and challenges, such as limited options for secure payment and the protection of intellectual property rights (Business Victoria, 2007). It however remains still a veritable means of generating foreign exchange for the country and facilitating economic development, which is largely untapped.

Services such as transportation, tourism, communication, construction, insurance, financial professional, and technical bodily function are what developing countries, like Nigeria except for a few such as Egypt have not been able to export to the international market place. However, Nigeria has been making forward motion in tourism in current times. Places like Obudu Cattle farm, Tinapa

Business Resort, and other arrears of tourist attraction are springing up to offer leisure service of process. Also in terms of financial and professional services, Nigeria has no services to provide here. Although Nigerian expert work in other nation and remit money, in foreign currency back home, it is more of brain-drain phenomenon. And some Nigerians serve in overseas country under the Technical Aids Corps (TAC), it is a foreign aid and cooperation to other developing area. This does not generate foreign exchange to the country.

2.1.1 Problems of the Non-oil Sector in Nigeria

Enquiries into the trends in the non-oil sector of Nigeria reveal that its contributions have been dismal and below potential. This is despite the various schemes and reform programmes undertaken by successive governments. For instance, agriculture is still characterized by low productivity due to the use of crude and outdated farm implements. Farmers lack access to recognition facilities, production machinery and inputs because of inadequacies of their provision. Moreover, farmers in Nigeria are rain-dependent, lacking power water irrigation. The manufacturing and industry segments seriously groan under high taxation and multiple taxes and have to contend with the abysmal nature of public infrastructure and policy framework instituted by government in the business concern environment. The solid minerals or mining sector had no concrete policy until 2005 and is still being hampered by a comprehensive database of necessary information pertaining to Nigeria's solid mineral wealth. Business engaged in mining need grant and incentives because mining involves huge capital outlay and investment. However, access to these is not encouraging. Some mining house use

outdated technology and equipment. There is also the problem of illegal mining. Some other problems are highlighted in a recent Central Bank of Nigeria (CBN) and Nigeria Export and Import Bank (NEXIM) study:

Inadequate and Decaying Infrastructure

Since non-oil exports are domestic commodities from industries within Nigeria, they affected by shortage of public infrastructure which are aged, outdated and lacking maintenance. Most industries have to provide needed basic infrastructure to enable them operate.

Funding/financing Constraints

a.

The banking services industry does not adequately support businesses in non-oil export due to high risk of export business and unavailability of foreign loans from these banks. Exposure to such funds will have availed manufacturers access to modern equipment that will aid the competitiveness of their commodities.

Ineffective Implementation of Export Incentives and Support Programme

Export schemes and incentives initiated by the government are not being administered by agencies statutorily empowered to implement them. There are observed rigidities in trade procedures, delays in completion of export documentation and excessive use of discretionary powers by desk officers of various agencies facilitating posing constraints on export activity.

Near total reliance of banks of NEXIM for export finance resource

The banking industry has so far only shown preference for financing import activities rather than providing sufficient financial support to export. Instead banks have relied on NEXIM funds to financially support export trade of non-oil merchandise.

Over regulation of the non-oil export

An environment where exporting firms have to be subjected to enormous paper work and drilling inspection not only constitutes an unnecessary stress but is a disincentive to export.

2.1.2 Rationale for Export Diversification from Oil to Non-Oil Export in Nigeria

Export swop is an instrument for growth. It increases foreign exchange earnings, improves proportion of balance of payment position, creates usage and maturation of export oriented industries in the manufacturing sector and improves government gross through taxes, levies and tariffs. This welfare will in turn enhance the process of growth and development in such economy. However, before these benefits can be fully realized, the structure and direction of this exportation must be carefully modified such that the economy will not depend on only one sector for the provision of needed foreign exchange (Onayemi & Akintoye, 2009). Hence, there is a need for economic diversification in the economy. It was noted by Abebefe (1995) that Nigeria's over-dependence on crude petroleum is dangerous for two reasons. The first is that crude oil is a wasting plus which would eventually become depleted. Secondly, the vagaries of

the oil mart place have resulted in a significant down slope in the earnings because of the exogenously determined price of crude oil. Also, Osuntokun and Edordu (2001) in their research on the potential for diversifying Nigeria's non-oil export to non-traditional markets uncovering out that Nigeria could not fully utilize its potential because the carrying out of export promotion policies followed key market tightness strategy i.e. concentration on developed countries like Europe or USA, thereby resulting in less attention to gathering trade facilitating info that may further diversify Nigeria's export market to less develop countries such as the countries in sub-Sahara Africa. This inter-regional trade, if conducted, will require lower transportation costs and enhance the competitiveness of commodities traded and ensure market clearing of exportation commodities thereby reducing such problems faced by exportation to developed nation.

Lyakurwa (1991) also posited that export diversification is important because it will period of play an important role in reducing the variability of the export net profit of developing land and raising the maturation rate of both export and domestic output. However, he warned that the composition of a diversifying country's exports has to match the import structure of the target countries (Osuntogun, Edordu and Oramah, 1997). According to the World Trade Organization (2010), diversification of countries' export increases local production, use, income and economic growth. Developing countries that export large amounts of a small number of products have export revenues that are quite volatile. Many Organization of Petroleum-Exporting Countries derive more than 80 percent of their export revenues from petroleum and gas. As a result, the fall in

fossil oil cost from the early 1980s to 2000 reduced export receipts. The incredible economic advancement through export growth achieved by the Asian tigers shows that export promotion strategy enhances economic growth although this is hinged upon the diversification and expansion of non-traditional exports (Dunn and Mutti, 2004).

Osuntogun, Edordu, and Oramah (1997) observed that the core of the exportation -led strategy is the diversification of export mathematical product and export markets to minimize risks and ensure a more stalls and sustainable current invoice position. John L. Lewis (1980) also found that diversification of export will help countries achieve and maintain a high stratum of economic growth. The opinion of Opara (2010) was that exports are the seam -rock of any economic development; this centers on non-petroleum export in most countries. He contended further that promoting non-fossil oil export products brings about a reduction of the country's level of dependence on crude oil, what he describes as "mono-cultural foreign business deal product". Opara (ibid.) listed some benefits of diversification from oil to non-oil exports on the Nigerian economy, as stated by the Nigerian Export Packaging Council viz:

- The export of non-oil products increases the foreign exchange earnings of the country, which assist in the financing of other economic sectors of the nation;
- Export of non-oil products creates employment and reduce unemployment problems;
- The living standard of the people in the exporting country will improve;

- The export of non-oil products will bring increased sales and profits to firms that export their products;
- Foreign trade will also improve the product quality and achieve a reduction in production cost, brought about by mass production for export;
- Business expansion is another benefit of export marketing; and,
- Recognition and reputation of firms will be enhanced when quality, quantity, and reliability of the firm are improved as it successfully engages in export marketing.

He concluded by adding that the benefits are beneficial to the country where the exporting products are consumed, and will have positive "spread effect" on both countries' economies and the well-being of the citizens.

2.1.3 Government Strategies to Promote Non-Oil Exports in Nigeria

From the 1970s, Nigeria saw the need to diversify its exportation substructure. It therefore established various ways and put various insurance policies in place to improve the economic place in the country by increasing the part of non-oil products in total exports. Some of these policies are presented and discussed below:

The Nigerian Export Promotion Council

The Nigerian Export Promotion Council (NEPC) was established in 1976. According to Abebefe (1995), its mandates are to: spearhead national effort in export development and promotion by generating ideas, suggestions and measures designed to advance the course of Nigeria's export trade; advise and assist the government in the identification of export oriented industries;

help stimulate the growth of non-traditional exports from Nigeria; and, assist the government in the creation of the necessary infrastructures such as export incentives and trade information services.

The Export Incentives and Miscellaneous Provisions Decree No. 18 of 1986.

This decree was promulgated on the 11th of July, 1986 and led to the establishment of institutions and programmes geared towards the promotion of exports, particularly non-oil exports. The decree provided for the establishment of three funds: Export Development. Fund, Export Expansion Grant Fund and Export Adjustment Scheme Fund (CBN, 2010).

The Nigerian Export-Import (NEXIM) Bank

NEXIM was established in 1991 as an export credit agency with the broad objective of attaining overall export growth, structural balance and diversifying the composition and destination of Nigerian Exports. The bank provides three main services which are credit, risk-bearing and trade information and export advisory services.

Export Processing Zones

This was established by the decree no. 34 of 1991. An Export Processing Zone (EPZ) is a special enclave outside a nation's normal custom barriers where foreign and domestic firms may manufacture or assemble goods for export without being subjected to the normal customs duties on imported raw materials and finished products present in that economy. Firms operating within the zone are normally exempted from industrial regulation

applying within the domestic economy, especially with regards to foreign ownership of firms, repatriation of profits, employments of nationals, access of foreign exchange, etc (Afeikhana, 1996).

