FISCAL POLICY AND ECONOMIC GROWTH IN NIGERIA

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**BEING A THESIS SUBMITTED TO THE DEPARTMENT OF BANKING AND FINANCE, MALLAM SANUSI LAMIDO SANUSI COLLEGE OF BUSINESS AND MANAGEMENT STUDIES, IGBINEDION UNIVERSITY, OKADA IN PARTIAL FUFILMENT FOR THE REQUIREMENT FOR THE AWARD OF THE DEGREE OF DOCTOR OF PHILOSOPHY**

**(Ph.D) IN BANKING AND FINANCE**

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# CERTIFICATION

This is to certify that **ETSEMITAN RITA EFE** with matriculation number **PG/17/021881** carried out this research work in partial fulfillment of the requirements for the award of the degree of Doctor of Philosophy (Ph.D.) in Banking and Finance.

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**DEDICATION**

This work is dedicated to God Almighty who gave me the wisdom and knowledge needed to complete this work and my husband and children.

**ACKNOWLEDGEMENTS**

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# ABSTRACT

The study evaluated the relationship between fiscal policy and economic growth in Nigeria using time series data spanning from 1981 to 2019. The specific objectives include: to ascertain the extent of relationship between oil revenue and economic growth in Nigeria; to determine the degree of relationship between non-oil revenue and economic growth in Nigeria; to evaluate the extent of relationship between capital expenditure and economic growth in Nigeria; to find out the extent of relationship between recurrent expenditure and economic growth in Nigeria; to ascertain the degree of relationship between domestic debt and economic growth in Nigeria; to investigate the extent of relationship between external debt and economic growth in Nigeria; and to investigate the degree of relationship between fiscal deficit and economic growth in Nigeria. Relevant conceptual, empirical and theoretical literatures were reviewed. Endogenous growth theory was adopted for the study. The study adopted longitudinal research design. Capital expenditure, recurrent expenditure, oil revenue, non-oil revenue, domestic debt, external debt, and fiscal deficit were employed as the independent variables while real gross domestic product, a proxy for economic growth served as the dependent variables. Data were sourced on these variables from the Central Bank of Nigeria Statistical Bulletin, 2019. The statistical tools employed in analyzing the data include descriptive statistics, Augmented Dickey Fuller unit root test, Johansen Cointegration test and Error Correction Model (ECM). The result of the descriptive statistics indicates that all the variables were normally distributed. Augmented Dickey- Fuller (ADF) test statistics showed that all the variables used in this study were stationary at first difference. Johansen Cointegration test indicate that there is a long run relationship between the variables used in the study. The estimation result indicates that non-oil revenue, capital expenditure and recurrent expenditure had significant positive relationship with economic growth. Oil revenue was found to have insignificant positive relationship with economic growth in Nigeria while domestic debt, external debt and fiscal deficit were found to have negative relationship with economic growth within the period under review. The study therefore concludes that fiscal policy has significant relationship with economic growth in Nigeria. The study recommends amongst others that government should ensure the diversification of the nation’s economic base and be prudent public spending by concentrating its public expenditure on the productive sector of the economy in order to create more jobs to its citizenry. Effort should also be made to boost domestic revenue generation and execute fiscal transformations that reduce public debt and deficit financing to a sustainable level, while ensuring that borrowed funds are deployed to support growth through productive and self-liquidating investments in the principal sectors of the economy.

**Key Words**: Fiscal Policy, Government Debt, Recurrent Expenditure, Capital Expenditure, Gross Domestic Product, Economic Growth,

**Word Count**: 435 words.

* 1. **Background to the Study**

## CHAPTER ONE INTRODUCTION

Governments all over the world, especially the emerging and developing ones, strive to attain accelerated and sustainable economic growth in order that their countries would constantly remain important and relevant in global economic affairs. This has made the regulation and management of individual economies to be of great essence and, hence, governments frequently employ those macroeconomic policies - fiscal and monetary policies - to regulate individual economies with the sole aim of engendering rapid and sustainable economic growth.

In simple terms, economic growth refers to the ability of the economy to increase the production of goods and services with the stock of capital and other factors of production within the economy (Nnanna, Englama & Odoko, 2004; Ughulu, 2021). Thus, economic growth involves increases in per capital income that lead to the attainment of a high standard of living equivalent to that of industrial nations (Todaro & Smith, 2011; Ughulu & Ajayi, 2020). In this context, economic growth can be seen as an aspect of the activities that fuels economic development (Sen, 1983).

Fiscal policy is the means by which a government adjusts its spending levels and tax rates to monitor and influence a nation’s economy. Hence, Boyle (2021) sees fiscal policy as the use of government spending and tax policies to influence economic conditions, especially macroeconomic conditions, including aggregate demand for goods and services, employment, inflation, and economic growth. Similarly, Anyanwu (1993) defines fiscal policy as that part of government policy concerning the raising of revenue through taxation and other means and deciding on the level and pattern of expenditure for the purpose of influencing economic activities. This is to say that fiscal policy deals with taxation and other revenues as well as public borrowing (externally and internally), and public expenditure aimed at influencing

economic activities or the achievement of certain desirable national objectives and/or macroeconomic goals.

Invariably, therefore, it stands to reason that fiscal policy is largely based on the ideas from John Maynard Keynes (1936), who argued that governments could stabilize the business cycle and regulate economic output by adjusting spending and tax policies to make up for the shortfalls of the private sector. Also known as Keynesian economics, this theory basically postulates that governments can influence macroeconomic productivity levels by increasing or decreasing tax levels and public spending. This influence, in turn, curbs inflation (generally considered to be healthy when it is reasonably low), increases employment and maintains a healthy value of money. During a recession, the government may employ expansionary fiscal policy by lowering tax rates to increase aggregate demand and fuel economic growth in the process. On the other hand, in the face of mounting inflation and other expansionary symptoms, a government could pursue a contractionary fiscal policy.

There may not be any gainsaying the fact, that the role of fiscal policy in economic growth cannot be overemphasized. Fiscal policy as a major economic instrument deals with government deliberate actions in revenue generation and public expenditure with the main objective of influencing sustainable economic growth, high employment rate, and low rate of inflation. Thus, it is the means by which the government adjusts its level of revenue generation and expenditure sources in order to monitor and influence the growth of the nation’s economy (Agu & Idike, 2014). Fiscal policy is used along with the monetary policy which the Central Bank uses to influence money supply and price stability in a nation. These two policies are used simultaneously to achieve macroeconomic goals in a developing nation such as Nigeria.

This is to say that fiscal policy is a major economic stabilization weapon that involves measure taken to regulate and control the volume, cost and availability as well as direction of government revenue and expenditure profiles in an economy to achieve certain macroeconomic

policy objectives. Invariably, the attainment of these macroeconomic objectives cannot be left to the market forces of demand and supply as well as other instruments of stabilization such as monetary and exchange rate policies, among others.

The cyclical fluctuations in the country’s economic activities has led to the periodic increases in Nigeria’s continuously rising unemployment and inflation rates as well as the external sector disequilibria. There is no gainsaying the fact that fiscal policy is a major economic stabilization weapon which involves measures taken to enhance government revenue thereby providing adequate funds for the financing of government expenditures in order to put the economy on the path of rapid and sustainable economic growth.

Various researchers have submitted that fiscal policy goals include the following: increasing employment opportunities; attaining full employment; stabilization of domestic prices; promoting economic growth and development through industrialization; achieving equity in income redistribution; achieving stable exchange rate; and increasing the rate of investment in the country (Anyanwu 2004); Omitogun & Ayinla 2007); In a similar fashion, Adeyemi and Odetayo (2017) asserted that fiscal policy is the aspect of government policy dealing with the raising of revenue through taxation and other sources and deciding on the level and pattern of expenditure for the aim of influencing economic activities. Judging from the above definitions, fiscal policy can be seen as a very powerful government policy used to achieve full employment, price stability, sustainable economic growth and external balance.

Economic growth, from the early period of economic history, engaged the attention of man and his governments. As far back as 17th and 18th centuries, writers like Adam Smith, David Ricardo, John Stuart Mill, as well as state theorist like Karl Marx, Friedrich List Karl Bucher, W Rostow, and neo classical economists have all been preoccupied with the quest for unearthing the forces and processes that cause a change in the material progress of man, Amadi & Essi (2011). This is also applicable to successive governments and states in these

modern times. In Nigeria for instance, the broad objective of the national economic policy has been the desire to promote sustainable economic growth for the vast majority of Nigerians through the adoption of various monetary and fiscal policies. Unfortunately, her economic growth performance has been characterized by fits and starts and the prospects of her rapid economic growth appear unachievable as reflected in her inability to realize sustainable full growth potentials and to significantly reduce the rate of poverty in the economy (Sikiru, & Umaru, 2010).

Furthermore, the Nigerian economy is basically an open economy with international transactions constituting an important proportion of her aggregate economic activity. Consequently, the economic prospects and development of the country, like many developing countries, rest critically on her international interdependence. Over the years, despite the considerable degree of her trade openness, her performance in terms of her economic growth has remained sluggish and discouraging (Odedekun, 1997). Prior to Nigeria political independence in 1960, agriculture was the mainstay of the economy. The present heavy reliance on primary commodity has induced adverse terms of trade shocks leading to huge current account deficits and exchange rate volatility and consequently a weak external sector for Nigeria. The deployment of the lean resources to finance huge debt service payments crowds out public investment in the productive sectors of the economy and with these developments, achievement of sustainable economic growth have become a difficult task (Ozoh, Uma & Odionye, 2016).

The thrust of this study, therefore, is to examine empirically the impact of fiscal policy measures on the growth of the Nigerian economy for the period 1981 to 2019.

### Statement of the Problem

The question of whether changes in government revenue, expenditure, borrowing and fiscal deficit can affect growth has been widely explored in the work. However, most of such studies paid more attention to developed economies and some include developing countries in case of cross-country studies (Aregbeyen, 2007). There is a popular assertion in the empirical literature that public spending is negatively correlated with economic growth due to inefficiency of the public sector especially in the developing countries where large proportion of public spending is attributed to non development expenditure like defence and interest payments on debt (Husnain, Khan, Haq Padda, Akram & Haider, 2011) and Nigeria is not an exception.

Fiscal policy is a tool to direct firmly towards maintaining sound public finances over the medium term, based on strict rules. This sound fiscal policy together with a monetary policy frameworks provide the platform of stability necessary for achieving the Government's central economic goal and sustainable levels of employment (Rena, 2011). The key to successful public finance management is a matter of governance to balance the economic, managerial, and political roles of public finances. Fiscal governance is strong only when a Government can deliver their fiscal policy in a sustainable way, and are efficiently applied to the provision of public goods and services. When the government's fiscal position is unsustainable that may lead to a higher cost of borrowing and/or credit rationing, this process is costly and it makes less attractive foreign borrowing to fund government investment. (Haider, 2011)

The Nigerian economy has been plagued with several challenges over the years. Nigeria’s potential for growth and poverty reduction are yet to be realized. A key constraint has been the recent conduct of macroeconomics, particularly fiscal policies which led to rising inflation and decline in real incomes. Other challenges includes gross mismanagement/misappropriation of public funds, corruption and ineffective economic policies, lack of integration of macroeconomic plans and the absence of harmonization and

coordination of fiscal policies; inappropriate and ineffective policies. Furthermore, imprudent public spending and weak sectoral linkages and other socioeconomic maladies constitute the bane of rapid economic growth and development.

Experience in Nigeria illustrates the difficulties of implementing fiscal policy in an environment. Over the years, there have been a strong deficit bias and inconsistencies in fiscal policy, driven largely by oil price developments. The current revenue-sharing arrangement, whereby about half of oil revenue is allocated to state and local governments, has facilitated an expansion of expenditure programs at the subnational level, a tendency that has further constrained the ability of the federal government to stabilize overall expenditure. As a result, fiscal volatility has been transmitted to the rest of the economy, with negative implication for, in particular, the real exchange rate and growth performance. (Ochieng, J. 2014)

Despite the substantial oil resources that have been spent during the last thirty years, there is little to show in terms of economic development and poverty alleviation. This reflects the key challenges to fiscal management from the inefficient use of public resources. The overriding concern now must be to break this pattern; however, this will remain a challenge since the fundamental drivers of the process remain the same and unchanged. Furthermore, the debate on the effectiveness of fiscal policy as a tool for promoting growth and development remains inconclusive.. Based on the foregoing, the study will examine fiscal policy and economic growth in Nigeria. In this work, an attempt would be made to examine the relationship between fiscal operations and economic growth in Nigeria for the period 1981 to 2019. To do this, fiscal policy would be disaggregated into government expenditure, government borrowing and government revenue using time series data from 1981 to 2019.

### Objectives of the Study

The broad objective of the study will be to examine the relationship between fiscal policy and economic growth in Nigeria while the specific objectives will include:

1. To ascertain the relationship between oil revenue and economic growth in Nigeria.
2. To determine the degree of relationship between non-oil revenue and economic growth in Nigeria.
3. To determine the relationship between capital expenditure and economic growth in Nigeria.
4. To find out the relationship between recurrent expenditure and economic growth in Nigeria.
5. To ascertain the degree of relationship between domestic debt and economic growth in Nigeria.
6. To investigate the relationship between external debt and economic growth in Nigeria.
7. To investigate the degree of relationship between fiscal deficit and economic growth in Nigeria.

### Research Questions

The following research questions will be raised formulated to guide the study;

1. What is the relationship between oil revenue and economic growth in Nigeria?
2. How significant is the relationship between non-oil revenue and economic growth in Nigeria?
3. What is the relationship between capital expenditure and economic growth in Nigeria?
4. How significant is the relationship between recurrent expenditure and economic growth in Nigeria?
5. What is the relationship between domestic debt and economic growth in Nigeria?
6. To what extent does external debt relates to economic growth in Nigeria?
7. What is the extent of relationship between fiscal deficit and economic growth in Nigeria?

### Research Hypotheses

The following null hypotheses will be formulated for the study:

Ho1 Oil revenue has no significant relationship with economic growth in Nigeria.

Ho2 Non-oil revenue has no significant relationship with economic growth in Nigeria. Ho3 Capital expenditure has no significant relationship with economic growth in Nigeria.

Ho4 Recurrent expenditure has no significant relationship with economic growth in Nigeria.

Ho5 Domestic debt has no significant relationship with economic growth in Nigeria. Ho6 External debt has no significant relationship with economic growth in Nigeria. Ho7 Fiscal deficit has no significant relationship with economic growth in Nigeria.

### Significance of the Study

The findings of this study will be beneficial to the following major stakeholders in the management of the Nigerian economy:

**Budget Office**: The outcome of this study will give budget office insight on the relationship between fiscal policy and economic growth in Nigeria within the period under review. The knowledge will give them insight on how to effectively carry out their function of designing a working budget in this period of economic meltdown and covid-19 pandemic that has ravaged many economies in the world.

**Government**: The findings of this study will help the government at both the state and national level to devise means of mitigating the adverse effect of dwindling oil revenue as a result of Covid-19 pandemic currently ravaging the world and the attendant global economic

recession thereof. This has affected the ability of the government to meet up with its maturing obligations especially the provision of social goods to the citizenry. Therefore, a study of this nature will help government to understand the how fiscal policy affect economic growth. It will help them to understand the fiscal policy measures that will contribute more to economic growth.

**The Legislature**: The outcome of this study will help the law makers to understand the basics of fiscal policy and how it affects economic growth. This will provide them with requisite knowledge that will help them to understand the likely outcomes of fiscal policy decisions of the executive arms on the entire economy. This will also help them in their oversight functions and in their budgetary debates in order to pass sound appropriation laws for the economy.

**Policy Formulators**: The outcome of this study will enlighten them on the fiscal policy components that contribute more to economic growth in Nigeria. This will help and guide in their future policy formulation by analyzing the various fiscal policy instruments that they can choose from to achieve fiscal stability in the economy especially in this period of Covid-19 pandemic, volatile oil price and global economic recession as a result of the global lockdown due to the pandemic.

**Academics**: Researchers and academicians will benefit from the findings of this study as it will provide them both theoretical and empirical foundation in understanding the effect of fiscal policy on economic growth. Also, this research study will undoubtedly be a wealth of knowledge to students of banking and finance and other disciplines as well as lecturers. It will surely impart learning, contribute to knowledge and serve as a base for further research works in areas relating to fiscal policy and how it relates economic growth within the Nigerian context.

### Scope of the Study

The scope of the study is discussed under the following;

The content scope covered the relationship between fiscal policy and economic growth in Nigeria.

The independent variable is fiscal policy proxied by oil revenue, non-oil revenue, capital expenditure, recurrent expenditure, domestic debt, external debt and fiscal deficit while the dependent variable which is economic growth is proxied by real gross domestic products. The independent variables were selected because they are the core fiscal policy variables that may have direct relationship with economic growth within the Nigerian context.

The study of annual time series data from 1981 to 2019. The period selected marks the events that lead to the introduction of the Structural Adjustment Programs and financial liberalization in the Nigerian economy. Also the period was selected because of the available of data from the credible sources like Central Bank of Nigeria and World Bank development indicators.

### Limitations of the Study

The major constraint encountered in this study is the issue of data sourcing. The study utilized pure secondary data which might be ingrained with some errors and therefore might affect the findings from the purely econometric methodology utilized. In order to reduce the errors associated with secondary data, the study ensured that only data from the Central Bank of Nigeria Statistical Bulletin were used for the study.

### Definition of Operational Terms

**Fiscal Policy:** A fiscal policy is a set of policies regarding government revenues and public expenditures that achieve specific goals. It involves exploiting public finance tools such as spending programs and government revenues to affect the macroeconomic variables of GDP,

employment, saving, and investment to achieve goals and avoid undesirable results that might reflect on income GDP, GNP, employment, etc.

**Government Revenues:** As a fiscal tool, public revenues are referred to as the total income earned by the government from different sources to cover expenses and achieve economic and social balance.

**Government Expenditure:** Public expenditure is the money spent by either the country or a public corporate body to achieve a public interest.

**Capital Expenditure**: Capital expenditures means the expenditure the benefit of which is not exhausted within the current year but is enjoyed over a long time period. Such expenditure is of non-recurring nature and results in acquisition of permanent assets.

**Recurrent Expenditure**: Recurrent expenditure is recurring spending or, in other words, spending on items that are consumed and only last a limited period of time. Recurrent expenditure would include wages and salaries and expenditure on consumables and so on.

**Fiscal Deficit**: In this study, fiscal deficit refers to the [amount](http://www.investorwords.com/205/amount.html) by which a [government](http://www.investorwords.com/16458/government.html) spending [exceeds](http://www.investorwords.com/9617/exceed.html) its [income](http://www.investorwords.com/2400/income.html) over a particular [period](http://www.investorwords.com/3669/period.html) of time.

**Government Debt**: Government debt refers to the total of the nation's debts which covers debts of local and state and national governments indicating how much public spending is financed by borrowing instead of taxation.

**Economic growth:** Economic growth is an increase in the production of economic goods and services, compared from one period of time to another. It can be measured in nominal or real (adjusted for inflation) terms. Traditionally, aggregate economic growth is measured in terms of gross national product (GNP) or gross domestic product (GDP), although alternative metrics are sometimes used.

**Gross Domestic Product**: Gross Domestic Product is the naira value of goods and services produced in Nigeria during a time period irrespective of the nationality of the individuals who produced the goods or services. It is calculated without making deductions for depreciations. GDP at current basic prices is simply nominal GDP equals GDP less indirect taxes net of subsidies. The Gross Domestic Product is a widely acknowledged measure of economic growth and is used in this study as a proxy for Nigerian economic growth.

* 1. **Introduction**

## CHAPTER TWO LITERATURE REVIEW

This chapter will dwell on the conceptual framework, empirical literatures and theoretical framework for the study. Under the conceptual framework, the concept of fiscal policy variables and economic development variables were reviewed. This is followed by the review of the relationship between fiscal policy and economic growth. And thereafter the empirical literatures were similar studies within and outside Nigeria were presented in order to identify the gap in literature. Finally, the theoretical framework covers the theoretical base for this study and endogenous growth theory was adopted.

### Conceptual Issues

A conceptual issue is a disagreement over a concept that is crucial to resolving a problem. (Charles E.H 2004)

### Economic Growth

Economic growth is the increase in the amount of the goods and services produced by economy overtime (Wikipedia, 2015). It is an increase in the capacity of an economy to produce goods and services, compared from one period of time to another (Investopedia, 2015). It is measured as a percentage of gross domestic products GDP of a country. Economic growth is regarded as a major goal of national policy in any given economy. Ayres and Warr (2006) define economic growth as 'a rise in the total output (goods or services) produced by a country'. It represents an increase in the capacity of an economy to produce goods and services, compared from one period of time to another. Economic growth refers only to the quantity of goods and services produced. Economic growth can be measured in nominal terms including inflation, or in real terms, which are adjusted for inflation like by the percent rate of increase in the gross domestic product (GDP). Economic growth measures growth in

monetary terms and looks at no other aspects of development (Illyas & Siddiqi, 2010). Economic growth can be either positive or negative. Negative growth can be referred to by saying that the economy is shrinking. Negative growth is associated with economic recession and economic depression (King & Levine, 1993).

Jhingan (2005) conceptualized economic growth as a gradual and steady change in the long- run which comes about by a general increase in the rate of savings and population.

It has also been described as a positive change in the level of production of goods and services by a country over a certain period of time. Economic growth is measured by the increase in the amount of goods and services produced in a country.

An economy is said to be growing when it increases its productive capacity which later yield more in production of more goods and services (Jhingan 2003).

Economic growth is usually brought about by technological innovation and positive external forces. It is the yardstick for raising the standard of living of the people. It also implies reduction of inequalities of income distribution. Economic growth can be measured in nominal or real term. In nominal term it include inflation, while in real term, adjustment are made for inflation to eliminate the distorting effect of the price of goods and services produced. For the purpose of inter –country comparison, the GDP or GNP per capita income is used due to the fact that they take into account the population differences of these countries. The top economic goal of Nigeria is to have a sustainable economic growth and development proxied by gross domestic product. It is the total amount of goods and services produced within the economy per annum. Economic growth is seen to be a measure of increase in the national income or total volume of production of goods and services of a country accompanied by improvements in the total living standard of the people (Chinwuba & Amos, 2011).

Real Gross Domestic Product was employed in measuring economic growth. Real Gross Domestic Product is defined as the total monetary value of all the final goods and services produced within an economy during a given period of time usually one year. The ‘real’ in gross domestic product implies that inflation has been taken care of. In other words, real GDP is based on constant prices not at the current prices (Todaro & Smith, 2011). The real GDP is commonly used to proxy economic growth in economic research. Economic growth is a sustained increase in the output of an economy during a certain period of time. Thus, when there is a sustained increase in the real GDP of a country, the country’s economy is said to be growing (Jhinghan, 2012). The real GDP is to be measured in units of the Nigerian currency.

### Fiscal Policy

Fiscal policy has been variously conceptualized by different scholars. Generally, Fiscal Policy (FP) is the economic term that defines the set of principles and decisions of government in setting the level of public expenditure and how the expenditure is funded (Badreldin, 2013). Reem (2009) defined fiscal policy as the means by which a government adjusts its levels of spending in order to monitor and influence a nation’s economy. The policy is used along with monetary policy in different combinations to direct a country’s goals. According to Reem (2009) fiscal policy is based on the theories of British economist John Magnard Keynes whose theory basically states that governments can influence macroeconomic productivity levels by increasing or decreasing tax levels and public spending. This influence, in turn, curbs inflation, increases employment and maintains a healthy value of money. For the Keynesians, fiscal policy refers to the manipulation of taxes and public spending to influence aggregate demand.

Shahid and Naved (2010) defined fiscal policy refers to government’s efforts to influence the direction of the economy through changes in taxes or expenditures. It is the planning of revenue and expenditure levels and pattern by government to influence the circular flow, or

specifically to promote full employment production, price stability and national welfare (Fashola, 2001). This constitutes basically the objectives of fiscal policy. These objectives are to be achieved through expansionary or contractionary fiscal policies. Governments directly and indirectly influence the way resources are used in the economy. Bhatia (2008) noted that fiscal policy consists of steps and measures which the government takes both on the revenue and expenditure sides of its budget and that it is the aggregate effects of government expenditures and taxation on income, production and employment. Dwivedi (2009) stated that it is government’s programme of taxation, expenditure and other financial operations to achieve certain national goals. He posited that whatever the objectives and the order of priorities, the two basic instruments of fiscal policy used to achieve social goals are taxation and public expenditure According to Jhingan (1997), he opined that fiscal policy refer to government actions affecting its receipts and expenditures which we ordinarily taken as measured by the government’s net receipts, its surplus or deficit.

Ijeh (2008) refer to fiscal policy as government action plan concerning how to raise funds and disburse funds. He further posited that it is the use of government revenue and expenditure programmes to affect the economy in a way to produce desirable effect such as achieving full employment, general good price level, aggregate demand and economic growth and development. He noted that the instruments of fiscal policy are taxation, government expenditure, government budget, public debts and subsidy. Government intervention in the economy through its fiscal policy is usually enunciated in its budget. Government tries to manipulate the fiscal policy instruments to stabilize the economy and achieve a desired level of economic growth. Bhatia (2008) posited that when an economy is stabilized, investment decisions are more favourably effected as consumption expenditure does not fall below certain minimum level and forms a cushion against economic contraction.

Musgrave and Musgrave (2004) identify the following as the objectives of fiscal policy;

1. The provision of social goods, or the process by which total resource use is divided between private and social goods and by which the mix of social goods is chosen. They referred to this as allocation function.
2. Adjustment of the distribution of income and wealth to ensure conformance with what society considers as “fair” or “just” state of distribution. This is referred to as distribution function.
3. The use of budget policy as a tool for maintaining high employment, a reasonable degree of price level stability, and an appropriate rate of economic growth, with allowances for effects on trade and on the balance of payment. This is referred to as the stabilization function.

Fiscal policies often come in either of expansionary or contractionary forms when the government wishes to effectively regulate or manage the level of aggregate demand in any economy (Onifade, Çevik, Erdoğan, Asongu & Bekun, 2020). The expansionary fiscal policy is applied when the government wishes to stimulate aggregate demand and this is often visible when the government increases expenditures on projects in the various sectors of the economy or when it lowers tax burdens while paving the way for higher disposable income for its citizens in addition to some transfer payments. The major rationale behind this is the multiplier effect which holds that public spending could help to stimulate private spending and tackle the challenges associated with economic recession thereby boosting economic growth as popularly demonstrated by the Keynesian economic school of thought (Jaramillo & Cottarelli, 2012). However, there are concerns about the opinion that the expansionary fiscal policy could exacerbate inflationary pressure and in some situations, higher government spending may not create the desired stimulus on economic growth, but rather lead to an undesirable or negative impact on growth: a scenario often referred to as the crowding out effect. The public sector can exercise undue advantage over the private sector in capital

accumulation and when the government aims at expanding expenditure by boosting tax revenue via higher taxes, this may become a disincentive to private sector investment (Afonso & Sousa, 2011). Furthermore, expansionary policies may also pave the way for excessive deficit financing since experiences have shown that several nations resort to borrowing in order to sustain the execution of various public projects. Shonchoy (2010) noted that higher public debt could reduce private sector confidence due to the need for debt servicing which might exacerbate tax burden on the private sector and thus engender a detrimental effect on economic growth and productivity in the long run. Sawyer (2012) noted that future generations should be prevented from the burden of unsustainable debt by tackling the deficit in public finance and strengthening private sector confidence thereby helping to sustain growth and employment in the medium term.

