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I. Introduction

a) Background of the Study

Fiscal policy refers to government policy regarding the raising of revenue through the use of taxation and persuasion to deciding on the level and pattern of expenditure for the sole reason of influencing economic activities to attain some desirable macroeconomics goals. Fiscal policy is that tool used by the government of any nation to fine-tune and adjust its spending levels and that of its tax rates to monitor and influence its economy. In essence, it is the management of the economy by the government using its power to generate income and spend the same to achieve certain desirable macroeconomic goals of the economy of full employment. Tom-Ekine (2013) stated that Fiscal policy is concerned with the action of the government to collect money in taxes and spend the same, to influence the condition of the county's economy.

The main objectives of fiscal policy include attainment of full employment, price stability, accelerating the rate of economic development, optimum allocation of resources, equitable distribution of income and wealth, economic stability, and growth, capital formation, and investment, etc. Akpakpan (1999) stated that one of the primary objectives of fiscal policy is to smooth out the fluctuations in economic activities that often cause unemployment and inflation. Specifically, a crucial role of fiscal policy is to stabilize the economy. In the light of the above, over the years the various governments in Nigeria have enunciated and implemented a myriad of macroeconomic policy options especially fiscal policy in an attempt to tackle the problem of unemployment in Nigeria (Abomaye-Nimenibo & Inimino, 2016).

Achieving these objectives means generating significant revenues, diversification of revenue sources besides crude oil revenue through the reduction in the tax burden on individuals and corporate bodies, maintenance of economic equilibrium to curtail inflationary pressures, accelerate economically growth, reduce the balance of payments deficits and generate an increase in employment, guaranteeing actual protection of domestic industries, promotion of self-reliant development, substantial progressive reduction and elimination of government budget deficits cost recovering of social services and public enterprises, including the streamlining of the process of deregulation, integration of the internal sector of the economy into the mainstream, improving the effective control and efficiency in government fiscal operations. Proper management of public finances require transparency, accountability, financing, fighting the twin issues of low productivity in agriculture and low capacity utilization in manufacturing, reduction of the heavy burden of both external and internal debts, correction of the distorted patterns of both domestic consumption and production and minimization of existing inequalities in wealth, income and consumption standards which tend to undermine production efficiency, offend a sense of social justice and endanger political stability (Antai, 2003).

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The Central Bank of Nigeria uses Fiscal and monetary policies to fine- tune the economy and to influence the supply of money in a nation. The two strategies, when used efficiently will enhance macroeconomic goals in a country. These goals to be achieved include price stability, full employment, reduction of poverty levels, sustainable economic growth, a favourable balance of payment and reduction of a nation's debt. Nigeria's has potency to grow economically and reduce poverty level, but the full realization of these is yet to be grasped. A key constraint has been the way macroeconomics policies especially those of fiscal and monetary policies are being handled; leading to rising inflation and a decline in real income. To curb the menace of unemployment, inflation and increase real income then the economy has to contend with the volatility of revenue and expenditure. Odewunmi (2012) has observed that there has been widespread lack of fiscal discipline which was further exacerbated by poor co-ordination of economic policy among the three tiers of government; and this was as a result of weak revenue base arising from high marginal tax rate having a very narrow tax base, that results in low tax compliance. Hence, these and other factors have caused grave macroeconomic imbalances in Nigeria.

Some macroeconomic indices show that inflation accelerated to double- digit levels from 6.94 in 2000 to 18.87 in 2001, (IMF, 2001 report). This double-digit inflation continued up to 2005 and decreased to a single digit in 2006 and 2007, which inflation rate reverted to 11.58 in 2008 and continued to increase to 13.72% in 2013(IMF, 2013).

Unemployment has been a major political and economic problem in most countries. Nigeria is endowed with diverse and huge in human and material resources are expected not to have issues in economic growth, but the reverse is the case. She is bedevilled with systemic corruption for so many years; civil war, military rule, and mismanagement were found to have hindered the growth of the economy. Nigeria has had years of negligence, adverse economic policies, under-utilization of her resources (Economic Watch, 2010), which contributed to the rising unemployment rate, even 13.1% in 2000 and 21.1% in 2013 (Nigerian Bureau of Statistics, 2013; CBN, 2013). Poverty reduction or alleviation has been a foremost monster to fight against by various governments of Nigeria, and as such different programmes have been launched. In 1986, the Babangida administration brought in the National Directorate of Employment (NDE), which aimed at creating jobs for the unemployed youths in search of gainful employment, with the intent to reducing the incidence of unemployment in the country. National Poverty Eradication Programme (NAPEP) came into existence in 2001. Others include the Agricultural Development Programme (ADP), Family Support Programme and empowerment programme (*SURE-P*). With all these programmes set in place, but no meaningful development has been seen as the unemployment rate in Nigeria keeps on increasing. The president of NLC, Abdulwaheed Omar on Thursday, July 16, 2013, in the Guardian newspaper reported that "Nigeria faced a monumental unemployment problem, with an unemployment time bomb awaiting explosion as per capita income, which is the chief index for measuring the poverty level is showing any sign of improvement in the standard of living. Since 2000, the per capita income has been on steady increase as it rose from ₦39, 657 to ₦71, 131 in the year 2013, (IMF, 2013). This increase in per capita income has not led to an upsurge in the standard of living of the citizens because of the increasing cost of goods and services. Nigeria's indebtedness is a source of concern to the Public Finance Management.

Nwankwo (2010) and Okwo (2010) stated that Nigeria's debt profile was $32.5 billion i.e., ₦5.2 trillion as of September 2010. In the year 2000, the total outstanding debt of Nigeria was ₦3.995 trillion, and there continued to be an upward trend until in 2006 when it came down to ₦3.177 trillion as a result of some debt cancellation agreement between Nigeria and the Paris Club. After that, the debt profile rose and reached ₦5.241 trillion by the end of 2010 (CBN 2013). Also, the expenditure pattern of Nigeria has been on the increase.

At the moment Nigeria is faced with the challenge of reducing the high rate of crime, prostitution, corruption, political thuggery, religious riots, communal clashes, insurgency/terrorism, among others which to some extent are traceable to youth unemployment. Hence, the most disturbing thing in the country is the menace of unemployment.

However, the Studies by Okowa (1997), Gbosi (2002), Agiobenebo (2003) and Medee & Nenbee (2011) indicate that Nigeria's economy is still married by prolonged unemployment, high rate of inflation, reliance on foreign technology, monoculture foreign exchange earnings from crude oil, and more; meaning that the Nigerian economic environment has been relatively unstable. Precisely, the economy has since been experiencing a rising rate of unemployment.

In 2007, Nigeria's unemployment rate stood at 12.7 percent. The situation worsened again in 2008 when the nation's unemployment rate rose to 14.3 percent. The unemployment rate in 2009 was 19.7 percent, and by 2010, it has climbed to an unprecedented high rate of 21.1 percent, and 21.6 percent in 2012 (National Bureau of Statistics, Labour Force Survey, Dec. 2012). Since then, there has not been any remarkable improvement despite all the laudable efforts of the government at addressing the trouble of unemployment; it remains a real problem in Nigeria. The reasons for this and likely remedies have not been adequately explored. Hence, there is a need to empirically examine the impact of fiscal policy on

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unemployment in Nigeria. This study, therefore, stands out to X-ray the relationship that exists between fiscal policy and unemployment in Nigeria. Specifically, the purpose of this paper is to examine fiscal policy (proxy by government expenditure on capital projects, its recurrent expenditure, and total tax revenue) and how it has impacted on unemployment in Nigeria using a figure from 1980 to 2015.

b) Statement of the Problem

The problem of unemployment and inflation is becoming chronic and without any solution in sight. The concern of unemployment and inflation has been apprehensive due to the prevalent unbridled rural-urban migration, the global economic meltdown, retrenchments, among others. To check the impact of fiscal policy on Unemployment and Economic growth in Nigeria becomes our focus. Generally, an increase in government expenditure should lead to reduced unemployment rate, but in Nigeria, the reverse is the case, i.e., as total expenditure increases, the amount of unemployment rises correspondingly, because a greater percentage of the total expenditure is channelled to recurrent expenditure, and the proportion is worsening. In 2000, the percentage of the total recurrent expenditure was 66% and increased to 79% in 2010; meaning that less percentage of the total spending is on capital projects, which should create jobs in the economy. Nigeria's 2012 budget is dwindled toward recurrent expenditure, and the government proposed more spending on running the administration rather than in the badly needed infrastructural projects to create jobs and boost growth in the continent's second-largest economy (Olajide and Adekoya, 2012).

The Nigerian economy has been plagued with several challenges over the years. Researchers have identified some of these challenges as gross mismanagement/ misappropriation of public funds (Okemini and Uranta, 2008), lack of integration of macroeconomic plans, and the absence of harmonious coordination of fiscal policies (Onoh, 2007); policies that are inappropriate and ineffective (Anyanwu, 2007), corruption and ineffective economic policies (Gbosi, 2007); Imprudent public spending and weak sectoral linkages and other socio-economic maladies constitute the bane of rapid economic growth and development (Amadi, 2006). The greatest problem Nigeria is facing today is that of inability in managing her enormous human capital and material endowment amongst others.

c) Objectives of the Study

The basic aim of this study is to examine the influence of fiscal policy on selected macroeconomic variables in Nigeria from 1980 to 2015. Other goals are as follows:

i. To examine the relationship between government expenditure and the unemployment rate in Nigeria;
ii. To examine the relationship between total tax revenue and the unemployment rate in Nigeria;
iii. To examine the relationship between government expenditure and economic growth in Nigeria; and
iv. To examine the relationship between total tax revenue and economic growth in Nigeria.

d) Research Hypotheses

This study made use of the following null hypotheses as our guide:

Ho1: There is no significant relationship between government expenditure and the unemployment rate in Nigeria;

Ho2: There is no significant relationship between total tax revenue and the unemployment rate in Nigeria;

Ho3: There is no significant relationship between government expenditure and economic growth in Nigeria; and

Ho4: There is no significant relationship between total tax revenue and economic growth in Nigeria.

e) Definition of Terms

Fiscal Policy: Refers to practice of using the financial instruments of taxation, government spending and the budget deficit by the government to achieve its economic objectives.

Unemployment: Unemployment is a state in which some people who are of the working population, capable and willing to work are unable to gain befitting job to do at the prevailing wage rate.

Inflation: Refers to the continual increase in the general price level of goods and services.

Macro-economic variables: There are indicators of the overall state of a country's economy.

Taxation is the method by which governments finance their spending by levying charges on their citizens and business entities to generate revenue. Taxation is involuntary and failure to pay any due tax (es) can result in imprisonment. The government often use taxation to encourage or discourage some economic decisions (Abomaye-Nimenibo, 2017a).

Recurrent Expenditure is the expenditure made that does not result in the creation or acquisition of fixed assets, but on wages, salaries and supplement, purchase of goods and services and consumption of fixed capital, i.e., depreciation expenses.

Capital Expenditure is the expenditure made by business units or organizations to acquire and maintain fixed assets, such as land, building, and equipment upgrade physical assets such as property, industrial buildings or projects or investments over a period.

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II. Literature Review and Theoretical Framework

Our literature review covers the following: the conceptual framework in which the concepts of fiscal policy, economic growth, and the concept of unemployment is discussed. Secondly, the theoretical framework in which some theories of economic growth and unemployment are discussed. Thirdly, the empirical literature in which several works which were carried out by different people on this same topic are deliberated, and lastly the summary of the literature reviewed.

a) Conceptual Framework

i. *The Concept of Fiscal Policy*

Fiscal policy is the technique used by the government to adjust its spending levels and tax rates to monitor and influence a nation's economy. It is defined as how a government adjusts its level of spending to observe and affect a nation's economy (Reem (2009).

It is the strategy adopted to fine-tune monetary policy through which Central bank influences a nation's money supply. These two policies are used in various combinations to direct a country's economic goals. We look at how fiscal policy works, and how it is supervised, and its implementation affect different categories of people in an economy. Fiscal policy is undoubtedly one of the most essential tools used by the government to achieve the macroeconomic stability of the economy (Siyan and Adebayo, 2005).

The laissez-faire approach of the government towards the running of the economy came to an end in the late 1930s, and a new approach to regulate the economy through unemployment, business cycles, inflation and the cost of the money came into existence whereby a mixture of monetary and fiscal policies was used.

The use of the fiscal policy centres on the theories of British economist John Maynard Keynes whose theory states 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 between 2-3%), increases employment, and maintains a strong value of money. From that time of this theory onward, the use of both monetary and fiscal policies to fine-tune the economy began. There are two types of fiscal policy that is, the expansionary and contractionary policies.