Table 1: Incentive Schemes Adopted to Boost Non-oil Exports in Nigeria.

| S/N | | Operation agent | Objective and remark |
|-----|--|---|--|
| 1 | Refinancing and rediscounting facility (RRF) and foreign input facility development. | Nigeria.(CBN\NEXIM) | |
| 3 | Current retention scheme | Commercial/Merchant banks | To enable exporters to hold export proceeds in foreign currency in their banks. |
| | Tax relief on export earned by banks on export credit. | Banks and Federal Board of Inland Revenue | To encourage banks to finance export by reducing their tax burden |
| 4 | Export credit guarantee and insurance scheme. | CBN\NEXIM | Assists banks to bear the risks in export business and, thereby, facilitates export financing and |
| 5 | | | reimburse customs duty paid by exporters on imported input used for export production. This has not been widely used by exporters due to the cumbersome procedural requirements involved, although the fund has been |

| | | | increased to \$50milion (Us per cent 43.5milion). |
|----|---|---|--|
| 6 | Export expansion grant | NEPC | To encourage companies to engage in export business rather than domestic business: especially exporters who have exported N50, 000 worth of semi-manufactured or manufactured |
| 7 | Export price adjustment | NEPC | products. This is a form of export subsidy designed to compensate exporters of products whose foreign prices become relatively unattractive, due to factors beyond their control. |
| 8 | Subsidy scheme for use of local raw materials in export production. | NEPC | To encourage exporters to use local raw materials in export |
| 9 | Export development fund | NEPC | production. To assist exporters in partly paying the costs of participation in trade fairs, foreign market research etc. |
| 10 | Abolition of export licensing | Federal Ministry of Commerce and Tourism | To remove administrative obstacles from the export sector as |
| 11 | Supplementary allowance in favour of pioneer companies. | Federal Ministry of Commerce and Tourism | much as possible. To extend supplementary incentives to pioneer companies that exports their |

| | | | products. |
|----|---|--|--|
| 12 | Accelerated depreciation and capital allowance. | Federal Ministry of Commerce and Tourism | To extend supplementary incentives to industrial organization for export of their products. |
| 13 | Manufacturing bond scheme. | Federal Ministry of Commerce and Tourism. | To assist potential exporters of manufactured product to import raw materials duty-free for production of exportable products. |
| 14 | Export liberalization measures buyback arrangement. | Federal Ministry of Commerce and Tourism. | To liberalize, and promote export trade. |
| 5 | Export processing zone CBN Annual Reports | Federal Ministry of Commerce and Tourism. | Opened in mid- 1996 in Calabar, to facilitate and enhance exports. |

Source: CBN Annual Reports. (2010)

The various institutions and policies that have been established and adopted by the government to boost non-oil exportations have produced upshot. However, these results have been less than satisfactory. Ogunkola et al (2006) observed the proportion of oil to aggregate exports and concluded that since oil accounted for over 90.0 percent of total export therefore all exploit directed at diversifying export from oil to non-oil products are yet to materialize.

2.1.4 Recommendation for Improving Non-oil Sector Performance

Several causative phenomena have been identified and analyzed as adverse to and responsible for the deteriorating growth in non-oil exportation. The sector needs remedial actions and corrective measures that will have trench penetrating gist capable of realizing the optimum potentials of the sector. Some of these are as offered in a CBN and NEXIM study:

Upgrading Basic Infrastructure

Bringing up to date the state of basic public infrastructure will make the operating business environment suitable and conductive for firms and business engaged in production of non-oil merchandise. The privatization and commercialization of public utilities would overhead cost currently incurred by producers.

Diversification of Market

Most of the non-oil exports are directly to exports markets in the United States and the Western Europeans. Efforts should be made to explore other markets.

Diversification of Export Products

Nigeria's exportable products are few, mainly scheduled commodities, of which synthetic alternatives have been found for them. Therefore need to shift attention to the manufacturing sector through which much desired expansion can be achieved.

Quality of Export Products

To derive a substantial share in the world non-oil market, Nigeria's export products must attain and maintain high product standard with adequate placed on quality control.

Regional Economic Integration

Through the introduction of the eco-currency, exchange rate problems that constrained the free flow of Nigeria's merchandise among will be eliminated. Nigeria can use the advantage of its relative economic size to push its manufactures into the sub-regional market.

Monitoring of Policy Implementation

Consistent, regularized and effective monitoring of policies and performance of agencies charged with the responsibility of aiding the growth of the non-oil sectors of the economy. Instituted policies and planning should be reconciled with implementation and performance, coupled with regular analysis of each sector of the economy.

2.2 Theoretical Framework

The idea of advocating for and the practice of opening up the economy to facilitate trade and co-operation amongst countries in the world are enamored in the arguments postulated by both Adam Smith and David Ricardo. But the argument of David Ricardo, which is comparative advantage, is intellectually accepted and seen as the driving force of international trade. When countries move out of autarky, and embrace open economy, it is indicative of specialization and exchange.

2.2.1 Absolute Advantage Theory

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This theory was propounded by Adam Smith in his 1776 publication – *An Inquiry into the Nature and Causes of the Wealth of Nations*. This theory uses two by two models, i.e. there are two countries involved in the trading of two commodities and using only two factors of production – labour and capital. The theory states that a country should export products in which it is more productive than other countries. That is, goods for which it can produce more output per unit of input than others can (i.e. in which it has an absolute advantage) while importing those goods where it is less productive than other countries (i.e. in which it has an absolute disadvantage) (Dunn Jr. & Mutti, 2004).

Absolute advantage means the ability of a state to produce larger quantity of a good with the same amount of resources as another country. The country's absolute advantage may be due to the nature of its resources or to its production skills (Hoag & Hoag, 2006). According to Smith, each nation benefits by specializing in the production of the good that it produces at a lower cost than the other nation, while importing the good that it produces at a higher cost. This will increase specialization, world output and the profits from deal (Carbaugh, 2004). The possibility regards foreign patronage as a positive-sum game because both countries involved will benefit from the swap. Thus, a nation need not gain at the expense of other nations, as all nations could gain simultaneously (Sylvester & Aiyelabola, 2012). However, there arises the enquiry of whether or not to trade when one of the two countries trading has an absolute advantage in the production of the two commodities. Should trade still take place when one collaborator can

produce both commodities more efficiently than the other partner? The theory failed to answer this question satisfactorily and that gave rise to Ricardo's theory of Comparative Advantage.

2.2.2 Comparative Advantage

This theory was put forward by David Ricardo in 1817 because he was dissatisfied with the looseness in Smith's theory (Carbaugh, 2004). The principle of comparative advantage states that a country should specialize in producing and exporting those goods in which it has a comparative or relative cost advantage compared with other countries and it should import those goods in which it has a comparative disadvantage. Out of such advantage, it is argued that it will accrue greater benefit for all. According to Ricardo's theory, even if a nation has an absolute cost disadvantage in the production of both goods, there still exists a basis for mutually beneficial trade. The less efficient nation should specialize in the production and exportation of the good in which it is relatively less inefficient (where its absolute disadvantage is least) while the more efficient nation should specialize in the production and exportation of the good in which it is relatively more efficient (where its absolute advantage is greatest). The theory also assumed the level of technology to be fixed for both nations. Different nations may use different technology but all firms within each nation utilize a common production method for each commodity. It also assumed that trade is balanced and rolls out the flow of money between nations. The distribution of income within a nation is not affected by trade.

This hypothesis proved to be better than Smith's absolute advantage theory because it is possible for a land not to have an absolute advantage in anything but it is not possible for country to have a comparative degree advantage in everything and the other country to have a comparative advantage in nothing. That is because comparative advantage depends on relative costs (Carbaugh, 2004).

2.2.3 Hecksher-Ohlin Theory

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In the early 1900s, a foreign trade theory was postulated by two Swedish economists, Eli Hecksher and Bertil Ohlin. This theory is called the Hecksher-Ohlin theory. The theory stresses that countries should produce and export goods that require resources (factors) that are abundant and import goods that require resources in short supply. This theory is quite different from the comparative advantage and absolute advantage since these theories focus on the productivity of the production process for a particular good. On the contrary, the H-O theory states that a country should specialize in production and export using the factors that are most abundant, and thus the cheapest.

The theory suggests that the less develop country that are labor abundant should specialize in the ware ion of primary election product especially agricultural product because the Labour Party requirement of agricultural is high except in the mechanized form of farming. On the other hand, the less developed countries should meaning capital-intensive product mostly the manufactured goods from developed countries that are capital intensive.

2.2.4 Export-Led Growth Hypothesis

The export-led growth hypothesis postulates that exports are a main determinant of economic growth. The arguments here are as follows. First is that the export sector generates positive externalities on non-export sectors through more efficient management styles and improved production techniques (Feder, 1983). Second, export expansion increases productivity by offering potential for scale economies (Helpman and Krugman, 1985; Krugman, 1997). Third, exports alleviate foreign exchange constraints and provide greater access to international markets (Olayiwola, 2000). These arguments have recently been extended in the literature on "endogenous" growth theory which emphasizes the role of exports on long-run growth via a higher rate of technological innovation and dynamic learning from abroad (Grossman and Helpman, 1991; Grossman and Helpman, 1995; Alisana and Rodrik, 1999).

enhance increase to help curtail counterweight of payment deficit and to definitely establish whether if there is any casual relationship between exportation and economic growth in body politic such as Nigeria. According to Idowu (2005), export-led-growth (ELG) conjecture stipulates the expansion and promotion of exports as an import ant factor in nurturing long run economic growth. This possibility has been put forward as the principle for an efficient alternative to import substitution, which is an inward orientation scheme of growing. Previously, developing countries had adapted inward-oriented development scheme for enhancing industrial development that would translate into growth and

development. These were designed to replace imported fabrication and merchandise with domestic ally produced merchandise in parliamentary procedure to conserve foreign exchange and promote employment.