The contractionary fiscal policies are geared towards downsizing and regulating excess in aggregate demand. They are often applied when inflationary pressure is seen to be posing a dangerous threat to economic stability and in some circumstances when prevailing levels of public expenditures have risen to the point of crowding out the private sector efficiency. In such situations, government expenditures are generally scaled-down with the implementation of various austerity measures especially to reduce the overall recurrent expenditures and transfer payments with a possible increase in tax revenue. However, there are also arguments indicating that some contractionary fiscal policies may not produce the expected results as they could also exacerbate economic crisis by creating more disruptions on the growth path (Dellepiane-Avellaneda, 2015).

### Government Revenue

Government revenue refers to the revenue received by a government to finance its operations and development projects. It is an important tool of the fiscal policy of the government as it facilitates government spending (OECD, 2008). Government revenue is defined as all

amounts of money received by a government from external sources for example those originating from “outside the government” net of refunds and other correcting transactions, proceeds from issuance of debt, the sale of investments, agency or private trust transactions, and intergovernmental transfers (Ahmed, 2010). Government Revenue comprises amounts received by all agencies, boards, commissions, or other organizations categorized as dependent on the government concerned. Stated in terms of the accounting procedures from which these data originate, revenue covers receipts from all accounting funds of a government, other than intra-governmental service (revolving), agency, and private trust funds (Chaudhry & Munir, 2010). Financial resources of government constitute the bulk of its revenue and this relate to monies mobilized or generated in the economy (Obiechina, 2010). The working definition of this study is in line with Asher (2001), Soyode and Kajola (2006) assertions that options are available to governments for raising fund for bidding resources away from the other sectors of the economy and from other claimants to undertake their activities. Thus, revenue sources are not only limited to oil and non-oil sources but other means available to government in raising fund to financing their activities. Hence, the study also captured public debt.

Government revenue consists of taxes, revenue from administrative activities like fines, fees, gifts and grants. Government revenue can be classified into two types including: tax and non- tax revenue (Illyas & Siddiqi, 2010). Taxes are the first and foremost sources of public revenue. Taxes are compulsory payments to government without expecting direct benefit or return by the tax payer. The government collects tax revenue by way of direct & indirect taxes. Direct taxes includes; Corporate tax; personal income tax capital gain tax and wealth tax. Indirect taxes include custom duty, excise duty, Value Added Tax (VAT) and service tax (Chaudhry & Munir, 2010). Non-tax revenue refers to the revenue obtained by the government from sources other than tax. These include fees, fines and penalties, surplus from

public enterprises, special assessment of betterment levy, grants and gifts and deficit financing. However, according to Ihendinihu, Ebieri and Amaps Ibanichuka, (2014), two main sources of federal government revenue exist namely; oil and non-oil revenue. Oil revenue is the most important source of revenue to the federal account. Oil revenue are revenue from crude oil and gas exports, receipts from petroleum profits tax and royalties and, revenue from domestic crude oil sales while non oil revenue: This is the second category of revenue to the federal account. This includes revenue that are not derived from or associated with oil. They include; companies income tax (CIT), Custom and Excise Duties, (CED), Valued Added Tax, Education Tax, Personal Income Tax (PIT), Levies, public debt, grants, aids amongst others.

### Government Expenditure

Government expenditure includes all government consumption and investment but excludes transfer payments made by a state. Government expenditure can be for the acquisition of goods and services for current use to directly satisfy individual or collective needs of the members of the community or it can be for acquisition of goods and services intended to create future benefits such as infrastructure investment and the expenditures can represent transfers of money, such as social salaries and cost of administration (Shahid & Naved, 2010).Government expenditure can be classified into capital and recurrent expenditure. Capital expenditures means the expenditure on infrastructure of which its benefit to the citizens lasts beyond the current year and is enjoyed over a long time period. Such expenditure is of non-recurring nature and results in acquisition of permanent assets. Recurrent expenditure is recurring spending or, in other words, spending on items that are consumed and only last a limited period of time. Recurrent expenditure would include wages and salaries and expenditure on consumables and so on (Olawunmi & Ayinla, 2007).

Government expenditure which it incurs for its own maintenance, benefit of the society and external bodies (Ezeali & Nwoba, 2012) is derived from public revenue. The categorization of government expenditure is not mutually exclusive but are indeed inter-linked. For instance, while capital expenditure gave rise to recurrent expenditure in most cases through the operational and maintenance costs of completed capital projects, the amount available for investment was a function of not only the size of revenue but also the amount that goes annually into the running of government (Agbonkhese & Asekome, 2014). There are some components of government expenditures that are productive while some are unproductive. We classify productive government spending as the sum of expenditure on education, health, defence, housing, economic affairs and general public services while non-productive expenditure are those incurred on public order and safety, recreation and social protection (Chu, Holscher & McCarthy, 2018). Government expenditures on health and education raise the productivity of labour and increase the growth of national output. Education is one of the important factors that determine the quality of labour. Government expenditure on health could lead to economic growth in the sense that human capital is essential to growth.

Government expenditure can be broadly classified into capital and recurrent expenditure. Capital expenditure refers to expenditure that is generally more discretionary and is made on new programmes and activities that are yet to reach their final desired state of completion. It constitutes of investment in such schemes as construction of railways, roadways and communication systems, irrigation and power projects, which raise economic growth both directly and indirectly through encouragement of further private investment (Ag’enor, 2007). Bailey (2002) see capital expenditure as the amount spent in the acquisition of fixed and expenditure incurred in the improvement of existing fixed assets such as lands, building, roads, machines and equipment, including intangible assets. Expenditure in research also falls within this component of government expenditure. Capital expenditure is usually seen as

expenditure creating future benefits, as there could be some lags between when it was incurred and when it takes effect on the economy.

Recurrent expenditure refers to expenditure of recurrent expenses that are less discretionary and are made on ongoing programmes or activities. It constitutes of wages and salaries, administration, transfers payment, debt repayment and welfare services (Bailey, 2002). Recurrent expenditure refers to expenditure on purchase of goods and services, wages and salaries, operations as well as current grants and subsidies (usually classified as transfer payments). Recurrent expenditure, excluding transfer payments, is also referred to as government final consumption expenditure. The annual budget spells out the direction of the expected expenditure, as it contains details of the proposed expenditure for each year, though the actual expenditures may differ from the budget figures due, for example, to extra- budgetary expenditures or allocations during the course of the fiscal year. Recurrent expenditure may affect economic growth through its effects on people’s ability and willingness to work, save and invest.

### Domestic Debt

Oshadami (2006) defined Domestic Government debt as debt instruments issued by the Federal Government and denominated in local currency. In principles, state and local government can also issue debt instrument, but limited in their ability to issue such. Debt instrument consist of Nigerian Treasury certificates, Federal government development stocks and treasury bonds. Out of these, treasury bills, treasury certificates and development stocks are marketable ad negotiable while treasury bonds; ways and means advances are not marketable but held solely by the central Bank of Nigeria.

Domestic debt is a fundamental tool used by the governments in both developed and less developed countries to finance internal and external gaps. Proper and efficient utilization of

the resources in the form of debt may enhance productive capacity and economic growth through development related projects. However, if the debt is not effectively utilized and managed, it creates problems for the economy (Ahmad, Sheikh, & Tariq, 2012). In order to develop and deepen the financial markets, there is need for a steady supply of a wide range of instruments to be traded. Government debt provides a benchmark for issuance of private sector securitised debt such as corporate bonds (Maana, *Owino* & Mutai, 2008). The government starts by issuing short term Treasury bills to build investor confidence through guaranteed or secure return, and thereafter financial deepening is achieved by issuing longer dated instruments. Extensive use of domestic borrowing can have severe implications on the economy. Domestic interest payments consume a significant part of government revenue more so if the associated interest rates are higher compared to those on external debt. In shallow financial markets, the interest cost on domestic debt increases with the debt stock as a large proportion of the debt is held in short term instruments (Maana, Owino & Mutai, 2008).

### External Debt

Countries experiencing fiscal deficits, especially the developing ones borrow to improve their economic growth. Government borrows in principle to finance public goods that increase welfare and promote economic growth (Ogunmuyiwa, 2011). Due to the fact that the domestic financial resources are not adequate, borrowing is acquired from foreign sources. The amount of fund provided by these foreign sources constitutes the external debt of a nation. In Nigeria, external debt is sourced from multilateral agencies, Paris club creditors, London club creditors, Promissory Note holders and other creditors. External debt is one of the sources of financing capital formation in any country (Ayadi & Ayadi, 2008). External debt is one of methods through which countries finance their deficits and carry out economic projects that are capable of increasing peoples’ standard of living and promote sustainable

economic development. It is an important resource needed to support sustainable economic growth (Audu, 2004).

External debt is a major source of public receipts. The accumulation of external debt should not signify slow economic growth. It is a country’s inability to meet its debt obligation compounded by the lack of information on the nature, structure and magnitude of external debt (Were, 2001). Soludo (2003) opined that countries borrow for two broad categories; macroeconomic reasons to either finance higher investment or higher consumption and to circumvent hard budget constraint. This implies that an economy borrow to boost economic growth and alleviate poverty. He argued that when debt reaches a certain level, it becomes to have adverse effect, debt servicing becomes a huge burden and countries find themselves on the wrong side of the debt-laffer curve, with debt crowding out investment and growth. The debt service burden has militated against Nigeria’s rapid economic development and worsened the social problems (Audu, 2004).

### Fiscal Deficit

Fiscal deficit means the situation where the expenditures exceed its revenues. Generally speaking, there are three major schools of thought concerning the issue of a country’s budget deficit, namely Keynesian, Neoclassical, and Ricardian. Basically, while Keynesian economists advocate that budget deficit produces positive impacts on the whole economy by boosting economic growth, the Neoclassists would rather propose the opposite conclusion. The Ricardian economists, meanwhile, believe that there is neutral relationship between budget deficit and economic growth, and that deficit policy ‘is a matter of indifference’ (Berheim, 1989). In fact, the choice of subscribing to a specific theory reflects not only an economist’s technique but also a government’s policy approach which shapes the whole economy.

First, Keynesians suggest that increasing budget expenditures, or in other words raising budget deficit, will push up aggregate demand and improve investors’ confidence on the economic potential, thereby foster investments and aggregate savings which results in long- term economic growth. Budget deficit has the same effects when increased by lowering tax to upsurge the available income of household sectors (which leads to the ultimate expansion of consumption and savings). Therefore, appropriately timed deficits are beneficial for the economy (Berheim, 1989). However, Keynesian paradigm, with support to high government spending, was empirically challenged when it failed to explain the world economic recession in 1970s and the boom in 1980s which was thanks to extensive tax cuts and tightened fiscal policy (Pham, 2008).

Second, the Neoclassical paradigm supporters believe that current budget deficit will leave heavier taxation burden to the future, which encourages consumers to increase consumption at present and thus depresses national savings. Interest rates must drive up to bring capital markets into balance and investments shrink due to the reduction in capital accumulation (UNDP, 2011). In view of financing budget deficit by domestic borrowings, the amount of loanable funds available for private sectors diminishes, interest rates increase, and private investments (for production expansion) are discouraged (Saleh, 2003). In both cases, increase in budget expenditures (or increase in budget deficit) will crowd out private investments and distort the efficient allocation of resources as private sectors are supposed to be more productive in generating returns (thanks to the pressure of competition). In the goods market, when the economy is at full capacity and employment of resources (long-run), any augmentation of public expenditure must necessarily lead to a drop of the same amount of private spending (crowding-out) and create adverse impacts on economic growth. Neoclassical theory is commonly believed to concern the long-run influence of budget deficit on the economy.

Third, the Ricardian equivalence theory rejects the influence of deficit on macroeconomic variables in both short run and long run by arguing that deficit merely postpones taxes. In particular, for a given path of government spending, a deficit-financed cut in current taxes leads to higher future taxes that have the same present value as the initial cut. It implies that people will save a necessarily sufficient amount to pay in the future based on their forecast of future income and payment. Therefore, when tax cuts upsurge budget deficit, current disposable income will increase and allow people to save more. Meanwhile, deficits cause public savings to decrease, which offsets the increase in private savings and keep gross national savings unchanged. Following the logic as mentioned above, it can be argued that deficit has no significant effect on savings, investments, and overall growth (Saleh, 2003). However, this equivalence approach is often criticized due to its dependence on a variety of strong assumptions, which are considered too extreme and invalid in most empirical cases (Bernheim & Bagwell, 2008).

### The Relationship between Fiscal Policy and Economic Development

* + 1. **Fiscal Policy and Economic Growth**

Whether fiscal policy stifles or promotes growth has been a hot debate since Adam Smith’s era. The Neoclassical economists are of the view that fiscal policy cannot affect output growth in the long-run. However, they believe that it may affect its level. On the other hand, proponents of public policy endogenous growth model hold the contrary view. According to them fiscal policy can affect level of output as well as its long-run growth (see for example, (Barro, 1990; Barro & Sala-i-Martin, 1992).

The International Monetary Fund (2009) and CBN (2010) stated that economic growth is the increase in the amount of the goods and services produced in an economy over time. It is conventionally measured as the percent rate of increase in real gross domestic product, or real

GDP (RGDP). Growth is usually calculated in real term i.e. inflation- adjusted terms, in order to net out the effect of inflation on the price of the goods and services produced. The drivers of economic growth in an economy as posited by Dwivedi (2008) are the quality of the labour force, natural resources, capital formation, technological development and political and social factors while Riley (2012) noted that the determinants are growth in physical capital stock; growth in the size of active labour force available for production; growth in the quality of human capital; technological progress and innovation; institutions including stable democracy, maintaining rule of law and macroeconomic stability; and rising demand for goods and services either led by domestic demand or from external trade. Therefore, for fiscal policy to impact on economic growth, the management of the fiscal instruments will be directed to affect each or some of the drivers of growth as the case may be so as to impact on the overall growth of the economy.

The measure and potency of fiscal policy to achieve economic growth will inter alia depend on the transparency and accountability of the fiscal institutions, appropriate combination of fiscal strategy and suitable mix of monetary policy, political stability, socio-political inclination of the society, state of nature of the economy and response of the market forces. The practicality of fiscal policy through variations of its instruments to impact on economic growth will depend on the state of nature of the economy at a particular period of time as the management and adaptability of the instruments during each of the state of nature will vary from one period to another. The fiscal policy thrust will be different at each of the economic cycles since at each cycle, the economy will be at different level of equilibrium position.

A variation in the fiscal instruments by way of increases in government expenditure through deficit budgeting and reduction in taxes will positively affect aggregate demand, employment, output and income within the economy. This is referred to as expansionary fiscal policy. However, if government desire to reduce aggregate demand, the above measure would be

reversed. This is referred to as contractionary fiscal policy. Musgrave and Musgrave (2004) noted that budget policy affects the division of total output between consumption and capital formation and thereby the rate of economic growth. Nevertheless, increase in government expenditures through deficit financing by way of issue of treasury bills, certificates or bonds or tax cut will cause crowding effect of private investments. Jhingan (1997) argued that government can also use discretionary fiscal policy by changing taxes and keeping its expenditure constant, changing its expenditure with constant taxes and vary both expenditure and taxes simultaneously.

There are controversies over the net effect of fiscal policy on economic growth. This can be seen from the theoretical exposition of different schools of thought, mainly: (i) The Classical (Monetarists) School (ii) The Keynesian School and (iii) The Neo-classical School. The arguments and disagreements among the schools centered on deficit financing of budget as effective instrument for economic development.

The classical school led by Adam Smith is the basis for Monetarism as emphasized by Milton Friedman (IMF, 2014), which concentrates on managing the money supply, through monetary policy. Crowding out and aggregate supply are the centerpiece of their contention. As a school of thought, they assert that variations in money supply have major influence on national output in the short run and on price levels over longer periods. They generally stress the importance of controlling money supply to keep inflection low. They believe that with effective management of money supply, there will be automatic adjustment of the market forces which will enhance purchasing power. This sends signal to increase manufacturing capacity through employment of more factors (including labour). For labour to be employable, it trains and develops itself. So, this policy effect will rob-off on employment, increase manufacturing capacity, increase actual output, lead to human capacity development and enhance the nations standard of living through enhanced income.

On fiscal policy, monetarists are generally critical of expansionary fiscal policy. The school argues that deficit financing can adversely affect macroeconomic performance. They believe that funding fiscal deficit through debt will put pressure on interest rate, which over time will be so high that only government and its agencies can afford to borrow, while individual entrepreneurs and firms are unable to compete and hence crowded-out of the market (Abdullahi, Abu Bakar & Hassan, 2017). The above was the general view until the 1940s when the Keynesian doctrine countered it.

The Keynesian School of thought, led by the British economist John Maynard Keynes, with centerpiece on multiplier and short run effect, theorized that government changes in the levels of taxation and government spending influences aggregate demand and the level of economic activity. Therefore, fiscal policy can be perceived as an important tool for achieving a level of aggregate demand consistent with full employment and price stability. Thus, the natural flow of their argument i.e. during recession, the government through debt financing increases consumers’ disposable income. The effect is to increase aggregate demand which causes production capacity to be maximized or enhanced in order to meet the aggregate demand. With these adjustments, more factors will be employed, and there will be returns to factors including income to households and profit to entrepreneurs and as well, revenues to the government, thus creating a win-win situation that results in a higher standard of living. On the adverse effect of cost of funds on the economy, Keynesians argued that since resources are not fully utilized (since government is merely spending unused resources) individual entrepreneurs and firms will not be crowded-out by high interest rate (Anyanwu & Oaikhenam, 1995). This he explained with the Investment/Savings-Liquidity Preference/Money supply (IS-LM) model otherwise called the Hicks-Hanson model.

The Neo-classical economist arose in response to Keynesian doctrine. Led by British Economist Alfred Marshall, they outline how a steady economic growth rate results from a combination of

three driving forces – labour, capital and technology. Emphasized by Robert Solow and Trevor Swan in 1956 (Investopedia, 2020), the theory states that economic growth is the result of three factors- labour, capital and technology. While an economy has limited resources in terms of capital and labour, the contribution from technology to growth is boundless. They believe in a more passive fiscal policy approach of low tax rates and limited government spending that will not crowd-out private sector. They challenged the Keynesians for not taking into consideration the effect of taxation or government borrowings on private spending and the manner of deficit financing.

The Ricardian Equivalence argues that attempt to stimulate an economy by increasing debt- financed government spending is bound to fail because demand will remain unchanged. The hypothesis holds that consumers are forward looking and looks at government budget constrains when making consumption decisions. The theory states that consumers foresee that tax cuts today paid by deficit financing, will ultimately lead to tax increases in future. That being the case, they will save the income from tax cuts rather than spend it. This position is supported by the permanent income hypothesis which suggests that current consumption be determined by the present value of future income, which implies that both present and future taxes will affect current consumption. If Ricardian equivalence holds, then, government policies to reduce fiscal deficit may not achieve its goals.

The Nigerian government applies variants of the above theoretical models towards achieving her macroeconomic objectives, but its effectiveness is the main objective for this research. The theoretical controversy has also been extended to conflicting set of empirical findings as discussed below.

### Government Revenue and Economic Growth

Government use revenue proceeds to render their traditional functions, such as the provision of public goods, maintenance of law and order, defence against external aggression, regulation of

trade and business to ensure social and economic maintenance (Otu & Adejumo, 2013). Revenue is key to promoting sustainable growth and poverty reduction. It provides developing countries with a stable and predictable fiscal environment to promote growth and to finance their social and physical infrastructural needs (Takumah, 2014). Ilyas and Siddiqi (2008) asserted that the availability and mobilization of tax revenue is the fundamental factor with which an economy is managed and run. Revenue is a core instrument in the hands of the government to fulfill expenditures and it helps in acquiring sustained growth targets. The nature of taxes can help predict a growth pattern (Romer & Romer, 2010).

Appah (2014) noted that the development of any nation depends on the amount of revenue generated for the provision of infrastructural facilities for the common good of all. Musgrave and Musgrave (2004) maintained that the economic effects of taxation include micro effects on the distribution of income and efficiency of resource use as well as macro effects on the level of capacity output, employment, prices and growth. Nwezeaku (2005) asserted that government has certain functions to perform for the benefit of its citizens. Government exists in order to effectively collect taxes from available economic resources and make use of same to create economic prosperity. The governments of developed countries like Canada, United States, Netherland, United Kingdom, who derive substantial revenue from Company Income tax, Value Added Tax, Import Duties and have used same to create prosperity (Appah*,* 2004). Thus, tax revenue can be used to influence or achieve macroeconomic stability. The tax system provides an opportunity for government to collect additional revenue besides other sources of income, which is needed in discharging its pressing obligations. A good system of tax also offers itself as one of the most effective means of mobilizing a nation's internal resources and it lends itself to creating enabling and conducive environment to the promotion of economic growth and development (Ogbonna, 2010).

The main purpose of raising revenue is to meet government expenditure and to redistribute wealth and management of the economy (Ola, 2001; Bhartia, 2009). Anyanwu (1993) pointed out that there are three basic objectives of taxation which is a major source of government revenue. These are to raise revenue for the government, to regulate the economy and economic activities and to control income and employment.

Similarly, Nzotta (2007) opined that taxes generally have allocation, distributional and stabilization functions. The allocation function of taxes entails the determination of the pattern of production, the goods that should be produced, who produces them, the relationship between the private and public sectors and the point of social balance between the two sectors. The distribution function of taxes relates to the manner in which the effective demand over economic goods is divided, among individuals in the society. Musgrave and Musgrave (2006) noted that the distribution function deals with the distribution of income and wealth to ensure conformity with what society considers a fair or just state of distribution. The stabilization function of taxes seeks to attain high level of employment, a reasonable level of price stability, an appropriate rate of economic growth, with allowances for effects on trade and on the balance of payments. The scope of these functions depends, inter alia, on the political and economic orientation of the people, their needs and aspirations as well as their willingness to pay tax. Thus the extents to which a government can perform its functions depend largely on the ability to design tax plans and administration as well as the willingness and patriotism of the governed (Nwezeaku, 2005).

Government revenue can be classified in non-oil revenue and oil revenue. Non-oil revenue is the income or proceeds generated from the commodities that are sold in the international market excluding crude oil (petroleum product). Non-oil exports on the other hand are those commodities (excluding crude oil) that are sold abroad in order to generate revenue. These non- oil exports include agricultural products or crops, manufactured goods, tourist services/receipts,

solid minerals, telecommunication services and other exports. Non-oil export can also be seen as a sector. Kromtit and Gukat (2016) stated that the non-oil sector comprises of those groups of 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.

Also, Elechi, Kasie and Chijindu (2016) were of the opinion that non-oil exports are products which are produced within the country in the agricultural, mining, quarrying and industrial sector that are sent outside the country to generate revenue for the growth of the economy, excluding oil products like coal, cotton, timber, groundnut, cocoa, beans, palm kernel, palm oil, hides, skin, cattle, etc. Similarly, Adams (2013) noted that non-oil revenue in Nigeria comprises company income tax, custom and excise duties and independent revenue sources which consist of fees, licenses, rent on government property. Other non-oil sources of revenue worthy of note in this study include agriculture, tourism, entertainment, services, hospitality, sports, manufacturing, ICT and solid mineral. Therefore, non-oil sector comprises of all sectors of the Nigerian economy with the exemption of oil and gas sub-sector. All the proceeds generated from these non-oil sectors constitute the non-oil revenue.

Ozurumba and Chigbu (2013) asserts that the non-oil sector has huge potentials for foreign exchange earnings and can bring about huge employment generation and poverty reduction through the extensive backward linkages it offers. The diversification of the Nigeria economy is necessary for various reasons: first the volatility of the international oil market with the resultant fluctuation of government revenue. This gives credence to the argument for diversification of the nation’s economy. Adesoji and Sotubo (2013), concurs that Nigeria’s over-dependence on crude oil is dangerous for two reasons: one being that crude oil is a wasting asset with a proven reserve which would eventually become depleted and secondly, the vagaries of the oil market has resulted in a significant decline in the earnings because of the exogenously determined price

of crude oil. This leaves no choice than to expand the revenue base of the nation and improve upon the economy’s future development.

Wambai and Hanga (2013) indicated that the perceived phenomenal increase in oil revenue has not translated into meaningful development of the non-oil sector as experienced by some Asian Economics. The global downturn experienced in 2008 made more obvious the high degree of dependence of Nigeria’s economy on external influence. With a mono-product economy which depends largely on export of crude oil for the bulk of government revenue, Nigeria has become vulnerable to adverse developments in the international oil market. Particularly, oil demand and prices have become much more volatile and has nose-dived substantially as alternatives to crude oil are being discovered. Unfolding events in the world oil markets also prove that limitations in oil demand and supply would make large earnings from oil revenue much more unlikely. Therefore, the need to expand the non-oil revenue base of Nigeria remain non-negotiable in bringing about the desired increase earning and greater sustainable development; and to place Nigeria in its pride of place among comity of nations. Nigerian economy is characterized by low output growth, high unemployment rate and rising inflations, making the economy to perform below its potentials, especially in recent years. This is because the economy remains extremely vulnerable to external shocks, and the vicissitudes of world oil market price.

The policy thrust over the years to expand the non-oil sector in a bid to diversify the nation’s revenue base by the government has yielded little or no result. Ozurumba and Chigbu (2013) asserts that the non-oil sector has huge potentials for foreign exchange earnings and can bring about huge employment generation and poverty reduction through the extensive backward linkages it offers. The diversification of the Nigerian economy is necessary for various reasons; first the volatility of the international oil market with its resultant fluctuation of government revenue. This gives credence to any argument for diversification of the nation’s revenue base. Secondly, the importance of export to a nation’s economic growth and development cannot be

over-emphasized. Adesoji and Sotubo (2013), concurs that Nigeria’s over-dependence on crude oil is dangerous for two reasons one being that crude oil is a wasting asset with a proven reserve which would eventually become depleted and secondly, the vagaries of the oil market has resulted in a significant decline in the earnings because of the exogenously determined price of crude oil. This leaves no choice than to expand the revenue base of the nation and improve upon the economy’s future growth.

Nwosa and Ogunlowore (2013) indicated that the perceived phenomenal increase in oil revenue has not translated into meaningful growth of the non-oil sector as experienced by some Asian Economies. The global downturn experienced in 2008 made more obvious the high degree of dependence of Nigeria’s economy on external sector. With a mono-product economy that depends largely on export of crude oil for bulk of government revenue, Nigeria has become vulnerable to adverse developments in the international oil market. Particularly oil demand and prices have become much more volatile and has nose-dived substantially as alternatives to crude oil are being discovered. Unfolding events in the world oil markets also proves that limitations in oil demand and supply would make large earnings from oil revenue much more unlikely. Imperatively, the need to expand the non-oil revenue base of Nigeria remains nonnegotiable in bringing about the desired increased earnings and greater sustainable growth and place Nigeria in its pride of place among the committee of nations.

### Government Expenditure and Economic Growth

Governments all over the whole world have tried to stimulate their economies by increasing government spending, while the others heavily have criticized th em (Larch & Lechthaler, 2013). Thus, the relationship between government expenditure (GE) and economic growth has been widely debated among scholars both in theoretical and empirical studies. Better understanding of this issue is relevant for policy in two major aspects (Arpaia & Turrini, 2008).

First, answering these questions is relevant for the debate on the sustainability of public finances. Moreover, it could help to assess the impact on government spending and then on deficit arising from a structural change in growth. Second, it assists to obtain a benchmark against which to evaluate the stance of expenditure policy and then of overall fiscal policy (Arpaia & Turrini, 2008).

Government spending is a major component of national income. However, GE has a double- edged sword (Ahmad & Loganathan, 2015). On the one hand, it could significantly increase aggregate output. On the other hand, it could also have adverse consequences such as crowding out private investment and might hinder overall economic performance – “if the spending comes at a cost of increased taxes and/or borrowing to finance the GEs” (Alshahrani & Alsadiq, 2014). Marratin and Salotti (2011) noticed that an increase in government spending or government consumption might lead to an increase of net present value of taxation. Even more, according to Ricardian equivalence holds among intertemporarly optimizing consumers. Thus, this results in the reduction of permanent income and the associated negative effect causes both decrease in private consumption and increase in labor supply.