The objective of expansionary fiscal policy is to reduce unemployment. Thus, an increase in government spending and decrease in taxes will bring better GDP and reduced unemployment. The use of expansionary policies can cause some inflation to the economy, whereas, on the other hand, the independent usage of contractionary fiscal policy is also capable of reducing inflation. Therefore, a decrease in government spending and an increase in taxes when implemented lead to decreasing inflation, and can also trigger some unemployment. Again, fiscal policy makes aggregate demand increase directly as government spending increases is referred to as expansionary or loose policy. In contrast, fiscal policy is considered contractionary or tight if it reduces demand by lowering spending.

The objectives of fiscal policy vary with time and in enforcement. In the short run, government pay attention to macroeconomic stabilization with sole purposes of stimulating a sickly economy, fighting rising inflation, or facilitating the reduction of external vulnerabilities. In the long run, the goal is to bring about a sustainable growth or alleviate poverty with deliberate actions on the supply side to develop the infrastructural base of the nation with quality educational standard. These objectives are the same among countries, but their relative importance depends on the country's circumstances, which priorities may reflect the business cycle response to a natural disaster, and bring about development while improving on the demographics and resource endowments.

The macroeconomic effects of fiscal policy have been in two dimensions of reduced expenditure (less spending) and the condensed revenue (fewer taxes). The lessened expenditure will have a little effect on GDP and do not impact significantly on private consumption. Although they do hurt private investment, a varied outcome on housing prices, which will lead to a quick fall in stock prices and depreciation of the real effective exchange rate. On the other hand, reduced taxes have the inverse outcomes as they do have positive (although lagged) effects on GDP and private investment, which always have a positive consequence on both housing and stock prices; and as well lead to an appreciation of the real effective exchange rate. Fiscal policy is a powerful tool that is used to keep the economy in balance, and putting them into practice is quite a difficult task because of various reasons.

Government spending levels are not easily changed. A greater part of government spending is on health care, social service, and veterans' benefits and such as expenditures. Thus, changes in government expenditure are usually of a small fraction of the budget that is an unrestricted spending, meaning that the government has a less freedom to increase or decrease spending.

Another constraining factor the government faces is that it works with estimations instead of exact amount. Lawmakers decide on fiscal policies based on the past behaviours of individuals. This way of judgment is risky because prediction based on the current response to a tax cut today will not be the same response in the future.

Despite the fact that fiscal policy affects the economy over time, because policy adjustment takes time to materialize, and the economy might be moving

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in the opposite direction. So, fiscal policy would only add to the new trend, instead of correcting the original problem.

The pressure that people in authority experienced, of pleasing the citizens hinders fiscal policy as well. Expansionary fiscal policy (reduced taxes) is a popular choice, but it can't be applied in every situation, and thus, puts the authorities in a predicament when the contractionary policy has to be applied and instils fear into the minds of the executioners as a backlash from the voters. Furthermore, the execution of fiscal policy requires a coordinated effort from multiple receptacles of the government, and to be operative, the fiscal policy has to be in coordination with the monetary policies of the Central Bank.

ii. *Long-Run Relationship between Fiscal Policy Measurements and Economic Growth in Nigeria*

Fiscal policy in Nigeria has been generally pro-cyclical, which makes it a most important source of macroeconomic instability in the country. For example, while the average GDP growth rate was 8.1 percent in 2004-2008, the prime fiscal deficit excluding grants was at 6.6 percent of GDP, and the overall deficit without grants was 9.3 percent; in 2011. Nigeria's budget deficit rose to 12.7 percent of GDP, with an overall public sector deficit of 18.6 percent of GDP.

Fiscal stability was realized since the mid-1990s that requires efforts in strengthening fiscal discipline and reformation of the tax system for increase in tax revenue with less dependence on foreign aids to sustain the stability of the economy in the future.

The economic classification of expenditures between 2009 and 2011 revealed that 61 percent of the total expenditure was on Military Expenditures, Compensation of Employees, Pensions, and Debt Servicing, while the corresponding expenditure of 2006-2008 was about 58 percent of the total budget. There was budget increase from 20 percent of total spending in 2006 to 26 percent in 2011 (World Bank, 2012). It is noteworthy to say that Debt servicing and pensions for accrued rights which are contractually binding on the nation to honour and cannot be easily changed.

Similarly, expenditure on salaries and compensations are recurrent and entails a difficult process to implement or change because of political cost involved, welfare loss it will generate, capital spending and subsidies, which are categories of spending that can be reversed easily, amounted to 25 percent of the total amount spent in 2009-2011, as against 28 percent in 2006-2008, while the capital spending dropped to 16 percent of the total spent in 2011 from 21 percent in 2006 despite the increase in subsidy share.

iii. *Influence of Fiscal Policy on Economic Growth in Nigeria*

Fiscal policy as earlier stated is the practise of taxation and public expending to influence the level of economic activities, and its implementation through the government's budget. The budget is an action plan which the government uses to guide itself in the administration of the government sector. The budget is the picturesque of the country's economy, and it is a public document used as a tool in the management of a nation's economy (Omitogun and Ayinla, 2007).

Fiscal policy is the government's deliberate actions in spending money and levying taxes to influence macro-economic variables in the desired direction to achieve sustainable economic growth, high employment creation, and low inflation (Microsoft Corporation, 2004). Consequently, fiscal policy aims at stabilizing the economy, so that increase in government spending and the reduction in taxes pulls the economy out of a recession; while reduced spending or increased taxes slow down a boom (Dornbusch and Fischer, 1990).

Fiscal policy is the use of government spending, taxation and borrowing to implement her economic activities to achieve the level of growth in aggregate demand, output, and employment. The fiscal policy entails the government's management of the economy through the manipulation of its income and spending power to achieve certain desired macroeconomic objectives amongst which is economic growth (Medee and Nembee, 2011). Olawunmi and Tajudeen (2007) orate that fiscal policy has conventionally been associated with the use of taxation and public expenditure to influence the level of economic activities. They further said that the implementation of fiscal policy is fundamentally routed in the government's budget. Fiscal policy aims at achieving macroeconomic policies; reconcile the changes which the government modifies in taxation and expenditure, to regulate the full employment, price stability, and increase in total demand to be used through instruments such as government expenditures, taxation and debt management (Hottz-Eakin, Lovely and Tosin, 2009). Anyanwu (1993) noted that the objectives of fiscal policy are to promote economic conditions that will bring the conducive environment for business growth while ensuring that any such government actions are consistent with economic stability.

From the preceding, it is clear that if fiscal policy is circumspectly used, and synchronized with other measures, brings about business cycles leading to economic growth and stability.

Fiscal dominance occurs when fiscal policy is independently set against monetary policy where government debt is pegged, and the budget constraint must be satisfied; so that fiscal deficits would be magnetized sooner or later. The Central Bank at such a

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time has to fascinate the deficits as so that the size of the financial system to be equal with the size of the fiscal deficits. Thus, monetary policies have to be applied to bring the shallow financial systems up for it to equate with the level of the deficit to play an accommodative role. In such low-income countries, government securities markets are underdeveloped, and the Central Bank does not hold sufficient amounts of tangible securities and lacks suitable and adequate instruments of monetary control to reduce which the Central Bank can independently handle which may not necessarily bring about an independent monetary policy (Oyejide, 2003).

iv. *Taxation as a Tool of Fiscal Policy and Economic Growth in Nigeria*

In early 1992, the government of Nigeria issued a fresh policy to deal with the same lingering recession that occurred in the United States. By executive order, the amount of income taxes that were being withdrawn from spenders' pay checks was reduced, but the command did not reduce the amount of taxes owed; but rather payment was delayed. The higher take-home pay that spenders received during 1992 was offset by higher tax payments, or smaller tax refunds, when income taxes were due in April 1993. The question that borders the mind of the people was- what effect has this policy had?

The Barro-Ramsey or Diamond-Samuelson model of fiscal policy, clarifies things by saying that consumers whose lifetime resources were not changed should realize and save the extra take-home pay in readiness to meet the upcoming tax liability. The President claimed that his policy of lower tax rate would provide "money people can use to help pay for clothing, college, or to get a new car" which policy was believed to stimulate consumers to spend their extra income, thereby stimulating aggregate demand and help the economy recover from the recession, which worked out. Matthew Shapiro and Joel Slemrod (1995) after the announcement of the policy conducted a survey by asked people what they would do with their extra income. Fifty-seven percent of the respondents said they would save it, use it to repay debts, or adjust their withholding tax to reverse the effect of the president's executive order, while the remaining forty-three percent would just spend the extra cash. The survey revealed that the assumptions of the Standard theory were satisfied as most people planned to save and use it to repay debts rather than just spend the surplus.

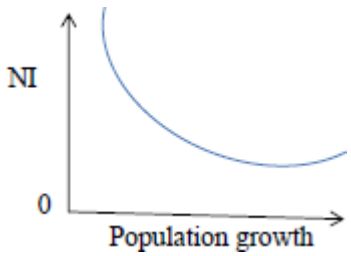
v. *The Concept of Economic Growth*

Economic Growth is the increase in the inflation-adjusted market value of the goods and services produced by the economy over a year, and it is measured as the percent rate of increase in real gross domestic product (GDP) in per capita terms.

Growth is usually calculated in real terms, i.e., inflation-adjusted terms to eliminate the distorting effect of inflation on the price of goods produced. The National Income Accounting method is one of the tools of measurement of economic growth.

The rate of economic growth is the regular annual growth rate in GDP between the first and the last year of operation meaning that, it is the movement in the average level of GDP over the epoch, which implicitly ignores the fluctuations in the GDP around the trend. An increase in economic growth is the more efficient use of inputs such as labour productivity, physical capital, energy, or materials, which is *intensive growth*. The GDP growth caused only by an increase in the number of inputs available for use (increased population, new territory) is called *extensive growth*.

Economic growth has been well-defined in two ways, the first as the sustained annual increases in an economy's real national income over a long period, and the second being the rising trend of net national product at constant prices which was criticized as inadequate and unsatisfactory because, while the total national income may be increasing, the standard of living may be decreasing, and the population growing at a faster rate than the total national income. This is so, if national income (NI) is rising by 1% per year and the population is increasing at 2% per year, the standard of living of the people will tend to fall, since, the population increases faster than the national income, and the per capita income will keep on declining. In a normal situation, the per capita income will rise as the national income surges up faster than the populace. We demonstrate this graphically as follows:



Therefore, the third and better way of defining economic growth is to do so in terms of per capita income which view means that the annual increase in real per capita income of a country is over a long period. Defining economic growth in terms of per capita income or output is better because it is out to raise the standard of living of the people.

Another point that is worth mentioning about the definition of economic growth is that the increase in national income or more correctly increase in per capita income or output must be a 'sustained increase' if it is to be called economic growth. By a sustained increase in per capita income, we mean the upward or rising trend in per capita income over a long time. A mere short-

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period rise in per capita income, such as that which occurs over a business cycle, cannot be validly called economic growth.

The rate of economic growth is measured both in terms of an increase in overall Gross National Product (GNP) or Net National Product (NNP) and that of an increase in per capita income i.e. how much real goods and services is produced in the country. The Gross National Product (GNP) measures the total output of goods and services produced, which an average person of the community will have for consumption and investment, that is, an average level of living of a citizen of a country.

Thus, the World Bank and IMF have employed both measures of economic growth in their comparism of growth and standard of living of developed and undeveloped countries which has been published in the annual World Development Report. The Indian Central Statistical Organization (CSO) and the Reserve Bank of India has been measuring economic growth based on both overall GNP or NNP and per capita income. Their study reveals a remarkable feature that economic growth achieved in recent years is higher in developing countries than in developed countries. However, in the past decades to the present, it was observable that developed countries documented higher growth rates than the developing countries, which remained static for a lengthy period. So, per capita income, and living standard of the people of the developed countries are higher than the developing countries.

However, the growth rate of the economy is calculated using data on GDP, which is usually estimated by each country's statistical agencies. The percentage of growth of GDP/capita is calculated using data on GDP and people for the initial and final periods included in the analysis. In national income accounting, per capita output is calculated using the following factors: output per unit of labour input (i.e., labour productivity), hours worked (intensity), the percentage of the working-age population (participation rate) and the proportion of the working-age population to the total population (demography), and the rate of change of GDP/population being the sum of the rates of change of the four variables including their cross products. Increases in labour productivity (the ratio of the value of output to labour input) have historically been the most important source of real per capita economic growth. Professor Robert Solow stated that technological progress has accounted for 80 percent of the long-term rise in the U.S. per capita income, with increased investment in capital which explained the remaining 20 percent."