This strategy was prevalent in Development Countries (DCs) that possess large domestic market, due to the large population size that characterize them and that the supportive amount and encouragement are not available to encourage producers to explore the export market. This policy strategy was resorted to by Development Countries in the context of use of declining world markets for their primary commodities, rising balance of payments deficits on current account (Olorunshola 1996). (Olorunshola 1996). The major features of this strategy are that:

- Production is carried out behind infant industries under protection of high tariffs and quotas on imports – an array of import measures is required to sustain the process.
- It is characterized by overvalued exchange rates.

It should be noted that the extent to which a country purses this strategy can stall efforts towards outward orientation especially where large domestic market exists as is the case in Nigeria. This causes domestic manufacturers to be content with selling their products in the domestic market rather than exploring the export market. Since to them, it is an alternative to international market. Thus though a large home market may aid growth, it in the side counters the achievement of international competitiveness (CBN and NEXIM 1999).

However, in current economic thinking, an outward orientation course path towards economic growing and exploitation is accepted across the board and advocated for developing nation like Nigeria to embrace. Since western nations support free trade and globalization they are themselves outward oriented. Olorunshola (1996) states that it is widely recognized that exportation-oriented scheme is more effective than meaning substitution in achieving a faster growth and structural upgrading of an economy. Many developing countries, once enamored in import replacement under the philosophy of economic nationalism, are switching to export promotion strategy. This is true of countries like Korea, Taiwan, Singapore and Hong Kong particularly termed the 'Asian Tigers' and Latin American countries such as Brazil and Chile. In addition, Turkey and Thailand have attained success and are considered Newly Industrialized Countries (NIC) or Semi-Industrialized Countries (SIC). This is based on the significant success in the exporting of non-traditional ware, semi-manufacture and manufactured goods aside export of primary products.

For its theoretical innovation, export-led -growth is an outward orientation developing strategy to accelerate the level of total broker productivity growth and encourage Foreign Direct Investing (FDI), (Ram, 1985; Balasu, Bramanyan, et al., 1996 in Idowu 2005). For instance, the competitive pressure in the global market may lead to product character and force domestic producers to reduce their inefficiencies. It reduces the allocative inefficiencies of substitution dominance through foreign exchange liberalization, which is an important component of export-led-growth strategy (Bhagwati, 1978; Stephanus Johannes Paulus Kruger,

1978 in Idowu, 2005). This notion reaches round the promotion and expanding upon of exports. Arguments forwarded to justify export-led-growth speculation in this literature is that:

- Exports growth represents a rise in the demand for a country's output and thus serves to accelerate real output;
- Specialization in the production of export products may be encouraged through export expansion and this might enhance the level of productivity and that is skill acquisition in the export sector;
- Country can export to world markets; such country enjoys export efficiency-force that promotes increased motivation and competition thus lowering cost curves for the firm.

2.3 Empirical Review

It is important to note that a large figure of sketch on the importance of non-oil exportation in economic carrying into action and the human relationship between non-oil exports and aggregate economic body process/economic maturation have been conducted over the long time. It is gratifying to observe that in recent epoch times, there has been great and increasing interest in the study of non-oil exports and economic growth within the context of developing countries.

Idowu (2005) used the traditional Farmer Causality and Johansen Co-Integration trial run in his analysis of non-oil exports and economic emergence in Nigeria. The result of the study showed a bi-directional causality and long-run relationship between exports and economic growing in Nigeria. However, given that the variable s in question (i.e. exports and GDP) are integrated of order one and are co-integrated, the use of the traditional Granger (1969) causality test is not appropriate. The Granger Causality test is more appropriate in the framework of mistake rectification model. Given the methodological defects of the aforementioned earlier studies on exports and economic growth in Nigeria, the outcomes are apparently suspect.

Akeem (2008) examined export carrying into action and determinants of non-filth export in Nigeria from 1989 to 2008. For the research technique, the multi-linear regression was employed to examine whether or not there is a linear relationship between the Non-Oil Export and GDP. However the results from the regression model show that the R-square is 0.979 which implies that 97.9% edition in the dependent variable can be attributed to the variation in the dependent variable. Also the adjusted R of 0.975 implies that 97.4% shows a minimized error from coefficient of determinant R square. The study identified the major factors that affect GDP positively to be non-oil export for previous year and consumer price index. As such, the government has an important role to swordplay if sustainable development is to be achieved since an insignificant non-rock fossil rock crude petroleum exportation and interchange pace would slow down the economic growth.

Uche (2009) in his survey employed econometric methodologies to assess the wallop of oil export and non-oil export on the growth of Nigeria economy and discovered that there is a unidirectional casualty from oil export to Gross domestic product which goes to support the export-led-growth in the case of Nigeria but

with reference to oil sector only. He also uncovering that non-oil export does not sodbuster cause economic growth in Nigeria. Enoma and Isedu (2011) examined the impact of financial sector reforms on non-oil export in Nigeria from 1986 to 2009. The study finds a positive relationship between financial sector reforms and non-oil export in Nigeria. The study recommended that financial sector reforms should be improved upon and sustained by the monetary authority in club to fully optimize the gains.

Olurankinse and Fatukasi (2012) examined the impact of non-oil export on economic growth in Nigerian. The study employed an Ordinary Least Square (OLS) technique and observed that non-oil export has positive impact on the economic growth. The study recommended the need to addition yield in both agricultural and manufacturing sphere to ensure product availability for both local and export aim. The study also recommended an urgent completion of the export processing zone to promote the administration of export oriented firms that will produce solely for export market. Edame, G. E. and Eyam, N. E. (2012) examined the floor of non-petroleum manufacturing export in Nigeria that constitutes the main stay of thriftiness's GDP between 1970 and 2012. Analysis of the time series data will be employed using statistical proficiency like multiple regression analysis of Ordinary Least Squares (OLS), co-integration and Granger causality tests. The model will be estimated in the context of error correction mechanism (ECM) to captures equilibrium long-run relationship between (co-integrating) variables, and error correction mechanism of reconciling the short-run behavior of macroeconomic variables with its long-run behavior.

Ozurumba and Chigbu (2013) examined the issue of non-petroleum exportation credit rating on economic growth in Nigeria for the stop 1984 to 2009. The subject area utilized a multiple linear regression proficiency to examine the effect of non-oil export credits on economic growth and Granger causality tests to determine the direction of causation between the variables. The study observed that bank credits for agribusiness and forestry, mining and construction, and nominal effective exchange rates have negative impact on non-oil gross house servant product in Nigeria while banks credits for merchandise export, signification and domestic trade, public utility and divine service impacted positively on non-oil gross domestic product. The causality estimate revealed unidirectional causality from GDP to public utilities and services, and agriculture and forestry. The study recommended the need for a sustainable programme towards the diversification of the economic system by developing the non-oil sector, which will in routine enhance the revenue accruing to the country.

Riman, Akpan, Offiong and Ojong (2013) examined the nexus among oil revenue shock, non-oil export and industrial production in Nigeria for the period 1970 to 2010. The study employed Vector Auto-Regressive (VAR) model and cointegration technique to examine the long run relationship, while the Vector Error Correction Model (VECM) was used to analyze the short-run behavior of the variables The Johansen co-integration estimate showed that a long run behavior exist among oil revenue shock, non-oil export, policy/regime shift and industrial output in Nigeria. The VECM estimate showed that the speed at which industrial yield converges towards long-running game equilibrium after experiencing impact

from crude oil taxation was very slow. The long run estimate showed that crude oil revenue shock and policy/regime shift had negative impact on industrial yield and non-oil export. The impulse response subprogram and variance decomposition analysis suggested that the major drivers of industrial maturation in Nigeria are non-oil export, regime shift and oil revenue. The subject recommended the diversification of the economy from crude oil export and ensuring a stable government that will endure long enough to sustain industrial and other economic policies.

Ningi (2013) examined the burden of cant financing on non-oil exportation in Nigeria. The subject area employed questionnaires which were distributed to 120 non-oil exporting firms. Tools used for data analysis and hypotheses testing included: mean and standard deviation, and multiple regression. The multiple regression estimate indicated that non-oil exports financing by banks significantly accounting for slightly 16% of variance in non-oil exports carrying into action, similarly the Beta coefficient revealed that business firm 'sensing of banks position to peril of financing non-oil exports had the highest beta value followed by price of bank finance. Also the study observed that telephone exchange rate wavering and access to credit deftness had insignificant relationships with non-oil exports performance in Nigeria.

Raheem and Busari (2013) examined the impact of non-oil export on economic growth in Nigeria for the period 1970 to 2010. The study employed Simultaneous Equation Model (SEM) and a single equivalence framework. The growth par in the SEM showed that non-oil export and agricultural performance

negatively impacted on economic growth, while the single equation model showed that the industrial sector performance and universe growth are good determinant of economic growth. The study recommended the need for increase in government participation and patronage as well as creating investment friendly environs for investors in the sector. Onodugo et al. (2013) examined the impingement of non-oil exportation on economic growth in Nigeria for the period of time 1981 to 2012. Employing Endogenous Outgrowth Fashion model (EGM), the study observed a very weak and infinitesimal impact of non-oil export on economic growth in Nigeria.