According to Alshahrani and Alsadiq (2014), a fundamental question in growth theory is whether increasing government spending promotes economic growth; however the empirical evidence is inconclusive. Keynesian macroeconomic theory has presented that increased government spending tends to lead to high aggregate demand and rapid economic development, while the Wagnerian theory has focused on an opposite view, that an increase in national income causes more government spending (Ahmad & Loganathan, 2015). According to the Wagnerian approach, the share of government spending in gross national product would increase with economic development (Kumar, Webber & Fargher, 2012). Landau (1983) stated: “substantial portions of government “consumption expenditure” are

investment in a broader sense.” For Keynes, the causality runs from government spending to economic growth. For example, the USA and China used to buy national clauses in their stimulus packages (Larch & Lechthaler, 2013). However, neo-classical school has not supported this point of view. It has been argued that increased government spending might slow down the total economic performance due to a bid to finance rising spending, the government might have to borrow money or raise taxes (Ahmad & Loganathan, 2015).

In Nigeria for instance, despite the huge amount of expenditures, there is still insignificant level of development witnessed. Public expenditures on all sectors of the Nigerian economy is expected to lead to economic growth in the sense that capital and recurrent expenditure will boost the productive base of the economy which in turn will lead to growth. The interest by financial experts and economist in Nigeria and other jurisdictions on the role of government expenditure is still inconclusive. The relationship between economic growth and government expenditure is a important subject of analysis and debate Mitchell, (2005). A central question is whether or not public sector expenditure increases the long run growth rate of the economy. Some scholars are of the opinion that public expenditure, notably on physical infrastructure and human capital, can be growth enhancing although the financing of such expenditures can be growth retarding in the short-run. Public expenditure is an important instrument for government to control the economy. It plays an important role in the functioning of an economy whether developed, developing or under developed. It is the expenses which government incurs for the maintenance of the government and the society in general (Oriakhi 2004). They can also be refer to as expenses which government incurs in carrying out its programmes (Okoh 2008). While Anyanwu (1997) posit that government expenditure involves all the expenses which the public sector incurs for its maintenance for the benefit of the economy.

A great number of empirical studies that focus on government spending and economic growth have been published in both advanced and developing economies. However, the results of studies have varied across the countries due to the different levels of socio-economic development, the time of periods analyzed, and various research methods employed. Owyang and Zubairy (2013), in a case of the USA, discovered that government spending at national level appears diverse on state-level economies. Another study on the USA proved that shocks of government spending might have caused the increase of aggregated consumption (Murphy, 2015). Investigations have suggested that on some occasions lower levels of GE would enhance economic growth, while on other occasions higher levels of government spending might be more desirable (Alexiou, 2009). However, higher level of government spending very often increases government debt. Bose, Haque and Osborn (2007) while analyzing the relationship between government spending and economic growth in 30 developing countries, discovered strong evidence that high level of government deficit might lead to adverse growth effects. Even in this situation, Drisaki (2013) observed that in Greece case, there was unidirectional Granger causality that driven from economic growth to the government debt in the long run. The other study (Spilioti & Vamvoukas, 2015) covered the period of more than 40 years and proved that the positive relationship between government debt and GDP growth exists until the certain level of debt-to-GDP ratio (at about 110 percent in the case of Greece).

D’Agostino et al. (2016) assumed that an increase in government spending might have caused a higher level of corruption in a country as well, which means that corruption might have an indirect effect on GDP growth as well. This study confirmed that government spending enhances economy growth, while large military burden and non-capital government spending reduces GDP and corruption has significant indirect impact. Meanwhile, the negative affect of government spending on economy growth was found in the countries with ineffective government (Butkiewicz & Yanikkaya, 2011). Alexiou (2009) analyzed the relationship

between government spending and economic growth in the South Eastern Europe. The evidence has indicated that four out of the five variables used in the estimation, i.e. government spending on development assistance, trade-openness, capital formation and private investment all have positive and significant impact on economic growth.

Meanwhile, Ndjokou (2013) assessed the link between fiscal policy and growth. To this end, the author investigated the influence of the composition of the budget on economic growth in nine countries of the CFA Franc zone over the period of 1990-2010. The insights have led to the conclusion that public spending significantly reduces economic growth. In the study of Olulu, Erhietovwe and Adrew (2014), GEs in Nigeria disaggregated into total expenditures, spending on health, education and public debt. The results have revealed an inverse relationship between government spending on health and economic growth. Government spending on education has been found insufficient to cater the expending sector in Nigeria. In addition, it has been revealed that GE could promote foreign and local investments. Using data of 14 European countries over the period of 1996-2013, Afonso and Alves (2016) assessed public expenditure-income elasticity. The authors have described that some functions of government spending for a few countries, such as Austria, France, the Netherlands and Portugal support the approach that an increase in national income causes more government spending.

These studies have revealed that in majority of cases the relationship between government spending and economic growth has been detected. In some occasions, increasing government spending has impacted on economic growth while on other cases economic growth has had an effect on government spending. However, sometimes both GE and economic growth have caused each other and this supports the bi-directional approach. There was no consensus about the existence of relationship between the variables due to different levels of socio-

economic development of the countries observed, the period analyzed and methodology applied.

### Domestic Debt and Economic Growth

Countries experiencing fiscal deficits, especially the developing ones like Nigeria borrow to improve their economic growth (Ebi, Abu & Clement, 2013). Domestic debt is a fundamental tool used by the governments in both developed and less developed countries to finance internal and external gaps. Proper and efficient utilization of the resources in the form of debt may enhance productive capacity and economic growth through development related projects. However, if the debt is not effectively utilized and managed, it creates problems for the economy (Ahmad, Sheikh, & Tariq, 2012). Government domestic debt is contracted for various reasons. First, it is used to finance the budget deficit when the government is not able to meet its expenditure commitments using domestically raised revenue and externally sourced grants and borrowing. Second, domestic debt is contracted during implementation of monetary policy through open market operations. Third, debt instruments are important in financial markets development. In order to develop and deepen the financial markets, there is need for a steady supply of a wide range of instruments to be traded.

Economic theory suggests that reasonable levels of borrowings by a developing country are likely to enhance its economic growth (Pereira & Xu, 2000). Therefore, a developing country wishing to mobilise capital resources to foster economic growth and development may at one time or the other resort to borrowing. To encourage growth, countries at early stages of development like Nigeria borrow to augment the dominance of meager capital stocks. The anticipation is that the countries are likely to have investment opportunities with rates of return higher than that of their counterparts in developed economies. Enhanced economic growth has the potentials to alleviate a country’s poverty situation (Amakom, 2003). This becomes crystalised when borrowed funds and some internally ploughed back funds are

properly utilized for productive investment devoid of macroeconomic instability occasioned by inappropriate policies that distort economic incentives and cause sizable adverse shocks. Growth therefore is likely to increase and allow for timely debt repayments. When this cycle is maintained for a period of time, growth will affect per capita income positively which is a prerequisite for poverty reduction (Amakom, 2003).

Furthermore, government debt provides a benchmark for issuance of private sector securitised debt such as corporate bonds (Maana, Owino & Mutai, 2008). The government starts by issuing short term Treasury bills to build investor confidence through guaranteed or secure return, and thereafter financial deepening is achieved by issuing longer dated instruments. Extensive use of domestic borrowing can have severe implications on the economy. Domestic interest payments consume a significant part of government revenue more so if the associated interest rates are higher compared to those on external debt. In shallow financial markets, the interest cost on domestic debt increases with the debt stock as a large proportion of the debt is held in short term instruments (Maana, Owino & Mutai, 2008).

Alison (2003) revealed three theoretical reasons often advanced for government domestic debts. The first, is for budget deficit financing, secondly, is for implementing monetary policy (buying and selling of treasury bills in the open market operation) and the third is to develop the financial instruments so as to deepen the financial markets. In Nigeria, several factors have been advance to explain the changing domestic debt profile between 1960s to date. The major factors include – high budget deficits, low output growth, large expenditure growth, high inflation rate and narrow revenue base witnessed since the 1980s. The justification behind creation of domestic debt in poor countries is that it kindles development of deep and liquid internal financial markets, protect countries from unfavourable external shocks, and mitigate foreign exchange risk (Del, 2003; Aizenman, 2004; Kumhof, 2005). Domestic debt can crowd in risky private sector investment by protecting bank balance sheets and

profitability (Barajas, 2000). As such, investments are more proficient compared with investment associated with low risk.

Most important concern about domestic debt is crowding out effect on private investment. When governments borrow domestically, they use domestic private savings, otherwise that may have been on hand for private sector lending. In turn, smaller residual pool of loan able funds was available in market to elevate the cost of capital for private borrowers. It results in dropping private investment demand, and therefore capital accumulation, growth and welfare (Diamond, 1965). Domestic debt is also viewed as more expensive in comparison to concessionary external financing (Burguet, 1998). As a result, interest load of domestic debt may absorb important government revenues and thus crowd-out pro-poor and growth enhancing expenditures. High-yielding government domestic debt held by banks can make them self-satisfied about costs and decrease their efforts to mobilize deposits and fund private sector projects (Hauner, 2006). The domestic debt also seems to have a negative and significant relationship with investment. This situation is well explained by Hauner (2006). He points out that government domestic debt held by banks results in making banks self- satisfied with their costs and makes them reduce their efforts to mobilize deposits to fund private sector projects. Hence, domestic debt reduces investment to some extent.

### External Debt and Economic Growth

No government is an island on its own; it would require aid so as to perform efficiently and effectively. One major source of aid is foreign borrowing or external debt. The motive behind external debt is due to the fact that countries especially the developing ones lack sufficient internal financial resources and this calls for the need for foreign aid (Sulaiman & Azeez, 2012). Aminu, Ahmadu and Salihu (2013) noted that countries borrow to promote economic growth and development, ensuring that there exists enabling environment for people to invest their money in other sectors of the economy. Borrowing is necessary to meet the financial

requirement of the government. Where government has budget deficit, then the best alternative is to seek other sources (borrow) where such deficit can be eliminated. Government borrows in order to close the resource gap between savings and investment (Aminu, Ahmadu & Salihu, 2013).

External debt is a major source of public receipts. The accumulation of external debt should not signify slow economic growth. It is a country’s inability to meet its debt obligation compounded by the lack of information on the nature, structure and magnitude of external debt (Were, 2001). Soludo (2003) opined that countries borrow for two broad categories; macroeconomic reasons to either finance higher investment or higher consumption and to circumvent hard budget constraint. This implies that an economy borrow to boost economic growth and alleviate poverty. He argued that when debt reaches a certain level, it becomes to have adverse effect, debt servicing becomes a huge burden and countries find themselves on the wrong side of the debt-laffer curve, with debt crowding out investment and growth. The debt service burden has militated against Nigeria’s rapid economic development and worsened the social problems (Audu, 2004).

The rationale for raising external loan by developing countries has always been to bridge the domestic resources gap in order to accelerate economic growth and development. To that effect, no one will quarrel with any developing country for resorting to external borrowing provided that the proceeds are utilized in a productive way that will facilitate the eventual servicing and liquidation of the debt. Thus, Nigeria resorted to external borrowing early in her history in order to quicken the pace of economic growth (Sanusi, 1987).

It is generally expected that Nigeria like many other developing countries, facing a scarcity of capital, will acquire external funds to supplement domestic savings. However, rationality dictates that the rate at which external borrowing is undertaken should depend on the “sustainable” level of foreign borrowing which in turn depends on the links among foreign

and domestic savings, investments, and economic growth. The main lesson of the standard “growth with debt” is that a country should borrow abroad as long as the capital acquired produces a rate of return that is higher than the cost of foreign borrowing. In that event, the borrowing country is increasing capacity and expanding output with the aid of foreign savings (Mbanasor & Okere, 2013).

As far as the relationship between external debt and economic growth is concerned, a reasonable level of borrowing is likely to enhance economic growth, through capital accumulation and productivity growth (Chowdhury, 2001). Because at early stages of development, countries have small stocks of capital and they have limited investment opportunities, external borrowing for productive investment creates macroeconomic stability (Burnside & Dollar, 2000), external debt is also been seen as capital inflow having positive effect on domestic savings, investment and economic growth; it implies that foreign savings complement domestic savings to cater for investment demand (Eaton, 1993).

However, high level of accumulated debt has an adverse effect on rate of investment and economic growth. Most broad rationalization of the adverse effect of debt is “debt overhang” effect. If there is some likelihood that in future, debt will be larger than the country's repayment ability then anticipated debt-service costs will depress further domestic and foreign investment (Karagol, 2002). The other channel through which debt obligations affect economic growth is known as “crowding out” effect. If a greater portion of foreign capital is used to service external debt, very little will be available for investment and growth.

### Fiscal Deficit and Economic Growth

The attainment of a sustained level of economic growth is a key objective of national governments, especially those with nascent democracies such as Nigeria. This is in spite of the heavy emphasis on development. The importance of the maintenance of sustained rates of

growth stems from its importance as a prerequisite for development. In general, the attainment of this goal in developing countries has involved the extensive use of fiscal policy which has resulted in the maintenance of a sustained fiscal deficit (Umaru & Gatawa, 2014). However, over time there has been a strong debate as to the efficacy of fiscal policy as an instrument of macroeconomic stabilization and the promotion of economic growth, with proponents arguing that monetary policy is better suited for the achievement of such objectives. This debate is hotter where the issue of the long-term sustenance of fiscal deficits is concerned, especially with respect to developing countries (Umaru & Gatawa, 2014).

With respect to the effects of deficit financing, Fasoranti and Amasoma (2013); Umaru and Gatawa (2014) have observed that the manner in which fiscal deficits are financed is a major determinant of its impact on the economy. Fiscal deficits are usually financed using external and internal sources. The use of the former creates a deficit in the current account resulting in exchange rate appreciation and disequilibrium in the balance of payments, while the latter results in high interest rates and a decrease in private investment borrowing-, and seigniorage (Fasoranti & Amasoma, 2013). The impact of domestic financing of deficit is explained by the crowding out theorem which is based on the argument that increases in government expenditure generally leads to an inefficient allocation of society’s resources by starving more efficient private investors of investment funds. In essence, government spending essentially “crowds out private investment.” In this regard, Ojong and Owui (2013) observed that the continuous deficit financing in the economy through the central banks sometimes results in inflationary pressures by creating excess liquidity in merchant and commercial banks through as a result of the existence of excess reserves.

Another strand of theory, the Ricardian theory, sees fiscal deficits as having no growth effects. This is based on the argument that such deficits do have not stimulate consumption or crowd out private investment because it does not have an impact on the real interest rate

(Mohanty, 2012). On the other hand, Keynes saw FSDs as “a short-run a short-run phenomenon anchored on the multiplier effect of government expenditure on national output.” The view is based on the existence of idle resources in the economy. Deficit spending is thus necessary because it will, given a high marginal propensity to consume, lead to increase the level of output and investment in the economy (Umaru & Gatawa, 2014). The Keynesians are also of the view that private investors are generally more optimistic about the future course of the economy when there is a budget deficit since deficits increase domestic output, thus, inducing them to invest more in what is known as the “crowding in effect” (Saleh, 2003).

The real impact of the fiscal deficit on economic growth is one of the most argued issues among economists and policymakers in both developing and developed countries worldwide in the recent decades. As we discussed, the investigated results did not unite in the same way in the literature of the effect of fiscal deficit on growth. There were some empirical studies which focused on fiscal deficit issue and its effect on economic growth, however, the literature review had got some kinds of the evidence including negative, positive effect or non-effect on this relationship. Firstly, there were some studies showed that the fiscal deficit had a negative impact on economic growth in both developing and developed countries. Fatima, Ahmed and Rehman (2012) conducted a study in Pakistan for the period 1978-2009. The study result also pointed out the budget deficit had a negatively impact on economic growth. Augustt, Adu and Frimpong (2015) focused on the causal relationship between the fiscal deficit and output fluctuations in Ghana with time series data from 1960-2012. The empirical result showed a two-way causality relationship between the fiscal deficit and the output in this country.

Kameda (2014) analyses the relationship between budget deficits and some macros factors in the Japanese economy. The estimation result found that the real budget deficit in Japan in

2008 caused an approximately 0.39–0.63% decrease in the real GDP in this year. Van and Sudhipongpracha (2015) studied the effects of the budget deficit and economic performance in the Vietnamese economy in the period 1989-2011. However, the result concluded that the government deficits have no direct effects on the country’s economic productivity and the economic growth. Arjomand, Emamib & Salimic, (2016) tried to study the effect of growth, efficiency and government budget deficit in MENA selected countries in the period of 2000- 2013 by using the recommended static panel models. The results indicated government budget deficit which is the dependent variables indicated positive effects on economic growth and inflation rate variables. However, the public deficit also has a negative effect on labour productivity. Moreover, the regression in which economic growth is the dependent variables demonstrated the positive impact of labor productivity index and economic growth.

Secondly, there were some empirical studies found some contrastive results which suggested a positive effect or non-effect of the fiscal deficit on the economic growth in the economies. Radman (2012) investigated the deficit issue in the case in Malaysia with the quarterly data in 2000-2011. The result showed that there was no long-term relationship between fiscal deficit and economic growth of Malaysia. Velnampy and Achchuthan (2013) had a study which found out the effect of fiscal deficit on economic growth in Sri Lankan with the data in1970- 2010. However, the authors did not find the existence of the relationship between the fiscal deficit on economic growth in this country. Ahmad (2013) used the data in Pakistan in the period of 1971-2007 to test the relationship among the fiscal deficit on GDP. The result indicated a positive relation, however, it was insignificant statistics in the case of Pakistan.

### Empirical Review

The nexus between fiscal policy and economic development has been variously investigated by scholars. In this section, this will be examined under two subheadings that is studies outside Nigeria and studies within Nigeria.

### Studies outside Nigeria

Jungsuk, Mengxi, Donghyun and Petalcorin (2021) investigated the relationship between fiscal policy and economic growth using empirical evidence from China. The objective of this study was to better understand the key features of the Chinese fiscal system and their impact on China’s economic growth. Unit root test, Granger causality Wald tests and structural vector autoregressive (SVAR) were employed in analyzing the data. Its evidence suggests that local expenditures growth has a larger impact on output growth than central expenditures growth. The results also reveal that the response of output growth to anticipated changes in taxation was impeded by liquidity constraints. During the initial stages of market-oriented reform, growth of public investment in manufacturing sector contributed the most to output growth. During more recent periods, public investment in R&D made a substantial contribution. In addition, evidence indicates that long-term debt has a significant influence on China’s fiscal system, especially on government revenues.

Benimana (2020) evaluated the impact of fiscal policy on economic growth for the period 1999 to 2017 in Rwanda. The growth domestic product was employed as the dependent variable while government expenditures, public debt and taxes were employed as the independent variables in the estimation. Multiple linear regression and least squares method (OLS) were employed in analyzing the data. The study found that government expenditure, public debt and government revenues have a positive and significant impact on the Rwandan GDP growth.

Ghulam and Noman (2017) carried out an analysis on the impact of fiscal policy on economic growth in Pakistan using time series data period from 1980 to 2014. Distortionary taxation, non- distortionary taxation, labor force participation rate, interest rate, defense expenditures and trade openness were applied as the independent variables while gross domestic product was employed as the dependent variable. Johansen Co-integration test and VECM were employed in analyzing the data. The study revealed that there is positive relation between gross domestic product,

distortionary taxation and non-distortionary taxation in short run. The causality test found that gross domestic product does not cause by defense expenditure and defense expenditures is granger cause by interest rate.

Naser and [Hayelom (2021)](https://www.emerald.com/insight/search?q=Hayelom%20Yrgaw%20Gereziher) carried out a nonlinear ARDL model analysis of the effect of fiscal policy on economic growth in South Africa using time series data from quarter two 2014 to quarter one 2018. The results exhibit the negative change effect of government spending is found to be greater than the positive change effect of government spending on economic growth. Real effective exchange rate is found to have a positive and significant effect on economic growth both in the short run and long run. Whereas, inflation rate affects economic growth negatively and significantly in the short run and long run.

Fakhri, Fuad and Navef (2018) evaluated the effect of fiscal policy on non-oil economic growth in Azerbaijan. Unit root test, Johansen co integration test and VAR were employed in analyzing the data. The results show that fiscal policy has a statistically significant positive impact on the non-oil sector both in the long and short run.

Tasnia (2018) investigated the impact of fiscal policy on economic growth using empirical evidence from four South Asian countries: Bangladesh, India, Pakistan, and Sri Lanka from 1980 to 2016. Government expenditure, tax revenue, real investment, population, trade openness and political stability were employed as the independent variables while real gross domestic product growth was employed as the dependent variable. Error Correction Model (ECM) and Autoregressive Distributed Lag (ARDL) model was employed in analyzing the data. Empirical results show that both government expenditure and tax revenue have no significant impact on real GDP growth in those South Asian countries. Moreover, real investment is strongly positively correlated with real GDP growth in these countries.

Kizilkaya, Koçak and Sofuoğlu (2015) examined the impact of taxes, government expenditures, income and infrastructure (electricity consumption) on the human development from 1998-2007 for 14 OECD countries. Panel unit root, panel co-integration, panel FMOLS, panel DOLS and panel vector error correction based causality methods was used in the study. The study revealed that taxes have a negative impact on human development while government expenditures as fiscal policy variables have positive and significant impact on human development and concluded that government should give importance to public policy, especially to education and to health care section.

Gomanee, Morrissey, Mosley, and Verschoor (2005) examined the relationship between government aids and level of welfare. Representing the level of welfare, infant mortality rates and human development index indicators was used. In the study, 104 low-income and middle- income countries were examined for the period which spanned between 1980 and 2000 and concluded that government aids increase level of human development and decrease infant mortality rate.

AlGifari (2015) examined the effects of government expenditure on economic growth in Malaysia from 1970 to 2014. Ordinary least square was employed in analyzing the data. The study found that development expenditure and housing expenditure, significantly lead to a lower economic growth. The study further found that education, defense, healthcare, and development expenditure do not significantly contribute to the economic growth.

Putunoi and Mutuku (2013) examined domestic debt and economic growth nexus in Kenya. The issue is examined empirically using advanced econometric technique and quarterly time series data spanning 2000 to 2010. The Jacque Bera (JB) and Augmented Dickey-Fuller (ADF) tests have been used preliminarily in investigating the properties of the macroeconomic time series in the aspect of normality and unit roots respectively. The long run relationship between the variables was investigated using the Engel-Granger residual based and Johannes VAR based

cointegration tests. There is evidence of cointegration hence an error correction model has been used to capture short run dynamics. The study shows that domestic debt expansion in Kenya, for the period of study, has a positive and significant effect on economic growth.

Khalil and Sajida (2013) carried out a research on the topic “what matters for economic growth in Pakistan: fiscal policy or its composition?” This study employed autoregressive distributed lag (ARDL) model to examines the impact of various fiscal policy variables, such as, productive expenditures, non-productive expenditures, distortionary taxes and non-distortionary taxes on economic growth in Pakistan in the framework of endogenous growth model. The results revealed that non-productive expenditures and non-distortionary taxation have neutral impact on economic growth in both the long run and short run. Productive expenditures affect economic growth positively and significantly. Distortionary taxes retard economic growth. Human capital proxied by secondary school enrollment enhances per capita GDP. Impact of labor force on GDP per capita is negative and insignificant.

Munongo (2012) examined the effectiveness of fiscal policy in economic growth in Zimbabwe. Annual data covering 1980-2010 were utilized. Unit roots of the series were examined using the Augmented Dickey-Fuller technique after which the cointegration test was conducted using the Johansen Approach. Error-correction models were estimated to take care of short-run dynamics. The results indicate that government consumption expenditure and income tax positively impacted on economic growth during the period of coverage but capital expenditure by government has a negative effect and a long-run relationship exists between them as confirmed by the cointegration test.

Ali, Raza and Yousuf (2012) investigated the role of fiscal policy in the human development of the Pakistan. The study employed the autoregressive distributed lags (ARDL) bounds testing approach of co-integration on different macroeconomic variables from 1972 to 2010 to explore the impact of government expenditure and the political regime on the welfare of the people in

the country. The results show that increase in per capita income and education expenditure have positive effect and current expenditure has negative impact on the human development while tax revenue has a negative and insignificant impact on human development which indicate that tax policy have no development effect and the political regime of the democratic governments has a negative effect on human development index. The study recommended that there is need for policy makers to reduce the level of corruption in the public spending to gain the maximum benefits for the human welfare.

Rabia and Kamran (2012) examines the impact of domestic debt and external debt on the economic growth of Pakistan separately over period of 1980 to 2010, using Ordinary Least Square (OLS) approach to Cointegration, Unit Root Testing, Serial Correlation Testing, test for checking Heteroskedasticity and CUSUM test of stability. The findings suggested an inverse relationship between domestic debt and economic growth and also the relationship between external debt and economic growth was found to be inverse. These relationships were found to be significant as well. The results also concluded that external debt amount slows down economic growth more as compared to domestic debt amount. The negative effect of external debt is stronger on the economic growth in comparison to domestic debt.

Ghazi and Martha (2010) investigated fiscal policy and growth in Saudi Arabia. This paper examines the relationship between government spending and non-oil GDP in the case of Saudi Arabia. Using time-series methods and data for 1969-2005, the study finds that increases in government spending have a positive and significant long-run effect on the rate of growth. Estimated effects of current expenditure on growth turn out to exceed those of capital expenditure - suggesting that government investment in infrastructure and productive capacity has been less growth-enhancing in Saudi Arabia than programs to improve administration and operation of government entities and support purchasing power.

Checherita and Rother (2010) investigated the average impact of government debt on per-capita GDP growth in twelve Euro area countries over a period of 40 years starting from 1970. They found a non-linear impact of debt on growth with a turning point—beyond which the government debt-to-GDP ratio has a deleterious impact on long-term growth—at about 90- 100% of GDP. Their results further suggested that the negative growth effect of high debt may start from levels of around 70-80% of GDP, which calls for even more prudent indebtedness policies. They also showed that the annual change of the public debt ratio and the budget deficit-to-GDP ratio are negatively and linearly associated with per-capita GDP growth. The channels through which government debt (level or change) is found to have an impact on economic growth rate are: private saving; public investment; total factor productivity (TFP) and sovereign long-term nominal and real interest rates.

Shahid and Naved (2010) examined the effects of fiscal policy on economic growth using evidences based on time series data from Pakistan. This study concentrates on the ADF and PP and Ng–Perron unit root tests. To test the long run relationship, this study uses the robust econometric technique, Autoregressive Distributed Lag model (ARDL). The results of ADF and PP unit root tests show that all variables are integrated of order one except CAD and PINV. The results of Ng-Perron unit root test show that all variables are integrated of order one except CAD. The results of the unit root tests enable us to apply ARDL co integration techniques. Using modern econometric approaches, the results show that there is a long run relationship between overall fiscal deficit and economic growth.

Zaheer (2010) studied the impact of fiscal variables on economic development in Pakistan. The objective is to determine the impact of the fiscal variables on economic growth in Pakistan using time series data for the period 1980-2009. Cointegration and error correction techniques are used for this analysis and Granger causality test is used to determine the direction of causality. The results indicate that fiscal policy affects the long run economic development.

Kofi (2009) investigated fiscal policy and economic growth in South Africa. The fiscal policy variables considered in the study include government gross fixed capital formation, tax expenditure and government consumption expenditure as well as budget deficit. The study covered the period 1990 to 2004. Quarterly data was used in the estimation with the aid of vector regressive modeling technique and impulse response functions. The outcome supports four key conclusions. First, government consumption expenditure has a significant positive effect on economic growth. Gross fixed capital formation from government also has a positive impact on output growth but the size of the impact is less than that attained by consumption expenditure. Tax receipts also have a positive effect on output growth.