There are various measures of productivity i.e. the broad measure of productivity. By contrast, total factor productivity (TFP) growth measures are the change in total output relative to the change in capital and labour inputs.

vi. *The Concept of Unemployment*

Unemployment according to International Labour Organization (ILO) is the proportion of the labour force that was available for work but where not engaged for at least one hour in the week preceding the survey period. The Nigerian National Bureau of Statistics (N.B.S) defines unemployment as the proportion of the labour force that is available for work but did not work for at least thirty-nine (39) hours in the week preceding survey period.

Unemployment is a situation in which some people who fall within the ages of the working population, capable and willing to work are unable to obtain befitting work to do at the prevailing wage rate. Unemployment refers to the number of the economically active population who are without work but available for and seeing work, including people who have lost their jobs and those who have voluntarily left work (World Bank 1998).

When a person is able and willing to work and is available for work (i.e. actively looking for employment) but does not have work is an unemployed person.

Gbosi (1997) stated that unemployment is a situation whereby people who are eager and able to work at a prevailing wage rate but are unable to find jobs. Pigou classified a person as unemployed if the following two conditions exist. First, he must not be employed, and secondly, he must desire to work. The above definitions are similar although in Pigou's explanation the second condition expressing the desire to be employed was based on three assumptions as stated below:

i. Standard hours of work per day.
ii. The individuals are healthy enough to work.
iii. The individual wages are paid regularly.

On the other hand, there is a situation in which a worker is employed, but not in the desired capacity, i.e., in terms of compensation of hour's work etc. is called *underemployment.* Non-Accelerated Inflation Rate of Unemployment (NAIRU) is an economics jargon for establishing a level of unemployment such that reducing the level would create a shortage of available labour causing upward pressure on wages and potentially generating inflation.

Balogun (1999) quoting Anyanwu (1997) stated that unemployment is in various poverty degree and the types include absolute, relative, chronic/structural, conjectural/transitory, spatial/location and generalized kind or case-specific poverty. Unemployment, on the other hand, has been grouped into frictional, structural, cyclical, demand deficient and classical unemployment. Jhingan (1996) defines unemployment as involuntary idleness of a person willing to work at a prevailing rate of pay but unable to find it, implying that voluntarily unemployed people, who do not want to work and those

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who are not prepared to work at the prevailing wage rate is not to be regarded as unemployed.

In a general, unemployment is a situation in which those who are able and willing to work at the prevailing wage rate do not find a job. International Labour Organization (ILO) categorized the working age to be 15 to 65 years. Unemployment is the gap between the potential, full employment and the number of employed persons. Briggs (1973) defined unemployment as the difference between the amount of labour at the current wage rate and working conditions and the amount of labour not hired at these levels.

Nicholas (2000) says that a person is unemployed if he or she is eligible for work but does not have a job. Volkova (1986) and Jelilov et al. (2016) maintained that an unemployment situation is in other words called mass unemployment when the number of qualified workforce which is unemployed is considerably enough or outnumber that of those in gainful employment.

Keynes (1935) defined unemployment as all persons without work, but it has come to have a more specific meaning in the contemporary realization of social and economic policy. To Aguene (1991), unemployment is the number of people in the population who are willing and offer themselves for employment but could not be employed because there are no vacancies to absorb them. Fajana (2000) and Standing (1983) were of the view that unemployment is that state of wordlessness experienced by persons who are members of the labour force who perceived themselves and are perceived by others as capable of working.

Fadayomi (1992), Osinubi (2006), and Jelilov (2016) perceived unemployment to be the result of the inability to develop and utilize the nation's workforce effectively, especially in the rural sector. Thirlwall (1983) referred to the concept of disguised unemployment as the Gap between the actual numbers of workers available for employment and the level of employment at which the marginal product is below the institutional or subsistence wage. William (1976) talks of work to mean paid engagement, which is the result of the development of capitalist productive relations. Fajana (2002) has stated that the concept of work has partly shifted from productive effort to principal social relationships, where the services of a woman is no regarded as no work for running a house and bringing up children (Hayes and Nutman, 1981). Keynesian economics offers that the "natural rate" of unemployment should be allowed to operate in selecting the skill labourers for the positions available for them under the best economic conditions. Neoclassical economics says that the labour market is proficient if not the various interventions, such as minimum wage laws and unionization, has put supply and demand out of balance (Jelilov et al. 2015). This study focuses on university graduates as first job seekers in line with Jelilov, Gylych, Musa, and Muhammad (2016).

a. *Types of Unemployment*

In Nigeria, there are different types of unemployment, such as:

1) *Frictional Unemployment:* By frictional unemployment, we mean that type of unemployment which occurs when workers spend time searching for new jobs. For example, a worker in Port Harcourt may leave his present work to Lagos with the expectation of getting a higher paid employment. During this period, that the worker is out of job, he is frictionally unemployed. It is also as a result of when people are temporarily out of work because they are changing jobs. It is important to note that several factors are responsible for frictional unemployment. One such factor is the imperfect flow of information in the labour market about existing vacancies and available workforce.
2) *Seasonal unemployment:* This is said to occur in a situation in which people are laid off seasonally, due to the nature of the job they do, e.g., agriculture workers in developing countries are laid off during the crop growing season.
3) *Structural unemployment* occurs when an economy is at full employment where the existence of the level of aggregate demand and actual supply at real wage rate equates, and for those companies that could not afford to pay the prevailing wage rate has to decline due to the natural employment rate, resulting in changes in the labour market institutions, demographic shifts, etc.
4) *Cyclical Unemployment:* This occurs as a result of fluctuations around the natural employment rate, caused by changes in aggregate demand. In every market economy, producers produce goods in anticipation of demand. If aggregate demand in any economy is deficient, unemployment will arise because factory workers will be unemployed, which may lead to depression. According to Keynes, the great depression of the 1930s was caused by deficient aggregate demand.

b. *Measurement of Unemployment*

Unemployment is a considered situation of labour not having enough white and blue collar jobs for the labour force and not making full use of the skills and ability of a labourer. Unemployment is measured by the number of hours a person worked in a week. There are different ways in which national statistical agencies measure unemployment. There are differences in measurement of unemployment, and to some degree, these variances remain in spite of the definition of unemployment given by the International Labour Organization. Some organizations such as the OECD, Eurostat, and International Labour Comparisons

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Program, in the bid to facilitate international comparism, have adjusted data on unemployment. The focus and concern of the Economist is the unemployment rate (Jelilov398 et al. 2015).

Hence,

$$\text{Unemployment rate} = \frac{\text{Unemployed workers}}{\text{total Labour Force}} \times 100$$

As defined by the International Labour Organization, "unemployed workers" are those who are currently not working but are willing and able to work for pay, available to work, and have actively searched for work. Any person actively seeking for job placement must make a concerted effort to be in contact with an employer, contact job placement agencies, send out resumes, respond to advertisements, or some other means of active job searching, submit applications, and ready to attend interview within the prior four weeks. Any one not responding to advertisement is not counted as an active job seeker. It is not all unemployment that is "open" and counted by government agencies, and so unemployment statistics in Nigeria is not accurate. Similarly, the unemployment rate statistics in the US does not take into consideration those individuals who are not actively looking for employment, and those still attending college.

c. *Causes of Unemployment in Nigeria*

There are several causes of unemployment in Nigeria as follows:

i. *Utter Neglect of Agriculture:* Hanson (1977) researched the very reason of the economic setback in the post-colonial West Africa, having Nigeria, Algeria, Ghana, Kenya, Tunisia, and Ivory Coast as his scope area of study. He discovered that utter neglect of agricultural development in a bid to have industrial-economic ambition causing their employment problems which were confirmed by the research according to Jelilov et al. (2016). They affirmed that any economy where adequate attention is paid to agriculture; almost everybody is self-employed and that the number of unemployed is easy to control.

According to Lampman (1974) report gave reasons for the cause of unemployment in Nigeria, saying that agriculture is the taproot of our economy, and warned that any attempt to give agricultural activities a secondary attention in any nation would sooner or later create an unemployment situation.

ii. *Money held for Non-Investment:* Keynes (1935) wrote in his book titled "The general theory of employment, interest, and money" that the number of money industrialists and businessmen tried to hold out from investment causes unemployment. Jelilov (2015) went on to say that instead of industrialists expanding their industries with the acquired profit to create employment opportunities, they lavish the money on non-essentials.

iii. *The Neglect of Indigenous Technology:* There has been no preference for indigenous technology. Nigeria keep on importing foreign technology ad disregard the indigenous technology that is peculiar to our geographical terrain, and lack of patronage of local industries.

iv. *Poor Management of Public Industries*: Teriba (1977), pointed out that the poor management of our public industries and the unpatriotic attitude of Nigerians towards work and public property was a great factor causing unemployment problems. He maintained that Nigeria's employment situation started when Nigerian industrialists rely much on purchasing and processing much of the raw materials abroad.

v. *Lack of Patriotism*: Achebe (1983), in his comparative analysis, stated in his book "The Trouble with Nigeria" that the lack of patriotism among Nigerians has contributed to Nigeria's unemployment problem. He went on to say that history has created evidence of unpatriotic act of most Nigerians in public industries towards public properties and their consideration of "self-first," and the looting of the treasury and the carting of public property worsened Nigeria's unemployment situation.

vi. *Psychological Blindness of our Economic Planners:* Ojukwu (1989), while analysing the cause of unemployment in Nigeria in his book, "I am involved" concluded that the production of many graduates was not responsible for the unemployment situation in the country; rather, the social inverse proportional pattern of education and economic advancement as a result of the economic planners' psychological blindness during the days of oil boom.

vii. *Bad Educational Planning*: The production of higher education institutions issuing higher education degrees for white-collar jobs is the main cause of the problem. This problem is akin to the problem of mismatch between educational planning and economic planning. Specifically, the rate of graduates turns out rises faster than the expansion of job opportunities (Abomaye-Nimenibo & Inimino, 2016).

viii. *Bad Economic Policies:* Various Nigerian Governments had adopted and implemented several economic policies over the years, and some of them did not create new jobs. For example, the SAP adopted since 1986 and is in continual implementation has worsened Nigeria's unemployment problems. A great number of these

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economic reforms have led to rising interest and exchange rates, thereby causing many private enterprises to cut down on their workforce. These policies have also succeeded in increasing the frequency of reduction of workforce in both the public and private sectors of the Nigerian economy (Abomaye-Nimenibo & Inimino, 2016).

ix. *Global Economic Crisis:* The global economic and financial crisis of the world also contributed to Nigeria's current unemployment problem. For example, the U.S Great recession of 2008 adversely affected all sectors of the Nigerian economy. The U.S recession led to a decline in the demand for Nigeria's crude oil thereby reducing foreign exchange earnings and government revenue. This unpleasant development eventually worsened Nigeria's unemployment problem (Abomaye-Nimenibo & Inimino, 2016).

x. *Poor Performance of Small and Medium Scale Industries*: The Nigerian industrial sector is mostly dominated by small and medium scale enterprises. In recent years, most of these enterprises have been operating at a marginal level. Any increase in costs of production usually forces many of these enterprises out of business. The Nigerian Flour Mill Industry temporarily went out business when the government placed embargo importation of wheat, one of its main raw materials. The industry had to depend largely on local raw materials, which, of course, were scarce and relatively expensive. Those enterprises that could not afford the increase in costs to the productive capacity had no other option than reduce their workforce or fold up. This development eventually led to a fall in employment and the nation's unemployment situation is worsened again (Abomaye- Nimenibo & Inimino, 2016).

xi. *Rapid Population Growth:* In recent years, Nigeria's population is on the increase. But the growth of the economy cannot catch up with rapid population growth. Consequently, the swelling of the population, especially in the cities had led to high levels of unemployment in Nigeria which is akin to rural-urban drift or migration (Abomaye-Nimenibo 2015, 2018 & 2020; Abomaye-Nimenibo & Inimino, 2016; and Abomaye-Nimenibo et al. 2017).

xii. *Imperfect Flow of Labour Market Information:* A market is a place where the exchange takes place. It is where demand and supply work themselves out. In every market, there are buyers and sellers. The labour market is no exception, but there are imperfections in the labour market, which eventually creates the natural rate of unemployment due to imperfections and frictions in the labour market. Labour market information is probably non-existent in Nigeria. If it does, it is usually unreliable and misleading. Lack of labour market information hinders the mobility of labour across geographical regions. For example, rural-dwellers may not have information on job openings in the urban areas, and as such, they remain unemployed (Gbosi 2015).

xiii. *COVID 19:* Finally, the greatest unemployment causing factors in Nigeria are Corruption, Oppression, Violence, Ineptitude, Developmental imbalance, and the general failure of leadership of the 1900 years, although the list seems endless.

d. *Consequences of Unemployment*

Every economy detests unemployment as undesirable, because it causes economic, social and political vices in societies. It consequences to society are numerous. The effects of unemployment in Nigeria are copious but we may quickly look at a few of them:

a) *Brain drain*: Unemployment, especially among university graduates, results in the emigration of youths and active adult population to other countries such as leaving Nigeria for advanced nations of Europe and America, and such movement is called brain drain which leads to the loss of highly educated and skilled workforce.

b) *Increase in Social Vices and Crimes:* Frustrated unemployed youths could be a recruiting source of armed robbers, prostitutes, economic saboteurs, human traffickers, smugglers, militants, militias, etc.

c) *Increase in Rural-Urban Migration:* Unemployment aggravates rural- urban movement among youths who move to cities in search of non- existent jobs. By this migration, additional pressure is exerted on existing food and social amenities in the urban areas and cities.

d) *Fall in National Output:* The existence of unemployment means that a nation cannot maximize the use of its labour force for increased output.

e) *Increase Drain on Government Finances:* The presence of unemployment necessitates an increase in government expenditure in the payment of unemployment benefits in nations where they pay unemployment benefits. The government also spends more on the provision of social services at the same time that it collects less from taxes.

f) *Potential Sources of Political Instability*: The army of unemployed youths serve as recruiting ground for disenchanted, disgruntled and revolutionary elements in society. Such social and political instability is inimical to development;

g) *High Dependency Ratio:* The mass of unemployed persons will have to depend on the small number of the working population for their survival, thereby reducing efficiency and savings.