Kolawole and Henry (2013) examine the contribution of Foreign Direct Investing (FDI) to the performance of non-oil export in Nigeria within the framework of the export-led growth (ELG) conjecture from 1980-2010. A causality analysis was undertaken in order to verify the relevance of the ELG hypothesis. Also, the dynamic interaction among FDI, non-oil export, and economic growth is investigated using the concept of discrepancy decomposition and impulse response analysis. The resolution obtained from the causality analysis revealed that a unidirectional causality runs from FDI to non -oil exports. Each of the three variable quantity exhibited on the average and at the early stages of the out-of-sample prognosis period, a dormant response to one touchstone deviation shock or introduction. However, they all demonstrated significant responses after some 7 year into the out-of-sample forecast period. The results also show that a boost of non-oil exports is a necessity for an effective FDI in Nigeria.

2.3.1 Summary of Empirical Review

From the discussions, it is obvious that previous indigenous sketch have remuneration little or no attention to the reasons why the Nigerian economy needs to diversify from crude oil export to non-oil export and have also not taken into consideration credit from government and financial mental hospital to non-oil sector. This lacuna provides justification for this sketch. This study also recognizes that the non-oil sector can contribute more to the export earnings of Nigeria than the oil sector if properly managed, particularly through sincere implementation of various policies aimed at improving the non-oil exports by the various tiers of Governments.

CHAPTER THREE

RESEARCH METHODOLOGY

3.0 Introduction

This chapter explains the methodology of the study which involves model specification, a priori expectation, estimation techniques, sources and method of data collection among others.

3.1 Model Specification

The model which is used for investigating the economic effect of non-oil export on economic growth in Nigeria is based on that proposed by Mehdi Safdari et al (2011) with some modification. They proposed that volume of non-oil export (NOE) is affected by the following variables: exchange rate (EXR), real gross domestic product (RGDP) and inflation rate (INFR). In this work, three other variables, degree of economic openness (OPEN), credit to non-oil sector (CNS) and prime lending rate, which may significantly influence the volume of non-oil export, are included. Based on this relationship a functional form of these variables on volume on non -oil export in Nigeria is presented.

RGDP = f(NOEXP, DOP, CNS, EXCH, RIR, INF)....(1)

Similarly, equation (1) can be expressed econometrically as

 $RGDP = \beta_0 + \beta_1 NOEXP + \beta_2 DOP + \beta_3 CNS + \beta_4 EXCH + \beta_5 RIR + \beta_6 INF + e....(2)$

Therefore, equation (3) forms the theoretical specified model for the study. Again, expressing equation (3) in log form to intensify the existing long- run relationship between explained and explanatory variables, we have;

InRGDP =

 $\beta_0+\beta_1InNOEXP+\beta_2InDOP+\beta_3InCNS+\beta_4InEXCH+\beta_5InRIR+\beta_6InINF+$ e .. (3) Where

InRGDP = Natural logarithm of Real Gross Domestic Product

InNOEXP = Natural logarithm of Non-oil Export

InDOP = Natural logarithm of Degree of economic openness

InCNS = Natural logarithm of Credit/loan to non-oil sector

InEXCH = Natural logarithm of Nominal exchange rate

InRIR= Natural logarithm of Real interest rate on loan

InINF= Natural logarithm of Inflation rate

e = Error term

 β_0 = Intercept of the model

 $\beta_1,\,\beta_2,\,\beta_3,\,\beta_4,\beta_5$ and β_6 are the slope of the explanatory variables.

3.2 A priori Expectation

The expected signs of the coefficient of the explanatory variable are, β_0 , β_1 , β_2 , β_3 , $\beta_4>0$ while β_5 and $\beta_6<0$.

3.3 Estimation Techniques

Two methods of analysis would be employed in this study; the descriptive statistics and econometric analyses. The descriptive statistics analysis would be used in achieving the first objective of examining the trend and pattern of non-oil export and economic growth in Nigeria while the main objective of analysing the impact of non-oil export on economic growth in Nigeria, would be achieved using econometric techniques. Under the econometric techniques, unit root test would be carried out to avoid spurious regressions which may arise as a result of carrying out regressions on time series data without subjecting them for test whether they contain unit root, the data would be subjected to stationarity test by using the Augmented Dicker fuller (ADF) tests, the co-integration and Error Correction Mechanism (ECM) method. This is due to the fact that the variables of interest are simultaneously related, hence the need to treat each variable symmetrically and

allow feedback among them. Second, ECM analysis is superior to a single equation approach for capturing the long-run dynamics of variables (Enders, 1995; Feasel, Kim and Smith, 2001). This technique enables us to verify the stationarity as well as the order of integration of the variables used in the model.

3.4 Sources and Method of Data Collection

The data for this study would be obtained from secondary sources. The secondary data comprises annual time series spanning from 1980 to 2013. The variables of interest are: real GDP, interest rate, inflation rate, exchange rate, Non-Oil Export, Degree of economic Openness and Credit to Non-oil sector (CNS). All these data would be sourced from the Central Bank of Nigeria Statistical Bulletin (2013) and CBN Annual Report (2013).

CHAPTER FOUR

DATA ANALYSIS AND INTERPRETATION

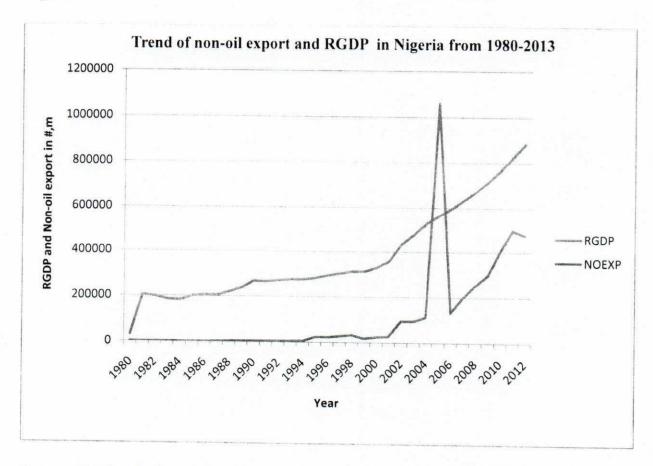
4.0 Introduction

This chapter involves the presentation of data and interpretation of result analyzed in respect of this research work.

4.1 Trend and Pattern of Non-Oil Export and Real Gross Domestic Product in Nigeria

Here, the focus is on the trends and movement of oil export and real gross domestic product.

Fig 4.1



Source: Author's Computation

The contribution of a product or sector to the national economy can be measured by its size in the GDP. From our diagram above, it could be observed that the contribution of non-oil export during the period of 1980 - 1986 was not impressive compared with the contribution of oil export during same period. As evidenced in fig 4.1 above, there was a downward trend in Non-oil export from N554.4m in 1980 to N552.1m in 1986. Two main reasons can be offered for the decreasing in share of non-oil export in RGDP. The first is the discovery of oil in large quantity since early 70s which led to massive oil production and export. The huge revenues from oil led to massive rural urban migration and the neglect of agriculture. There was slight improvement in the performance of non-oil export from #2954.4 in 1989 to #34,070.2 in 1997 due to the introduction of Structural adjustment programme (SAP) in 1986. It is in the recognition of the significance of non-oil export to a nation that Nigeria government made exporting of the country's nonoil products, a major key element of its structural adjustment program (SAP) in 1986. Since 2000 till 2012 there has been upward trend the value of non-oil export from #24,822.9 in 2000 to #4176110.7 in 2013. The overall performance of non-oil export cannot be compared with performance of oil export, but there has been an appreciable improvement especially in the second period of analysis. This is largely due to the policies of the various tiers of Government to develop the nonoil sector due to the fluctuations in the International oil market and the incessant conflicts in the oil producing areas of Nigeria.

4.2 Empirical Result and Interpretation

4.2.1 Descriptive Statistics of Data

Descriptive analysis is conducted to ascertain the statistical properties of the variables. Table 2 presents descriptive statistics of the variables of the estimation model. The standard deviation shows that exchange rate (EXT) is the most volatile variable while non-oil import (NOE) is the least volatile among the variables. The skewness statistic shows that all the variables except Gross Domestic product (GDP) and degree of openness (DOP) are positively skewed. The kurtosis measures the peakedness or flatness of the distribution with an expected value of 3.0. The result in table 2 suggests that the interest rate (RIR) and inflation rate satisfy the condition. However, that of GDP, NOEXP, DOP, CNS and EXCH is platykurtic (less than 3). The Jarque-bera test is used to test whether the random variables with unknown means and dispersion are normally distributed. It measures the difference between skewness and kurtosis. The Jarque-berastatistic rejects the null hypothesis of normal distribution for inflation rate at five per cent critical value while the null hypothesis of normal distribution for the others variables are accepted at the same critical value.