Jahangir and Reza (2008) examined fiscal policy and economic growth in Iran. The paper analysed and estimated the impact of fiscal policy on Iran’s economic growth during the period 1974 to 2007. Using co-integration techniques and a vector error correction model, it shows that there exists a unique long-run relationship between economic growth and its major determinants including public investment and private investment, human capital stock and labor force. Also, the short-term error correction dynamics analysis shows that, aside from private investment and human capital accumulation, public investment has a significant role in dynamic of growth.

Gyasi (2020) investigated the impact of fiscal deficit on economic growth in Morocco using the Bounds Test Approach. The study employed the bounds test (ARDL) approach to cointegration to examine the long run and short run relationships between macroeconomic variables, fiscal deficit and economic growth in Morocco as the case study. The results show that fiscal deficit affect economic growth in the Moroccan economy in the long run as in the equilibrium correction was found to be significantly quick.

Tung (2018) investigated the effect of fiscal deficit on economic growth in an emerging economy using empirical evidence from Vietnam. The study applied the Error Correction model on the quarterly data of 2003-2016. The empirical results strongly indicate there is a

cointegration relationship between fiscal deficit and economic growth in Vietnam, in which fiscal deficit had harmful effects on economic growth in both short and long run. In particular, the correlation analysis has confirmed that fiscal deficit can hurt not only the gross output but also private investments, foreign direct investments, and net exports.

Navaratnam and Mayandy (2016) seek to examine the impact of fiscal deficit on economic growth in some selected South Asian countries, namely, Bangladesh, India, Nepal, Pakistan and Sri Lanka, using time series annual data over the period 1980–2014. Their study employs the econometric techniques of cointegration and Granger causality test to examine the dynamic relationship among the selected variables. The results from their study confirm that the fiscal deficit has a negative impact on economic growth in the South Asian countries considered in this study except Nepal, which confirmed the positive impact. The results also highlighted that the direction of causality for the South Asian Association for Regional Cooperation (SAARC) countries is mixed where fiscal deficit causes economic growth for Bangladesh, Nepal and Pakistan, but the reverse is true for India and Sri Lanka.

Ramu and Gayithri (2016) examined both the short-run and long-run relationship between fiscal deficit and economic growth in India by covering the time period from 1970–1971 to 2011– 2012 by Johansen cointegration test, Granger causality test, and Vector Error Correction Model (VECM) technique. The study finds that fiscal deficit adversely affects GDP supporting the mainstream neo-classical theory. They state that when fiscal deficit is bifurcated into effective fiscal deficit and revenue deficit, the former has a significant positive relation whereas the latter has a negative relation with GDP. Their result argues for reducing the revenue deficit part in the fiscal deficit.

Mohanty (2012) examined the short- and long-run relationship between fiscal deficit and economic growth in India from 1970 to 2012. The study found a negative and significant relationship between fiscal deficits and economic growth in the long run. The short-run results

discard the relationship between fiscal deficits and economic growth. The findings also revealed that the negative impact of post-reform fiscal deficit on economic growth is more than the impact of pre-reform’s fiscal deficit.

Boldeanu and Ion (2015) examined the impact of fiscal policy on economic growth in the founding countries of the European Union. The study highlights the impact of fiscal policy on the founding countries of the European Union in the period 2000-2011. The evolution of GDP / capita was explained using the structure of tax revenues, inflation, budget deficit and also qualitative variables like the economic crisis and weather conditions. The results of the analysis indicate that fiscal policy has a significant negative impact on the founding countries of the European Union, in particular through measures taken in respect of value added tax, excise duties, income taxes for households and corporations and quotas on contributions. The budget deficit has no significant influence on economic growth in these developed countries.

### Studies Within Nigeria

Titiloye and Ishola (2020) carried out a time series analysis on the effect of Fiscal Policy and Monetary Policy on Economic Growth in Nigeria from 1989 to 2018. Variables such as government total expenditure, government total revenue, inflation, gross domestic product, interest rate, unemployment rate, and broad money supply were adopted. The data used in this study were data obtained from the World Development Indicators (WDI) and Central Bank of Nigeria Statistical Bulletin. The Autoregressive Distributed Lag Model (ARDL) was adopted as the estimation technique. The results indicate that money supply and government total expenditure and revenue has a significant impact on economic growth in Nigeria. The study suggested that to maintain a stable economic growth in Nigeria, the central bank need to inject more money into the economy and the government should use her revenue and expenditure at full optimization.

Amusa, Nwagwu, Yusuf and Sokunbi (2019) examined the relationship between fiscal policy and economic growth in Nigeria using time series data from 1990 to 2017. In this study, RGDP proxy’s economic growth was employed as the dependent variable while inflation rate, government capital expenditure, government recurrent expenditure and total government revenue were employed as the explanatory variables. Autoregressive Distributed Lag (ARDL) model and Error Correction Model (ECM) were employed in analyzing the data. The result of ECM term confirmed that about 39% of the total disequilibrium in the previous year would be corrected in the current year. The estimated result shows that economic growth and government revenue have a significant positive relationship in Nigeria in the short run but the relationship becomes negative in the long run. However, recurrent expenditure has a significant negative relationship with economic growth in the short run but the relationship becomes insignificant in the long run. However, inflation rate has a significant positive relationship with economic growth in both short run and long run.

Nwamuo (2020) investigated the impact of fiscal policy on the economic growth in Nigeria using time series data from 1981 to 2018. Government domestic debt, government external debt, government recurrent expenditure, government capital expenditure and non-oil revenue were employed as the explanatory variables while gross domestic product was employed as a proxy for economic growth. Augmented Dickey-Fuller test technique, Johanssen co-integration test and vector error correction were employed in analyzing the data. Augmented Dickey-Fuller test result showed that the variables were stationary though at different levels. Johanssen co- integration test result showed that the variables in the model were co-integrated implying that the variables have a long run relationship. The vector error correction estimate of short run relationship showed that domestic debt, external debt and non-oil revenue have a positive and significant impact on economic growth while recurrent expenditure and capital expenditure have a negative and significant impact on economic growth. The vector error correction

estimate of long run relationship revealed that domestic debt and external debt have a negative and insignificant impact on while recurrent expenditure has a negative and significant impact on economic growth. The result showed that capital expenditure has a negative and insignificant impact on economic growth while non-oil revenue has a positive and significant impact on economic growth.

Onifade, Çevik, Erdoğan, Asongu and Bekun (2020) carried out an empirical retrospect of the impacts of government expenditures on economic growth in Nigeria from 1981 to 2017. Real gross domestic product was employed as the dependent variable while total government recurrent expenditures as a percent of GDP, total government capital expenditures as a percent of GDP, total public debt as a percent of the GDP, private consumption expenditure and annual growth of gross capital formation were employed as the independent variable. Augmented Dickey–Fuller (ADF) and Phillips–Perron (PP) unit root tests, Granger Causality Test and Pesaran’s ARDL approach were employed in analyzing the data. The result indicates that recurrent expenditures of government has significant negative impact on economic growth while the public capital expenditures has insignificant positive impact on economic growth. The Granger Causality Test reveal that fiscal expansion of the government that is hinged on debt financing is strongly granger causing public expenditures and domestic investment with the latter also Granger causing real growth in the economy.

Uffie and Aghanenu (2019) investigated fiscal policy and manufacturing sector output in Nigeria from 1981 to 2016. Government expenditure and tax on company income were employed as the exogenous variables while manufacturing output was employed as the endogenous variable. Augmented Dickey-Fuller unit root test and Autoregressive Distributed Lag (ARDL) Bounds test were employed in analyzing the data. It established that government expenditure upwardly drove manufacturing output which can be underscored by increased

government expenditure on capital infrastructure while company income tax dampened output owing to multiplicity of taxes.

Imide (2019) carried out an empirical review of the impact of fiscal policy on the manufacturing sector of the Nigerian economy from 1980 to 2017. Index of manufacturing sector was employed as the dependent variable while government expenditure, company income tax rate and federal government domestic debt outstanding were employed as the explanatory variables. Ordinary least square techniques were employed in analyzing the data. The result results reveals that the Government expenditure and company income tax rate have positive relationship with the Index of manufacturing sector while federal government domestic debt outstanding has negative linear relationship with the Index of Manufacturing Sector.

Salam and Murtala (2019) carried out an analysis on the effect of government expenditure on per capita income in Nigeria from 1986 to 2017. In this study, government recurrent expenditure; gross fixed capital formation and Population were employed as the explanatory variables while per capita income was used as the dependent variable. Unit root test, cointegration test and Parsimonious Vector Error Correction Model (VECM) were employed in analyzing the data. The findings indicate that Government Expenditure has a negative relationship with per capita income both in period one and two.

Imide and Imoughele (2019) evaluated the impact of fiscal policy on human development index Nigeria’s democratic era from 1999 to 2016. Human development index was employed as the dependent variable while Total Government Expenditure as a ratio of GDP, Domestic Debt as a ratio of GDP, External Debt as a ratio of GDP and Total Tax Revenue as a ratio of GDP were employed as the independent variables. The unit root and co-integration tests, as well as the error correction model were employed in analyzing the data. The findings indicate that domestic debt and tax have direct and significant impact on Nigeria HDI both on the short and long run period; total government expenditure has inverse and insignificant impact on Nigeria HDI both

in the short and long run; external debts has inverse and insignificant impact on Nigeria HDI on the short run but had inverse and significant impact on HDI on the long run.

Aliyu, Ndagwakwa, Zirra, Salam and Mohammed (2019) carried out an examination of the impact of fiscal policy on economic performance in Nigeria between 1981 and 2016. A model was developed in which economic growth (proxy as economic performance) is expressed as a function of government total expenditure, government total revenue, direct tax, capital (represented as gross capital formation) and labour (represented as employment rate). Augmented Dickey Fuller test, Cointegration test and Error Correction model estimation were employed in analyzing the data. The study concludes that fiscal policy was partially effective on economic growth (surrogate of economic performance) in Nigeria between 1981 and 2016

Dikeogu and Itode (2018) carried out an empirical analysis on fiscal policy and macroeconomic performance in Nigeria from 1970 to 2017. The fiscal policy variables covered in this study include government capital expenditure, government recurrent expenditure and Total Government revenue. Three models were formulated for the study. The fiscal policy variables were regressed against gross domestic product growth, inflation rate and unemployment rate. The study adopts the ARDL, Engle-Granger Co-integration and Error Correction Modeling techniques for the analysis. The results indicate that government capital expenditure has a positive insignificant effect on unemployment, government capital expenditure has a negative insignificant effect on unemployment while government recurrent expenditure has a negative insignificant effect on unemployment. The study further revealed that government capital expenditure negatively impacted on gross domestic product growth rate, government recurrent expenditure has negative insignificant effect on gross domestic product growth rate while TGR has a positive impact on gross domestic product growth rate.

Adeyemi and Odetayo (2017) carried out a study on fiscal policy sustainability and economic growth in Nigeria from 1980 to 2015. Government revenue, government expenditure and fiscal

deficit were employed as the independent variable while economic growth proxied by real gross domestic product was employed as the dependent variable. Augmented Dickey Fuller and Philips-Perron statistics, Autoregressive Distributed Lag (ARDL) and Error Correction Model (ECM) were employed in analyzing the data. The results of the study showed that government revenue, government expenditure and fiscal deficit increased tremendously during the period covered. The results of ARDL which were further subjected to Wald test revealed that fiscal policy was weakly sustainable in Nigeria during the period. The results also showed that there is a long run relationship between fiscal policy and economic growth in Nigeria, and fiscal policy variables have impact on economic growth.

Bashir, Hamza and Rafiat (2017) investigated the impact of government expenditure on economic growth in Nigeria from 1981 to 2014. The analysis uses gross domestic Product (GDP) as dependent variable and the independent variables are labour, human capital, physical capital, government capital expenditure and government recurrent expenditure. Ordinary Least Square (OLS) method was employed in analyzing the data. The result indicates that there is negative and insignificant relationship between human capital and GDP, positive but insignificant relationship between physical capital and GDP, and there is positive but insignificant relationship between government capital expenditure and GDP. Furthermore, the result of granger causality test shows that government expenditure granger cause GDP but GDP did not granger cause government expenditure. The study concludes that government expenditure have impact on economic growth.

Nnenna, Stanley and Ijeoma (2017) investigated the effect of government expenditure on human capital development in Nigeria also using a time series data from 1986 to 2015, obtained from Central Bank of Nigeria (CBN) statistical bulletin. The study employed the Vector Autoregression (VAR) analysis as its method of analysis. The result of the VAR model show that Human Development Index (HDI) is significant in the current year but tends to converge

insignificantly in the previous years. That what influence human capital development in Nigeria are the nature, pattern and level of governmental expenditure in education and health, and that government policy in the sector could be targeted in these areas.

Adekoya (2017) evaluated the impact of fiscal fundamental on unemployment in Nigeria from 1981 to 2015. Government expenditure, government revenue, interest rate, and public debt were employed as the independent variable while unemployment rate was employed as the dependent variable. Ordinary least square was employed in analyzing the data. The results indicates that government expenditure and interest rate exerts significant positive impact on unemployment rate in Nigeria where government revenue and public debt has insignificant positive impact on unemployment rate in Nigeria. The result equally shows that unemployment granger cause government expenditure and government revenue in Nigeria.

Arikpo, Ogar and Ojong (2017) investigated the impact of fiscal policy on the performance of the manufacturing sector in Nigeria from 1982 to 2014. Manufacturing output was employed as the endogenous variable while government revenue and government expenditure were employed as the independent variable. Ordinary least square multiple regression was employed in analyzing the data. The study found no significant relationship between government revenue and manufacturing sector output in Nigeria. The study further found a significant relationship between government expenditure and manufacturing sector output in Nigeria.

Onakoya, Afintinni and Ogundajo (2017) examined taxation revenue and economic growth in Africa using time series data from 2004 to 2013. Regression analysis was employed as the technique for data analysis. Findings indicated that tax revenue is positively related to GDP and promotes Economic Growth in Africa. It was significant at 5% level. The study concluded that tax revenue has a significant positive relationship with Gross Domestic Product.

Okafor, Ogbonna and Okeke (2017) investigated the effect of government expenditure on human capital development in Nigeria from 1986 to 2015. Governmental expenditure in education and government expenditure on health were employed as the independent variables while human Development index was employed as the dependent variable. Augmented Dickey Fuller Unit root Test and Vector Autoregression Test were employed in analyzing the data. The findings show no direct relationship between Human Development Index and Government expenditure in education and health. The study has also show that an inverse relationship exists between human development index and government expenditure on education and government expenditure on health in the previous years. Human development index was also observed to be positively related to government expenditure in education and health in the current year.

Ebong, Ogwumike, Udongwo and Ayodele (2016) examined the impact of government expenditure on economic growth in Nigeria using time series data from 1970 to 2012. Capital expenditures on agriculture, education, health and economic infrastructure were employed as the independent variables while economic growth was employed as the dependent variable. Drawing on error correction and cointegration specifications, an OLS technique was used to analyze annual time series. Government capital expenditures had differential effects on economic growth. Capital expenditures on Agriculture and education did not exert any significant influence on growth both in the long and short runs. These impacts were negative and insignificant. Expenditures on economic infrastructure had significant positive impacts on growth of 0.28 in the short-run and 0.32 in the long-run. Moreover, these expenditures do not crowd-out private investment. These results indicate that government expenditure on human capital development through the social services sector tended to promote economic growth unlike that on Agriculture. Both short and long run effects of government capital expenditures on economic growth were estimated.

Ibanichuka, Akani and Ikebujo (2016) carried out a time series analysis of effect of tax revenue on economic development of Nigeria for the period of 1995-2014, with the purpose of finding out if tax revenue represented by Value Added Tax, Company Income Tax and Customs and Excise Duties could affect economic development proxied by Human Development Index for the period of the study. The data were analysed using Multiple Regression Analyses in line with the research objectives of the study. The findings reveal that revenues collected by the federal government through Company income tax, value added tax and customs and excise duty have a positive relationship with Human Development Index. The study concludes that revenues collected by the federal government through company income tax, value added tax, customs and excise duties help to improve the human development index of Nigeria.

Ojong, Ogar and Arikpo (2016) examined the impact of tax revenue on economic growth in Nigeria. The objectives of the study were; to examine the relationship between petroleum profit tax; company income tax and the effectiveness of non-oil revenue on the Nigerian economy. Data were sourced from Central Bank Statistical Bulletin and extracted through desk survey method. Ordinary least square of multiple regression models was used to establish the relationship between dependent and independent variables. The finding revealed that there is a significant relationship between petroleum profit tax and the growth of the Nigeria economy. It showed that there is a significant relationship between non oil revenue and the growth of the Nigeria economy. The finding also revealed that there is no significant relationship between company income tax and the growth of the Nigeria economy.

Ogbonna and Appah (2016) examined the effect of tax administration and revenue on economic growth in Nigeria. The study covered the period between 1990 to 2012. The data collected from the questionnaire and secondary data were analyzed using relevant regression analysis. The results reveal that there is a significant relationship between Personal income tax revenue (PITR) and per capita income, Company income Tax Revenue and Gross Domestic product of

Nigeria, VAT revenue and PCI of Nigeria, Petroleum Profit Tax revenue and GDP of Nigeria and tax administration and Gross domestic product of Nigeria. The study concludes that tax administration and revenue does affect the economic growth of Nigeria for the period under study.

Ozoh, Uma and Odionye (2016) carried out an assessment of the effects of fiscal policy on unemployment and inflation reduction in Nigeria from 1981 – 2014. Federal government capital expenditure, petroleum profit tax, company income tax, and custom and excise duty were employed as the independent variables while unemployment rate and inflation rate was employed as the dependent variable. The study employed Autoregressive Distributed Lag (ARDL) bounds testing which is based on the estimation of an Unrestricted Error Correction Model. The findings revealed that federal government capital expenditure in the first and second year does not reduce unemployment rate but it does significantly in the third year. Petroleum profit tax and company income tax do not significantly reduce inflation but only custom and excise duty did. The joint effect of all the tax variables was significant in inflation control.

Egbulonu and Amadi (2016) investigated the effect of fiscal policy on unemployment in the Nigerian economy from 1970 to 2013. Government expenditure, government debt stock (as proxy for government borrowing) and government tax revenue were employed as the independent variable while unemployment rate was employed as the dependent variable. Augumented Dickey-Fuller (ADF), cointegration test and Error Correction Model (ECM) were employed in analyzing the data. The study revealed that a long run relationship between unemployment rate and fiscal policy tools used in the study. The study also found a negative relationship between fiscal policy tools (government expenditure and government debt stock) and unemployment rate in Nigeria while government tax revenue exhibited a positive relationship with unemployment rate. This means that increase in tax rate reduces employment

in Nigeria. The results also reveal that, there exist a long-run equilibrium relationship between unemployment and fiscal policy in Nigeria.

Obayori (2016) investigated fiscal policy and unemployment in Nigeria from 1980 to 2013. Government capital expenditure and government recurrent expenditure were employed as the independent variables while unemployment rate was employed as the dependent variable. The data was analyzed with Augmented Dickey Fuller (ADF), co-integration and ECM methods. The study found indicates a long run relationship between fiscal policy and unemployment. The study also found that government capital and recurrent expenditure have both negative and significant relationship with unemployment in Nigeria.

Abubakar (2016) carried out an econometric investigation on the dynamic effects of fiscal policy on output and unemployment in Nigeria from 1981 – 2015. Gross domestic product (GDP) and unemployment rate were employed as the dependent variables while total public expenditure and total revenue were employed as the independent variables. Augmented Dickey Fuller (ADF), Johansen Cointegration test and Structural Vector Autoregression (SVAR) were employed in analyzing the data. Findings of the SVAR model shows shock in public expenditure as having a positive long- lasting effect on output. Revenue shock was found to exert a positive effect (lower than that of public expenditure shock) on output. However, the effect of revenue shock on unemployment was found to be negative but short-lived.

Apere and Durojaiye (2016) examined the impact of value added tax on government revenue and economic growth in Nigeria using time series data from 1994 to 2014. Relevant econometric techniques were adopted in analysing the data for this study and it was observed that all the variables were stationary at their first differences, using the Phillip-Perron unit root test; Correlation test was also conducted to ascertain the strength of their relationship. The study further conducted the Descriptive Statistic test, then the regression result showing the empirical relationship between the investigating variables and the direction of causality between the

variables was ascertained using the Pairwise Granger Causality test. The study revealed that there is a long-run significant positive relationship between value added tax and each of government total revenue and gross domestic product in Nigeria over the period under review.

Akhor and Ekundayo (2016) examined the impact of indirect tax revenue on economic growth in Nigeria. The study uses value added tax revenue and custom and excise duty revenue as independent variables and economic growth was proxy with real gross domestic product as the dependent variable. The study employ secondary data collected from Central Bank of Nigeria statistical bulletin for the period covering 1993 to 2013 for the empirical analysis using the convenient sampling techniques. The research design is time series and the data were analyzed using descriptive statistics, correlation, unit root test, co-integration test and error correction model regression. The result revealed that value added tax had a negative and significant impact on real gross domestic product. In the same vein, past custom and excise duty had a negative and weakly significant impact on real gross domestic product. The Error Correction Model (ECM (-1)) coefficient had a correct negative and statistically significant sign. This shows that short-run deviation can be quickly corrected. The Durbin-Watson positive value indicates the absence of autocorrelation in the model.

Boldeanu and Ion (2015) examined the impact of fiscal policy on economic growth in the founding countries of the European Union. The study highlights the impact of fiscal policy on the founding countries of the European Union in the period 2000-2011. The evolution of GDP / capita was explained using the structure of tax revenues, inflation, budget deficit and also qualitative variables like the economic crisis and weather conditions. The results of the analysis indicate that fiscal policy has a significant negative impact on the founding countries of the European Union, in particular through measures taken in respect of value added tax, excise duties, income taxes for households and corporations and quotas on contributions. The budget deficit has no significant influence on economic growth in these developed countries.

Osuala and Ebieri (2014) carried out an empirical analysis of the impact of fiscal policy on economic growth of Nigeria. Time series data from 1986 to 2010 relevant to the study were collected from the Central Bank of Nigeria and the National Bureau of Statistics. The ordinary least square method of multivariate regression was utilized in analyzing the log-linearized Model. The Augmented Dickey-Fuller unit root test was employed to establish the stationarity of the variables while the General-to-Specific approach to Autoregressive Distributed Lag (ARDL) model was used for testing for the existence of long-run and short-run equilibrium conditions. The findings were that, there is evidence of long run equilibrium relationship between fiscal policy and economic growth in Nigeria during the period studied. The adjusted R2 value of 0.6850 showed that about 68.5% of the total variation in the real GDP is explained by the independent variables included in the model. Specific fiscal policy variables that have significant and positive impact on economic growth in Nigeria are government recurrent and capital expenditures. Non-oil taxes and government total debts have no significant impact on real GDP. Only capital expenditure has short run equilibrium relationship with economic growth.

Onwe (2014) carried out an empirical trend analysis on the impacts of fiscal policy components on economic growth in Nigeria. The analysis was based on three models: a baseline model; a log linear model; and, a lagged model, each of which was designed to achieve the aim of this study. The analytical results suggest as follows: existence of unit root problems hence, non- stationary time series on the relevant regression variables; non positive impacts of federal expenditures on economic services and transfer payments on growth of the Nigerian economy; and observed positive impacts of federal expenditures on administration, as well as social and community services on economic growth.

Gisore, Kiprop, Aquilars and Ochieng (2014) examined the effect of government expenditure on economic growth in East Africa using time series data from 1980 to 2010. Vector error

correction models and Post-estimation panel diagnostic tests were employed in analyzing the data. The findings showed that expenditures on health and defense to be positive and statistically significant effect on growth. In contrast, education and agriculture expenditure were insignificant.

Ozurumba and Kanu (2014) examined domestic debts and economic growth in Nigeria using time series data from 1980 to 2011. Treasury bills, treasury certificate, treasury bond, development stock and FGN bonds were employed as the explanatory variables while gross domestic product was employed as the dependent variable. The data generated were analyzed using multiple regression analysis. The results indicated that FGN bond proved to have a positive significant relationship with economic growth, while development stock maintained a significant negative relationship. In the long run; treasury bills were found to be positively significant. Result of the Granger causality test revealed that, while there is a unidirectional relationship between economic growth and FGN bonds on one hand, there exists a bidirectional relationship between treasury bills and economic growth on the other hand.

Eravwoke and Oyovwi (2013) carried out a study on external debt burden and its impact on growth: an assessment of major macro- economic variables in Nigeria. The Econometric method of co integration technique was applied to establish the quantitative impact and relative significance of the explanatory variables. The study shows that there exists a long run relationship among the major macro economic variables. The results show that External debt burden, foreign direct investment, inflation and Export have a positive relationship with economic growth. The study recommends that the Nigerian government should not contract further unproductive debt as it may be detrimental to the growth and development of the economy.

Nwakanma and Nnamdi (2013) examined the relationship between taxes and human development index in Nigeria for the period 1970-2010. Based on the Ordinary Least Squares

methodology the study revealed that Petroleum Profit Tax, Company Income Tax and Excise Tax respectively exhibit a positive relationship with the level of HDI. Also, a negative relationship exists between corporate tax and Human Development Index. The Johansen maximum likelihood procedure shows that a long-run relationship exists among the variables. The study recommended that there is need to developed federal fiscal system that could guarantee the full potential of taxation in achieving HDI in Nigeria.

Eze and Ogiji (2013) investigated the impact of fiscal policy on the manufacturing sector output in Nigeria from 1990 to 2010. Manufacturing output was employed as the dependent variable while government expenditure and government tax revenue were employed as the independent variable. Cointegration test and regression analysis were employed in analyzing the data. The result indicates that government tax revenue have significant negative impact on manufacturing sector output in Nigeria. On the other hand, government expenditure have significant and positive impact on manufacturing sector output in Nigeria.

Akujuobi (2012) studied external debts and Nigeria’s economic development using time series data from 1969 – 2009. The findings shows that for the period 1969 to 2009 external debts generally did not contribute positively to the economy of Nigeria. Multilateral, Paris Club, Promissory notes and other external sources of debt were found not significant towards the promotion of economic development. While the London Club debts were negatively significant it was only the past values of GDP, taken as an independent variable that was positively significant. Reasons for these interesting results are not farfetched. That most types of the external debts did not contribute positively to economic development of Nigeria is in line with economic reasoning of crowding out of productive loans to the private sector.

Ajao and Ogiemudia (2012) investigated foreign debt management and the development of Nigeria economy over the period of 1979‒2009. Data analysis shows that access to external finances strongly influence the economic development process of Nigeria and other nations.

The ordinary least square multiple regression analytical method is use to examine the relationship between external debt management and economic development, while error correction model (ECM) is use to determine the long-run and short run dynamics among the relevant variables. The empirical result shows that there is a significant relationship between external debt and economic development in Nigeria, external debt stock contributes significantly to Nigeria GDP while debt servicing had a negative but insignificant impact on Nigeria GDP. The results also reveal that external debt stock and debt servicing had a mix delay effect on the Nigerian economy.

Sulaiman and Azeez (2012) studied the effect of external debt on economic growth of Nigeria. The model built for the study proxy gross domestic product as the endogenous variable measuring economic growth as a function of external debt, ratio of external debt to export, inflation, and exchange rate proxy as the exogenous variables. Annual time series data was gathered from 1970 to 2010. The econometric techniques of Ordinary Least Square(OLS), Augmented Dickey-Fuller (ADF) Unit Root test, Johansen Co-integration test and Error Correction Method (ECM) are employed in the empirical analysis. The co-integration test shows that long-run equilibrium relationship exist among the variables. The findings from the error correction method show that external debt has contributed positively to the Nigerian economy. The study recommends that government should ensure economic and political stability and external debt should be acquired largely for economic reasons rather than social or political reasons.