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h) *Low Investment and Low National Income:* As a result of squat savings, the investment will also fall. As a result of the multiplier effect, income will also below, thus create a vicious cycle of poverty;

i) *Fall in the Standard of Living:* Unemployment, through the resulting poverty and income inequality, reduces the standard of living of the masses. Unemployment widens the inequality gap, impoverishes the masses, and lowers their standard of living.

j) *The high wave of Crime, Robbery:* Unemployment of youths has resulted in crimes of various dimensions. Princewill, in Vanguard (June 25, 2002) observed that since 1999, this country has experienced an unprecedented rise in a crime wave, armed robbery, political assassinations, religious riots, inter-ethnic and intra-ethnic clashes, communal clashes due to the increasing unemployment rate. According to Osi (2001), on the research on the consequences of unemployment maintained the fact that autonomous consumption is inevitable, which makes some feeble-minded ones indulge in the robbery.

k) *Prostitution among Young Girls:* Recently, researchers have noticed an unprecedented increase in prostitution among young girls. Jajere (2016) investigated 184 brothels and hostels in some urban areas in Nigeria, and some of these prostitutes openly confessed resorting to fate because of the scourge of unemployment.

l) *Examination Malpractices* are carry out by some jobless school leavers, who must make ends, meet. These teach the younger society negative options available for survival.

m) *Hunger and Malnutrition:* Similarly, the issue of unemployment has caused starvation and malnutrition. Volkova et al., 1986 stated that unemployment and price increase of food and the unceasing onslaught of the unemployed and their dependents have led to a rise in malnutrition and its associated diseases in the third world.

n) *Increase in Poverty Rate:* According to Nicholas et al. (2000), the social consequences of unemployment for those who are out of work include a higher incidence of poverty, ill-health, and death, which demoralized and strained family relationships. For society as a whole, they include the failure to realize the social investment in human capital made through the education system, and a loss of tax revenue.

o) *Broken Marriages:* The evil effects of unemployment of heads of families have disintegrated some families in the country, leading to broken marriages of once happily married couples. Awake magazine of July 22, 1984, supported this fact when it stated that families have broken up and the future of their children bleak owing to unemployment. Graham (1992) stated that some of the unemployed people, and their families, passes through nervousness, misery, frustration and despairing unhappiness. They also, experiences psychological trauma and others suffer stress, all culminating to a waste of human workforce. Any increase in the size of the unemployed population causes a coinciding increase in the burden of "liability" of the society on how to manage the paltry finance of the workers, and by extension, implies that a grossly lowered standard of dissatisfaction and insecurity. Usen (1978) stated that the unemployed are psychologically exhausted and famished. There are many more consequences of unemployment, such as deprived housing, lowly clothing, lack of medical care, unaffordable transportation, and so on. These ad others vices will continue to plague Nigeria should our leaders not alive to their responsibilities.

b) *Theoretical Framework*

J. M. Keynes had challenged the classical view that private enterprise economy automatically brings full employment. He argued that employment depends on effective demand and there is no guarantee that there will always be adequate, and actual demand to generate full employment. The suggestion that CBN should float public finance whenever there is unemployment problems in a country, which opinion is challenged to be of no validation (Dewett and Navalur, 2012).

The Keynesian theory of fiscal policy suggests that government intervention in the working of the economy as a counter-cyclical measure is necessary since the equilibrating tendencies of market forces alone could not work in isolation, and that, if left to themselves, the market forces will lead the economy to a stable level of under-employment (Tyagi, 2013). The Keynesian charter argued further that the aggregate demand function of employment does not automatically regulate itself to the level of aggregate supply function of employment, just in the same way the demand and supply of output cannot adjust itself to achieve a positive and dynamic operation of fiscal policy. Therefore, the government has to play the constructive role of regulating and controlling the economy through taxation and expenditure.

Abu and Abdullahi (2010) affirmed that in the Keynesian model, the use of fiscal policy by the government to regulate the economy to achieve full employment through was necessary to bring higher economic growth, and to keep an equilibrium between effective demand and supply of goods and services.

Dewett and Navalur (2012) asserted that if depression occurs in an economy, the government's use of fiscal policy by spending more on public works which creates employment should be able to keep up demand to induce supply (output). The government can

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increase its spending on subsidies to producers of mass consumption commodities to increase consumer outlay. On the other hand, the government do lower its tax rates (budget deficit) to stimulate consumption and investment during depression as a progressive means of fighting unemployment and stimulating output growth. It will be wise we look at some growth models as we progress.

i. *Solow's Model*

Solow's model explains the growth in an economy by breaking down the aggregate output (Y or GDP) into contributions of growth inputs (labour, capital and technology). That is, the model explains how much of the growth in an economy is explained by changes in the amount of labour or by changes in the amount of output as per the general model which states that:

$$Y(t) = A(t) \times K(t)^{\alpha} \times L(t)^{1-\alpha}$$

Where,

Y is the aggregate output of the economy in a year (t) usually measured by GDP,

A is an index of the level of technology, K is the stock of capital in the economy,

L is the amount of labour in the economy usually measured by hours worked by an index of labour efficiency and

α is the contribution of capital to aggregate output Y.

These variables were observed by looking at the economic indices of each country except A (technology). Therefore; we can solve in the equation for A and find the contribution technology improvements of the economy. α, (alpha) is the share of output paid to owners of capital in the form of rents. Capital includes machinery, equipment, land, and natural resources. Whereas the remainder $1-\alpha$ is the share of output paid to workers as wages. A is also known as Total Factor Productivity (TFP) and includes changes in the level of technology, presence of strong institutions, and regulatory environment. The equation above is a production function that is applicable to an individual business.

a. *The Harrod-Domar Exogenous Growth Model*

The Harrod-Domar growth theory was developed based on the works of two authors named Harrod, and Domar. These two scholars developed their models independently, but the assumptions and results are, nevertheless, basically the same. They built their theory in the late 1930s and mid-1940s when the memory of industrialized countries was plunged into deep recessions, with a high unemployment rate and a sharp decline of the gross domestic product due to the prevalent depression in 1929 and 1930. Harrod and Domar based their hypothesizing on the famous works by Keynes, who explained the failure of markets to bring full employment.

As earlier mentioned in the introductory part, that the early classical writers, believed in Say's law, that says supply creates its own demand which belief was founded on the assumption of the efficient working of factor markets, and on the speedy adjustment of prices by the forces of demand and supply to bring about an equilibrium. Keynes does not see reasons with frictionless functioning of the market forces and asserted that unemployment of factors of production is even more probable in an economy than full employment. But his emphasis was on short-run implications of the theory which underlines the income effect resulting from additional investment, for example, the capacity effect, resulting from increases in the capital stock. It was this latter effect that Harrod and Domar incorporated into their work, thus forming a Keynesian theory of economic growth.

The Harrod-Domar model ruminates on a closed economy with only one homogenous good Y that is produced, and is either used as an investment good (I), or as a consumption good (C) depending on the economic agent. Households consume and save, whereas firms produce and invest. All variables are real, and the money market is absent.

b. *Keynesian Growth Theory*

The Keynesian theory does not assume that any supply will meet its demand if only prices are flexible enough, but rather, argued that where constraints to expansion exist, such are likely to raise inequalities since the economic system is unable to spawn ample demand to fully engage labour and possibly other resources.

Hence, 'microeconomic' policies such as income redistribution, credit regulation, industrial activism etc. are required to reinvigorate and enforce, the functioning of a capitalist economy by generating enough aggregate demand to recover output and employment in times of crisis occurs to achieve full employment goal.

Keynes in his book titled General Theory of Unemployment, Interest and Money (1964 & 1936) identified with the classical (marginalist) thought, and developed a working theory of the economy.

c. *Classical Growth Theory*

Classical growth theory clashes with the exploding population and limited resources theories that eventually bring economic growth to an end. The Malthusian philosophy is another name for classical growth theory named after Thomas Robert Malthus. The Classical growth theory developed the following assumptions:

1. *The Basic Idea:* Economic growth raises GDP per person but induces a population explosion, which eventually ends the prosperity.
2. *Classical Theory* of Population Growth says that population will grow as real income exceeds the

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subsistence income. Growth in population decreases the amount of capital per hour of labour and that labour productivity and real GDP per person will also decrease.

3. *Productivity Curve Illustration:* An increase in capital per hour creates a movement along the productivity curve to higher real GDP per hour of labour and technological advancement shifts the productivity curve upward to a higher level of real GDP per hour of labour. However, when population growth increases, there is a downward movement along the productivity curve to the level of real GDP per hour of manpower.

d. *Neoclassical Growth Theory*

Neoclassical growth theory is the theory that says, real GDP per person will increase as long as technology keeps advancing.

1. Population growth: The historical population trends was to contradict the view of the classical economists over the crucial economic influences of the opportunity cost of a housewife's time spent on having children and nurturing them. The more children families choose to have, the more population growth and verse versa.
2. As regards technological change, the neoclassical theory accentuates that such changes inspire the rate of economic growth but not otherwise.
3. The third idea was that of basic idea of advancing technology so that high real GDP per person will be achieved to propel economic growth in real GDP per person.
4. A problem with neoclassical growth theory is that the model fails to explain the determinant of technological change.

e. *New Growth Theory*

New growth theory is the theory that says, our unlimited wants will lead us to ever larger productivity and perpetual economic growth.

1. Choices and Innovation

a. Human capital grows because of choices.
b. Discoveries are results from choices.
c. Findings bring profit and competition, which eventually destroys the gains created.
d. Innovations are used by everyone.
e. Manufacture activities can be replicated so that identical firms can each produce the same quantity of an item.

2. Perpetual motion

Economic growth is motivated by limitless wants, which lead people to pursue profit by working and to invent new and better products mean that old firms who do not meet up to produce the new demands of the populace will go out of business; and in their place, new firms will spring up, who are able to create new and better jobs; thereby leading to higher consumption and leisure. The growth cycle continues to revolve as insatiable wants keep on evolving all over again.

3. Productivity Curve and New Growth Theory says that productivity curve will constantly shift upward to cause an unending growth as capital keep on increases and technology also advances.

f. *Natural Rate of Growth*

According to Prof. Harrod, Natural growth rate which is the maximum rate of growth allowed by the increase of variables like population growth, technological improvement & growth in natural resources. Although, the natural growth rate will be the highest which would bring about the fullest possible employment of resources in the economy.

g. *Unified Growth Theory*

Oded Galor et.al. propounded the Unified growth theory to address the area where the endogenous growth theory failed to explain the empirical regularities in the growth processes of individual economies. So, Unified growth theories are endogenous growth theories that are consistent with the development and transition from the period of Malthusian stagnation to the contemporary era of sustained economic growth.

h. *The Big Push Growth Theory*

The Big Push theory was propounded in the 1940s, saying that countries needed to jump from one stage of development to another through a virtuous cycle, in which considerable investments be done in infrastructure, education, and private investments, which would move the economy to a more productive point. In the late 1980s, Kevin Murphy, Andrei Shleifer, and Robert Vishny expounded and revived the model.

i. *Schumpeterian Growth Theory*

Austrian economist Joseph Schumpeter developed the Schumpeterian growth theory in the 20th-century to explain the growth theory as a consequence of innovation and a process of ingenious obliteration that captures the twofold nature of technological progress in terms of creation of entrepreneurs introduced processes in the hope of enjoying temporary monopoly-like profits as they capture markets with new products; thereby making old technologies and products obsolete, and "...destroys the rents generated by previous innovations" Aguene, (1991). Schumpeterian growth theory is well explained by the Aghion- Howitt model.

j. *Classical Theory of Unemployment*

The views of most economists always go with their thinking at that particular time. The Classical was of the school of thought that emphasized the role of money in explaining short term changes in national income. Traditionally, this theory has an aggregate view in which involuntary unemployment was regarded in a short term

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phenomenon showing the differences between the wage and the price levels; whereby high real wage bring about unemployment. There are also periods when the wage level in the classical view would be reduced, and leading to unemployment except for frictional unemployment produced by the time of delay between quitting one job and starting another. This school posits that urban unemployment was as a result of workers and trade union's power tussle, and insists that urban unemployment is a factor of low labour supply. The Classical school further argued that the demand for too high wages by workers without a corresponding increase in productivity renders product costly, thereby discouraging competitiveness among local and foreign industries. The implication of this trend is the reduction of sales, which further leads to the mass retrenchment of workers resulting in unemployment. This believed strongly believe in the theory of demand and supply of workforce.

k. *The Keynesian Theory of Unemployment*

The British economist, John Maynard Keynes in 1930s revolutionized thinking in several areas of macroeconomics including unemployment, money supply, and inflation as the general theory of unemployment, interest, and money.