Table 2: Summary of Descriptive Statistics of Data

| | GDP | NOEXP | DOP | CNS | EXCH | RIR | INF |
|----------|-------|-------|-------|-------|--------|-------|-------|
| Mean | 14.85 | 0.04 | 0.54 | 12.44 | 64.17 | 20.10 | 19.93 |
| Median | 15.20 | | 0.57 | 12.52 | 21.88 | 20.81 | 11.85 |
| Maximum | 17.57 | | 0.88 | 16.43 | 169.68 | 36.09 | 72.80 |
| Minimum | 10.81 | | 0.21 | 8.24 | 0.54 | 9.50 | 5.40 |
| StdDev | 2.16 | | 0.14 | 2.51 | 63.87 | 6.09 | 17.32 |
| Skewness | -0.22 | | -0.37 | 0.103 | 0.34 | 0.32 | 15.40 |
| Kurtosis | 1.63 | | 2.91 | 1.75 | 1.32 | 3.22 | 4.30 |

| 2.90 | 1.25 | 0.79 | 2.26 | 1.62 | 10.60 | |
|------|------|-------------------------------|---|--|---|---------------------------------|
| | | 0.67 | 0.32 | 0.099 | 0.68 | 16.35 |
| | | 34 | 34 | 34 | 34 | 34 |
| | 0.23 | 0.23 0.53 34 34 | 0.23 0.53 0.67 34 34 34 | $ \begin{array}{c ccccc} 0.23 & 0.53 & 0.79 & 2.26 \\ 0.67 & 0.32 & 0.32 & 0.67 & 0.32 \end{array} $ | 0.23 0.53 0.79 2.26 4.62 0.32 0.099 34 34 34 34 | 0.23 0.53 0.67 2.26 |

Source: Author's computation using Eview 2015

Table 3: Correlation Matrix of the Variables

| GDP | NOEXP | DOP | CNS | EXCH | I DID | INIT |
|-------|--|--|--|---|--|---|
| 1.000 | | | 100 | | - KIK | INF |
| 0.967 | 1.000 | | | | | |
| 0.623 | 0.60 | 1.000 | | | | |
| 0.987 | 0.96 | 0.53 | 1.000 | | | |
| 0.91 | 0.90 | 0.40 | | 1.000 | | |
| 0.39 | 0.34 | 0.48 | | | 1.000 | |
| -0.19 | -0.22 | 0.08 | | | | 1.000 |
| | 1.000 0.967 0.623 0.987 0.91 0.39 | 1.000 0.967 1.000 0.623 0.60 0.987 0.96 0.91 0.90 0.39 0.34 | 1.000 0.967 1.000 0.623 0.60 0.987 0.96 0.91 0.90 0.39 0.34 0.48 | 1.000 1.000 0.967 1.000 0.623 0.60 0.987 0.96 0.91 0.90 0.39 0.34 0.10 0.25 CNS 1.000 0.53 1.000 0.40 0.93 0.32 | 1.000 CNS EXCH 1.000 0.967 1.000 0.623 0.60 1.000 0.987 0.96 0.53 1.000 0.91 0.90 0.40 0.93 1.000 0.39 0.34 0.48 0.32 0.19 50.19 0.22 0.23 0.22 0.23 | 1.000 0.967 1.000 0.623 0.60 1.000 0.987 0.96 0.53 1.000 0.91 0.90 0.40 0.93 1.000 0.39 0.34 0.48 0.32 0.19 1.000 -0.19 -0.22 0.00 0.00 1.000 1.000 |

Source: Author's computation using Eview 2015

Table 3 above reports the correlation matrix of the variables of the estimation model. It suggests that GDP is strongly positively correlated with NOEXP, DOP, CNS and EXCH but negatively correlated with INF. The correlation between GDP and IRR appears to have been positive but weak.

4.2.2 Pre Analysis Test

4.2.2.1 Unit Roots Test Result

Analysis of the time series data employed in this study tend to exhibit either a determistic and/or stochastic time trend and are therefore non stationary at level; i.e., the variables in question have, means, variances and co-variances that are not time invariant. Direct application of OLS to non-stationary data produces regressions that are misspecified or spurious in nature (Engle and Granger, 1987).

We therefore, subjected the variables for a unit root test using an Augmented Dickey-Fuller test (ADF) (Dickey-Fuller, 1981). The result is shown in the Table 4 below:

Table 4: Summary of ADF unit root test result

| Variables | ADF : | Statistics | Order of |
|-----------|-----------|------------------|-------------|
| | Levels | First Difference | integration |
| LGDP | -1.013249 | -3.993663** | I(1) |
| LNOEXP | -3.193311 | -6.968907** | I(1) |
| LCNS | -3.448505 | -4.931650** | I(1) |
| DOP | -3.321427 | -6.499344** | I(1) |
| EXCH | -2.078438 | -5.1400217** | I(1) |
| RIR | -2.638314 | -6.599828** | I(1) |
| INF | -3.039645 | -5.623493** | I(1) |

Source: Author's computation using Eview (2015)

The results of table 4 above show that all the variables are non-stationary in level form since their ADF values are less than the critical values at 1% and 5%, the null hypothesis of no unit root was accepted for all the variables at levels but was rejected in 1st difference. Thus, we conclude that the variables under investigation are integrated of order one. (i.e. I(1)). Since the variable are integrated of the same order. We therefore, examine their co-integrating relationship using Johansen co-integration procedure.

^{*}Significance at 1% and ** significance at 5%. The lag length is based on the Schwarz Info Criterion (SIC).

4.2.2.2 Co-integration Test Result

A necessary but not sufficient condition for co-integrating test is that each of the variables be integrated of the same order. The Johansen co-integration test uses two statistics test namely: the trace test and the likelihood Eigen-Value test. The first row in each of the table tests the hypotheses of no co-integrating relation. The second row tests the hypothesis of one co -integrating relation against the alternative of full rank of co-integration. The results are presented in Table 5.

Table 5: Co-integration Test Result

| Eigen value | Trace Stat | 0.05 Critical value | Hypothesi zed No. of CE(s) | Eigen Value | Critical | Hypothesi zed No. of CE(s) |
|----------------|---------------|---------------------------|-----------------------------|----------------|----------|-----------------------------|
| 0.86880 | 171.938 | 125.6154 | None* | 64.994 | 46.2314 | |
| 0.6689 | 106.944 | 95.75366 | At most 1* | 35.376 6 | | At most 1 |
| 0.6238 | 71.5672 | 69.81889 | At most 2* | 31.286 | 33.8768 | At most 2 |
| 0.4772 | 40.2809 | 47.85613 | At most 3 | 20.756 7 | 27.5843 | At most 3 |
| 0.3189 | 19.5242 | 29.79787 | At most 4 | 12.291 6 | 21.1316 | At most 4 |
| 0.1826 | 7.2325 | 15,49471 | At most 5 | 6.4540 | 14.2646 | At most 5 |
| 0.02440 | | 3.841466 | At most 6 | 0.7785 | 2.044 | At most 6 |

Source: Author's computation using Eview (2015)

Notes:

Trace test indicates 3 co- integrating eqn(s) at the 0.05 level

- * denotes rejection of the hypothesis at the 0.05 level
- **MacKinnon-Haug-Michelis (1999) p-values

Co-integration test includes assumptions that allowed for linear deterministic trend in data, no intercept or trend in co-integrating equation. The trace test result reveal the existence of three unique co-integrating vectors between test variables while the maximum Eigen value test result reveal the existence of one unique co-integrating vector between test variables. These assumptions are in any case consistent with the level that minimizes the Schartz information criteria for the selection of the optimal lag interval of (1,1).

4.2.3 Post Analysis Test

4.2.3.1 Granger Causality Test Result

Table 6: Causality Test

| Date: 08/15/15 Time: 17:02 | | | |
|----------------------------------|--------|-------------|--------|
| Sample: 1980 2013 | | | |
| Lags: 2 | | | |
| Null Hypothesis: | Observ | F-Statistic | Prob. |
| NOEXP does not Granger Cause GDP | 32 | 0.63294 | 0.5387 |
| GDP does not Granger Cause NOEXP | | 2.53681 | 0.0978 |
| DOP does not Granger Cause GDP | 32 | 0.09410 | 0.9105 |
| GDP does not Granger Cause DOP | | 1.97593 | 0.1582 |
| CNS does not Granger Cause GDP | 32 | 0.19110 | 0.8272 |
| GDP does not Granger Cause CNS | | 3.19074 | 0.0570 |
| EXCH does not Granger Cause GDP | 32 | 0.72259 | 0.4946 |
| GDP does not Granger Cause EXCH | | 5.28975 | 0.0115 |

| RIR does not Granger Cause GDP | 32 | 5.71370 | 0.000 |
|------------------------------------|----|--|--------|
| | 32 | 3.71370 | 0.0085 |
| GDP does not Granger Cause RIR | | 0.04876 | 0.9525 |
| INF does not Granger Cause GDP | | The second secon | 0.7525 |
| | 32 | 2.86958 | 0.0741 |
| GDP does not Granger Cause INF | | 0.00622 | |
| Source: Author's computation using | | 0.89632 | 0.4199 |

Source: Author's computation using Eview (2015)

From Table 6, the granger causality test indicates that Non-Oil export (NOEXP), degree of openness (DOP), credit to private sector (CNS), exchange rate (EXCH) and inflation rate (INF) does not Granger Cause Nigeria's gross domestic product (GDP) i.e (F=0.63294, P>0.5387), (F=0.0946, P>0.9105), (F=0.19110, P>0.8272), (F=0.7225, P>0.4946) and (F=0.2.8695, P>0.0741) respectively. This implies that the volume of the non-oil export (NOEXP), degree of openness (DOP), credit to private sector (CNS), exchange rate (EXCH) and inflation rate (INF) does not cause economic growth in Nigeria for the period of this study. Also as indicated from the table Nigeria's gross domestic product granger does not cause non-oil export (F=2.53681, P<0.0978). This result also shows no causation or feedback effect between non-oil export trading and economic growth in Nigeria for the period under review. This is so because of the neglect of the non-oil sector (agriculture and manufacturing sector) due to the dependence on oil revenue that brought about Dutch Disease. From table 6, the granger causality test also indicates that real interest rate (RIR) Granger Cause Nigeria's gross domestic product (GDP) i.e (F=5.71370, P<0.0085). This implies that real interest rate granger cause economic growth in Nigeria for the same period under study.