Audu (2012) evaluating the causal relationship between money supply, fiscal deficits and exports as a means of analyzing the impact of capital expenditure on the growth of the Nigerian economy between 1970 and 2010. The study employed the Co-integration, (ECM), and a two band recursive least square to test for the stability of the Nigerian economy as well as determine the effect of money supply, fiscal deficits, and exports on the relative effectiveness of fiscal

policies in the Nigerian economy. The study reveals that there is a significant causal relationship between gross domestic product (GDP) and the variables used in the study. They also conclude that there was a significant causal relationship between exports and gross domestic product and fiscal policies. The paper therefore recommends that fiscal policies have a significant influence on the output growth of the Nigeria economy.

Ogbole, Amadi and Essi (2011) examined fiscal policy and its impact on economic growth in Nigeria using time series data ranging from 1970 to 2006. The analysis involves stationarity test, cointegration test, and ordinary least squares (OLS) regression. Results obtained showed that there is a difference in the effectiveness of fiscal policy in stimulating economic growth during and after regulation periods. The impact was marginally higher (only N140 million or 14% contribution to GDP) during deregulation, than in the regulation period. The study recommends appropriate policy mix, prudent public spending, setting of achievable fiscal policy targets and diversification of the nation’s economic base, among others.

Sikiru and Umaru (2010) investigated fiscal policy and economic growth relationship in Nigeria. Annual data covering 1977 – 2009 were utilized. Unit roots of the series were examined using the Augmented Dickey-Fuller technique after which the cointegration test was conducted using the Engle-Granger Approach. Error-correction models were estimated to take care of short-run dynamics. Over all, the results indicate that productive expenditure positively impacted on economic growth during the period of coverage and a long-run relationship exists between them as confirmed by the cointegration test.

Ozurumba and Kanu (2014) examined domestic debts and economic growth in Nigeria using time series data from 1980 to 2011. The impact of different types of domestic debt on economic growth of Nigeria was studied using multiple regression technique. Outcome of the study indicates that in the short run, FGN Bond proved to have a positive significant relationship with economic growth, while Development stock maintained a significant negative relationship. In

the long run; Treasury Bills and the lagged value of GDP (in the second year), taken as independent variables were found to be positively significant. Result of the Granger causality test revealed that, while there is a unidirectional relationship between economic growth and FGN Bonds on one hand, there exists a bidirectional relationship between Treasury bills and economic growth on the other hand.

Onogbosele and Mordecai (2016) examined the impact of domestic debt on economic growth of Nigeria using time series data from 1985 to 2014. The study employed the Augmented Dickey- Fuller Unit Root test and the Vector Autoregression method of analysis. The findings of the multivariate Vector Autoregression model revealed that domestic debt plays an important role in the growth process of Nigerian economy judging from the high R2 (0.983616) and the statistically significant F-value (102.0618) of the gross domestic product regression. The variance decomposition analysis revealed that federal government of Nigeria bonds exerts more pressure on the growth rate of gross domestic product in Nigeria. This was followed by shocks received from treasury bonds, while development stocks and interest rate contributed the least to shocks in gross domestic product. The findings of the impulse response function in support of the variance decomposition analysis showed that economic growth responded positively to shocks in federal government of Nigeria bonds and negatively to shocks in treasury bonds throughout the ten year period. Meanwhile, the response of gross domestic product to shocks in development stocks and interest rate was unstable.

Ajayi and Oke (2012) studied the effect of external debt on economic growth and development of Nigeria. It adopted regression analysis of OLS on variable like National Income, Debt Service Payment, External Reserves, Interest rate among others. The finding indicates that external debt burden had an adverse effect on the nation income and per capital income of the nation. High level of external debt led to devaluation of the nation currency, increase in retrenchment of workers, continuous industrial strike and poor educational system. This led to

the economy of Nigeria getting depressed. Based on the finding the study suggest that debt service obligation should not be allowed to rise than foreign exchange earning and that the loan contracted should be invested in profitable venture, which will generate a reasonable amount of money for debt repayment.

Ezeabasili, Isu and Mojekwu (2011) investigated the relationship between Nigeria’s external debt and economic growth, between 1975 and 2006. Empirical results indicate that there is a negative short-run relationship between economic growth and the present level of external debt in Nigeria. In addition, there exists a negative short run relationship between two lag levels of external debt service payment and economic growth.

Ayadi and Folorunso (2008) investigated the impact of the huge external debt, with its servicing requirements, on economic growth of Nigerian and South African. The external debts of Nigeria and South Africa are analyzed in a new context utilizing traditional, but innovative model, which incorporates external sector, debt indicators, and some macroeconomic variable, is employed in the study to explore a linear, as well as non-linear, effect of debt on growth and investment. Both ordinary least squares (OLS) and generalized least squares (GLS) were employed in the analysis. Among other test results, the negative impact of debt (and its servicing requirements) on growth is confirmed in Nigeria and South Africa. However, South Africa performs better than Nigeria in the application of external loans to promote growth. In addition, external debt contributes positively to growth up to a point after which its contribution becomes negative in Nigeria (reflecting the presence of non-linearity effects).

Sulaiman and Azeez (2012) studied the effect of external debt on economic growth of Nigeria. The model built for the study proxy gross domestic product as the endogenous variable measuring economic growth as a function of external debt, ratio of external debt to export, inflation, and exchange rate proxy as the exogenous variables. Annual time series data was gathered from 1970 to 2010. The econometric techniques of Ordinary Least Square(OLS),

Augmented Dickey-Fuller (ADF) Unit Root test, Johansen Co-integration test and Error Correction Method (ECM) are employed in the empirical analysis. The co-integration test shows that long-run equilibrium relationship exist among the variables. The findings from the error correction method show that external debt has contributed positively to the Nigerian economy. The study recommends that government should ensure economic and political stability and external debt should be acquired largely for economic reasons rather than social or political reasons.

Shehu and Aliyu (2013) studied external debt and economic growth using empirical evidence from Nigeria. The study employed data from 1970 to 2010 which were sourced from Statistical Bulletin of Central bank of Nigeria and Annual Reports of the Debt Management Office. It used real gross domestic product as the proxy for economic growth being the dependent variable and external debt, debt service payment, export, inflation and exchange rate as the explanatory variables. The augmented Dickey Fuller Unit Root test and Johansen Co-integration test are used to ascertain the Stationarity and the long run equilibrium relationship between the variables respectively. The econometric technique of Ordinary Least Square (OLS) was used for the data analysis. The findings of the study reveal that external debt contributes positively to the economic growth of Nigeria.

Edame and Okoi (2015) examined the relative impact of fiscal deficits (FSD) on economic growth in Nigeria during the military and democratic regimes. The study employed Chow endogenous break test, unit root and cointegration tests. The results derived from the Chow test analysis reveal that there is a difference between the growth-impact of FSD in the two regimes. In particular, the study found that FSDs had a significant growth-impact during the military regime, while it has not had a significant impact on economic growth during the democratic regime. On the other hand, the study’s results indicated that the interest rate did not have a

significant growth-impact during both regimes, while the gross fixed capital formation had a significant growth impact during both regimes in view of the findings.

Nuhu (2020) investigated the effect of fiscal policy on economic development proxied by gross domestic product and human development index in Nigeria using time series data from 1990 to 2017. The study adopted ex-post facto research design. Ordinary Least Square (OLS) was employed in analyzing the data. Findings reveal that fiscal policy variables such as government revenue and expenditure have negative effect on the gross domestic product but positive and significant on human development index of Nigeria, while government debt has positive effect on gross domestic product and significantly negative effect on human development index. Results further reveal interesting outcomes on the effect of fiscal policy on Nigeria’s economic development such trade depicting a negative and significant effect on human development index but positive and insignificant for gross domestic product.

Ubesie (2016) investigated the effect of fiscal policy on economic growth in Nigeria. The main objective of the study was to analysis how various components of fiscal policy have contributed to the growth rate of the Nigerian economy. This study uses secondary data which were obtained from Central Bank of Nigeria (CBN) Statistical Bulletin covering the period from 1985 to 2015. Descriptive statistics and the ordinary least square (OLS) multiple regression analytical method was used for the data analysis after ensuring data stationarity. The results from the analysis revealed that total government expenditures is significantly and positively related to government revenue, with expenditures climaxing faster than revenue. Investment expenditures were much lower than recurrent expenditures evidencing the poor growth in the country’s economy.

Agbarakwe (2018) investigated the relationship between fiscal policy and economic growth in Nigeria. Government expenditure, government tax revenue and total debt stock were employed as the explanatory variables while economic growth, inflation and unemployment were

employed as the dependent variables**.** Unit root test, cointegration analysis, vector error correction model (VECM) and granger causality test were employed in analyzing the data. The results obtained indicate that government expenditure has significant positive relationship with GDP while government expenditure and total debt stock have significant negative long run relationship with unemployment. The granger causality test established a unidirectional causality running from fiscal policy tools to the selected macroeconomic variables in Nigeria.

Efanga, Ugwuanyi and Ogochukwu (2020) carried out an analysis of the impact of oil revenue on economic growth of Nigeria between 1981 and 2018. Ex – post facto research design was adopted. Gross Domestic Product was employed as the dependent variable; oil revenue was employed as the independent variable while foreign direct investment and exchange rate were employed as the control variable. Unit root test, test of Normality, Auto correlation test, Heteroskedasticity test, Breusch-Godfrey Serial Correlation LM and Auto Regressive Distributed Lag (ARDL) were employed in analyzing the data. The study found that oil revenue impacted positively and significantly on economic growth of Nigeria between 1981 and 2018.

Nweze and Greg (2016) carried out a study on oil revenue and economic growth in Nigeria using time series data from 1981 and 2014. Gross domestic product was employed as the dependent variable while oil revenue and government expenditure were employed as the explanatory variables. In the course of empirical investigation, various advanced econometric techniques like Augmented Dickey Fuller Unit Root Test, Johansen Cointegration Test and Error Correction Mechanism (ECM) were employed and the result reveals among others: That all the variables ware all stationary at first difference, meaning that the variables were not integrated of the same order justifying cointegration and error correction mechanism test. The cointegration result indicated that there is long run relationship among the variables with three cointegrating equation(s). The result of the error correction mechanism (ECM) test indicates

that all the variables except lag of government expenditure exerted significant impact on economic growth in Nigeria.

Okezie and Azubike (2016) evaluated the contribution of non oil revenue to government revenue and economic growth in Nigeria using time series data from 1980 to 2014. Ordinary Least Squares Regression was employed in analyzing the data. The result revealed a positive and significant contribution of non-oil revenue to economic growth and positive but slightly insignificant contribution to government revenue. The study contends that efforts should be intensified by the government mostly at the Federal level in bringing to fruition the diversification of the nation’s productive sector judging from the great potentials and capacity of the non-oil sector in enhancing revenue and economic growth.

Ifeacho, Omoniyi and Olufemi (2014) investigated the effect of non-oil export on the economic development of Nigeria. The mono economy nature of Nigeria and the need to diversify the economy was highlighted in the study. The study used per capita income as proxy for economic development and expressed it as a function of non-oil export volume, trade openness, and exchange rate capital formation and inflation rate. The ordinary least square estimating technique was used and the result showed that non-oil export exhibits a significant positive relationship with per capita income. This indicates that if non oil export volume is increased it is going to lead to a significant improvement in the level of economic development in Nigeria.

Asagunla and Agbede (2018) investigated the contribution of oil revenue on Nigerian output growth for the period of 1981 to 2014. Gross Domestic Product was employed as the dependent variable while oil revenue, external debt, unemployment rate, per capita income, public domestic investment, inflation rate and corruption index were employed as the independent variable. Fully modified ordinary least squared method were employed in analyzing the data. The study found that oil revenue does not have short run impact on the economic activities of

Nigeria. The study also revealed that the persistence rise in oil revenue will ultimately lead to future economic growth of the country.

Isiaka (2021) carried out a study on the institutional role in oil revenue-economic growth nexus in Nigeria using time series data from 1984 to 2018. ARDL was employed as the estimation technique. The results shows that irrespective of the choice of oil revenue and economic growth variables, oil revenue is still indispensable to economic growth in the short run and the long run. However, interacting each of the institutional quality variables with real oil revenue and oil rents yields mixed empirical findings. Although some of the interacting variables produce positive effects on economic growth in both runs, the positive effect of some become insignificant and even turn negative in the robustness analysis. With the interaction of overall institutional quality index with oil revenue, oil revenue worsens economic growth in both runs.

Ogba, Idisi and Nakah (2018) investigated the impact of non-oil revenue on economic growth in Nigeria using time series data from 1981 – 2016. Agricultural revenue contribution, manufacturing revenue contribution, solid mineral revenue contribution, services revenue contribution, company income tax and custom and excise duties tax were employed as the independent variables while gross domestic product was employed as the dependent variable. Error Correction Model was employed in analyzing the data. The results indicates that agricultural revenue contribution, manufacturing revenue contribution, solid mineral revenue contribution, services revenue contribution, company income tax and custom and excise duties tax have significant relationship with economic growth in Nigeria. The study contends that government should make efforts in diversifying the economy away from oil in order to encourage the generation of revenue by the non-oil sectors.

Akwe (2014) studied the impact of non-oil tax revenue on economic growth in Nigeria from 1993-2012. He found that there exist a positive impact of non-oil tax revenue and economic growth. Since non-oil tax revenue is one of the major base through which non-oil revenue

accrues, he recommended that efforts should be intensified by the government at all levels in ensuring that non-oil taxes collections are increased since it has the capacity to enhance growth. He further recommended that government should strengthen its administrative machinery with a view eliminating weaknesses and internal control lapses in the assessment and collection of Non-oil Taxes in Nigeria.

Omesi, Ngoke and Ordu (2020) carried out a study on non-oil revenue and economic development of Nigeria using time series data spanning from 1989 to 2018. Descriptive and historical research design was adopted and regression was employed in analyzing the data. The results indicate a positive relationship between Non-oil Revenue and Gross Domestic Product. The study concludes that non-oil Revenue contributes positively to the economic development of Nigeria in both short and long run perspective.

Uremadu, Nwaeze and Duru-Uremadu (2020) carried out an empirical analysis on the impact of non-oil revenue on economic growth of Nigeria using time series data spanning from 1994 to 2017. The study employed real gross domestic product as the dependent variable while agricultural revenue, manufacturing revenue, mining revenue and value-added tax revenue were adopted as the independent variables. Augmented Dickey-Fuller (ADF) and Auto-Regressive Distributed Lag (ARDL) bounds test were employed in analyzing the data. The ARDL results showed that agricultural revenue and mining revenue had a negative and insignificant effect on economic growth of Nigeria in both the short run and long run. Manufacturing revenue had a positive and insignificant effect on economic growth in the short-run and a positive and significant effect on economic growth of Nigeria in the long run. However, VAT revenue had a positive and very significant effect on economic growth of Nigeria both at short run and long run.

Salami, Amusa and Ojoye (2018) evaluated the impact of non-oil revenue on the economic growth of Nigeria using time series data spanning from 1981-2016. Gross domestic product was

used as the dependent variable while non-oil revenue was used as the independent variable. Ordinary Least Squares (OLS) was employed in analyzing the data. Regression analysis was employed in analyzing the data. The study revealed that non-oil revenue exerted a positive and significant impact on economic growth in Nigeria. The study therefore concluded that non-oil revenue exerted a significant impact on the economic growth of Nigeria.

Kawai (2017) studied the impact of non-oil exports on Nigerian economic growth using data spanning from 1980 to 2016. Real gross domestic product was used as the dependent variable while non-oil export and exchange rate were used as the independent variables. Unit root test and Engel-Granger cointegration test were employed in analyzing the data. Findings of the study showed that non-oil export exerted a positive and significant impact on economic growth of Nigeria whereas exchange rate exerted a negative and significant impact on economic growth of Nigeria. The study argued that non-oil exports exerted a significant impact on economic growth of Nigeria.

Igwe, Edeh and Ukpere (2015) examined impact of non-oil sector on economic growth in Nigeria for the period 1981 to 2012. The study adopted gross domestic product as a proxy for economic growth and it served as the dependent variable while net export, capital stock and labour were adopted as independent variables. The study employed Johansen cointegration test, vector error correction mechanism (VECM) and Granger-causality test as analytical tools. Findings from the study showed that non-oil export had a positive and significant impact on economic growth in Nigeria in both the short run and long run. The Granger causality test revealed that there was no causality between non-oil export and economic growth in Nigeria. The study further showed that both capital stock and labour had positive impact on economic growth of Nigeria.

Ifeacho, Omoniyi and Olufemi (2014) evaluated the relationship between non-oil exports and economic development of Nigeria. Per capita income, a measure for economic development was

employed as the dependent variable while inflation rate, exchange rate, non-oil export, trade openness and capital formation were employed explanatory variables. Ordinary Least Squares (OLS) multiple regression method was employed in analyzing the data. Findings from the study revealed that non-oil export had a positive and significant relationship with economic development in Nigeria. On the other hand, inflation rate, exchange rate and capital formation had positive and insignificant relationship with economic growth in Nigeria. The study showed that trade openness had a negative and insignificant relationship with economic growth in Nigeria. The study concluded that non-oil exports had significant relationship with economic development in Nigeria.

Adeusi, Uniamikogbo, Erah and Aggreh (2020) evaluated the effect of non-oil revenue and economic growth in Nigeria from 1994 to 2018. Value added tax, companies income tax, personal income tax and custom and excise duties were employed as the explanatory variables while Gross Domestic Product was used to represent economic growth in Nigeria. Descriptive statistics and Ordinary Least Square (OLS) regression techniques were used to analysed the data generated. The study findings revealed that indirect taxes (custom & excise duties and value added tax) have more significant positive effect on the Nigerian economic growth than direct taxes (companies income tax and personal income tax). Also, direct taxes have significant but negative effect on the Nigerian economic growth, especially in the long run.

Fave and Dabari (2017) examined tax revenue collection by the Federal government in Nigeria. The quantitative research design was adopted using the secondary data obtained from FIRS for the total tax revenue collected from the oil and non-oil taxes for the period of 2011-2015. The Federal Inland Revenue Services constitutes the population of the study. The sample size of the study was drawn from the Planning, Reporting and Statistics Departments of the Federal Inland Revenue Services. The study findings revealed that capital gains tax, stamp duty, education tax and petroleum profit tax are positive and significant while company income tax and value added

tax are not significant. However, of all the remaining variables, Company Income Tax has more total collected revenue.

Okwara and Amori (2017) examined the impact of tax revenue on the economic growth in Nigeria. They considered a 22year period covering 1994-2015. Variables considered were Gross Domestic Product (GDP) proxy for economic growth, Value Added Tax (VAT), and nonoil income (tax). The Ordinary Least Square (OLS) regression was used to test the significant impact of value added tax and non-oil income on Gross Domestic Product (GDP) to avoid spurious results. The results revealed that non-oil income has significant impact on gross domestic product while value added tax has negative relationship and statistically insignificant for the period under review. The study concludes that tax revenue have significant impact on Nigerian economy growth.

Arowoshegbe, Uniamikogbo and Aigienohuwa (2016) examined tax revenue and economic growth of Nigeria using data from 1995 to 2015. The specific objective of the study was to explore the influence of income tax revenue on the Nigerian economic growth proxied by Gross Domestic Product (GDP). The study adopted the Econometric Model of Multiple Linear Regressions and Ordinary Least Square (OLS) technique to explore the correlation between GDP (the dependent variable) and a set of government income tax revenue heads for 11 years period. Findings from the study showed that tax revenues that determine government economic growth are Petroleum Profit Tax and Company Income Tax. This indicates that taxes that have positive effect on economic growth are direct taxes, thus direct taxes wield more significant effect on Nigerian economic growth than indirect taxes.

Oyeleke, Jamiu and Olanipekun (2016) investigated the influence of government capital expenditure on economic growth in Nigeria from 1970 to 2013. Error correction technique of estimation was employed in analyzing the data. The results indicated that the long run relationship exists between the components of public capital expenditure and economic growth.

However, the results revealed that disaggregated functional capital expenditure of government did not generate the intending growth to real economic activities. More specifically, capital expenditure on economic service was actually negatively affecting the growth of the economy, though insignificant, implying that the economy did not benefit from such spending.

Nazifi (2014) evaluated federal capital expenditure and its impact on economic growth in Nigeria using time series data spanning from 1980 to 2010. Real gross domestic product was used as the dependent variable while total capital expenditure, capital expenditure on administration, capital expenditure on economic, capital expenditure on social community services and capital expenditure on transfers were employed as the independent variables. Ordinary Least Squares was employed in analyzing the data. The result indicates that total capital expenditure, capital expenditure on administration, capital expenditure on social community services and capital expenditure on transfers have positive impact on economic growth in Nigeria; this implies increase in these variables will cause positive change in economic growth. On the contrary, Capital expenditure on economic has a negative impact on economic growth in Nigeria.

Ebong, Ogwumike, Udongaro and Ayodele (2016) conducted a research on the impact of government expenditure on economic growth using annual data from 1970 to 2012. The study employed the ordinary least square technique and the results showed that capital expenditure on agriculture had no significant influence on economic growth in both long-run and short-run while capital expenditure on education had a significant impact on economic growth. It was further revealed by the study that capital expenditure on health had a negative impact on economic growth and the relationship was in fact, insignificant. Lastly, capital expenditure on human capital through social services was observed to have promoted economic growth unlike that of agriculture.

Ibrahim and Ashiru (2019) investigated the impact of public capital expenditure on economic growth in Nigeria using time series data spanning from 1981 to 2017. In this study, gross domestic product was employed as the dependent variable while capital expenditure, inflation and exchange rate were employed as the independent variable. Descriptive statistics, Augmented Dickey-Fuller test, Johansen system of cointegration and Engel-Granger ECM technique were employed in analyzing the data. The results indicate a negative and significant relationship between capital expenditure and economic growth. The study contends that relevant authorities should set a proper system of checks and monitoring on disbursement of funds for capital purposes and execution of projects so as not to have short-fall of the allocated funds.

Chukwu and Udochukwu (2019) investigated the pattern of government recurrent expenditure and economic growth in Nigeria using time series data from 1981 to 2016. VAR was employed in analyzing the data. The results show that while GDP responded positively to a one standard deviation shock to recurrent expenditure on administration, it responded negatively to a one standard deviation shock to recurrent expenditure on both social community services and transfer. GDP has almost zero response to a one standard deviation shock to recurrent expenditure on economic services. The results further show that most of the GDP shock are due to own effect. Compared to other components of recurrent expenditure, the relative contribution of recurrent expenditure on transfer to GDP innovation is highest in the second period while the relative contribution of recurrent expenditure on administration is highest in the third and fourth periods. However, the Granger Causality test shows that recurrent expenditure components none has a causal impact on GDP both individually and collectively.

Onifade, Çevik, Erdoægan, Asongu and Bekun (2019) carried out an empirical analysis on the impacts of government expenditures on economic growth in Nigeria using annual time series data from 1981 to 2017. Pesaran ARDL approach was employed in analyzing the data. Empirical findings support the existence of a level relationship between public spending

indicators and economic growth in Nigeria. Incisively, recurrent expenditures of government were found to be significantly impacting on economic growth in a negative way while the positive impacts of public capital expenditures were not significant to economic growth over the period of the study. Further results from the granger causality test reveal that fiscal expansion of the government that is hinged on debt financing is strongly granger causing public expenditures and domestic investment with the latter also granger causing real growth in the economy.

Obi (2020) carried out a study on the effect of government recurrent expenditure on economic growth in Nigeria from 1981 to 2018 . The study adopted Vector Error Correction Model technique. The study found that social and community services are growth drivers of the Nigerian state. It was also observed that income channeled into transfers significantly boosted growth. The implication of this finding is that government efforts on improving the lives of its citizens yielded growth. The study contends that government should make effort to also allot funds to capital expenditure in such a way that there would be no much significant difference between capital and recurrent spending as this would improve on the growth rate of the economy.

Ibrahim and Shazida (2019) examined the long-run relationship between domestic debt and the fiscal policy of economic growth in Nigeria in the period from 1981 to 2013. The study employs the autoregressive distributed lag (ARDL) approach and error correction model (ECM). The results reveal that although overall the adverse negative domestic debt hurts the economy, it has a positive effect on the total aggregate government revenue and economic growth in Nigeria in the research period.

Umaru, Hamidu, and Musa (2013) focused their study on investigating the relationship between external debt, domestic debt, and economic growth. They further investigated the impact of these variables on economic growth. The study utilized a data set between 1970 and 2010 using the OLS estimation and the Granger causality test after logging variables such as GDP and

external and domestic debt. The data was equally subjected to the unit root, integration test, and error correction test mechanism, and the long-run relationship between the variables was determined. The results showed bi-directional causation between external debt and GDP, although there is no causation between domestic debt and GDP. The results did not suggest causation between external and domestic debt. The OLS approach suggested a negative impact of external debt on GDP and positive impact of domestic debt on economic growth.

Omodero, Adetula, Adeyemo and Owolabi (2020) investigated the effect of domestic debt on economic growth using time series data spanning from 2001 to 2019. Data were sourced on gross domestic product, domestic debt, interest rate and exchange rate. Cointegration rank test, pairwise granger causality test and least squares regression analysis were employed in analyzing the data. The results indicate that interest rate and exchange rate do not have causality effect on domestic debt. Further findings reveal that household debt has a significant positive impact on economic growth while the interest rate is significantly and negatively influencing the growth. However, the exchange rate does not materially affect growth.

Didia and Ayokunle (2020) carried out a study on external debt, domestic debt and economic growth in Nigeria using time series data spanning from 1980 to 2016. Classical Ordinary Least Square Method (OLS), Augmented Dickey Fuller (ADF) Unit-Root Test, Johansen Co- Integration Test and Vector Error Correction Model (VECM) were employed in analyzing the data. The study revealed that domestic debt has a statistically significant positive relationship with economic growth in the long run while external debt exhibiting a negative relationship with economic growth was not statistically significant.

Abdulkarim and Saidatulakmal (2020) carried out a study on the impact of government debt on economic growth in Nigeria from 1980 to 2018. The Autoregressive Distributed Lag method was applied to assess the short and long-term linkages between economic growth and public debt indicators. The empirical results showed that external debt stock constituted an impediment

to long-term growth but a short-run growth-enhancement effect. Domestic debt accretion had a noteworthy positive impact on long-term output growth, while its short-term effect was negative. In the long and short-term, debt service payments led to growth retardation, although the amount of foreign reserves greatly improved growth both in the long and short-run.

Ajayi and Edewusi (2020) carried out an empirical investigation on the effect of public debt on economic growth of Nigeria from 1982 to 2018. Descriptive statistics, unit root test, Johansen co-integration test and vector error correction model were employed in analyzing the data. The results indicates that external debt exerts a negative long run and short run effect on economic growth of Nigeria and domestic debt was ascertained to exert positive long run and short run effect on economic growth of Nigeria. The study contends that policy makers should integrate appropriate measures towards ensuring suitable management of domestic debts; government should ensure that contracted national debts are directed towards encouraging investment in the country and government through necessary monitoring committees should ensure that national debts are directed toward the provision of basic amenities and services required for the development of communities and societies of the nation.

Bakare, Ogunlana, Adeyeye and Mudasiru (2016) empirically analyzed the effects of domestic debt on Nigerian economic growth using time series data from 1980 to 2012. Data gathered were analyzed using Ordinary Least Square Regression (OLS) technique. The study revealed that a positive relationship between domestic debt and economic growth. The study recommended that mechanisms should be put in place to monitor the impact of new borrowing on overall debt sustainability based on the evolution of the debt indicators and provide prompt fiscal rectification.