The Keynesian unemployment, also known as Cyclical or demand deficient unemployment occurs soon as aggregate demand falls. It gets its name as from the swing of business cycle, and it can also be persistent as it happened during the great depression of the 1930s. Cyclical unemployment escalates during economic downturns. Keynes argued that this type of unemployment exists due to inadequate demand. As demand for most goods and services fall, production also fall, but wages do not fall to meet the equilibrium level resulting to serious unemployment.

The Keynesian theory of unemployment was examined by Grill and Zanalda (1995), Hussian and Nadol (1997), and Thirlwal (1979), saying that increase in employment, capital stock, and technological change is principally endogenous. Increase in demand for goods and services calls for additional employment leading to long term growth of output, which also influence the growth of further engagement. In the Keynesian theory, engagement depends upon active request for workers, which results in increased output that creates income, and provide corresponding employment. This School of Thought regarded service as a function of income, and active demand is a function of aggregate supply and demand. The cumulative supply function depends on physical or technical conditions that do not change in the short run, and remains stable. Keynes resolutely stick to the aggregate demand function as a tool to fight depression and unemployment. Hence, employment depends on aggregate demand, which in turn are determined by consumption and investment demands. Furthermore, Keynes stated that increasing consumption (C) as a result of improved income (Y) because of rising propensity to consume, and improved investment (I) ushers in employment and savings (S). When the propensity of consume is stimulated, there is going to be realization of more revenue which will call forth more investment that will compel business to employ more workers but the psychology of the people (taste, habit, etc.), which are also constant in the short run. Therefore, the propensity to consume is stable, and employment depends on investment capabilities (Obayori, 2016).

l. *Marxian Theory of Unemployment*

This theory is of the view that nature of the capitalist mode of production exist to overwork some workers but keeps the others as a reserve army of unemployed people. The Marxists also share the Keynesian view of the relationship between economic demand and employment, but with the warning that the market system's propensity to slash wages and reduce labour participation on an enterprise-level causes a decrease in aggregate demand in the economy, thereby causing crises of unemployment with low economic activity that will call forth another cycle of increased investment (capital accumulation). Karl Marx went on to say, that unemployment is an integral part of the unbalanced capitalist system, which must have periodic mass unemployment. He went on to say that the proletariat (public) within the capitalist system provides a "reserve army of labour" that generates descending pressure on wages. This theory divides the proletariat into two groups of surplus-labour (employees) and underemployment (unemployed labour). These reserve armies of labour fight among themselves for scarce jobs at lower wages. Karl Marx goes to state that, the only way to lastingly eradicate joblessness would be to end capitalism and the structure of involuntary rivalry for earnings and formerly shift to a communist or socialist economic system. For modern- day Marxists, the existence of dogged unemployment is a resilient fact of the capitalism's inability to guarantee full employment.

m. *Efficiency Wage Theory of Unemployment*

This theory is a macro-economic approach to explain unemployment. The theory assumes that worker differs in quality, abilities (where some are lazier than others), and are less likely to work harder; and requires costly monitoring, i.e. if you are to monitor the workers closely. An employer cares about the wage rate which depends upon the productivity of the workers so as to minimize the wage, and to do this, you can increase productivity by increasing wages. Secondly, you can fire any worker being lazy and employ others serious one to replace such persons dismissed. The reason for this is that as wages increases, the cost shrinking becomes

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higher, meaning that staff has to work even harder since it is more imperative for you to continue to work with higher pay than to be fired.

c) Empirical Literature

This section presents the review of empirical kinds of literature on studies related to the theme of this study. An evaluation of cross country experimental pieces of works is outlaid before constricting it to the Nigerian situation. A summary of foremost conclusions from the experiential writings appraisal is offered. Some experiments have carried out on the relationship that existed between fiscal policy and some selected macroeconomic variables.

The connexion amongst economic growth and tax revenues has been a subject of debate for a lengthy period in living history. The discussion on the two variables has exhibited contentions from academicians and policymakers, with one school holding on the view that taxation is bad for the economy. In contrast, the other school believed that taxation is upright for the economy. Appreciated empirical writings exists that studies the association between economic growth and tax revenues which analyses the variables at the cross-country level. However, not much writings exist bringing to fore the relationship that existed between the two variables at each specific country. This study was carried out to fill in the gap in country-specific study by exploring the relationship between economic growth and tax revenues in Nigeria and also determining causation between the variables. We use three methods in our analysis, the first is the Classical linear regression model using the OLS estimation method; the second being the co-integration test while the third was the granger causality test of all the variables. Our results, as vividly outlined in section four, discovered a progressive relationship between economic growth and tax revenues. All the tax variants of income tax, excise duties, import duties and sales tax/VAT displayed positive influence on GDP with income tax positing the highest effect and closely trailed by sales tax/VAT, then excise duties and finally import duties showing the least consequence. The cointegration result revealed that there is at most one co-integrating equivalence while the Granger Causality test showed a bi-directional association between economic growth and excise duties. The income tax and economic growth has a unidirectional connection, and that of economic growth and sales tax, with that of VAT, and there exist no causation between economic growth and import duties. These results propose that the government should employ a better tax structure that will improve the tax base, than concentrating on growing tax revenues by amassing tax levels. Besides, the government should utilize the positive relationship that exist between tax and economic growth to realize efficient government investment expenditure that spurs growth, and in turn, boost the revenue levels. Finally, the government should principally target income taxes, excise taxes, and sales tax/VAT to generate revenues by improving the tax collection system, closing windows of fraud, check tax evasion, and nib corruption at the bud.

Abubakar (2016) investigated the impact of government spending on the economic growth of Nigeria by employing the VECM methodology. The findings of his study disclosed that public expenditure has a mixed consequence on the economic growth. Some components of government spending exerted a negative influence, while other variables had a positive impact.

Obayori (2016) surveyed the effect of fiscal policy on unemployment in Nigeria by employing the Error Correction Model (ECM) to analyse his results which revealed that both capital and recurrent expenditure wielded a negative effect on unemployment in Nigeria.

Abdulrauf (2015) examined the short-run and long-run controls of fiscal policy on Nigeria's economic development by commissioning the Vector Error Correction Model (VECM) with annual series data from 1981 to 2013, which findings displayed government recurrent expenditure and investment as having a positive impact on economic development. In contrast, capital outflow only had a short run positive effect. Tax revenue have a negative relationship with the economic development of Nigeria both in the short and long run.

Osinwo (2015) also examined the effect of fiscal policy on sectoral growth in Nigeria by engaging the ARDL and ECM methods in analysing his data for the period 1970-2013. The results of his study establish total monetary expenditure to have a positive control on the output of all sectors except the Agricultural sector.

Arnelyn et al. (2014) empirical examined the relationship between fiscal policy and economic growth in unindustrialized Asian counties. The study observed that, in comparing the overall level of government expenditure and revenue with those of advanced economies, revealing a significant effect on economic growth. Property taxes also exerted a more benevolent impact on economic growth directly than educational spending which have a sizable positive impact on economic growth.

Benanaya et al. (2014) applied the dynamic panel data analysis to examine the impact of fiscal policy on the economic growth of MENA countries. The results of the study showed a long-run relationship existed between financial policy and economic growth, while the correlation pattern of the GDP and budgetary revenue exposed the presence of optimistic causality amongst economic development and fiscal incomes. The effects of taxation were hard to segregate empirically.

Alex and Ebieri (2014) also studied the influence of fiscal policy on the economic growth of Nigeria by employing the ARDL methodology. The study found

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evidence of a long-run equilibrium relationship between fiscal policy and economic growth in Nigeria. Government capital and recurrent expenditures have a significant positive relationship on economic growth. In contrast, non-oil tax and total government debt have no significant impact on real GDP. Only capital expenditure has a short run association with economic growth.

Anthanasios (2013) in his study engaged the SVAR method to find the relationship between unemployment, growth, and fiscal policy in Greece. The results showed the effect of cuts in government purchases, and consumption on unemployment and output, while the outcome of government investment is to a lesser extent. Tax hikes are to reduce production and increase unemployment.

Nathan (2012) also carried out a study of the impact of fiscal policy on the Nigerian economy by appraising the causal connection between money supply, fiscal deficits, exports, and economic growth of Nigeria for the period 1970 to 2010. He used the error correction model (ECM), and his findings revealed that there exists a significant relationship between the variables and economic growth. The study suggested the use of fiscal policy as an ideal tool for guaranteeing the economic growth of Nigeria.

Sikiru and Umaru (2012) employed the Engle-Granger two-step cointegration model to evaluate the relationship between fiscal policy and economic growth in Nigeria, using annual series data of 1977 to 2009. The result of the study revealed that productive expenditure has a positive bearing on economic growth.

Ogbole et al. (2011) wrote on fiscal policy and its impact on economic growth in Nigeria from 1970-2006. The study was a comparative analysis of the impact of fiscal policy on economic growth in Nigeria during regulation and deregulation periods. Econometric analysis of time series data from the Central Bank of Nigeria was used. The results showed that there is a difference in the effectiveness of fiscal policy in stimulating economic growth during and after the regulation period. Appropriate policy mix, prudent public spending, setting achievable fiscal policy targets, and diversification of the nation's economic base, etc. were recommended.

Adeoye (2011) analysed the impact of fiscal policy on economic growth in Nigeria from 1970-2002. The finding revealed that public investment negatively affected output growth, implying that public expenditure has a crowding-out effect on private investment.

Mueller (2011) investigated economic, political and institutional constraints to fiscal policy implementation in sub-Saharan Africa. The study found that planned fiscal adjustments or expansions are less likely to be implemented, and the larger the modifications, the more inaccurate the growth forecasts. The finding supports on-going efforts in the region to improve the quality and timeliness of economic data, enhance forecasting capacity, adopt realistic fiscal plans, and strengthen governance, budgetary institutions, and public financial management procedures.

Abu and Abdullahi (2010) in their findings show total capital, total recurrent and government expenditure on education hurt economic growth, while overheads on health, transport, and communication have a positive impact on economic growth.

Chuku (2010) explore the monetary and fiscal policy interactions in Nigeria between 1970 and 2008 and used quarterly data. The study examined the nature of financial policies in Nigeria using Vector Auto-Regression (VAR) model. The findings indicated that monetary and fiscal policies in Nigeria have interacted in a counteractive manner for most of the samples for the period 1980 to 1994, while at other times, no symmetric pattern of interaction between the two policy variables was observed.

Adefeso and Mobalaji (2010) carried out a study to re-estimate and re- examine the relative effectiveness of fiscal and monetary policies on economic growth in Nigeria using annual data from 1970-2007. The Error Correction Mechanism (ECM) and Co-integration technique are the analytical tools. The result showed that the effect of monetary policy is much stronger than fiscal policy. The study suggested that there should be more emphasis and reliance on monetary policy for economic stabilization in Nigeria.

Similarly, Hussain et al. (2009) applied a dynamic panel analysis to examine the impact of fiscal policy variables on the economic growth of Asian economies using data obtained from 1985 to 2001. The analysed result revealed that Health and education expenditure, aggregate expenditure and other fiscal variables were found to have a positive impact on economic growth, while the defence budget, distortionary taxation, and the budget balance shows a significant relationship with real per capita economic growth.

Anerbach (2009) in his study suggested that discretionary fiscal policy be practised on a large scale, and attention has to be paid to policy design.