4.2.3.2 Analysis of Long run and Short run Effects of Non-oil export on Economic growth

To examine the long run effect of interest rate on stock market performance, Error Correction Mechanism (ECM) which incorporates both the long run and short run effect simultaneously is estimated. The beauty of ECM is that once variables are non-stationary but co-integrated, the estimates from ECM are more efficient than either the Ordinary least Square estimates. The ECM also saves one from the agony of endogeneity problem and the inherent spurious inferences associated with OLS estimates.

Table 7 presents the estimates for the ECM model. The ECM has two parts. In the first part, the estimates of the long run effects are presented while the second part contains the estimates of the short run dynamic interaction among the variables. The Second part is also linked with first part (long run relation) by the ECM. The ECM is a measure of the speed of adjustment of the short run relation to unexpected shocks. It is measured as the effects of residual from the long run model. This long run feedback effect is indicated by significant ECM terms while the short run causality is measured by the significant coefficient on the individual variables. The co-integration test conducted earlier is mainly to establish whether this ECM term (derived from the residual of long run regression) is stationary at level or not and to determine how many of such relationships exist. As confirmed thereof, there is significant long run relationship among the variables. However, the fact that there is presence of long run relationship among the variables included in the model does not automatically imply that all the variables in the

model have significant effects on the dependent variable. Therefore to determine which variable actually elicit the observed long run relationship, there is the need to estimate the long run model and then analyze the estimates.

Residual Stationary Test

| Variable | coefficient | Std. Error | t.statistics | Prob |
|-------------|-------------|------------|--------------|--------|
| Resid01(-1) | -0.992456 | 0.167893 | -5.911260 | 0.0000 |
| | -0.009094 | 0.024022 | -0.3785575 | 0.7070 |

Source: Author's computation using Eview (2015)

Table 7: Short-run Dynamic/ Parsimonious Test

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|----------|-------------|------------|-------------|--------|
| NOEXP | -3.40E-09 | 2.31E-08 | -0.147485 | 0.8840 |
| RIR | 0.004122 | 0.003630 | 1.135711 | 0.2673 |
| INF | -0.000301 | 0.001081 | -0.278305 | 0.7832 |
| EXCH | 0.003459 | 0.000460 | 7.515889 | 0.0000 |
| DOP | 0.502477 | 0.134677 | 3.730968 | 0.0010 |
| CNS | 4.37E-08 | 7.01E-09 | 6.223053 | 0.0000 |
| С | 12.24396 | 0.076744 | 159.5434 | 0.0000 |
| AR(2) | 0.002791 | 0.044995 | 0.062034 | 0.9510 |

statistic)= 0.000000, Durbin-Watson stat= 1.5

Source: Author's computation using Eview

Estimates in Table 7 show that Non-oil export (NOEXP), exchange rate (EXCH) and inflation rate (INF) have positive and significant effects on economic growth (GDP) in long run. This result conforms to the findings of Olurankinse and Fatukasi (2012) observed that non-oil export has positive impact on the economic growth. This is suggesting that there is need to increase production in both

agricultural and manufacturing sectors to ensure product availability for both local and export purposes. Degree of openness (DOP), credit to non-oil sector (CNS) and real interest rate (RIR) have negative but significant effects on economic growth (GDP) in long run. This result conforms to the findings of Ozurumba and Chigbu (2013) who observed that banks credits for agriculture and forestry, mining and construction, and nominal effective exchange rates have negative impact on non-oil gross domestic product in Nigeria while banks credits for merchandise export, import and domestic trade, public utilities and services impacted positively on non-oil gross domestic product.

Table 7 further shows a -0.035479 speed of adjustment of prior deviations from equilibrium. Hence, about 3% of disequilibrium is corrected every year. This further indicate that a long-run equilibrium relationship exist between non-oil export and economic growth in the Nigerian economy. Furthermore, D(LogNOEXP), D(LogCNS), D(EXCH) and D(INF) at lags 1 is positive and insignificant while D(DOP) and D(RIR) at lag 1 is negative and insignificant. Considering the short run effects of these variables on economic growth; none of the variable is significant.

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATION

5.0 Introduction

This chapter involves the summary of findings, conclusion and policy recommendation for future research.

5.1 Summary of Findings

Exportation is required by any economy to enhance revenue and usher in economic growth and development. It is therefore crucial for economic progress and this has informed the idea of export-led growth. To empirically confirm this assertion, this study examined and analyzed the impact of non-oil export on economic growth in Nigeria over the period of 1980 to 2013.

To achieve the objectives of the study, theories related to international trade and economic growth such as Absolute Advantage theory, Comparative trade theory, Hecksher-Ohlin theory were reviewed. The data constituted specified variables from a selected number of CBN statistical bulletin. The Augmented Dickey Fuller test was used to test stationarity of all-time series while Johansen Co-integration test was used to analyze long-run relationship of the variables. The trend of non-oil export and economic growth data were analyzed through simple graph.

We noted that the unit root test detected stationarity of the variables in their first differences by the objective assessment of the Augmented Dickey Fuller test.

In addition, the Johansen co-integration test indicated more than one co-integrating equation at the 0.05 level. Consequently, this suggests that a long-run equilibrium relationship exist between non-oil export and economic growth. Also, the Error Correction Model shows a -0.035479 speed of adjustment of prior deviations from equilibrium. Hence, about 3% of disequilibrium is corrected every year. This further supports the long-run equilibrium relationship that exists between the variables. Furthermore, the Granger causality test was employed to know which of the variables is leading or following. Its result indicated that RIR granger causes economic growth in uni-direction. Finally, the response of Log (GDP) to its own shocks, LOG(NOEXP), LOG(CNS), EXCH and INF in all the 10 periods is positive while the response of Log(MC) to DOP and RIR is negative in all the 10 periods.

5.2 Conclusion

This study has empirically verified and discussed the impact of non- oil export on economic growth. It has ascertained the impact of non-oil export on the Nigerian economy. The results obtained and interpreted in this study revealed that there is an insignificant positive relationship between non-oil export and economic growth in Nigeria.

5.3 Recommendation

This study recognizes the efforts and challenges of government and other agencies in tackling the problems of growth and development in Nigeria. From the findings of this research, the following are recommended:

- The export base should be diversified in favour of non-oil commodities not only to increase their contribution to GDP but also to help cushion the effect of price shocks in the international oil (crude oil) market.
- Oil explorers, producers and exporters should be persuaded to diversify their interests into non-oil commodities as well or they could be obligated to somehow assist with the exports of non-oil commodities.
- Promotion of a stable political and macroeconomic environment that encourage exportation, particularly of non-oil commodities.
- Encouragement of production and exportation of value added commodities because of its relatively high price and income elasticity of demand, storability and adaptability over primary products such as processed agricultural products or foods.
- Incentives attached to non-oil exports should be continually reviewed and improved as well as strictly implemented.

1

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Appendix

Table of Variables

| Year | | GDP(#'M |) NOEXP(#'N | A) DOI | p | CNS (#'M) | EXCH(# | 4/61 | DID (04) | |
|------|-----|----------|-------------|---------|----|--------------|----------|------|----------|---------|
| 19 | 980 | 49632.32 | 2 554 | .4 0.4 | 69 | 3795 | | | RIR (%) | INF (%) |
| 19 | 81 | 94325.02 | 342. | | | | 0.5 | | 9.5 | 9.9 |
| 19 | 82 | 101011.2 | | | | 8570.0 | | .61 | 10 | 20.9 |
| 19 | 83 | 110064.2 | | | | 10668.3 | 0.07 | 729 | 11.75 | 7.7 |
| | 84 | 116272.2 | 301. | | | 11668.0 | 0.72 | 241 | 11.5 | 23.2 |
| 19 | | | 21/ | | 28 | 12462.9 | 0.76 | 49 | 13 | 39.6 |
| | | 134585.6 | 497.2 | 0.276 | 55 | 13070.3 | 4 0.89 | 38 | 11.75 | 5.5 |
| 198 | | 134603.3 | 552.1 | 0.215 | 3 | 15247.4 | 5 2.02 | 06 | 12 | 5.4 |
| 198 | 37 | 193126.2 | 2152 | 0.458 | 2 | 21082.9 | 9 4.01 | 79 | 19.2 | |
| 198 | 38 | 263294.3 | 2757.4 | 0.378 | 4 | 27326.42 | | | | 10.2 |
| 198 | 9 | 382261.5 | 2954.4 | 0.409 | 7 | 30403.22 | | | 17.6 | 38.3 |
| 199 | 0 | 472648.8 | 3259.6 | 0.58150 | d | 33547.7 | | | 24.6 | 40.9 |
| 199 | 1 | 545672.4 | 4677.3 | | _ | 41352.46 | | | 27.7 | 7.5 |
| 199 | 2 | 875342.5 | 4227.8 | | | | | 5 | 20.8 | 13 |
| 1993 | | 1089680 | | 0.6548 | - | 58122.95 | | 4 | 31.2 | 44.5 |
| 1994 | | 1399703 | 4991.3 | 0.562 | | 127117.7 | 22.051 | 1 | 36.09 | 57.2 |
| 1995 | | 2907358 | 5349 | 0.4098 | | 143424.2 | 21.886 | 1 | 21 | 57 |
| 1996 | - | | 23096.1 | 0.8823 | 1 | 180004.8 | 21.8863 | 1 | 20.79 | 72.8 |
| | - | 4032300 | 23327.5 | 0.6926 | 2 | 38596.6 | 21.8861 | | 20.86 | 29.3 |
| 1997 | - | 4189250 | 29163.3 | 0.7449 | 3 | 16207.1 | 21.8861 | | 23.32 | 8.5 |
| 1998 | | 3989450 | 34070.2 | 0.5867 | 3 | 51956.2 | 21.8861 | | 21.34 | |
| 1999 | 4 | 679212 | 19492.9 | 0.6422 | 4. | 31168.4 | 92.6934 | | | 10 |
| 2000 | 6 | 713575 | 24822.9 | 0.6396 | - | 30373.3 | 102.1052 | | 27.19 | 6.6 |
| 2001 | 6 | 895198 | 28008.6 | 0.6827 | | 64961.5 | | | 21.55 | 6.9 |
| 2002 | 7 | 795758 | 94731.8 | 0.4711 | | | 111.9433 | | 21.34 | 16.5 |
| 2003 | 9 | 913518 | 94776.4 | 0.6089 | | 30493.9 | 120.9702 | | 30.19 | 12.1 |
| 2004 | 114 | 111067 | 113309.4 | | | 096536 | 129.3565 | 1 | 22.88 | 23.8 |
| 2005 | | 510881 | | 0.5774 | 14 | 121664 | 133.5004 | 2 | 20.82 | 10 |
| | | 10001 | 1059559 | 0.6894 | 18 | 338390 | 131.6619 | 1 | .9.49 | 11.6 |