Idris and Ahmad (2017) examined that the productivity of public debt borrowing and economic growth in Sub-Saharan region. The study employed the autoregressive distributed lag model. Secondary time series data spanning thirty-five years was collated in the study. Econometrics

estimation techniques were adopted and resulting from the analyses is the following discovery: domestic debt exerts a negative effect on economic growth. Based on these findings, the study suggested that fiscal policy practitioners and other related policy makers should earmark substantial attention to the productive utilisation of any internally borrowed funds and ensure that resources are allocated to specific growth-oriented programmes and that adequate capacities for loan-repayment are well-established.

Oyedele, David and Omojola (2016) assessed the effect of public on economic growth in Nigeria using time series data spanning from 1970 to 2011. Data gathered in the study was analyzed using econometric techniques. Result from the study demonstrated that that there exist no long-run relationship between public debt and economic growth in Nigeria; the study also affirmed that there exist a positive but non-significant relationship between per capital domestic public debt and economic growth while a negative and not significant relationship was found to exist between per capita external public debt and economic growth.

Oluwafadekemi and Adeyemi (2018) investigated the effects of fiscal deficits on Nigeria economic growth from 1981 to 2014. Growth rate of real GDP was employed as the dependent variable while Gross fixed capital formation as a ratio of GDP, Labour force, Fiscal deficit per GDP, inflation rate, Trade openness and financial depth were employed as the independent variables. Augmented Dickey-Fuller (ADF) unit root test, Johansen Co-integration as well as the VECM techniques was employed in analyzing the data. The study found a significant positive relationship between economic growth and the regressors – capital, labour, inflation rate, and trade openness. On the other hand, the study found that a significant negative relationship exists between fiscal deficits, financial depth and economic growth in Nigeria. The study concluded that the Nigerian economy has been characterized by continuous fiscal deficits, which has not positively contributed to economic growth.

Edame and Okoiarikpo (2015) carried out a comparative analysis of the impact of fiscal deficit on economic growth in Nigeria during the military and democratic regimes. The study employed Chow endogenous break test, unit root and cointegration tests. The results derived from the Chow test analysis reveal that there is a difference between the growth-impact of FSD in the two regimes. In particular, the study found that FSDs had a significant growth-impact during the military regime, while it has not had a significant impact on economic growth during the democratic regime. On the other hand, the study’s results indicated that the interest rate did not have a significant growth-impact during both regimes, while the gross fixed capital formation had a significant growth impact during both regimes. The study recommended the strengthening of the country’s budgetary institutions so as to ensure the de-politicization of the budgetary process.

Akujuobi (2012) studied external debts and Nigeria’s economic development using time series data from 1969 – 2009. The findings shows that for the period 1969 to 2009 external debts generally did not contribute positively to the economy of Nigeria. Multilateral, Paris Club, Promissory notes and other external sources of debt were found not significant towards the promotion of economic development. While the London Club debts were negatively significant it was only the past values of GDP, taken as an independent variable that was positively significant. Reasons for these interesting results are not farfetched. That most types of the external debts did not contribute positively to economic development of Nigeria is in line with economic reasoning of crowding out of productive loans to the private sector.

Imide and Imoughele (2019) evaluated the impact of fiscal policy on human development index during Nigeria’s democratic era from 1999 to 2016. Human development index was employed as the dependent variable while Total Government Expenditure as a ratio of GDP, Domestic Debt as a ratio of GDP, External Debt as a ratio of GDP and Total Tax Revenue as a ratio of GDP were employed as the independent variables. The unit root and co-integration tests, as well

as the error correction model were employed in analyzing the data. The findings indicate that domestic debt and tax have direct and significant impact on Nigeria HDI both on the short and long run period; total government expenditure has inverse and insignificant impact on Nigeria HDI both in the short and long run; external debts has inverse and insignificant impact on Nigeria HDI on the short run but had inverse and significant impact on HDI on the long run.

Nwakanma and Nnamdi (2013) examined the relationship between taxes and human development index in Nigeria for the period 1970-2010. Based on the Ordinary Least Squares methodology the study revealed that Petroleum Profit Tax, Company Income Tax and Excise Tax respectively exhibit a positive relationship with the level of HDI. Also, a negative relationship exists between corporate tax and Human Development Index. The Johansen maximum likelihood procedure shows that a long-run relationship exists among the variables. The study recommended that there is need to developed federal fiscal system that could guarantee the full potential of taxation in achieving HDI in Nigeria.

Kizilkaya, Koçak and Sofuoğlu (2015) examined the impact of taxes, government expenditures, income and infrastructure (electricity consumption) on the human development from 1998-2007 for 14 OECD countries. Panel unit root, panel co-integration, panel FMOLS, panel DOLS and panel vector error correction based causality methods was used in the study. The study revealed that taxes have a negative impact on human development while government expenditures as fiscal policy variables have positive and significant impact on human development and concluded that government should give importance to public policy, especially to education and to health care section.

### Theoretical Framework

This research study would be anchored on endogenous growth theory. Endogenous growth theory advocates the stimulation of level and growth rate of per capita output through within the model using policies like fiscal (e.g. government spending). More specifically, models of the growth effects of fiscal policy are usually built on the basis of Barro (1990) framework and subsequently Barro and Sala-i-Martin (1995). The basic hypothesis of Barro’s model (1990) is that the government purchases a constant share of private output and uses it to provide free public services to private producers. Barro considers all public expenditures that produce externalities generalised to the firms.

Barro and Sala-i-Martin (1995) model is an extension of the Cass-Koopmans model to include human capital. It is one-sector model in that new physical capital, new human capital and consumer goods are all produced with the same technology. The setting is a small open economy that can borrow from the rest of the world up to the quantity of physical capital. Barro and Sala-i-Martin (1995) model show that with a share of physical capital of 30% and a share of human capital of 45%, it implies a convergence rate of 2.5%, a rate that conforms well to empirical estimates of convergence coefficients. The coefficient on initial income implied by the modern depends on the variables used to control for differences in steady-state income paths. But the human capital stock does not purely reflect the steady-state path. It also contains information about the deviation from that path. If steady-state income paths were the same, the model would actually imply that a lower stock of human capital would lead to fast growth, because income convergence in this model is driven entirely by convergence in human capital.

This study draws inspiration from these studies by employing a Cobb-Douglas production function in which government expenditure enters as input. However, endogenous growth models incorporate channels through which fiscal policy can affect long-run growth (Barro &

Sala-i-Martin, 2004). Barro and Sala-i-Martin (2004) employed AK model. The AK model production function is a special case of a Cobb–Douglas production function:

*Y = AKαL1 - α*

This equation shows a Cobb-Douglas function where *Y* represents the total production in any economy. *A* represents total factor productivity, *K* is capital, *L* is labour, and the parameter *α* measures the output elasticity of capital. For the special case in which *α* = 1, the production function becomes linear in capital thereby giving constant returns to scale:

*Y = AK.*

Endogenous growth models are widely used in macroeconomics mainly because they are consistent with the fact that the growth rate of output, the capital-output ratio, the real interest rate etc. are constant over time.

Endogenous growth models classify generally the fiscal policy instruments into:

1. distortionary taxation, which weakens the incentives to invest in physical/human capital, hence reducing growth;
2. non-distortionary taxation which does not affect the above incentives, therefore growth, due to the nature of the utility function assumed for the private agents;
3. productive expenditures that influence the marginal product of private capital, henceforth boost growth;
4. unproductive expenditures that do not affect the private marginal product of capital, consequently growth.

This theory was adopted for this study because it incorporates channels through which fiscal policy can affect long-run growth. Endogenous growth models classify generally the fiscal policy instruments into: distortionary taxation, which weakens the incentives to invest in physical/human capital, hence reducing growth; non-distortionary taxation which does not

affect the above incentives, therefore growth, due to the nature of the utility function assumed for the private agents; productive expenditures that influence the marginal product of private capital, henceforth boost growth; unproductive expenditures that do not affect the private marginal product of capital, consequently growth.

The endogenous growth models predict that an increase in productive spending financed by non-distortionary taxes will increase growth, whilst the effect is ambiguous if distortionary taxation is used. In the latter case, there is a growth-maximizing level of productive expenditure, which may or may not be Pareto efficient. Also, an increase in non-productive spending financed by non-distortionary taxes will be neutral for growth, while if distortionary taxes are used the impact on growth will be negative. Put together, endogenous growth models, while classifying fiscal policy instruments into distortionary taxation, non-distortionary taxation, productive expenditures and unproductive expenditures predict that an increase in productive spending financed by non-distortionary taxes will encourage research that enables technological development and ultimately, economic growth. The effect is ambiguous if distortionary taxation is used.

* 1. **Introduction**

## CHAPTER THREE METHODOLOGY

In this chapter, the research design, sources of data and method of data analysis is presented, thus;

### Research Design

The study adopts longitudinal research design. Longitudinal research is a type of correlational research that involves looking at variables over an extended period of time. This type of study can take place over a period of weeks, months, or even years. In some cases, longitudinal studies can last several decades. This design is adopted because longitudinal studies take place over a period of years (or even decades), they can be very useful when looking at changes in development over time.

### Sources of Data

The data of the research work is time series and will be taken from the year 1981 to 2019, this covers the period of thirty-nine (39) years. Data on real gross domestic products, oil revenue, non-oil revenue, capital expenditure, recurrent expenditure, domestic debt, external debt and fiscal deficit will be collected from Central Bank of Nigeria Statistical Bulletin 2019 and World Bank Development Index.

### Method of Data Analysis

The statistical tools that will be used in the study are presented below.

### Descriptive Statistics

Descriptive statistics will be employed to measure the individual characteristics of the variables used in the analysis. This shows the mean, media, maximum and minimum values,

standard deviation, skewness, kurtosis, Jarque-Bera and probability. It also measures the normality or otherwise of the data used in the analysis.

**Decision Rule:** Decision rule is to reject when p. value is less than 0.05 level of significance

### Unit Root Tests

One of the important types of data used in most empirical works is time-series data. These empirical works that are based on time-series data always assume that the underlying time series is stationary. A stationary time series is the one whose mean, variances, and auto- covariance are constant over time. However, it is widely known that most economic time series are non-stationary and the regression of a non-stationary time series on another non- stationary time series may lead to spurious regression. A spurious regression is one with high R-squared and significant t-ratios even when there is no theoretically meaningful relationship between the variables of interest. To avoid the problem of spurious regression, there is a need for unit root test (that is, to test whether a variable is stationary or not). The followings are the methods people use in testing for the stationarity of economic variables: Dickey-Fuller (DF) test; the Augmented Dickey-Fuller (ADF) test; Philip-Person(PP) test; and the Sargan- Bhagara Cointegration Regression Durbin-Watson (CDRW) test. This study would employ the Augmented Dickey-Fuller (ADF) tests. Thus, our ADF test consist of estimating the

following equation:

∆𝑌𝑡 = 𝛽1 + 𝛽2𝑡 + 𝛿𝑌𝑡−1 + ∑𝑚

𝑖=1

𝛼𝑖∆𝑌𝑡−𝑖 + 𝜀𝑡 − − − − − − − (1)

Equation 1

Where εt is a pure white noise error term; t is time trend; Yt is the variable of interest; β1, β2, δ and αi are parameters to be estimated; and Δ is the difference operator. In the ADF approach, we test whether δ = 0.

### Cointegration Test

Following the stationarity tests, cointegration test would be carried out using the Autoregressive Distributed Lag (ARDL) bound testing approach to cointegration as proposed by Pesaran et al (2001). This procedure is adopted because it has better small sample properties than alternative methods (ie Engel-Granger (1987), Johansen and Julius (1990), and Philip and Hansen (1990)). Another advantage of ARDL bounds testing is that unrestricted ECM seems to take satisfactory lags that captures the data generating process in a general-to-specific framework of the specification. This method also avoids the classification of variables as I(1) and I(0) by developing bands of critical values which identifies the variables as being stationary or non-stationary processes. Unlike other cointegration techniques (e.g., Johansen’s procedure which require certain pre-testing for unit roots and that the underlying variables to be integrated of the same order), the ARDL model provides an alternative test for examining a long-run relationship regardless of whether the underlying variables are purely I(0) or I(1), or even fractionally integrated. Therefore, the previous unit root testing of the variables is unnecessary. Moreover, traditional cointegration method may also suffer from the problems of endogeneity bias while the ARDL method can distinguish between dependent and explanatory variables. Thus, estimates obtained from the ARDL method of cointegration analysis are unbiased and efficient, since they avoid the problems that may arise in the presence of serial correlation, and endogeneity. Note also that the ARDL procedure allows for uneven lag orders, while the Johansen’s VECM does not. However, Pesaran and Shin (1999) contended that appropriate modification of the orders of the ARDL model is sufficient to simultaneously correct for residual serial correlation and problem of endogenous variables. In summary, it can be seen that ARDL bound test can be used with a mixture of I(0) and I(1) data; it involves just a single-equation set-up, making it simple to implement and interpret; and different variables can be assigned different lag-length as they enter the model.

The ARDL bounds testing procedure consists of estimating an unrestricted error correction model. The equation shows the unrestricted ECM version of ARDL specification. The bounds test is mainly based on the joint F-statistic whose asymptotic distribution is nonstandard under the null hypothesis of no cointegration. The first step in the ARDL bounds test approach is to estimate equation by OLS, which tests for the existence of a long-run relationship among the variables by conducting an F-test for the joint significance of the coefficient of the lagged level of the variables.

The F-test has a nonstandard distribution which depends upon: (i) whether variables included in the ARDL model are I(0) or I(1); (ii) the number of regressors; and (iii) whether the ARDL model contains an intercept and/or a trend. Two sets of critical values are reported in Pesaran et al. (2001): one set is calculated assuming that all variables included in the ARDL model are I(0) and the other is estimated considering the variables are I(1). We reject the null hypothesis of no cointegration when the F-statistic exceeds the upper critical bounds value. We do not reject the null hypothesis if the F-statistic is lower than the lower bounds. Finally, the decision about cointegration is inconclusive, if the calculated F-statistic falls between the lower and upper-bound critical values.

### Error Correction Model

If a stable longrun relationship is confirmed from the ARDL bound test, then we shall estimate the shortrun dynamic coefficients through error correction model. The sign of the *ECM(-1)* must be negative and significant to ensure convergence of the dynamics to the long- run equilibrium. The value of the coefficient, which signifies the speed of convergence to the equilibrium process, usually ranges from -1 to 0. While -1 signifies perfect and instantaneous convergence, 0 means no convergence after a shock in the process. Further, Pesaran and Pesaran (1997) argued that it is imperative to ascertain the constancy of the long-run multipliers by testing the above error-correction model for the stability of its parameters. The

commonly used tests for stability are the cumulative sum (CUSUM) and the cumulative sum of squares (CUSUMQ), both of which have been introduced by Brown et al. (1975).

### Test of Research Hypotheses

A statistical hypothesis is a statement or assumption about an unknown population parameter which is yet to be verified. This test is performed in order to verify whether a hypothesis is true or false is called a test of hypothesis. The hypothesis about any population parameter is tested using information obtained from a sample drawn from the population in question. If the result obtained from the sample is inconsistent with the hypothesis being tested, we have to reject the hypothesis and vice versa.

In testing the hypotheses, the t-/F-statistics in the ECM result will be used. The T-statistics will help to determine the individual significance of each of the parameter estimates at a given level of significance. The hypothesis is stated as follows:

**H0:** βi = 0 (parameter estimate is statistically insignificant)

**H1:** βi  0 (parameter estimate is statistically significant).

The critical value for a two-tailed test is obtained from the t-table for

 /2 level of

significance with (n-k) degree of freedom (df). Where α = 5% = 0.05;

 /2 = 0.025, k =

number of parameters including the intercept in the regression, n = number of observation. Decision Rule: if /tcal/ > t0.025 (n-k), we reject H0, otherwise we accept it.

The F-statistics determines the joint significance of the variables in the model. The F-value provides a test of the null hypothesis that the true slope coefficients are jointly zero. Decision rule: if Fcal > F0.05 (n-k, k-1), we reject H0, and conclude that all variables are jointly significant at 5% level.

### Model Specification

The specification of the models for this work will be based on the objective of the study. The model will measure the nexus between fiscal policy and economic growth proxied by real gross domestic product. The study will adopt and modify the model of Nwankwo, Kalu & Chiekezie (2017). The functional form of the model that will be used in this study is specified as follows:

RGDP = ƒ(OR, NOR, CE, RE, DD, ED, FD) (2)

Where

RGDP = Real Gross Domestic Product OR = Oil Revenue

NOR = Non-oil Revenue

CE = Capital Expenditure

RE = Recurrent Expenditure

DD = Domestic Debt

ED = External Debt

FD = Fiscal Deficit

From functional form, the econometric form will be stated thus:

RGDP = βo + β1OR + β2NOR + β3CE + β4RE + β5DD + β6ED + β7FD + µ (3)

Where

βo = Autonomous or intercept

β1 = Coefficient of Parameter Oil Revenue

β2 = Coefficient of Parameter Non-Oil Revenue β3 = Coefficient of Parameter Capital Expenditure

β4 = Coefficient of Parameter Recurrent Expenditure β5 = Coefficient of Parameter Domestic Debt

β6 = Coefficient of Parameter External Debt β7 = Coefficient of Parameter Fiscal Deficit

To linearize Equation 3, we apply logarithm to Equation 4 which gives:

LRGDP = βo + β1OR + β2NOR + β3LCE + β4LRE + β5LDD + β6ED + β7FD + µ (4)

Where

LRGDP = Log of Real Gross Domestic Product LOR = Log of Oil Revenue

LNOR = Log of Oil Revenue

LCE = Log of Capital Expenditure LRE = Log of Recurrent Expenditure LDD = Log of Domestic Debt

LED = Log of External Debt

LFD = Log of Fiscal Deficit

* 1. **Introduction**

# CHAPTER FOUR

**DATA PRESENTATION AND ANALYSIS**

The secondary data obtained for the study are presented and analyzed with the empirical results thus obtained interpreted in this chapter. The data which span the period of 1981 to 2019 are attached to the study as Appendix I. The estimations carried out in the chapter are conducted using the E-views software version 9.0 of the econometrics. The empirical results that emerged are used to test the hypotheses formulated earlier in chapter one of the study. The variables of the study include real gross domestic products, capital expenditure, recurrent expenditure, oil revenue, non-oil revenue, domestic debt, external debt, and fiscal deficit.

### Data Presentation

See the data in appendix I

### Descriptive Statistics

Descriptive statistics measure the individual characteristics of the variables used in this study. It shows the mean, median, standard deviation, Jarque-Bera and its probability value (Used to measures normality of the data). The result of the descriptive statistics results for the study are presented in the Table 1 below:

### Table 1: Descriptive Statistics

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **RGDP** | **CE** | **RE** | **OR** | **NOR** | **DD** | **ED** | **FD** |
| Mean | 34692.62 | 473.9831 | 1428.311 | 2430.350 | 1039.707 | 2874.888 | 1698.216 | 628.2285 |
| Median | 23688.28 | 309.0200 | 461.6000 | 1230.850 | 314.4800 | 898.2500 | 633.1400 | 103.7800 |
| Maximum | 71387.83 | 2289.000 | 6997.390 | 8878.970 | 4725.600 | 14272.64 | 9022.420 | 4813.820 |
| Minimum | 13779.26 | 4.100000 | 4.750000 | 7.250000 | 2.980000 | 11.19000 | 2.330000 | 1.000000 |
| Std. Dev. | 20241.02 | 528.2971 | 1842.588 | 2723.421 | 1351.774 | 4124.112 | 2195.768 | 1148.640 |
| Jarque-Bera | 4.986798 | 19.57516 | 12.02124 | 4.756112 | 8.991322 | 16.88934 | 31.06770 | 68.88354 |
| Probability | 0.082629 | 0.276156 | 0.212453 | 0.092731 | 0.211157 | 0.341215 | 0.376152 | 0.092345 |
| Observations | 39 | 39 | 39 | 39 | 39 | 39 | 39 | 39 |

*Source:Researcher’s Computation from E-view 9.0 (2021).*

Table 1 above reveals the individual characteristics of the variables used in the study highlighting their median, mean, maximum and minimum values, standard deviation and Jarque-Bera statistics (normality Test). Real gross domestic product (RGDP) has a mean value of 34692.62 with maximum value of 71387.83 and minimum value of 13779.26. Real gross domestic product recorded a standard deviation of 20241.02 which is lower than its mean. This indicates that real gross domestic product recorded a slow growth within the period under review. Real gross domestic product also recorded a Jarque-Bera value of 4.986798 with a probability value of 0.082629 which is within the acceptable threshold indicating that real gross domestic product is normally distributed.

Capital expenditure (CE) and recurrent expenditure (GE) recorded mean values of 473.9831 and 1428.311 with maximum values of 2289 and 6997.390 and minimum values of 4.10 and 4.75 respectively. They recorded standard deviation values of 528.2971 and 1842.588 respectively which are higher than their respective means. This indicates that capital expenditure and recurrent expenditure had a fast growth within the period under review. Capital expenditure and recurrent expenditure also recorded a Jarque-Bera value of 19.57516 and 12.02124 with probability values of 0.276156 and 0.212453 respectively indicating that they are normally distributed.

Oil revenue (OR) and non oil revenue (NOR) recorded mean values of 2430.350 and 1039.707 with maximum values of 8878.970 and 4725.600 and minimum values of 7.25 and 2.98 respectively. They recorded standard deviation values of 2723.421 and 1351.774 respectively which are higher than their respective means. This indicates that they had a fast growth within the period under review. They also recorded a Jarque-Bera value of 4.756112 and 8.991322 with probability values of 0.092731 and 0.211157 respectively indicating that they are normally distributed.

Domestic debt (DD) and external debt (ED) recorded mean values of 2874.888 and 1698.216 with maximum values of 14272.64 and 9022.420 and minimum values of 11.19 and 2.33 respectively. They recorded standard deviation values of 4124.112 and 2195.768 respectively which are higher than their respective means. This indicates that they had a fast growth within the period under review. They also recorded a Jarque-Bera value of 16.88934 and 31.06770 with probability values of 0.341215 and 0.376152 respectively indicating that they are normally distributed.

Fiscal deficit (FD) recorded mean value of 628.2285 with maximum values of 4813.820 and minimum values of 1.0. It also recorded a Jarque-Bera value of 68.88354 with probability values of 0.092345 respectively indicating that they are normally distributed.

### Correlation Analysis

Here, the independent variables were tested to see if they are correlated and the result is

represented in a matrix form. The assumption of Classical Linear Regression Model (CLRM) is

that the independent variables are, in no way, correlated with each other. When this is violated,

then there is a problem of multi co-linearity. Since multi co-linearity is a question of degree and

not of existence, a matrix coefficient above 0.8 indicates a high degree of multi co-linearity in

the model. The correlation matrix is shown in the table below:

**Table 2 Correlation Matrix**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | **RGDP** | **CE** | **DD** | **ED** | **FD** | **NOR** | **OR01** |
| RGDP | 1.000000 | 0.785567 | 0.724732 | 0.566716 | 0.792950 | 0.664517 | 0.759215 |
| CE | 0.785567 | 1.000000 | 0.772157 | 0.680543 | 0.749251 | 0.718284 | 0.778540 |
| DD | 0.724732 | 0.772157 | 1.000000 | 0.701234 | 0.750447 | 0.773424 | 0.672348 |
| ED | 0.566716 | 0.680543 | 0.701234 | 1.000000 | 0.784584 | 0.645321 | 0.353204 |
| FD | 0.792950 | 0.749251 | 0.750447 | 0.784584 | 1.000000 | 0.686285 | 0.502915 |
| NOR | 0.664517 | 0.718284 | 0.773424 | 0.645321 | 0.686285 | 1.000000 | 0.784678 |
| OR | 0.759215 | 0.778540 | 0.672348 | 0.353204 | 0.502915 | 0.784678 | 1.000000 |

Sources: Computation from the E-view 9.0

The correlation matrix table above shows that there is no multi co-linearity in the model since there is no matrix value in excess of 0.8. This implies that the model conforms to assumption above.

### Unit Root Test

A unit root (also called a unit root process or a difference stationary process) is a statistic trend in a time series, sometimes called a “random walk with drift”; if a time series has a unit root, it shows a systematic pattern that is unpredictable (Everit & Skromdal, 2010). Thus, unit root tests are for stationarity in a time series. In this context, a time series has stationarity if a shift in time does not cause a change in the shape of the distribution; unit roots are one cause for non- stationarity (Vogt, 2005). These tests are known for having low statistical power.

Stationarity is essential because if there is no stationarity, the processing of the data may produce biased results. The consequences are unreliable interpretation and conclusions. In this study, we test for stationarity using the Augmented Dickey-Fuller (ADF) tests on the data. The ADF tests are done on level series and first difference level. The decision rule is to reject stationarity if ADF statistics is less than the 5 per cent critical value; otherwise, accept stationarity when the value of the ADF statistic is greater than the 5 per cent criteria value.

The unit root test results obtained for the current study are contained in Table 3 below:

### Table 3: Unit Root Test Results

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Variables** | **At Level**  **1(0)** | **At First Difference**  **1(1)** | **At Second Difference**  **1(2)** | **Order of Integration** | **Alpha Value** |
| Real Gross Domestic product (LRGDP) |  | -7.808418 |  | 1(1) | 0.0000 |
| Capital Expenditure (LCE) |  | -6.323821 |  | 1(I) | 0.0000 |
| Recurrent Expenditure (LRE) |  | -8.209865 |  | 1(I) | 0.0000 |
| Oil Revenue (LOR) |  | -6.171975 |  | 1(I) | 0.0000 |
| Non Oil Revenue (LNOR) |  | -7.583600 |  | 1(I) | 0.0000 |
| Domestic Debt (LDD) |  | -4.566296 |  | 1(I) | 0.0008 |
| External Debt (LED) |  | -4.726482 |  | 1(I) | 0.0005 |
| Fiscal Deficit (LFD) |  | -10.26688 |  | 1(I) | 0.0000 |

*Source: Researcher’s Compilation E-views 9.0 (2021)*

A cursory look at the unit root test results contained in Table 3 above reveals that real gross domestic products, capital expenditure, recurrent expenditure, oil revenue, non-oil revenue, domestic debt, external debt, and fiscal deficit variables are stationary at first difference. Since the decision rule is to reject stationarity if the ADF statistic is less than the 5 per cent critical value, and accept stationarity when the ADF statistic is greater than the 5 per cent criterion value, the ADF absolute value of each of these variables is greater than the 5 per cent critical value at their first difference but less than 5 per cent critical value in their level form (*see*, Appendixes II of the study). Therefore, all the variables are all stationary of order I(1) . The implications for these empirical results are that the study’s variables are suitable tool of analyzing the error correction mechanism since all the variables used in the model were stationary at first difference.