Kalle (2007) employed a panel data analysis involving fifty-two (52) countries spanning through the period 1971 to 1980. He examined the effect of fiscal policy on economic growth both in the short and long runs. The results of the study show that fiscal policy cannot have a remarkable impact on the economy in the short course. However, its effect is confirmed in the long run, but the expansionary fiscal policy does not benefit the economy.

Komain and Brahmasrene (2007) examine the relationship between government expenditure and economic growth in Thailand, using the Granger causality test. The result found a unidirectional affiliation, and causality runs from government expenditure to

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economic growth, indicating a significant positive effect of government expenditure with economic growth.

Olawunmi and Ayinka (2007) examined the contribution of fiscal policy in the achievement of sustainable economic growth in Nigeria using Solow's growth model estimated with the use of the ordinary least square method. The study established that fiscal policy has not been operative in the area of sustainable economic growth in Nigeria. The factors of wasteful spending, poor policy implementation and lack of feedback mechanism for implementation is evident in Nigeria which is indeed capable of hampering the effectiveness of fiscal policy which had made it impossible to come up with such a conclusion.

Michele (2005) studied the dynamic effects of fiscal policy shocks on government employees in the U.S economy. The findings show that where government consumption expenditure consists solely of purchases of final goods, then the fiscal shock leads to a negative and significant wealth; while households reduce consumption and increase labour supply. His findings further revealed that the jolt in government employment is negative for private output and a positive impulse for government output because the productivity is reallocated from private to government sector.

Davis, Ossowski, and Fedelino (2003) observed fiscal policy design and implementation in oil-producing countries. The study showed that resource- dependent economies tend to grow more slowly than non-resource dependent ones at comparable levels of development. Poverty is still widespread in many oil-producing countries. The study concluded that a pattern of fluctuating fiscal expenditures associated with oil volatility had entailed high economic and social costs for several oil producers.

Huang and Padilla (2002) writing on fiscal policy design and implementation of the Walsh Contract for Central Bankers, developed a simple macroeconomic model where the time variation of optimum regulatory policy to show tax distortions; and concluded that effecting the optimal policy fusion necessitates the Central Bank to have sole control or dominance over the fiscal authority, or the policy execution be divulged to an independent authority.

Amin (1998) in his analysis of the relationship that exist between public and private investment, stated that the crowding in and out of private investment by public expenditures in Cameroon have positive effects on growth. At the same time, those of the investment model shows the crowding in of infrastructures and the social sector. The study concluded by recommending the allocation of more resources to productive sectors, and increasing and sustaining of spending on those productive sectors or those components of public expenditures that crowded-in the private sector.

Antonio and Ilian (1998) using the VAR method to investigate the dynamic effects of fiscal policy on macroeconomic variables found that positive innovations in government spending brought about virile and persistent increases in consumption and employment.

Devarajan and Vinaya (1993) also observed the link between public expenditure and growth, by deriving conditions under which a change in the composition of spending leads to a higher steady-state of growth rate of the economy.

Eric and Jonathan (1992) in their study of 107 countries for the period 1970 to 1985 examined the impact of fiscal policy on economic growth. The findings of the study show that a balanced budget upsurge in government spending and taxation has the capability of reducing output growth rates.

By the same token, Erkin (1988) examined the relationship between government expenditure and economic growth and proposed a new charter for New Zealand. His empirical results showed that higher government expenditure does not upset consumption but in its place raises private investment that, in turn, accelerates economic growth.

Numerous researchers have embarked on different studies about fiscal policy relating to macroeconomic productivity levels, but the ones that have direct bearing of public expenditure on the economy have shown positive relationships are those carried out by Ram (1996); Barro (1991); Easterly and Rebelo (1993); Otaniand Villanvera (1990); Komain (2007); Ranjan and Sharma (2008); Cooray (2009); Wu (2010); Nworji (2012). Other surveys carried out by Abu-Bader and Abu-Qarn (2003); Laudau (1986) found a negative relationship. However, Kormendi and Megure (1995) could not find any rapport.

It is imperative to mention at this point that studies carried out by Abdulrauf (2015), Benananaya et al. (2014), Alex and Ebieri (2014), Arnelyn et al. (2014), Sikiru and Umaru (2012), Nathan (2012), Hussain et al. (2009), Komain and Brahmasrene (2007), Devarajan and Vinaya (1993), and Erkin (1988) found public expenditure as having a positive relationship with economic growth, while studies by Abubakar (2016), Abdulrauf (2015) and Erick and Jonathan (1992), found some components of public expenditure as hurting economic growth. On the other hand, Anthansios (2013), Erick and Jonathan (1992) establish taxation as impairing economic growth. However, Obayori (2016), Anthonio and Ilian (1998) establish fiscal policy as hurting unemployment.

d) Summary of the Literature Reviewed

The review was on the conceptual framework of essential variables used in this work by defining each of them, i.e., Fiscal policy, Inflation, and Unemployment. Fiscal policy was said to be the use of taxation and government spending to stimulate the economy. Unemployment is that state whereby those who are capable and willing to work could not find a job.

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This research's theoretical framework concentrated on theories which are related to this work, and such are the Solow's model which explains the growth of an economy by breaking down the aggregate output (Y or GDP) into contributions of growth inputs (labour, capital, and technology). This model clarifies how much of the growth of an economy is explained by changes in the amount of workforce or changes in the amount of input.

The Exogenous Growth model of Harrod-Domar considers a closed economy in which one homogenous good is produced, that will either be used as an investment or consumption good, which use, depends on the customer agent. The Keynesian Growth theory by assumption stated that supply will not be able to meet up its demand if prices are flexible enough. It argued that where constraints to expansion exist they are most likely to arise because the economic system is unable to generate sufficient demand to offer full employment to labour, and other potential resources. The classical growth theory states that the clash between an exploding population and limited resources will eventually bring economic growth to an end. The Neo-classical growth theory states that the real GDP per person will upsurge as long as technology keeps advancing. The new growth theory states that our unlimited wants will lead us to ever greater productivity and perpetual economic growth. The long-run relationship that exists between fiscal policy measurement and economic growth in Nigeria, and some other theories like the natural rate of growth, unified growth theory, the big push theory, and the Schumpeterian growth theory were contrary to the Keynesian growth rate.

However, empirical evidence is comprehensive, as long as the studies carried out by such Scholars as Abdulrauf (2015), Alex and Ebieri (2014), Benananaya et al. (2014), Arnelyn et al. (2014), Sikiru and Umaru (2012), Nathan (2012), Hussain et al. (2009), Komain and Brahmasrene (2007), Devarajan and Vinaya (1993), and Erkin (1988) establish that public expenditure have positive relationship with economic growth, and others such as Abubakar (2016), Abdulrauf (2015), and Erick and Jonathan (1992), maintained that some components of public expenditure have harming economic growth. In another vein, Anthansios (2013), Erick and Jonathan (1992) revealed in their findings that taxation has negative economic growth. Howbeit, Obayori (2016), Anthonio and Ilian (1998) maintained that fiscal policy hurts unemployment. Other scholars such as Nworji (2012), Wu (2010); Cooray (2009); Ranjan and Sharma (2008); Komain (2007); Ram (1996); Easterly and Rebelo (1993); Barro (1991); Otaniand Villanvera (1990) opined positive relationship between government expenditure and economic growth; while others like Abu-Bader and Abu-Qarn (2003); Laudau (1986) averred a negative correlation. In contrast, Kormendi and Megure (1995) could not find any association.

The above state of affairs raised some pertinent questions such as; what is the relationship between government expenditure and economic growth in Nigeria? What is the relationship between total tax revenue and economic growth in Nigeria? What is the relationship between government expenditure and unemployment in Nigeria? What is the relationship between total tax revenue and unemployment in Nigeria? Answers to these questions are the main concern of this research work.

III. Method of Study

The methods employed are defined as research design, model specification, Model variable explanations, data required, data collection and sources, and method of data analysis.

a) Research Design

Research design is the set of procedures used in collecting and analysing the variables specified in the research problem. It is the overall strategy chosen to integrate the different components of the study in a coherent and logical form, thereby ensuring that the research problem is well addressed, which constitutes the design for the collection, measurement, and analysis of data. The type of research design employed in this study is descriptive research. This study is explanatory in nature and focuses on the relationship of fiscal policy that impacted on the selected macroeconomic variables. The researcher uses time-series data that includes GDP, Total Tax Revenue, Government Expenditure and Unemployment for the period 1980-2015. The multiple regression model of the Ordinary Least Square (OLS) method was employed.

b) Model Specification

To measure the relationship between Unemployment, GDP and other explanatory variables we adopt a simple linear equation specified as follows:

Model One

$$UNEM = f(GEX, TTR) \text{ -- - - - - - - (1a)}$$

$$UNEM = a_o + a_o GEX + a_2 TTR + \mu_{1t} \text{ - - - - - (1b)}$$

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Model One in log form

$$UNEM = \log a_o + a_1 logGEX + a_2 logTTR + \mu_{1t} \quad - \quad - \quad - (1c)$$

Model Two

$$GDP = f(GEX, TTR) \quad - \quad - \quad - \quad - \quad - \quad - \quad - (2a)$$

$$GDP = b_o + b_1 GEX + b_2 TTR + \mu_{2t} \quad - \quad - \quad - \quad - \quad - (2b)$$

Model two in log form

$$LogGDP = logb_o + b_1 logGEX + b_2 logTTR + \mu_{2t} \quad - \quad - \quad - \quad - (2c)$$

Where

UNEM = Unemployment.

GEX= Government Expenditure

TTR = Total Tax Revenue

GDP = Gross Domestic Product

U_t = Error term

a_1, a_2, = slope coefficients showing the rate of change in the value of Unemployment, when there is a unit change in Government Expenditure and Total Tax Revenue.

b_1, b_2 = slope co-efficient showing the rate of change in the value of GDP, when there is a unit change in Government Expenditure and Total Tax Revenue.

a_0, = The intercept coefficient that shows the rate at which unemployment will change independently.

b_o= The intercept co-efficient that shows the rate at which GDP will change independently.

U = Error term that shows other external factors that might affect the magnitude of GDP and Unemployment which are not stated in the model.

To know the level of contribution of government fiscal policy towards economic growth in Nigeria, we examined the growth effects of public income and spending via budget surplus or deficit. We also examined the contribution of government revenue and expenditure to economic growth in Nigeria, and disaggregation of the public spending into the different components and for a thorough examination of each component growth rate and the share of each one in total expenditure to see their correlation with economic growth (GDP), and the unemployment rate. Regression analysis carried out was to show the contribution of government fiscal policy to economic growth, and the unemployment rate, by using OLS in multiple forms to ascertain the relationship between economic growth and government expenditure after ensuring stationarity.

i. *Explanation of Variables in the Model*

The study employed an annual data series on some relevant macroeconomic variables selected for the period 1980 to 2015. Data on Government Expenditure and Total Tax Revenue as fiscal policy variables are used, while data on Gross Domestic Product (GDP) and Unemployment Rates are the variables considered for this study were obtained from the CBN Statistical Bulletins of various years, and the monetary value of goods and services produced in Nigeria during the period irrespective of the nationality of the individuals were the Naira. The calculated GDP was without making deductions for depreciation at current basic prices where nominal GDP equals GDP less indirect taxes net of subsidies (CBN, 2007).

The Gross Domestic Product is widely acknowledged as the measure of economic growth and is a proxy for Nigerian economic growth. Unemployment, on the other hand, is seen as a situation whereby those who are willing and able to work cannot find jobs at the prevailing wage rate. The unemployment rate is a measure of the prevalence of unemployment, and is calculated as a percentage by dividing the number of unemployed individuals by all individuals currently in the work force.

The total tax revenue is the revenue collected from taxes on income and profits, social security contributions; taxes levied on goods and services, payroll taxes, taxes on the ownership and transfer of property, and other taxes. Total tax revenue is express as a percentage of GDP, which indicates the share of a country's output that is collected by the government through taxes.

Government expenditure refers to all government consumption, investment, and transfer payments. In National Income Accounting, the acquisition of goods and services by the government for the current satisfaction of the citizenry or the collective needs of the community, and is classed as government final consumption expenditure. Government acquisition of goods and services to create future benefits or for further production, such as infrastructure investment or research spending, is classed as government investment (i.e., government gross capital formation). There are two types of government spending, on final

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consumption and on gross capital formation, which together constitute one of the key components of Gross Domestic Product. BEA's National Accounting measures government spending in three ways: Government consumption expenditures and gross investment, which are incorporated in GDP. Therefore, the total outflow excludes the consumption of fixed capital (CFC), which is a noncash charge. Government spending is funded through government borrowing, seigniorage, or taxes. So, a change in government spending is a chief component of fiscal policy used in stabilizing the macroeconomic business cycle.