| 2006 | 18564595 | 133595 | 0.5619 | 2290618 | 128.6516 | 18.7 | 8.5 |
|------|----------|----------|--------|----------|----------|-------|------|
| 2007 | 20657318 | 199257.9 | 0.5916 | 3668658 | 121.07 | 18.24 | 6.6 |
| 2008 | 24296329 | 252903.7 | 0.6318 | 6920499 | 137.65 | 21.18 | 15.1 |
| 2009 | 24794239 | 296696.1 | 0.5428 | 9102049 | 149.8 | 22.15 | 11.5 |
| 2010 | 33964754 | 405856.1 | 0.5636 | 10157021 | 152.63 | 20.5 | 13.5 |
| 2011 | 37409861 | 497608.6 | 0.6542 | 10660072 | 153.8616 | 22.15 | 13.8 |
| 2012 | 40544100 | 476110.7 | 0.5947 | 12453281 | 157.4994 | 16.55 | 11.5 |
| 2013 | 42903825 | 5039496 | 0.5882 | 13784310 | 169.68 | 16.58 | 8.5 |

SOURCES: Central Bank of Nigeria Statistical Bulletin (2013)

Table 3: Augmented Dickey Fuller test for Log(GDP) at levels

| Exogenous: Constant, | GDP) has a unit root | | |
|-----------------------|-------------------------|-------------|--------|
| | | 1 0 | |
| Lag Length: 0 (Automa | atic - based on SIC, ma | xiag=8) | |
| | | t-Statistic | Prob.* |
| Augmented Dickey-Fu | ller test statistic | -1.013249 | 0.9283 |
| Test critical values: | 1% level | -4.262735 | |
| | 5% level | -3.552973 | |
| | 10% level | -3.209642 | |
| *MacKinnon (1996) on | e-sided p-values | | |

Table 4: Augmented Dickey Fuller test for Log(GDP) at First difference

| Null Hypothesis. D(LO | G(GDP)) has a unit roo | l . | |
|--|-------------------------|-------------|--------|
| Exogenous: Constant, | Linear Trend | | |
| Lag Length: 1 (Automa | atic - based on SIC, ma | xlag=8) | |
| | | | |
| | | t-Statistic | Prob.* |
| Augmented Dickey-Fuller test statistic | | -3.993663 | 0.0196 |
| Test critical values: | 1% level | -4.284580 | |
| | 5% level | -3.562882 | |
| | 10% level | -3.215267 | |
| | | | |
| *MacKinnon (1996) on | e-sided p-values. | | |

Table 5: Augmented Dickey Fuller test for Log(NOEXP) at levels

| Lag Length: 0 (Automa | atic - based on SIC, ma | xlag=8) | |
|--|-------------------------|-------------|--------|
| | | t-Statistic | Prob.* |
| Augmented Dickey-Fuller test statistic | | -3.193311 | 0.1032 |
| Test critical values: | 1% level | -4.262735 | |
| | 5% level | -3.552973 | |
| | 10% level | -3.209642 | |
| *MacKinnon (1996) on | o sidad a valuas | | |

Table 6: Augmented Dickey Fuller test for Log(NOEXP) at first difference

| Exogenous: Constan | | | |
|-----------------------|-------------------------|-------------|--------|
| Lag Length: 0 (Auton | natic - based on SIC, r | naxlag=8) | |
| | | t-Statistic | Prob.* |
| Augmented Dickey-Fi | uller test statistic | -6.968907 | 0.0000 |
| Test critical values: | 1% level | -4.273277 | |
| | 5% level | -3.557759 | |
| | 10% level | -3.212361 | |
| MacKinnon (1996) or | e-sided p-values. | | |

Table 7: Augmented Dickey Fuller test for DOP at levels

| Exogenous: Constant | , Linear Trend | | - |
|--|-------------------------|-------------|--------|
| | atic - based on SIC, ma | axlag=8) | |
| | | t-Statistic | Prob.* |
| Augmented Dickey-Fuller test statistic | | -3.448505 | 0.0622 |
| Test critical values: | 1% level | -4.262735 | |
| | 5% level | -3.552973 | |
| | 10% level | -3.209642 | |
| MacKinnon (1996) on | | | |

Table 8: Augmented Dickey Fuller test for DOP at First Difference

| Null Hypothesis: D(DOP) | has a unit root | | |
|--------------------------|------------------------|-------------|--------|
| Exogenous: Constant, Lin | | | |
| Lag Length: 2 (Automatic | - based on SIC, maxlag | =8) | |
| | | t Ctotiati | |
| | | t-Statistic | Prob.* |

| Augmented Dickey-Fuller test statistic Test critical values: 1% level | | -4.931650 | 0.0022 |
|--|-------------------|-----------|--------|
| voi ontical values. | | -4.296729 | |
| | 5% level | -3.568379 | |
| | 10% level | -3.218382 | |
| MacKinnon (1996) on | e-sided p-values. | | |

Table 10: Augmented Dickey Fuller test for Log(CNS) at first difference

| Exogenous: Constant | OG(CNS)) has a | | |
|--|-----------------|----------------|--------|
| | | | |
| Lag Length: 0 (Autom | atic - based on | SIC, maxlag=8) | |
| | | t-Statistic | Prob.* |
| Augmented Dickey-Fuller test statistic | | -6.499344 | 0.0000 |
| Test critical values: | 1% level | -4.273277 | 0.0000 |
| | 5% level | -3.557759 | |
| | 10% level | -3.212361 | |

Table 11: Augmented Dickey Fuller test for EXCH at levels

| Exogenous: Constant | , Linear Trend | | - |
|--|------------------|---------------|--------|
| Lag Length: 0 (Autom | | IC, maxlag=8) | |
| | | t-Statistic | Prob.* |
| Augmented Dickey-Fuller test statistic | | -2.078438 | 0.5383 |
| Test critical values: | 1% level | -4.262735 | 0.5565 |
| | 5% level | -3.552973 | |
| | 10% level | -3.209642 | |
| MacKinnon (1996) on | e-sided p-values | | |
| | T T | | |

| Null Hypothesis: D(EXCH) has a unit root | |
|--|--|
| Exogenous: Constant, Linear Trend | |
| Lag Length: 0 (Automatic - based on SIC, maxlag=8) | |
| The first of the f | |

| | | t-Statistic | Prob.* |
|---|----------------------|-------------|--------|
| Augmented Dickey-Fu | Iller test statistic | | |
| Fest critical values: 1% level 5% level | -5.140217 | 0.0012 | |
| | 1% level | -4.273277 | |
| | 5% level | -3.557759 | |
| | 10% level | | |
| | 12.0.10.461 | -3.212361 | |
| MacKinnon (1996) on | | | |

| Exogenous: Constan | t, Linear Trend | | |
|--|---------------------|--------------|--------|
| Lag Length: 0 (Auton | natic - based on SI | C, maxlag=8) | |
| | | t-Statistic | Prob.* |
| Augmented Dickey-Fuller test statistic | | -2.638314 | 0.00== |
| Test critical values: | 1% level | -4.262735 | 0.2670 |
| | 5% level | -3.552973 | |
| | 10% level | -3.209642 | |
| MacKinnon (1996) on | | | |

| Exogenous: Constan | t, Linear Trend | | |
|--|---------------------|-------------|--------|
| Lag Length: 1 (Autom | atic - based on SIC | , maxlag=8) | |
| | | t-Statistic | Prob.* |
| Augmented Dickey-Fuller test statistic | | | |
| Test critical values: | | -6.599828 | 0.0000 |
| Talucs. | 1% level | -4.284580 | |
| | 5% level | | |
| | 10% level | -3.562882 | |
| | 10% level | -3.215267 | |
| | e-sided p-values. | | |

| Exogenous: Constant | has a unit root | | |
|-----------------------|-------------------------|-------------|--------|
| Lag Length: 0 (Autom | atic - based on SIC, ma | axlag=8) | |
| | | t-Statistic | Prob.* |
| Augmented Dickey-Fu | ller test statistic | | 1100. |
| Test critical values: | | -3.039645 | 0.1372 |
| 170 10001 | | -4.262735 | |
| | 5% level | -3.552973 | |

| *MacKinnon (1996) one-sided p-values. | -3.209642 |
|---------------------------------------|-----------|
| (1990) offe-sided p-values. | |
| | |
| | |
| | |

| Exogenous: Constant, Linear Trend | | | | |
|--|--------------------------------|-------------|--------|--|
| | atic - based on SIC, ma | axlag=8) | | |
| | | t-Statistic | Prob.* | |
| Augmented Dickey-Fuller test statistic | | -5.623493 | 0.0000 | |
| Test critical values: | 1% level | -4.273277 | 0.0003 | |
| | 5% level | -3.557759 | | |
| | 10% level e-sided p-values. | -3.212361 | | |