### Co-integration Test

A co-integration test is used to establish if there is a correlation between several time series. Time series data sets record observations of the same variable over various points of time. Thus, the tests are used to identify the degree of sensitivity of two variables to the same average point over a specified period of time. Since the unit root test results show that all the variables are stationary at first difference, we proceeded further to carry out the co-integration test. The essence is to show whether the variables have a long term relationship or equilibrium among them. That is, the variables are co-integrated and will not produce a spurious regression. The co- integration test results obtained for the study using the Johansen co-integration test are presented in Table 4 below:

### Table 4: Johansen Multivariate Co-integration Test

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Unrestricted Cointegration Rank Test (Trace) | | | | |
| Hypothesized |  | Trace | 0.05 |  |
| No. of CE(s) | Eigenvalue | Statistic | Critical Value | Prob.\*\* |
| None \* | 0.994519 | 656.0563 | 239.2354 | 0.0000 |
| At most 1 \* | 0.977175 | 463.4204 | 197.3709 | 0.0001 |
| At most 2 \* | 0.936353 | 323.5640 | 159.5297 | 0.0000 |
| At most 3 \* | 0.843435 | 221.6508 | 125.6154 | 0.0000 |
| At most 4 \* | 0.807684 | 153.0422 | 95.75366 | 0.0000 |
| At most 5 \* | 0.638704 | 92.04341 | 69.81889 | 0.0003 |
| At most 6 \* | 0.423797 | 54.37526 | 47.85613 | 0.0108 |
| At most 7 \* | 0.358516 | 33.97735 | 29.79707 | 0.0156 |
| At most 8 \* | 0.272692 | 17.55043 | 15.49471 | 0.0242 |
| At most 9 \* | 0.144382 | 5.769458 | 3.841466 | 0.0163 |
| Trace test indicates 10 cointegrating eqn(s) at the 0.05 level | | | | |
| \* denotes rejection of the hypothesis at the 0.05 level | | | | |
| \*\*MacKinnon-Haug-Michelis (1999) p-values | | | | |
| Unrestricted Cointegration Rank Test (Maximum Eigenvalue) | | | | |
| Hypothesized |  | Max-Eigen | 0.05 |  |
| No. of CE(s) | Eigenvalue | Statistic | Critical Value | Prob.\*\* |
| None \* | 0.994519 | 192.6359 | 64.50472 | 0.0001 |
| At most 1 \* | 0.977175 | 139.8564 | 58.43354 | 0.0000 |
| At most 2 \* | 0.936353 | 101.9131 | 52.36261 | 0.0000 |
| At most 3 \* | 0.843435 | 68.60856 | 46.23142 | 0.0001 |
| At most 4 \* | 0.807684 | 60.99883 | 40.07757 | 0.0001 |
| At most 5 \* | 0.638704 | 37.66815 | 33.87687 | 0.0168 |
| At most 6 | 0.423797 | 20.39791 | 27.58434 | 0.3143 |
| At most 7 | 0.358516 | 16.42692 | 21.13162 | 0.2009 |
| At most 8 | 0.272692 | 11.78097 | 14.26460 | 0.1191 |
| At most 9 \* | 0.144382 | 5.769458 | 3.841466 | 0.0163 |
| Max-eigenvalue test indicates 6 cointegrating eqn(s) at the 0.05 level | | | |  |
| \* denotes rejection of the hypothesis at the 0.05 level | | | |  |
| \*\*MacKinnon-Haug-Michelis (1999) p-values | | | |  |

*Source: Researcher’s computations using E-view 9.0 (2021).*

The results in Table 4 above reveal that the trace tests have 10 co-integrating variables in the model, while the maximum Eigenvalue possess 6 co-integrating equations. Hence, both the trace statistics and Eigenvalue statistics reveal that there is a long run relationship between the variables in the model. The implication of this result is a long run relationship between dependent and the explanatory variables used in the model.

### Error Correction Mechanism (ECM)

Sargan (1964) developed the error correction model which retains the level information. It was popularized by Engle and Granger (1987).Conceptually, the ECM is a time series regression model that is based on the behavioral assumption that two or more time series exhibit an equilibrium relationship that determines both short-run and long-run behavior. Thus, ECMs directly estimate the speed at which a dependent variable returns to equilibrium after a change in other (or dependent) variables. It belongs to a category of multipIe time series model most commonly used for data where the underlying variables have a long-run common stochastic trend, also known as co-integration. Worthy of note is the fact that the ECMs are a theoretically- driven approach useful for estimating both short-run and long-run effects of one time series on another.

For the study, the empirical results obtained using error correction model (ECM) are presented in Table 5 below:

### Table 5: Error Correction Model (ECM) Results

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Dependent Variable: LRGDP | | | | |
| Method: Least Squares |  |  |  |  |
| Date: 06/19/21 Time: 13:08 | | | | |
| Sample (adjusted): 1982 2019 | | | | |
| Included observations: 38 after adjustments | | | | |
| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
| C | 4.987024 | 0.362051 | 13.77436 | 0.0000 |
| LFD | -0.069576 | 0.018845 | -3.691940 | 0.0010 |
| LDD | -0.320955 | 0.067817 | -4.732687 | 0.0001 |
| LED | -0.094144 | 0.018765 | -5.017024 | 0.0000 |
| LCE | 0.176643 | 0.044869 | 3.936898 | 0.0005 |
| LRE | 0.329055 | 0.110818 | 2.969321 | 0.0062 |
| LNOR | 0.250807 | 0.064668 | 3.878369 | 0.0006 |
| LOR | 0.033653 | 0.055403 | 0.607414 | 0.5487 |
| ECM(-1) | -0.469432 | 0.121871 | -2.321238 | 0.0271 |
| R-squared | 0.772110 | Mean dependent var | | 3.824044 |
| Adjusted R-squared | 0.724743 | S.D. dependent var | | 0.224308 |
| S.E. of regression | 0.093904 | Akaike info criterion | | -1.655894 |
| Sum squared resid | 0.238084 | Schwarz criterion |  | -1.181856 |
| Log likelihood | 42.46198 | Hannan-Quinn criter. | | -1.487235 |
| F-statistic | 18.41185 | Durbin-Watson stat | | 2.062011 |
| Prob(F-statistic) | 0.000000 |  | |  |

*Source: Researcher’s computations using E-view 9.0 (2021)*

The empirical results on the variables of the study as contained in Table 5 are analyzed, thus:

### Capital Expenditure:

The results contained in Table 5 above show the value of the coefficient of capital expenditure is 0.176643 with a t-statistics value of -3.936898 and a probability value of 0.0000. This empirical finding implies that capital expenditure had a positive and significant relationship with economic growth in Nigeria at the traditional 1 per cent level during the period covered by the study.

### Recurrent Expenditure:

The value of the coefficient of recurrent expenditure is 0.329055 with a t-statistics value of 2.969321 and a probability value of 0.0062. This empirical finding implies that recurrent expenditure has a positive and significant relationship with economic growth in Nigeria also at the traditional 1 per cent level during the period being studied.

### Oil Revenue

The value of the coefficient of oil revenue is 0.033653 with a t-statistic value of 0.607414 and a probability value of 0.5487. These empirical findings show that oil revenue has a positive relationship with economic growth in Nigeria at an insignificant level during the period covered by the study.

### Non Oil Revenue

The value of the coefficient of non oil revenue is 0.250807 with a t-statistic value of 0.607414 and a probability value of 0.0006. These empirical findings imply that non oil revenue has a positive and significant relationship with economic growth in Nigeria at the traditional 1 per cent level during the period under being studied.

### Domestic Debt

The value of the coefficient of domestic debt is -320955 with a t-statistic value of -4.732687 and a probability value of 0.0001. The implications for these empirical findings are that domestic debt has a negative but significant relationship with economic growth in Nigeria at the traditional 1 per cent level during the period covered by the study.

### External Debt

The value of the coefficient of external debt is -0.094144 and a t-statistic value of -5.017024 with a probability value of 0.0000. These empirical findings imply that external debt had a negative and significant relationship with economic growth in Nigeria at the traditional 1 per cent level during the period being studied.

### Fiscal Deficit

The value of the coefficient of fiscal deficit is -0.069576 with a t-statistics value of -3.691940 and a probability value of 0.0010. These empirical findings also imply that fiscal deficit has a negative insignificant relationship with economic growth in Nigeria at the 1 per cent traditional level within the period covered by the study.

### Error Correction Mechanism

The value of the coefficient of error correction mechanism is (ECM-1) is –0.469432. This is a negative sign and is in tandem with econometric theory. This empirical result shows that the speed at which the disequilibrium occasioned by the co-integration process has adjusted to equilibrium is approximately 47 per cent and this is impressive.

### Summary Statistics

* + 1. **Coefficient of Determination (R2)/Adjusted R2**

The values of the coefficient of determination (R2) and that of its adjusted R2 counterpart are 0.772110 and 0.724743, respectively. These statistical results show that approximately 77 per cent of the systematic variations in economic growth in Nigeria were explained by the independent variables. After allowing for degree of freedom, however, the value of the R-bar- squared stood at 0.724743 implying that the set of independent variables were still able to explain over 72 per cent of the systematic variations in economic growth in Nigeria. In other words, approximately 72.5 per cent of the systematic variations in economic growth in Nigeria are explained by the variations in oil revenue, non-oil revenue, capital expenditure, recurrent expenditure, domestic debt, external debt and fiscal deficit. These statistical results suggest that the explanatory power of all the independent variables put together is quite high. This is to say that the variables contained in the model specification passed the test of goodness-of-fit.

### F-statistics

The F-statistic tests he overall significance of the model of a study. Thus, it is instrumental in verifying the overall significance of an estimated model. The value of the F-statistic contained in Table 4 above stands at 18.41185[0.000000]. This statistical finding shows that the fiscal policy variables of the study including oil revenue, non-oil revenue, capital expenditure, recurrent expenditure, domestic debt, external debt and fiscal deficit) has a significant effect on economic growth in Nigeria all at the traditional 1 per cent level all things being equal.

### Durbin-Watson (DW) Statistics

The value of the DW-statistic obtained for the study stands at 2.062011 and this statistical finding indicates that there is no autocorrelation or serial correlation among the variables of the study sins this value is greater 2. Hence, it is appropriate to use the model for realistic forecasts.

### Diagnostic Statistics

The reliability of the econometric models of estimation and data analysis were determined using Serial Correlation and Heteroskedascity and the results according are presented below.

### Serial Correlation Test

Serial correlation investigates whether there is a correlation between one time period and another over time in the time series used for the analyses. The presence of correlation of time periods will lead to serial correlation which will have huge effect on the reliability of model estimation. It may lead to high significant value, inefficient estimation, exaggerated goodness of fit and false coefficient of regression sign (positive or negative). The presence of serial correlation is tested using the Breusch-Godfrey Serial Correlation LM Test. The null hypothesis is no presence of serial correlation.

### The Decision Rule

The decision rule is to reject the null hypothesis if the ρ-value is less than the 0.05 level of significance:

### Table 6: Serial Correlation Test

|  |  |  |  |
| --- | --- | --- | --- |
| Breusch-Godfrey Serial Correlation LM Test: | | | |
| F-statistic | 0.089289 | Prob. F(2,25) | 0.9149 |
| Obs\*R-squared | 0.269512 | Prob. Chi-Square(2) | 0.8739 |

*Source: Author’s Computation from E-view 9.0 (20210.*

Table 6 above indicates F-statistic value of 0.089289 with probability value of 0.9149 which is greater than 0.05. This indicates that there is no serial correlation (of time series) in the model. This confirms that the nature of the relationship (negative or positive) as found in the value of the error correction mechanism (ECM) and is correct and true of the model characteristics. This implies that the result of the test of hypothesis from the ECM gives correct position of the relationship between the fiscal policy variables and economic growth in Nigeria.

### Heteroskedasticity Test

Heteroskedasticity was also tested for the linear regression analysis. Presence of heteroskedasticity implies that the coefficients estimated from the regression analyses will be a biased one. Presence of heteroskedasticity means that there is an unequal error variance in the model from the data observations. The null hypothesis is that the residuals are homoscedastic and the alternate hypotheses are that the residuals are heteroscedastic.

**The Decision Rule:** The decision rule is to reject the null hypothesis if the p. value is less than the 0.05 per cent level of significance.

The empirical results on the heteroskedascticity test are shown in Table 6 below:

### Table 7: Heteroskedasticity Test

|  |  |  |  |
| --- | --- | --- | --- |
| Heteroskedasticity Test: Breusch-Pagan-Godfrey | | | |
| F-statistic | 1.171089 | Prob. F(10,27) | 0.3514 |
| Obs\*R-squared | 11.49583 | Prob. Chi-Square(10) | 0.3202 |
| Scaled explained SS | 7.570712 | Prob. Chi-Square(10) | 0.6707 |

*Source: Researcher’s computations using E-view 9.0 (2021).*

As can be noticed in Table 7 above, the F-statistic of the Breusch-Godfrey Serial Correlation LM test is 1.171089 with probability value of 0.3514. Since the probability value is greater than 0.05, we cannot reject the null hypothesis that the residuals are homoscedastic. Thus we conclude that there is no heteroscedastic in the model. This implies that the result obtained from the estimated model is not biased.

### Test of Hypotheses

In this section, the hypotheses formulated earlier in the study were tested for empirical significance and the results are presented below.

### Test of Hypothesis One

**Stage One: Restatement of Hypothesis in Null and Alternate Form**

Ho1: Oil revenue has no significant relationship with economic growth in Nigeria.

### Stage Two: Analysis of Results

Based on the t-Statistics value of 0.607414 and its probability value of 0.5487 in Table 4.4 which is statistically significant, we accept the null hypothesis and reject the alternative hypothesis. This implies that oil revenue has significant relationship with economic growth in Nigeria.

### Test of Hypothesis Two

**Stage One: Restatement of Hypothesis in Null and Alternate Form**

Ho2: Non-oil revenue has no significant relationship with economic growth in Nigeria.

### Stage Two: Analysis of Results

Based on the t-Statistics value of 3.878369 and alpha value of 0.0006 in Table 4.4 which is statistically significant, we reject the null hypothesis and accept the alternative hypothesis. This implies that non-oil revenue has significant relationship with economic growth in Nigeria.

### Test of Hypothesis Three

**Stage One: Restatement of Hypothesis in Null and Alternate Form**

Ho3: Capital expenditure has no significant relationship with economic growth in Nigeria.

### Stage Two: Analysis of Results

Based on the t-Statistics value of 3.936898 and its probability value of 0.0005 in Table 5 which is statistically significant, we reject the null hypothesis and accept the alternative hypothesis. This implies that capital expenditure has significant relationship with economic growth in Nigeria.

### Test of Hypothesis Four

**Stage One: Restatement of Hypothesis in Null and Alternate Form**

Ho4: Recurrent expenditure has no significant relationship with economic growth in Nigeria.

### Stage Two: Analysis of Results

Based on the t-Statistics value of 2.969321 and its probability value of 0.0062 in Table 5 which is statistically significant, we reject the null hypothesis and accept the alternative hypothesis. This implies that recurrent expenditure has significant relationship with economic growth in Nigeria.

### Test of Hypothesis Five

**Stage One: Restatement of Hypothesis in Null and Alternate Form**

Ho5: Domestic debt has no significant relationship with economic growth in Nigeria.

### Stage Two: Analysis of Results

Based on the t-Statistics value of -4.732687 and its probability value of 0.0001 in Table 5 which is statistically significant, we reject the null hypothesis and accept the alternative hypothesis. This implies that domestic debt has significant relationship with economic growth in Nigeria.

### Test of Hypothesis Six

**Stage One: Restatement of Hypothesis in Null and Alternate Form**

Ho6: External debt has no significant relationship with economic growth in Nigeria. .

### Stage Two: Analysis of Results

Based on the t-Statistics value of -5.017024 and its probability value of 0.0000 in Table 5 which is statistically significant, we reject the null hypothesis and accept the alternative hypothesis. This implies that external debt has significant relationship with economic growth in Nigeria.

### Test of Hypothesis Seven

**Stage One: Restatement of Hypothesis in Null and Alternate Form**

Ho7: Fiscal deficit has no significant relationship with economic growth in Nigeria.

### Stage Two: Analysis of Results

Based on the t-Statistics value of -3.691940 and probability value of 0.0010 in Table 5 which is statistically significant, we reject the null hypothesis and accept the alternative hypothesis. This implies that fiscal deficit has significant relationship with economic growth in Nigeria.

## CHAPTER FIVE DISCUSSION OF FINDINGS

The study evaluated the relationship between fiscal policy and economic growth in Nigeria for the period 1981 to 2019. The empirical findings thus made are discussed, thus:

### Oil Revenue and Economic Growth in Nigeria

The study found that oil revenue had insignificant positive relationship with economic growth in Nigeria. This implies that oil revenue made insignificant contribution to economic growth in Nigeria. Hence, the phenomenal increase in oil revenue has not translated into meaningful development of the real sector of the economy thereby affecting economic growth negatively. On the one hand, this empirical finding agrees with that of Sotubo (2013) that Nigeria’s over- dependence on crude oil is dangerous for two reasons: first, crude oil is a wasting asset with a proven reserve which would eventually become depleted; and second, the vagaries of the oil market has resulted in a significant decline in the earnings because of the exogenously determined price of crude oil with a t-statistic value of 0.607414.

On the other hand, the finding disagrees with the findings of Efanga, Ugwuanyi and Ogochukwu (2020) that oil revenue impacted positively and significantly on economic growth in Nigeria. Similarly, it disagrees with the findings of Nweze and Greg(2016) that oil revenue exerted significant impact on economic growth in Nigeria.

### Non-Oil Revenue and Economic Growth in Nigeria

The study also found that non-oil revenue had significant positive relationship with economic growth in Nigeria. This implies that revenue from non oil sector contributed positively to economic growth within the period being studied. Therefore, the need to expand the non-oil revenue base of Nigeria remains non-negotiable in bringing about the desired increase earning and greater sustainable growth.

This empirical finding agrees with the position of Ozurumba and Chigbu (2013) that the non-oil sector has huge potentials for foreign exchange earnings and can bring about huge employment generation and poverty reduction through the extensive backward linkages it offers. It also collaborates the findings of Nwamuo (2020) that non-oil revenue has a positive and significant impact on economic growth in Nigeria. The finding also agrees with the findings of Amusa, Nwagwu, Yusuf and Sokunbi (2019) that government revenue has a significant positive and significant relationship with economic growth in Nigeria in the short run with a t-statistic value of 0.607414.

### Capital Expenditure and Economic Growth in Nigeria

The study found that capital expenditure had significant positive relationship with economic growth in Nigeria. This implies that government capital expenditure contributed significantly to economic growth all things being equal. Capital expenditure enables government to invest in schemes that involve huge capital outlay such as construction of railways, roadways and communication systems, irrigation and power projects which can raise economic growth both directly and indirectly through encouragement of further private investment. This finding agrees with the findings of Benimana (2020) that government expenditure has a positive and significant impact on the GDP growth.

However, the finding disagrees with the findings of Tasnia (2018) that government expenditure has no significant impact on real GDP growth. It also disagrees with the findings of Munongo (2012) that capital expenditure by government has a negative effect on economic growth. Similarly, Ghazi and Martha (2010) that government investment in infrastructure and productive capacity has been less growth-enhancing in Saudi Arabia. Furthermore, found that capital expenditure has a negative and significant impact on economic growth with a t-statistics value of -3.936898.

### Recurrent Expenditure and Economic Growth in Nigeria

Recurrent expenditure was also found to have significant positive relationship with economic growth in Nigeria. This implies that recurrent expenditure is positively related to economic growth in Nigeria. This finding collaborate the findings of Benimana (2020) that government revenues has a positive and significant impact on the Rwandan GDP growth. It also agrees with the findings of Nwagwu, Yusuf & Sokunbi (2019), Titiloye & Ishola (2020), Amusa, Onifade, Çevik, Erdoğan, Asongu & Bekun (2020) that government total expenditure and revenue has a significant impact on economic growth in Nigeria. This disagrees with the findings of recurrent expenditure has a significant negative relationship with economic growth. Similarly, Nwamuo (2020) and Nwamuo (2020) found that recurrent expenditure have a negative and significant impact on economic growth with a t-statistics value of 2.969321.

### Domestic Debt and Economic Growth in Nigeria

The study also found that domestic debt had significant negative relationship with economic growth in Nigeria. This implies that domestic debt have not contributed positively to economic growth in Nigeria within the review period. Proper and efficient utilization of domestic debt may enhance productive capacity and economic growth through development of related projects. But the reverse is the case in Nigeria within the reviewed as it has not contributed to economic growth. This finding agrees with the findings of Osuala & Ebieri (2014), Agbarakwe (2018) that total debt stock have significant negative long run relationship with economic growth.

Contrarily, the finding disagrees with the findings of that domestic debt expansion had positive and significant effect on economic growth. This also disagrees with the findings of that government total debts have no significant impact on real GDP with a t-statistic value of - 4.732687.

### External Debt and Economic Growth in Nigeria

The study further found that external debt had a negative but significant relationship with economic growth in Nigeria. This implies that external debt borrowing did not contribute meaningfully to economic growth in Nigeria. Countries experiencing fiscal deficits, especially the developing ones borrow to improve their economic growth but these borrowing have not made any significant contribution to economic growth in Nigeria. The implication is that the huge external borrowings by government might have been misappropriated, diverted, or invested in unproductive sector. This empirical finding collaborates the findings of Akujuobi (2012), Ajao & Ogiemudia (2012) that external debts did not contribute positively to economic development of Nigeria. However, the finding disagrees with the findings of Eravwoke and Oyovwi (2013), Shehu and Aliyu (2013) and Sulaiman & Azeez (2012) that external debt has a positive and significant relationship with economic growth in Nigeria with a t-statistic value of - 5.017024.

### Fiscal Deficit and Economic Growth in Nigeria

The empirical result obtained on fiscal deficit shows that the variable exerted a negative but significant impact on economic growth in Nigeria. This implies that fiscal deficit negatively relates with economic growth in Nigeria within the period being studied. This finding agrees with the findings of Mohanty (2012), Navaratnam & Mayandy (2016), Tung (2018), Gyasi (2020) that fiscal deficit affects economic growth negatively and harmfully. However, the finding disagrees with those of Shahid and Naved (2010) that there is a long run positive relationship between overall fiscal deficit and economic growth. Similarly, the finding disagrees with the findings of Boldeanu and Ion (2015) that budget deficit has no significant influence on economic growth in the founding countries of the European Union with a t-statistics value of - 3.691940.

## CHAPTER SIX

**FINDINGS, CONCLUSION AND RECOMMENDATIONS**

### Summary of Findings

The study evaluated the relationship between fiscal policy and economic in Nigeria using time series data from 1981 to 2019. The estimation strategy of the study was in four phases, namely: descriptive statistics, correlations analysis, and econometric regression. The result of the descriptive statistics indicates that all the variables used in the study were normally distributed. Augmented Dicker Fuller stationarity test showed that all the variables were stationary at the first difference. The Johanson Cointegration shows that there is a long run relationship between dependent and the explanatory variables used in the model. The value of the adjusted R-Bar- Squared was robust and impressive.

In summary, the following findings were recorded:

* + 1. That oil revenue has a positive but insignificant relationship with economic growth in Nigeria.
    2. That non-oil revenue has a positive and significant relationship with economic growth in Nigeria.
    3. Capital expenditure has a positive and significant relationship with economic growth in Nigeria.
    4. Recurrent expenditure has a positive and significant relationship with economic growth in Nigeria.
    5. Domestic debt has a negative but significant relationship with economic growth in Nigeria.
    6. External debt has a negative but significant relationship with economic growth in Nigeria.
    7. Fiscal deficit has a negative but significant relationship with economic growth in Nigeria.

### Conclusion

The study investigated the relationship between fiscal policy and economic growth in Nigeria using time series data from 1981 to 2019. Based on the above findings, the study therefore concluded that fiscal policy has significant relationship with economic growth in Nigeria. Furthermore, the study concluded that the Federal Government of Nigeria should fine-turn her fiscal policy measures to ensure that the country experiences a rapid and sustainable economic growth in Nigeria in order to become a significant player in the international market.

### Recommendations

Based on the findings and conclusion above, the following recommendations are proffered:

1. That the Federal government should intensify efforts in ensuring the diversification of the nation’s economy from the oil economy to other productive sectors. Judging from the huge capacity of the non-oil sector in enhancing revenue generation and the economic growth of Nigeria, the government must be committed to setting machinery in place to drive its policies and strategies aimed at opening up the non-oil productive sector and setting it on track for revenue generation.
2. That the Government should be consistent with policies that will bring about sustainable growth in non-oil revenue. It is therefore recommended that Government should reexamine its non-oil revenue by way of increasing tax base and introducing new taxes in such a way that it does not distort the working of the economy but to increase the economic growth.
3. That capital expenditure should be channeled to capital projects and social overhead capital that will encourage investment, such as constant electricity supply and good road networks.

Also, tax rebates and holidays for those involved in the productive sector of the economy in order to increase their contribution to economic development.

1. That the government should introduce and implement appropriate policy mix aimed at setting achievable fiscal policy targets that will help to enhance the productivity of the economy.
2. That a greater caution should be exercised in domestic government borrowing to keep the debt profile within a tolerable limit that would not lead to debt overhang that could affect the future generation. The study is encouraging domestic borrowing that is more dominated by marketable securities because it serves as a monetary tool to strengthen the financial markets and also helps to achieve economic expansion in the country.
3. That the government should make deliberate efforts at settling the outstanding external debt.

This will give room for proper conduct of monetary policy in the economy. It will be healthy if the government strives to finance budget deficit by improving on the present revenue base rather than resulting to external and domestic borrowing. This can be achieved by improving its revenue sources and efficient pursuit of tax reforms.

1. That concerted efforts should be made to boost domestic revenue generation and execute fiscal transformations that reduce public debt and deficit financing to a sustainable level, while ensuring that borrowed funds are deployed to support growth through productive and self-liquidating investments in the principal sectors of the economy.

### Contribution to Knowledge

This study established that fiscal policy has significant relationship with economic growth within the period covered by the study. The study also extended the number of observations (years) used in the previous studies by updating it to 2019. The existing literature was updated in terms of variables used in the study. Practically, the study provides empirical evidence for

further research work and policy formulations and implementation. The study also developed a model for measuring the effect of fiscal policy on economic growth in Nigeria which can be adopted in subsequent studies.

### Suggestions for Future Study

The study recommends the following:

1. The effect of fiscal policy on economic growth should be examined at the state level.
2. The study recommends a comparative study of the effect of fiscal policy on economic growth in Nigeria with other West African Countries.