The subscript t in our models represents the period, and U_t is an error term as earlier explained. We investigated the time series to determine their stationary properties before the first stage of the model using the Augmented Dickey-Fuller (ADF) unit root test to guard against spurious regression results. The expected signs of the independent variables, Government Expenditure and Total Tax Revenue coefficients are to either be positive or negative. The data are time series with an annual observation that covers the period 1980-2015. The bound of the testing procedure is the Ordinary Least Square (OLS). The test is carried out in two stages. First, we test for data stationarity, and secondly for relationships and magnitude using other econometrics determinants.

c) Data Required

Secondary data on GDP, Unemployment rate, Total Tax Revenue, and Government Expenditure from 1980-2015 was obtained for analysis.

d) Data Collection and Sources

The data used was sourced from various annual reports of Central Bank of Nigeria (CBN) for the period 1980-2015.

e) Method of Data Analysis

We use the Ordinary Least Square Method (OLS), and cointegration methods of econometrics.

IV. Data Presentation, Analysis, and Discussion

The data collected for this study was presented for the short and long-run regression analysis.

a) Data Presentation

The macroeconomic effects of fiscal policy have been in two dimensions of reduced expenditure (less spending) and revenue (fewer taxes). The results of lessened expenditure have a little effect on GDP and do not impact significantly on private consumption. Although they do hurt private investment, a varied outcome on housing prices will lead to a quick fall in stock prices and depreciation of the real effective exchange rate. Reduced taxes have the inverse outcomes as they have positive (although lagged) effects on GDP and private investment, which have a positive result on both housing and stock prices; and lead to an appreciation of the real effective exchange rate.

Growth and unemployment models are created for the Nigerian economy, namely, the Gross Domestic Product (GDP) and unemployment (UNEM) as the dependent variables while government expenditure (GEX) and government tax revenue (GTR) are the independent variables. The analysed data are attached as appendixes.

b) Results and Discussion for Model One

UNEM= f (GEX and GTR)

Unit Root Test for Stationarity (Augmented Dickey-Fuller)

Granger and Newbold (1974), Granger (1986), have both demonstrated that if time series variables are non-stationary, all regression findings with these time-series will be at variance from the conventional theory of regression with stationary series, meaning that regression coefficients with non-stationary variables will be spurious and, therefore, deceptive. So, we test for stationarity of the time series using the Conventional Method of Augmented Dickey-Fuller (ADF) test to investigate whether variables used in this study have a unit root or not. The results of the unit root test are as shown below.

Table 4.1: Unit Root Test for Stationarity (Augmented Dickey-Fuller)

Variables	ADF Test	Critical Value			Order of integration
		1% critical value	5%critical value	10%critic al value	
UNEM	-7.082013	-2.636901	-1.951332	-1.610747	1(1)
GEX	5.384104	-3.639407	-2.951125	-2.614300	1(1)
GTR	-4.632883	-3.661661	-2.960411	-2.619160	1(1)

Source: Authors' Computed Result from (E-views 8)

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The stationarity test result presented in the above table 4.1 revealed that at various levels of significance (1%, 5%, and 10%), the variables were all stationary. However, one of the variables (unemployment) was not stationary with other at the same levels. However, the variables were differenced. Thus, UNEM, GEX, and GTR became stationary at the first difference (integrated of order one). Hence, the entire variables in this study are stationary, and the long-run relationship among the variables was tested using the Johansen co- integration framework as per Table 4.2.

Table 4.2: Johansen Co-Integration Test

Eigenvalue	Trace Statistic	5% critical value	Prob. **	The hypothesis of CE(s)
0.753647	74.47626	42.91525	0.0000	None *
0.391216	29.64453	25.87211	0.0161	At most 1 *
0.349556	13.76318	12.51798	0.0308	At most 2 *

Source: Computed Result Using (E-Views 8)

Table 4.2 above shows that there are three cointegrating equations at a 5% level of significance, as the Trace Statistic is greater than critical values. There is a strong evidence from the unit root test, to show that all the variables were stationary at first difference, which is a strong indication that there, exists a long-run relationship or equilibrium among the variables (i.e., GEX, GTR and UNEM).

Table 4.3: Short Run Result for Unemployment with GCEE, GRE and GTD. UNEM= f (GCE, GRE and GTD)

Variable	Coefficient	t-Statistic	Prob.
C	-2.415160	-1.779455	0.0844
LOG(GEX)	1.020619	3.657313	0.0009
LOG(GTR)	-0.153834	-0.505507	0.6166
R^2=0.735578, F-Statistic=45.90017, DW=1.401074, Prob. (F-stat=0.000000)			

Source: Authors' Computed Result from (E-view 8)

The short-run result in table 4.3 shows that the coefficient of determination R^2 is 0.74, i.e., 74%, which indicated that the variation in unemployment (UNEM) is explained by government expenditure (GEX) and Government tax revenue (GTR); meaning that, the explanatory power of the model is 74 percent.

More so, the coefficient of government expenditure (GEX) appeared with the wrong sign (i.e., positive instead of negative), implying a positive relationship between government expenditure and unemployment. From the result, we observe that a percentage increase in government expenditure (GEX) will increase the unemployment rate (UNEM) by 1.02 percent. This evidence does not conform to the apriori expectation as a result of mismanagement, corruption, and embezzlement of public funds that took place in the country during the period of study. Meanwhile, government expenditure is statistically significant, as the t-calculated value of 3.657313 is bigger than the t-table value of 2.032. Therefore, the null hypothesis is rejected and the alternate accepted which says there is a significant relationship between government expenditure and the unemployment rate in Nigeria. This means that government expenditure (GEX) has an impact on unemployment in Nigeria during the period of study. This relationship means that government expenditure can reduce unemployment in the country if properly managed.

Also, the coefficient of government tax revenue (GTR) is with the right sign (i.e., negative) implying a negative relationship between government tax revenue (GTR) and unemployment (UNEM), which means that a percentage increase in government tax revenue will reduce unemployment (UNEM) by 0.15 percent. This finding conforms to the apriori expectation. In the interim, the absolute value of the t-statistic for the slope coefficient is not significant, as the t-calculated of 0.505507 is less than the t-table of 2.032. Thus, we accept the null hypothesis stating that there is no significant relationship between government tax revenue and unemployment (UNEM) in Nigeria; although government tax revenue (GTR) impacts on unemployment in Nigeria but not significantly.

The entire regression model is significant given the f-value of 45.90017with the probability (F-stat=0.000000). The Durbin Watson value of 1.401074 also confirms the presence of serial autocorrelation.

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c) *Results and Discussion for Model Two: GDP = f (GEX and GTR)*

Table 4.4: Unit Root Test for Stationarity (Augmented Dickey-Fuller)

Variables	ADF Test	Critical Value			Order of integration
		1% critical value	5%critical value	10%critical value	
GDP	-6.374925	-3.639407	-2.951125	-2.614300	1(1)
GEX	-5.384104	-3.639407	-2.951125	-2.614300	1(1)
GTR	-4.632883	-3.661661	-2.960411	-2.619160	1(1)

Source: Authors' Computed Result from (E-views 8)

The stationarity test result presented in table 4.4 above shows that at various levels of significance (1%, 5% and 10%), the variables were stationary, although none of the variables was stationary at level 1(0). However, the variables were differenced; thus, GDP, GEX and GTR became stationary at the first difference (integrated of order one). Hence, the entire variables in this study are stationary. Having established stationarity, the long-run relationship among the variables was conducted using the Johansen co-integration framework as posited at table 4.5 below.

Table 4.5: Johansen Co-Integration Test

Eigenvalue	Trace Statistic	5% critical value	Prob. **	The hypothesis of CE(s)
0.517683	46.65003	29.79707	0.0003	None *
0.451193	22.58795	15.49471	0.0036	At most 1 *
0.081005	2.787672	3.841466	0.0950	At most 2

Source: Computed Result Using (E-Views 8)

Table 4.5 above shows that there are two co-integrating equations at a 5% level of significance because the Trace Statistics is bigger than critical values at 5%, since, there is an existence of a long-run relationship resulting in equilibration of the variables.

Table 4.6: Short Run Result: GDP = f (GEX and GTR) Economic Growth (GDP) on Selected Macroeconomic variables.

Variable	Coefficient	t-Statistic	Prob.
C	9.802775	32.36194	0
LOG(GEX)	0.17234	2.76713	0.0092
LOG(GTR)	0.056266	0.828453	0.4134
R^2=0.776476, F-Statistic=57.31772, DW=1.078546, Prob.(F-stat=0.000000)			

Source: Authors' Computed Result from (E-view 8)

The short-run result as reported in table 4.6 above shows that the coefficient of determination R^2 is 0.78, indicating that the variation in the gross domestic product (GDP) explained by government expenditure (GEX), and government tax revenue (GTR) is 78 percent, meaning that, the explanatory power of the model of estimation is good.

More so, the coefficient of government expenditure (GEX) appeared with the right sign (i.e., positive) implying a positive relationship between government expenditure (GEX) and economic growth; so that a percentage increase in government expenditure (GEX) will increase economic growth (GDP) by 0.172340 percent. The result is consistent with the apriori expectation. Moreover, the absolute value of the t-statistic for the slope of the coefficient is significant because the t-calculated value of 2.767130 is greater than the t-table assessment figure of 2.032. Thus, the study rejects the null hypothesis and accepts the alternative, which states that "there is a significant relationship between government expenditure and economic growth in Nigeria" meaning that if fiscal policy regarding government expenditure is managed well, it will increase economic growth in Nigeria. The significant relationship between government expenditure and economic growth also reflects the potency of the variable (i.e., GEX) as an imperative conductor in transmitting fiscal policy impulses to the aggregate economy, thereby increasing economic growth.

Moreover, the coefficient of government tax revenue (GTR) variable appeared with the right sign

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(i.e., positive) implying a constructive relationship between government tax revenue (GTR) and economic growth (GDP), meaning that, a percentage increase in government tax revenue (GTR) will increase GDP by 0.056266 percent which is in consonant with the apriori expectation. Moreover, the absolute value of the t-statistic for the slope of the coefficient is not significant, because the t-calculated value of 0.828453 is less the t-table value of 2.032. Thus, we accept the null hypothesis which states that "there is no significant relationship between government tax revenue and economic growth in Nigeria. The implication is that government tax revenue does impact on economic growth in Nigeria, but not significantly.

The entire regression model is significant given the f-value of 38.51284 with the probability F-stat of 0.000000. The Durbin Watson value of 1.429601 illustrates the presence of serial autocorrelation a result of the non-stationarity of time series data that are used for the study.

V. Summary, Conclusion and Recommendations

a) Summary

This study empirically examined the exotic influence of fiscal policy on selected macro-economic variables in Nigeria from 1980-2015.

The study also examined the Solow's model, the exogenous growth models, the Harrod-Domar growth model, Keynesian growth theory, the classical growth theory, neoclassical growth theory, new growth theory, the natural rate of growth, unified growth theory, the big push theory, Schumpeterian growth theory, classical theory of unemployment, Keynesian theory of unemployment, the Marxian theory of unemployment, and efficiency wage theory of unemployment.

Furthermore, to achieve our objectives, we utilized data on GDP, the unemployment rate, Government Expenditure, and Total Tax Revenue collected from a secondary source, principally the CBN Statistical Bulletin. The study applied the Ordinary Least Square (OLS) and Co-integration methods of econometrics to analyse the data and vitrify the relationship that exists among the variables.

The main findings in the study are:

i. There is a significant relationship between government expenditure and the unemployment rate in Nigeria.
ii. There is no significant relationship between government tax revenue and unemployment in Nigeria.
iii. There is a significant relationship between government expenditure and economic growth in Nigeria.
iv. There is no significant relationship between government tax revenue and economic growth in Nigeria.
v. Our findings further revealed that there are going to be policy implications as the government expenditure policy was to reduce the unemployment rate and enhanced or increase the GDP of the country. Government expenditure has the potential to stabilize Nigeria's GDP if the governments spend more on productive sectors of the economy.
vi. The total tax revenue policy has not contributed significantly to unemployment and also to advance the economic growth of Nigeria from 1980 to 2015 since Total tax revenue alone cannot enhance the economic growth of Nigeria.

b) Conclusion

From our regression results we find that there is a significant relationship between government expenditure and the unemployment rate in Nigeria. There is insignificant relationship between government tax revenue and unemployment in Nigeria. There is a significant relationship between government expenditure and economic growth in Nigeria. There is no significant relationship between government tax revenue and economic growth in Nigeria. The study, therefore, concludes that suitable or appropriate fiscal policies should be maintained. There should be a balance combination and coordination of both monetary and fiscal policies to achieve stable economic growth in Nigeria.

c) Recommendations

It is necessary to provide a set of policy recommendations that would apply to the economy of Nigeria.

i. The government should adopt an appropriate fiscal policy to stimulate economic growth and also reduce the unemployment rate.
ii. The government have a duty to guarantee that there is a co-operation between fiscal policy tool of government spending' and taxation to enhance the economic growth of Nigeria.
iii. For the fiscal policy to be effective in ensuring stability in the economy of Nigeria, it should be augmented with monetary policy.
iv. Conscientious efforts should be made by the government to perfect the various fiscal policies to provide an enabling environment to increase Economic growth (GDP) and reduce unemployment in Nigeria.
v. The government should increase her capital expenditure and ensure that a well-balanced combination and coordination of both fiscal and monetary policies are adopted at all times to enhance the economic growth of Nigeria and to also reduce unemployment to the barest minimum.
vi. The government should not be increasing tax levels, rather, put standard tax structure that guarantees economic growth.