Table 17: Lag Length selection Criteria

| Endoge | nous variables: (| OP NOEXP DO | P CNS EXCH RI | P INE | | |
|----------|---------------------|---|-------------------|-----------|-----------|-----------|
| Exogeno | ous variables: C | | | T | | |
| Date: 08 | 3/15/15 Time: 18 | 3:46 | | | | |
| | 1980 2013 | | | | | |
| Included | observations: 32 | | | | | |
| Lag | LogL | LR | FPE | | | |
| | | | FPE | AIC | SC | HQ |
| 0 | -446.7590 | NA | 4889.979 | 28 35004 | | |
| 1 | 255.7714 | | 2.653658 | 28.35994 | 28.68057 | 28.46622 |
| 2 | | | | 20.76530 | 23.33034* | 21.61554 |
| | | | 1.624670* | 19.79440* | 24.60385 | 21.38860* |
| indicate | s lag order selec | ted by the criterio | on | - 100 | | |
| R: sequ | ential modified LI | R test statistic (ea | ach test at 5% le | vel) | | a pro- |
| FE. FINS | al prediction error | | | | | |
| | ke information cr | CONTRACTOR OF THE PARTY OF THE | | | | |
| C: Schw | arz information of | riterion | | | | |
| Q: Hann | an-Quinn inform | ation ority | | | | |

Table 18: Johansen Co-integration test Result

| Date: 08/15/15 Time: 18:49 | |
|------------------------------|--|
| Sample (adjusted): 1982 2013 | |
| | |

| Trend assumpti | vations: 32 after a ion: Linear detern | ninistic trand | | | |
|---|---|--|--|--|--|
| | DEXP DOP CNS | | | | |
| | first differences) | | | | |
| | Timot differences) | 1. 110 1 | | | |
| Unrestricted Co | integration Rank | Test (Trace) | - | | |
| | | | 1 | | |
| Hypothesized | | Trace | 0.05 | | |
| No. of CE(s) | Eigenvalue | Statistic | Critical Value | Prob.** | |
| None * | 0.868806 | 171.9384 | 125.6154 | 0.0000 | |
| At most 1 * | 0.668962 | 106.9440 | 95.75366 | 0.0068 | |
| At most 2 * | 0.623824 | 71.56729 | 69.81889 | 0.0360 | |
| At most 3 | 0.477248 | 40.28097 | 47.85613 | 0.2126 | |
| At most 4 | 0.318947 | 19.52423 | 29.79707 | 0.4557 | |
| At most 5 | 0.182651 | 7.232566 | 15.49471 | | |
| At most 6 | 0.024035 | 0.778515 | 3.841466 | 0.5508 | |
| | | 0.770515 | 3.041400 | 0.3776 | |
| Frace test indica | ates 3 cointegration | ngeqn(s) at the 0. | 05 level | | |
| *MacKinnon-Ha | ion of the hypothe | esis at the 0.05 le | vel | | |
| *MacKinnon-Ha | aug-Michelis (199 | 9) p-values | | | |
| *MacKinnon-Ha | aug-Michelis (199 | esis at the 0.05 le | | | |
| nrestricted Coin | aug-Michelis (199 | 9) p-values | | | |
| *MacKinnon-Ha | aug-Michelis (199 | 9) p-values est (Maximum Eig | genvalue) | Prob.** | |
| *MacKinnon-Ha | aug-Michelis (199 | est (Maximum Eig Max-Eigen | genvalue) 0.05 Critical Value | | |
| nrestricted Coin ypothesized lo. of CE(s) None * | tegration Rank T | est (Maximum Eig Max-Eigen Statistic 64.99443 | genvalue) 0.05 Critical Value 46.23142 | 0.0002 | |
| nrestricted Coin ypothesized lo. of CE(s) None * At most 1 | tegration Rank T Eigenvalue 0.868806 | est (Maximum Eig Max-Eigen Statistic | 0.05 Critical Value 46.23142 40.07757 | 0.0002 0.1541 | |
| nrestricted Coin ypothesized lo. of CE(s) None * At most 1 At most 2 | tegration Rank T Eigenvalue 0.868806 0.668962 | est (Maximum Eig Max-Eigen Statistic 64.99443 35.37668 31.28632 | genvalue) 0.05 Critical Value 46.23142 40.07757 33.87687 | 0.0002 0.1541 0.0988 | |
| nrestricted Coin ypothesized lo. of CE(s) None * At most 1 At most 2 At most 3 | tegration Rank T Eigenvalue 0.868806 0.668962 0.623824 0.477248 | est (Maximum Eig Max-Eigen Statistic 64.99443 35.37668 31.28632 20.75673 | genvalue) 0.05 Critical Value 46.23142 40.07757 33.87687 27.58434 | 0.0002 0.1541 0.0988 0.2912 | |
| nrestricted Coin ypothesized lo. of CE(s) None * At most 1 At most 2 At most 3 At most 4 | tegration Rank T Eigenvalue 0.868806 0.668962 0.623824 0.477248 0.318947 | est (Maximum Eig Max-Eigen Statistic 64.99443 35.37668 31.28632 20.75673 12.29167 | 9envalue) 0.05 Critical Value 46.23142 40.07757 33.87687 27.58434 21.13162 | 0.0002 0.1541 0.0988 0.2912 0.5191 | |
| nrestricted Coin ypothesized No. of CE(s) None * At most 1 At most 2 At most 3 At most 4 At most 5 | tegration Rank T Eigenvalue 0.868806 0.668962 0.623824 0.477248 0.318947 0.182651 | est (Maximum Eig Max-Eigen Statistic 64.99443 35.37668 31.28632 20.75673 12.29167 6.454051 | genvalue) 0.05 Critical Value 46.23142 40.07757 33.87687 27.58434 21.13162 14.26460 | 0.0002 0.1541 0.0988 0.2912 0.5191 0.5556 | |
| nrestricted Coin ypothesized lo. of CE(s) None * At most 1 At most 2 At most 3 At most 4 At most 5 | tegration Rank T Eigenvalue 0.868806 0.668962 0.623824 0.477248 0.318947 | est (Maximum Eig Max-Eigen Statistic 64.99443 35.37668 31.28632 20.75673 12.29167 | 9envalue) 0.05 Critical Value 46.23142 40.07757 33.87687 27.58434 21.13162 | 0.0002 0.1541 0.0988 0.2912 0.5191 | |
| nrestricted Coin ypothesized lo. of CE(s) None * At most 1 At most 2 At most 3 At most 4 At most 5 At most 6 | tegration Rank T Eigenvalue 0.868806 0.668962 0.623824 0.477248 0.318947 0.182651 0.024035 est indicates 1 co | est (Maximum Eig Max-Eigen Statistic 64.99443 35.37668 31.28632 20.75673 12.29167 6.454051 | 9envalue) 0.05 Critical Value 46.23142 40.07757 33.87687 27.58434 21.13162 14.26460 3.841466 at the 0.05 level | 0.0002 0.1541 0.0988 0.2912 0.5191 0.5556 | |

| Dependent Variable: L | RGDP | I | | I |
|-----------------------|---------------------|--|-------------|----------|
| Method: Least Square | s | | | |
| Date: 08/20/15 Time: | 17:57 | | | |
| Sample (adjusted): 19 | 82 2013 | | | |
| Included observations | : 32 after adjustn | nents | | |
| Convergence achieved | d after 1 iteration | | | |
| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
| NOEXP | -3.40E-09 | 2.31E-08 | -0.147485 | 0.8840 |
| RIR | 0.004122 | 0.003630 | 1.135711 | 0.2673 |
| INF | -0.000301 | 0.001081 -0.278305 | | 0.7832 |
| EXCH | 0.003459 | 0.000460 7.515889 | | 0.0000 |
| DOP | 0.502477 | 0.134677 3.730968 7.01E-09 6.223053 | | 0.0010 |
| CNS | 4.37E-08 | | | 0.0000 |
| С | 12.24396 | 0.076744 159.5434 | | 0.0000 |
| AR(2) | 0.002791 | 0.044995 0.062034 | | 0.9510 |
| R-squared | 0.964280 | Mean dependent var | | 12.93929 |
| Adjusted R-squared | 0.953861 | S.D. dependent var | | 0.418485 |
| S.E. of regression | 0.089891 | Akaike info criterion | | 1.768129 |
| Sum squared resid | 0.193928 | Schwarz criterion | | 1.401695 |
| Log likelihood | 36.29007 | Hannan-Quinn criter. | | 1.646667 |
| F-statistic | 92.55476 | Durbin-Wats | on stat | 1.498808 |
| Prob(F-statistic) | 0.000000 | | | |
| Inverted AR Roots | .05 | 05 | | |