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# APPENDIX I

**DATA FOR THE ANALYSIS**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Years** | **RGDP** | **OR** | **NOR** | **CE** | **RE** | **DD** | **ED** | **FD** |
| 1981 | 15258 | 8.56 | 4.73 | 6.57 | 4.85 | 11.19 | 2.33 | 3.9 |
| 1982 | 14985.08 | 7.81 | 3.62 | 6.42 | 5.51 | 15.01 | 8.82 | 6.1 |
| 1983 | 13849.73 | 7.25 | 3.26 | 4.89 | 4.75 | 22.22 | 10.58 | 3.36 |
| 1984 | 13779.26 | 8.27 | 2.98 | 4.1 | 5.83 | 25.67 | 14.81 | 2.66 |
| 1985 | 14953.91 | 10.92 | 4.13 | 5.46 | 7.58 | 27.95 | 17.3 | 3.04 |
| 1986 | 15237.99 | 8.11 | 4.49 | 8.53 | 7.7 | 28.44 | 41.45 | 8.25 |
| 1987 | 15263.93 | 19.03 | 6.35 | 6.37 | 15.65 | 36.79 | 100.79 | 5.89 |
| 1988 | 16215.37 | 19.83 | 7.77 | 8.34 | 19.41 | 47.03 | 133.96 | 12.16 |
| 1989 | 17294.68 | 39.13 | 14.74 | 15.03 | 25.99 | 47.05 | 240.39 | 15.13 |
| 1990 | 19305.63 | 71.89 | 26.22 | 24.05 | 36.22 | 84.09 | 298.61 | 22.12 |
| 1991 | 19199.06 | 82.67 | 18.33 | 28.34 | 38.24 | 116.2 | 328.45 | 35.76 |
| 1992 | 19620.19 | 164.08 | 26.38 | 39.76 | 53.03 | 177.96 | 544.26 | 39.53 |
| 1993 | 19927.99 | 162.1 | 30.67 | 54.5 | 136.73 | 273.84 | 633.14 | 65.16 |
| 1994 | 19979.12 | 160.19 | 41.72 | 70.92 | 89.97 | 407.58 | 648.81 | 70.27 |
| 1995 | 20353.2 | 324.55 | 135.44 | 121.14 | 127.63 | 477.73 | 716.87 | 1 |
| 1996 | 21177.92 | 408.78 | 114.81 | 212.93 | 124.49 | 419.98 | 617.32 | 32.05 |
| 1997 | 21789.1 | 416.81 | 166 | 269.65 | 158.56 | 501.75 | 595.93 | 5 |
| 1998 | 22332.87 | 324.31 | 139.3 | 309.02 | 178.1 | 560.83 | 633.02 | 133.39 |
| 1999 | 22449.41 | 724.42 | 224.77 | 498.03 | 449.66 | 794.81 | 2577.37 | 285.1 |
| 2000 | 23688.28 | 1591.68 | 314.48 | 239.45 | 461.6 | 898.25 | 3097.38 | 103.78 |

Source: CBN Statistical Bulletin, 2019. Note that

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 2001 | 25267.54 | 1707.56 | 903.46 | 438.7 | 579.3 | 1016.97 | 3176.29 | 221.05 |
| 2002 | 28957.71 | 1230.85 | 500.99 | 321.38 | 696.8 | 1166 | 3932.88 | 301.4 |
| 2003 | 31709.45 | 2074.28 | 500.82 | 241.69 | 984.3 | 1329.68 | 4478.33 | 202.72 |
| 2004 | 35020.55 | 3354.8 | 565.7 | 351.25 | 1110.64 | 1370.33 | 4890.27 | 172.6 |
| 2005 | 37474.95 | 4762.4 | 785.1 | 519.47 | 1321.23 | 1525.91 | 2695.07 | 161.4 |
| 2006 | 39995.5 | 5287.57 | 677.54 | 552.39 | 1390.1 | 1753.26 | 451.46 | 101.4 |
| 2007 | 42922.41 | 4462.91 | 1264.6 | 759.28 | 1589.27 | 2169.64 | 438.89 | 117.24 |
| **Years** | **RGDP** | **OR** | **NOR** | **CE** | **RE** | **DD** | **ED** | **FD** |
| 2008 | 46012.52 | 6530.6 | 1336 | 960.89 | 2117.36 | 2320.31 | 523.25 | 47.38 |
| 2009 | 49856.1 | 3191.94 | 1652.65 | 1152.8 | 2127.97 | 3228.03 | 590.44 | 810.01 |
| 2010 | 54612.26 | 5396.09 | 1907.58 | 883.87 | 3109.44 | 4551.82 | 689.84 | 1105.4 |
| 2011 | 57511.04 | 8878.97 | 2237.88 | 918.55 | 3314.51 | 5622.04 | 896.85 | 1158.52 |
| 2012 | 59929.89 | 8025.97 | 2628.78 | 874.7 | 3325.16 | 6537.54 | 1026.9 | 975.98 |
| 2013 | 63218.72 | 6809.23 | 2950.56 | 1108.39 | 3214.95 | 7118.98 | 1387.33 | 1153.49 |
| 2014 | 67218.72 | 6793.82 | 3275.03 | 783.12 | 3426.94 | 7904.03 | 1631.5 | 835.71 |
| 2015 | 69023.93 | 3830.1 | 3082.41 | 818.35 | 3831.95 | 8837 | 2111.51 | 1557.83 |
| 2016 | 67931.24 | 2693.9 | 2922.5 | 653.61 | 4160.11 | 11058.2 | 3478.91 | 2673.84 |
| 2017 | 68490.98 | 4109.8 | 3335.2 | 1242.3 | 4779.99 | 12589.49 | 5787.51 | 3609.37 |
| 2018 | 69810.02 | 5545.8 | 4006 | 1682.1 | 5675.2 | 12774.4 | 7759.2 | 3628.1 |
| 2019 | 71387.83 | 5536.66 | 4725.6 | 2289 | 6997.39 | 14272.64 | 9022.42 | 4813.82 |

RGDP = Real Gross Domestic Product OR = Oil Revenue

NOR = Non-oil Revenue

CE = Capital Expenditure

RE = Recurrent Expenditure

DD = Domestic Debt

ED = External Debt

FD = Fiscal Deficit

**APPENDIX II**

**RESULTS OF THE STATISTICAL ANALYSIS DESCRIPTIVE STATISTICS**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **RGDP** | **CE** | **RE** | **OR** | **NOR** | **DD** | **ED** | **FD** |
| Mean | 34692.62 | 473.9831 | 1428.311 | 2430.350 | 1039.707 | 2874.888 | 1698.216 | 628.2285 |
| Median | 23688.28 | 309.0200 | 461.6000 | 1230.850 | 314.4800 | 898.2500 | 633.1400 | 103.7800 |
| Maximum | 71387.83 | 2289.000 | 6997.390 | 8878.970 | 4725.600 | 14272.64 | 9022.420 | 4813.820 |
| Minimum | 13779.26 | 4.100000 | 4.750000 | 7.250000 | 2.980000 | 11.19000 | 2.330000 | 1.000000 |
| Std. Dev. | 20241.02 | 528.2971 | 1842.588 | 2723.421 | 1351.774 | 4124.112 | 2195.768 | 1148.640 |
| Skewness | 0.673962 | 1.406593 | 1.296963 | 0.776013 | 1.174475 | 1.523896 | 1.763095 | 2.315686 |
| Kurtosis | 1.881116 | 5.032790 | 3.818071 | 2.280238 | 3.124705 | 4.050909 | 5.585453 | 7.576054 |
| Jarque-Bera | 4.986798 | 19.57516 | 12.02124 | 4.756112 | 8.991322 | 16.88934 | 31.06770 | 68.88354 |
| Probability | 0.082629 | 0.276156 | 0.212453 | 0.092731 | 0.211157 | 0.341215 | 0.376152 | 0.092345 |
| Sum | 1353012. | 18485.34 | 55704.11 | 94783.64 | 40548.59 | 112120.6 | 66230.44 | 24500.91 |
| Sum Sq. Dev. | 1.56E+10 | 10605716 | 1.29E+08 | 2.82E+08 | 69437144 | 6.46E+08 | 1.83E+08 | 50136177 |
| Observations | 39 | 39 | 39 | 39 | 39 | 39 | 39 | 39 |

# UNIT ROOT TESTS

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Null Hypothesis: D(LRGDP) has a unit root | | | | |
| Exogenous: Constant |  |  |  |  |
| Lag Length: 0 (Automatic - based on SIC, maxlag=9) | | | | |
|  |  | t-Statistic | | Prob.\* |
| Augmented Dickey-Fuller test statistic | | -7.808418 | | 0.0000 |
| Test critical values: | 1% level | -3.626784 | |  |
|  | 5% level | -2.945842 | |  |
|  | 10% level | -2.611531 | |  |
| \*MacKinnon (1996) one-sided p-values. | | | | |
| Augmented Dickey-Fuller Test Equation | | | | |
| Dependent Variable: D(LRGDP,2) | | | | |
| Method: Least Squares |  |  |  |  |
| Date: 06/19/21 Time: 13:24 | | | | |
| Sample (adjusted): 1984 2019 | | | | |
| Included observations: 36 after adjustments | | | | |
| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
| D(LRGDP(-1)) | -1.249583 | 0.160030 | -7.808418 | 0.0000 |
| C | 0.003067 | 0.006458 | 0.474867 | 0.6379 |
| R-squared | 0.641997 | Mean dependent var | | 0.001778 |
| Adjusted R-squared | 0.631468 | S.D. dependent var | | 0.063809 |
| S.E. of regression | 0.038737 | Akaike info criterion | | -3.610105 |
| Sum squared resid | 0.051018 | Schwarz criterion |  | -3.522132 |
| Log likelihood | 66.98190 | Hannan-Quinn criter. | | -3.579400 |
| F-statistic | 60.97139 | Durbin-Watson stat | | 1.938600 |
| Prob(F-statistic) | 0.000000 |  | |  |

|  |  |  |  |
| --- | --- | --- | --- |
| Null Hypothesis: D(LCE) has a unit root | | | |
| Exogenous: Constant |  |  |  |
| Lag Length: 0 (Automatic - based on SIC, maxlag=9) | | | |
|  |  | t-Statistic | Prob.\* |
| Augmented Dickey-Fuller test statistic | | -6.323821 | 0.0000 |
| Test critical values: | 1% level | -3.621023 |  |
|  | 5% level | -2.943427 |  |
|  | 10% level | -2.610263 |  |
| \*MacKinnon (1996) one-sided p-values. | |  |  |
| Augmented Dickey-Fuller Test Equation | |  |  |
| Dependent Variable: D(LCE,2) | |  |  |
| Method: Least Squares | |  |  |
| Date: 06/19/21 Time: 13:29 | |  |  |
| Sample (adjusted): 1983 2019 | |  |  |
| Included observations: 37 after adjustments | |  |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
| D(LCE(-1)) | -1.065536 | 0.168496 | -6.323821 | 0.0000 |
| C | 0.168645 | 0.060086 | 2.806730 | 0.0081 |
| R-squared | 0.533276 | Mean dependent var | | 0.008950 |
| Adjusted R-squared | 0.519941 | S.D. dependent var | | 0.478655 |
| S.E. of regression | 0.331643 | Akaike info criterion | | 0.683021 |
| Sum squared resid | 3.849541 | Schwarz criterion |  | 0.770098 |
| Log likelihood | -10.63589 | Hannan-Quinn criter. | | 0.713720 |
| F-statistic | 39.99071 | Durbin-Watson stat | | 1.970081 |
| Prob(F-statistic) | 0.000000 |  | |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Null Hypothesis: D(LRE) has a unit root | | | | |
| Exogenous: Constant |  |  |  |  |
| Lag Length: 0 (Automatic - based on SIC, maxlag=9) | | | | |
|  |  | t-Statistic | | Prob.\* |
| Augmented Dickey-Fuller test statistic | | -8.209865 | | 0.0000 |
| Test critical values: | 1% level | -3.621023 | |  |
|  | 5% level | -2.943427 | |  |
|  | 10% level | -2.610263 | |  |
| \*MacKinnon (1996) one-sided p-values. | | | | |
| Augmented Dickey-Fuller Test Equation | | | | |
| Dependent Variable: D(LRE,2) | | | | |
| Method: Least Squares |  |  |  |  |
| Date: 06/19/21 Time: 13:33 | | | | |
| Sample (adjusted): 1983 2019 | | | | |
| Included observations: 37 after adjustments | | | | |
| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
| D(LRE(-1)) | -1.315600 | 0.160246 | -8.209865 | 0.0000 |
| C | 0.253416 | 0.050698 | 4.998589 | 0.0000 |
| R-squared | 0.658209 | Mean dependent var | | 0.002212 |
| Adjusted R-squared | 0.648444 | S.D. dependent var | | 0.414698 |
| S.E. of regression | 0.245883 | Akaike info criterion | | 0.084618 |
| Sum squared resid | 2.116050 | Schwarz criterion |  | 0.171695 |
| Log likelihood | 0.434560 | Hannan-Quinn criter. | | 0.115317 |
| F-statistic | 67.40189 | Durbin-Watson stat | | 1.929006 |
| Prob(F-statistic) | 0.000000 |  | |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Null Hypothesis: D(LOR) has a unit root | | | | |
| Exogenous: Constant |  |  |  |  |
| Lag Length: 0 (Automatic - based on SIC, maxlag=9) | | | | |
|  |  | t-Statistic | | Prob.\* |
| Augmented Dickey-Fuller test statistic | | -6.171975 | | 0.0000 |
| Test critical values: | 1% level | -3.621023 | |  |
|  | 5% level | -2.943427 | |  |
|  | 10% level | -2.610263 | |  |
| \*MacKinnon (1996) one-sided p-values. | | | | |
| Augmented Dickey-Fuller Test Equation | | | | |
| Dependent Variable: D(LOR,2) | | | | |
| Method: Least Squares |  |  |  |  |
| Date: 06/19/21 Time: 13:40 | | | | |
| Sample (adjusted): 1983 2019 | | | | |
| Included observations: 37 after adjustments | | | | |
| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
| D(LOR(-1)) | -1.038795 | 0.168308 | -6.171975 | 0.0000 |
| C | 0.184186 | 0.072395 | 2.544199 | 0.0155 |
| R-squared | 0.521160 | Mean dependent var | | 0.002434 |
| Adjusted R-squared | 0.507479 | S.D. dependent var | | 0.573214 |
| S.E. of regression | 0.402281 | Akaike info criterion | | 1.069207 |
| Sum squared resid | 5.664052 | Schwarz criterion |  | 1.156283 |
| Log likelihood | -17.78033 | Hannan-Quinn criter. | | 1.099905 |
| F-statistic | 38.09327 | Durbin-Watson stat | | 2.016406 |
| Prob(F-statistic) | 0.000000 |  | |  |

|  |  |  |  |
| --- | --- | --- | --- |
| Null Hypothesis: D(LNOR) has a unit root | | | |
| Exogenous: Constant |  |  |  |
| Lag Length: 0 (Automatic - based on SIC, maxlag=9) | | | |
|  |  | t-Statistic | Prob.\* |
| Augmented Dickey-Fuller test statistic | | -7.583600 | 0.0000 |
| Test critical values: | 1% level | -3.621023 |  |
|  | 5% level | -2.943427 |  |
|  | 10% level | -2.610263 |  |
| \*MacKinnon (1996) one-sided p-values. | |  |  |
| Augmented Dickey-Fuller Test Equation | |  |  |
| Dependent Variable: D(LNOR,2) | |  |  |
| Method: Least Squares | |  |  |
| Date: 06/19/21 Time: 13:40 | |  |  |
| Sample (adjusted): 1983 2019 | |  |  |
| Included observations: 37 after adjustments | |  |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
| D(LNOR(-1)) | -1.219215 | 0.160770 | -7.583600 | 0.0000 |
| C | 0.233842 | 0.062567 | 3.737455 | 0.0007 |
| R-squared | 0.621667 | Mean dependent var | | 0.011693 |
| Adjusted R-squared | 0.610857 | S.D. dependent var | | 0.539090 |
| S.E. of regression | 0.336292 | Akaike info criterion | | 0.710863 |
| Sum squared resid | 3.958224 | Schwarz criterion |  | 0.797939 |
| Log likelihood | -11.15096 | Hannan-Quinn criter. | | 0.741561 |
| F-statistic | 57.51099 | Durbin-Watson stat | | 2.019585 |
| Prob(F-statistic) | 0.000000 |  | |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Null Hypothesis: D(LDD) has a unit root | | | | |
| Exogenous: Constant |  |  |  |  |
| Lag Length: 0 (Automatic - based on SIC, maxlag=9) | | | | |
|  |  | t-Statistic | | Prob.\* |
| Augmented Dickey-Fuller test statistic | | -4.566296 | | 0.0008 |
| Test critical values: | 1% level | -3.621023 | |  |
|  | 5% level | -2.943427 | |  |
|  | 10% level | -2.610263 | |  |
| \*MacKinnon (1996) one-sided p-values. | | | | |
| Augmented Dickey-Fuller Test Equation | | | | |
| Dependent Variable: D(LDD,2) | | | | |
| Method: Least Squares |  |  |  |  |
| Date: 06/19/21 Time: 13:43 | | | | |
| Sample (adjusted): 1983 2019 | | | | |
| Included observations: 37 after adjustments | | | | |
| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
| D(LDD(-1)) | -0.743213 | 0.162761 | -4.566296 | 0.0001 |
| C | 0.136475 | 0.038871 | 3.510972 | 0.0013 |
| R-squared | 0.373333 | Mean dependent var | | -0.004940 |
| Adjusted R-squared | 0.355429 | S.D. dependent var | | 0.177982 |
| S.E. of regression | 0.142893 | Akaike info criterion | | -1.000905 |
| Sum squared resid | 0.714643 | Schwarz criterion |  | -0.913829 |
| Log likelihood | 20.51675 | Hannan-Quinn criter. | | -0.970207 |
| F-statistic | 20.85106 | Durbin-Watson stat | | 2.040565 |
| Prob(F-statistic) | 0.000059 |  | |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Null Hypothesis: D(LED) has a unit root | | | | |
| Exogenous: Constant |  |  |  |  |
| Lag Length: 0 (Automatic - based on SIC, maxlag=9) | | | | |
|  |  | t-Statistic | | Prob.\* |
| Augmented Dickey-Fuller test statistic | | -4.726482 | | 0.0005 |
| Test critical values: | 1% level | -3.621023 | |  |
|  | 5% level | -2.943427 | |  |
|  | 10% level | -2.610263 | |  |
| \*MacKinnon (1996) one-sided p-values. | | | | |
| Augmented Dickey-Fuller Test Equation | | | | |
| Dependent Variable: D(LED,2) | | | | |
| Method: Least Squares |  |  |  |  |
| Date: 06/19/21 Time: 13:44 | | | | |
| Sample (adjusted): 1983 2019 | | | | |
| Included observations: 37 after adjustments | | | | |
| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
| D(LED(-1)) | -0.701478 | 0.148414 | -4.726482 | 0.0000 |
| C | 0.121870 | 0.080364 | 1.516476 | 0.1384 |
| R-squared | 0.389602 | Mean dependent var | | -0.031901 |
| Adjusted R-squared | 0.372162 | S.D. dependent var | | 0.564121 |
| S.E. of regression | 0.446988 | Akaike info criterion | | 1.279968 |
| Sum squared resid | 6.992934 | Schwarz criterion |  | 1.367044 |
| Log likelihood | -21.67940 | Hannan-Quinn criter. | | 1.310666 |
| F-statistic | 22.33963 | Durbin-Watson stat | | 1.861816 |
| Prob(F-statistic) | 0.000037 |  | |  |

|  |  |  |  |
| --- | --- | --- | --- |
| Null Hypothesis: D(LFD) has a unit root | | | |
| Exogenous: Constant |  |  |  |
| Lag Length: 0 (Automatic - based on SIC, maxlag=9) | | | |
|  |  | t-Statistic | Prob.\* |
| Augmented Dickey-Fuller test statistic | | -10.26688 | 0.0000 |
| Test critical values: | 1% level | -3.621023 |  |
|  | 5% level | -2.943427 |  |
|  | 10% level | -2.610263 |  |
| \*MacKinnon (1996) one-sided p-values. | |  |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Augmented Dickey-Fuller Test Equation | | | | |
| Dependent Variable: D(LFD,2) | | | | |
| Method: Least Squares |  |  |  |  |
| Date: 06/19/21 Time: 13:48 | | | | |
| Sample (adjusted): 1983 2019 | | | | |
| Included observations: 37 after adjustments | | | | |
| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
| D(LFD(-1)) | -1.500943 | 0.146193 | -10.26688 | 0.0000 |
| C | 0.272842 | 0.185999 | 1.466898 | 0.1513 |
| R-squared | 0.750728 | Mean dependent var | | -0.004447 |
| Adjusted R-squared | 0.743606 | S.D. dependent var | | 2.210703 |
| S.E. of regression | 1.119398 | Akaike info criterion | | 3.115997 |
| Sum squared resid | 43.85682 | Schwarz criterion |  | 3.203074 |
| Log likelihood | -55.64595 | Hannan-Quinn criter. | | 3.146696 |
| F-statistic | 105.4088 | Durbin-Watson stat | | 2.019894 |
| Prob(F-statistic) | 0.000000 |  | |  |

**JOHANSEN COINTEGRATION TEST**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Date: 06/19/21 Time: 15:11 | | | | |
| Sample (adjusted): 1983 2019 | | | | |
| Included observations: 37 after adjustments | | | | |
| Trend assumption: Linear deterministic trend | | | | |
| Series: RGDP CE RE OR NOR DD ED FD | | | | |
| Lags interval (in first differences): 1 to 1 | | | | |
| Unrestricted Cointegration Rank Test (Trace) | | | | |
| Hypothesized |  | Trace | 0.05 |  |
| No. of CE(s) | Eigenvalue | Statistic | Critical Value | Prob.\*\* |
| None \* | 0.994519 | 656.0563 | 239.2354 | 0.0000 |
| At most 1 \* | 0.977175 | 463.4204 | 197.3709 | 0.0001 |
| At most 2 \* | 0.936353 | 323.5640 | 159.5297 | 0.0000 |
| At most 3 \* | 0.843435 | 221.6508 | 125.6154 | 0.0000 |
| At most 4 \* | 0.807684 | 153.0422 | 95.75366 | 0.0000 |
| At most 5 \* | 0.638704 | 92.04341 | 69.81889 | 0.0003 |
| At most 6 \* | 0.423797 | 54.37526 | 47.85613 | 0.0108 |
| At most 7 \* | 0.358516 | 33.97735 | 29.79707 | 0.0156 |
| At most 8 \* | 0.272692 | 17.55043 | 15.49471 | 0.0242 |
| At most 9 \* | 0.144382 | 5.769458 | 3.841466 | 0.0163 |
| Trace test indicates 10 cointegrating eqn(s) at the 0.05 level | | | | |
| \* denotes rejection of the hypothesis at the 0.05 level | | | | |
| \*\*MacKinnon-Haug-Michelis (1999) p-values | | | | |
| Unrestricted Cointegration Rank Test (Maximum Eigenvalue) | | | | |
| Hypothesized |  | Max-Eigen | 0.05 |  |
| No. of CE(s) | Eigenvalue | Statistic | Critical Value | Prob.\*\* |
| None \* | 0.994519 | 192.6359 | 64.50472 | 0.0001 |
| At most 1 \* | 0.977175 | 139.8564 | 58.43354 | 0.0000 |
| At most 2 \* | 0.936353 | 101.9131 | 52.36261 | 0.0000 |
| At most 3 \* | 0.843435 | 68.60856 | 46.23142 | 0.0001 |
| At most 4 \* | 0.807684 | 60.99883 | 40.07757 | 0.0001 |
| At most 5 \* | 0.638704 | 37.66815 | 33.87687 | 0.0168 |
| At most 6 | 0.423797 | 20.39791 | 27.58434 | 0.3143 |
| At most 7 | 0.358516 | 16.42692 | 21.13162 | 0.2009 |
| At most 8 | 0.272692 | 11.78097 | 14.26460 | 0.1191 |
| At most 9 \* | 0.144382 | 5.769458 | 3.841466 | 0.0163 |
| Max-eigenvalue test indicates 6 cointegrating eqn(s) at the 0.05 level | | | |  |
| \* denotes rejection of the hypothesis at the 0.05 level | | | |  |
| \*\*MacKinnon-Haug-Michelis (1999) p-values | | | |  |

**ECM RESULT FOR THE MODEL**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Dependent Variable: LRGDP | | | | |
| Method: Least Squares |  |  |  |  |
| Date: 06/19/21 Time: 13:08 | | | | |
| Sample (adjusted): 1982 2019 | | | | |
| Included observations: 38 after adjustments | | | | |
| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
| C | 4.987024 | 0.362051 | 13.77436 | 0.0000 |
| LFD | -0.069576 | 0.018845 | -3.691940 | 0.0010 |
| LDD | -0.320955 | 0.067817 | -4.732687 | 0.0001 |
| LED | -0.094144 | 0.018765 | -5.017024 | 0.0000 |
| LCE | 0.176643 | 0.044869 | 3.936898 | 0.0005 |
| LRE | 0.329055 | 0.110818 | 2.969321 | 0.0062 |
| LNOR | 0.250807 | 0.064668 | 3.878369 | 0.0006 |
| LOR | 0.033653 | 0.055403 | 0.607414 | 0.5487 |
| ECM(-1) | -0.469432 | 0.121871 | -2.321238 | 0.0271 |
| R-squared | 0.772110 | Mean dependent var | | 3.824044 |
| Adjusted R-squared | 0.724743 | S.D. dependent var | | 0.224308 |
| S.E. of regression | 0.093904 | Akaike info criterion | | -1.655894 |
| Sum squared resid | 0.238084 | Schwarz criterion |  | -1.181856 |
| Log likelihood | 42.46198 | Hannan-Quinn criter. | | -1.487235 |
| F-statistic | 18.41185 | Durbin-Watson stat | | 2.062011 |
| Prob(F-statistic) | 0.000000 |  | |  |

**SERIAL CORRELATION FOR THE MODEL**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Breusch-Godfrey Serial Correlation LM Test: | | | | |
| F-statistic | 0.089289 | Prob. F(2,25) |  | 0.9149 |
| Obs\*R-squared | 0.269512 | Prob. Chi-Square(2) | | 0.8739 |
| Test Equation: |  |  |  |  |
| Dependent Variable: RESID | | | | |
| Method: Least Squares |  |  |  |  |
| Date: 06/19/21 Time: 17:17 | | | | |
| Sample: 1982 2019 |  |  |  |  |
| Included observations: 38 | | | | |
| Presample missing value lagged residuals set to zero. | | | | |
| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
| C | 0.044029 | 0.401551 | 0.109648 | 0.9136 |
| LFD | -0.000114 | 0.020808 | -0.005489 | 0.9957 |
| LDD | 0.006080 | 0.078593 | 0.077358 | 0.9390 |
| LED | -0.002002 | 0.020326 | -0.098513 | 0.9223 |
| LCE | -0.002905 | 0.047516 | -0.061131 | 0.9517 |
| LRE | 0.003163 | 0.123338 | 0.025641 | 0.9797 |
| LNOR | 0.000500 | 0.074073 | 0.006755 | 0.9947 |
| LOR | 0.002636 | 0.056262 | 0.046846 | 0.9630 |
| ECM(-1) | 0.270083 | 0.670191 | 0.402994 | 0.6904 |
| RESID(-1) | -0.297696 | 0.709564 | -0.419547 | 0.6784 |
| RESID(-2) | -0.111755 | 0.338123 | -0.330517 | 0.7438 |
| R-squared | 0.007092 | Mean dependent var | | -3.35E-17 |
| Adjusted R-squared | -0.469503 | S.D. dependent var | | 0.082482 |
| S.E. of regression | 0.099987 | Akaike info criterion | | -1.502047 |
| Sum squared resid | 0.249937 | Schwarz criterion |  | -0.941820 |
| Log likelihood | 41.53888 | Hannan-Quinn criter. | | -1.302722 |
| F-statistic | 0.014881 | Durbin-Watson stat | | 1.920107 |
| Prob(F-statistic) | 1.000000 |  | |  |

**HETEROSKEDASTICITY FOR MODEL THREE**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Heteroskedasticity Test: Breusch-Pagan-Godfrey | | | | |
| F-statistic | 1.171089 | Prob. F(10,27) |  | 0.3514 |
| Obs\*R-squared | 11.49583 | Prob. Chi-Square(10) | | 0.3202 |
| Scaled explained SS | 7.570712 | Prob. Chi-Square(10) | | 0.6707 |
| Test Equation: |  |  |  |  |
| Dependent Variable: RESID^2 | | | | |
| Method: Least Squares |  |  |  |  |
| Date: 06/19/21 Time: 17:19 | | | | |
| Sample: 1982 2019 |  |  |  |  |
| Included observations: 38 | | | | |
| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
| C | 0.066178 | 0.041115 | 1.609574 | 0.1191 |
| LFD | 0.002514 | 0.002206 | 1.139715 | 0.2644 |
| LDD | -0.019416 | 0.008064 | -2.407582 | 0.0232 |
| LED | 0.000888 | 0.002027 | 0.438301 | 0.6647 |
| LCE | 0.001363 | 0.004838 | 0.281748 | 0.7803 |
| LRE | 0.009055 | 0.012566 | 0.720601 | 0.4773 |
| LNOR | 0.011898 | 0.007501 | 1.586262 | 0.1243 |
| LOR | -0.005196 | 0.005878 | -0.883975 | 0.3845 |
| ECM(-1) | -0.028090 | 0.021031 | -1.335658 | 0.1928 |
| R-squared | 0.302522 | Mean dependent var | | 0.006624 |
| Adjusted R-squared | 0.044197 | S.D. dependent var | | 0.010843 |
| S.E. of regression | 0.010601 | Akaike info criterion | | -6.018544 |
| Sum squared resid | 0.003034 | Schwarz criterion |  | -5.544506 |
| Log likelihood | 125.3523 | Hannan-Quinn criter. | | -5.849885 |
| F-statistic | 1.171089 | Durbin-Watson stat | | 1.862451 |
| Prob(F-statistic) | 0.351405 |  | |  |