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vii. The government should exploit the positive relationship that exist between tax and economic growth to bring about effectual investment expenditure that spurs growth, and in turn, boost the revenue levels.

viii. The government should improve on income taxes, sales tax/VAT and excise taxes collection system eliminate fraud, evasion, and corruption (Abomaye-Nimenibo et al., 2018).

ix. Proper Attitude to Work: Most government workers don't like working hard. They always believe in the slogan. "After all, government work is not my father's own". These ideas or belief at the back of their minds, therefore, makes them handle the work with all amounts of triviality and carelessness. In a company or establishment where we have this type of workers, there used to be a high rate of labour turn over. The management in its bid to stop this type of behaviour resorts to frequent infringement on the fringe benefits of the workers who attempted to breed obnoxious behaviours. Common sense, therefore, will even indicate to us that where the number of those employed are reduced and unemployed is increased to obtain from advocating for proper attribute to work, people should regard the work from which they earn a living by being punctual to work to avoid unnecessary embarrassment and lay off of labour by their employers.

x. Reorganizing the Education System: To combat any unemployment, the educational system should completely be restructured in such a way that employment is assured on completion of school. This re-organization can be realized through proper and adequate training coupled with the involvement of well experienced and qualified personnel. The students are coached and given entrepreneurial development training to make fit for white-collar jobs and be self-sufficient also.

xi. Expansion of Agricultural Sector: Double attention be given to the agricultural sector which is the bedrock of the nation, and the government should build good roads, good communication network, pipe-borne water and electricity in the rural areas that accommodate almost 75% of people of Nigerians, thereby making them perpetual local dwellers and farmers in line with these and other recommendations made by Abomaye- Nimenibo et al. (2019).

xii. Government to curtail unemployment in the nation should invest and also encourage investors to invest in rural areas by giving them tax waivers and other incentives.

xiii. Mechanized farming be introduced to the rural farmers by proving tractors, ploughs, harvester, cash crops, building agriculture estates like cassava, banana, cocoa plantation and also breading of poultry, piggery goat etc. which will invariably boost their ego and production capability thereby attracting more people into the profession. More attention be given to the expansion of the Agricultural sector by way of making the problem of unemployment will definitely to be a thing of the past in the nearest future.

xiv. Making Loans Available: If there is the availability of loan to the investors who have little or no money but have the business acumen, they will invest thereby creating opportunities for our youths, school leavers that is walking the whole street of the town in search of jobs or self- employed. Government should make loans available to farmers at a low interest rate. The repayment of the loan should be of a longer period, and freedom of movement should be given to these investors so as to evenly distribute employment opportunities to all the workers in the society.

xv. Encourage the Mobility of Labour: The movement of people will obviously, solve the unemployment problem. A great and well-known development economist, Author Lewis in his theories has stated that not moving about brings illness to human beings. So, mobility of labour is advocated.

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Appendix: I

Nigeria's Data on GEX, GTR, UNEM and GDP

YEAR	GEX	GTR	GDP	UNEM
1980	14968.50	15233.50	31546.08	6.400000
1981	11413.70	13290.50	205222.1	7.100000
1982	11923.20	11433.70	199685.2	4.700000
1983	9636.500	10508.70	185598.1	10.20000
1984	9927.000	11253.30	183563.0	7.300000
1985	13041.10	15050.40	201036.3	6.100000
1986	16223.70	12595.80	205971.4	5.300000
1987	22018.70	25380.60	204804.5	7.000000
1988	27749.50	27596.70	219875.6	5.300000
1989	41028.30	53870.40	236729.6	4.000000
1990	60268.20	98102.40	267550.0	5.500000
1991	66584.40	100991.6	265379.1	5.700000
1992	92797.40	190453.2	271365.5	7.500000
1993	191228.9	192769.4	274833.3	7.200000
1994	160893.2	201910.8	275450.6	6.800000
1995	248768.1	523597.0	281407.4	6.400000
1996	337217.6	582811.1	293745.4	6.400000
1997	428215.2	463608.8	302022.5	8.500000
1998	487113.4	949187.9	310890.0	7.600000
1999	947690.0	1906160.	312183.5	8.500000
2000	701059.4	2231533.	329178.7	11.50000
2001	1018026.	1731838.	356994.3	9.600000
2002	1018156.	2575096.	433203.5	8.800000
2003	1225966.	3920500.	477533.0	10.80000
2004	1426200.	5547500.	527576.0	10.20000
2005	1822100.	5965102.	561931.4	9.400000
2006	1938002.	5715500.	595821.6	9.900000
2007	2450897.	7866590.	634251.1	10.90000
2008	3240820.	4057499.	672202.6	12.80000
2009	3452991.	5879863.	718977.3	11.20000
2010	4194218.	5934651.	776332.2	11.53600
2011	42999155	5290671.	834161.9	14.60000
2012	45579104	10654725	902794.0	12.40000
2013	48313850	7293349.	964184.0	12.80000
2014	51212681	7746248.	969969.1	13.300000
2015	48368545	8564774.	945,649.0	12.830000

Source: CBN Statistical Bulletin (Various Issues)

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Appendix II: Regression Results

Dependent Variable: GDP
Method: Least Squares
Date: 08/08/19 Time: 10:49
Sample: 1980 2015
Included observations: 36

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	230791.1	17028.39	13.55331	0.0000
GEX	0.004423	0.001127	3.926350	0.0004
GTR	0.061853	0.005808	10.64906	0.0000

R-squared	0.920636	Mean dependent var	428600.5
Adjusted R-squared	0.915826	S.D. dependent var	263763.2
S.E. of regression	76525.13	Akaike info criterion	25.40828
Sum squared resid	1.93E+11	Schwarz criterion	25.54024
Log likelihood	-454.3491	Hannan-Quinn criter.	25.45434
F-statistic	191.4018	Durbin-Watson stat	1.493417
Prob(F-statistic)	0.000000		

Appendix Iii: Log-Linear Regression Result

Dependent Variable: LOG(GDP)
Method: Least Squares
Date: 08/08/19 Time: 10:50
Sample: 1980 2015
Included observations: 36

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	9.802775	0.302911	32.36194	0.0000
LOG(GEX)	0.172340	0.062281	2.767130	0.0092
LOG(GTR)	0.056266	0.067917	0.828453	0.4134

R-squared	0.776476	Mean dependent var	12.77103
Adjusted R-squared	0.762930	S.D. dependent var	0.683899
S.E. of regression	0.332990	Akaike info criterion	0.718244
Sum squared resid	3.659108	Schwarz criterion	0.850204
Log likelihood	-9.928395	Hannan-Quinn criter.	0.764302
F-statistic	57.31772	Durbin-Watson stat	1.078546
Prob(F-statistic)	0.000000		

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Appendix IV: Unit Root Test GDP @ Level

GDP @ LEVEL

Null Hypothesis: GDP has a unit root
Exogenous: Constant
Lag Length: 1 (Automatic - based on SIC, maxlag=9)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		2.275536	0.9999
Test critical values:	1% level	-3.639407	
	5% level	-2.951125	
	10% level	-2.614300	

GDP @ 1ST DIFF.

*MacKinnon (1996) one-sided p-values.
Augmented Dickey-Fuller Test Equation
Dependent Variable: D(GDP)
Method: Least Squares
Date: 08/08/19 Time: 10:52
Sample (adjusted): 1982 2015
Included observations: 34 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
GDP(-1)	0.038952	0.017118	2.275536	0.0299
D(GDP(-1))	0.139964	0.120433	1.162177	0.2540
C	1356.992	7832.136	0.173259	0.8636

R-squared	0.239460	Mean dependent var	21777.26
Adjusted R-squared	0.190393	S.D. dependent var	25107.00
S.E. of regression	22590.81	Akaike info criterion	22.97257
Sum squared resid	1.58E+10	Schwarz criterion	23.10725
Log likelihood	-387.5337	Hannan-Quinn criter.	23.01850
F-statistic	4.880260	Durbin-Watson stat	0.749851
Prob(F-statistic)	0.014368		

GDP @ 1ST DIFF.
Null Hypothesis: D(GDP) has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic - based on SIC, maxlag=9)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-6.374925	0.0000
Test critical values:	1% level	-3.639407	
	5% level	-2.951125	
	10% level	-2.614300	

*MacKinnon (1996) one-sided p-values.

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Augmented Dickey-Fuller Test Equation
Dependent Variable: D(GDP,2)
Method: Least Squares
Date: 08/08/19 Time: 10:51
Sample (adjusted): 1982 2015
Included observations: 34 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(GDP(-1))	-0.759988	0.119215	-6.374925	0.0000
C	15152.77	5272.267	2.874051	0.0071

R-squared	0.559469	Mean dependent var	-5823.415
Adjusted R-squared	0.545703	S.D. dependent var	35637.69
S.E. of regression	24020.36	Akaike info criterion	23.06821
Sum squared resid	1.85E+10	Schwarz criterion	23.15800
Log likelihood	-390.1596	Hannan-Quinn criter.	23.09883
F-statistic	40.63967	Durbin-Watson stat	0.684032
Prob(F-statistic)	0.000000		

GEX @ LEVEL
Null Hypothesis: GEX has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic - based on SIC, maxlag=9)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		0.180156	0.9673
Test critical values:	1% level	-3.632900	
	5% level	-2.948404	
	10% level	-2.612874	

*MacKinnon (1996) one-sided p-values.
Augmented Dickey-Fuller Test Equation
Dependent Variable: D(GEX)
Method: Least Squares
Date: 08/08/19 Time: 10:52
Sample (adjusted): 1981 2015
Included observations: 35 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
GEX(-1)	0.013760	0.076376	0.180156	0.8581
C	1297482.	1220935.	1.062696	0.2956

R-squared	0.000983	Mean dependent var	1381531.
Adjusted R-squared	-0.029291	S.D. dependent var	6579371.
S.E. of regression	6675033.	Akaike info criterion	34.32109
Sum squared resid	1.47E+15	Schwarz criterion	34.40997
Log likelihood	-598.6191	Hannan-Quinn criter.	34.35177
F-statistic	0.032456	Durbin-Watson stat	1.928049
Prob(F-statistic)	0.858132		

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GEX @ 1ST DIFF.

Null Hypothesis: D(GEX) has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic - based on SIC, maxlag=9)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-5.384104	0.0001
Test critical values:	1% level	-3.639407	
	5% level	-2.951125	
	10% level	-2.614300	

*MacKinnon (1996) one-sided p-values.
Augmented Dickey-Fuller Test Equation
Dependent Variable: D(GEX,2)
Method: Least Squares
Date: 08/08/19 Time: 10:53
Sample (adjusted): 1982 2015
Included observations: 34 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(GEX(-1))	-0.956234	0.177603	-5.384104	0.0000
C	1356365.	1191597.	1.138275	0.2635

R-squared	0.475312	Mean dependent var	-83546.51
Adjusted R-squared	0.458915	S.D. dependent var	9204768.
S.E. of regression	6770887.	Akaike info criterion	34.35118
Sum squared resid	1.47E+15	Schwarz criterion	34.44097
Log likelihood	-581.9701	Hannan-Quinn criter.	34.38180
F-statistic	28.98857	Durbin-Watson stat	1.991210
Prob(F-statistic)	0.000006		

GTR @ LEVEL

Null Hypothesis: GTR has a unit root
Exogenous: Constant
Lag Length: 4 (Automatic - based on SIC, maxlag=9)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		0.744031	0.9912
Test critical values:	1% level	-3.661661	
	5% level	-2.960411	
	10% level	-2.619160	

*MacKinnon (1996) one-sided p-values.

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Augmented Dickey-Fuller Test Equation
Dependent Variable: D(GTR)
Method: Least Squares
Date: 08/08/19 Time: 10:54
Sample (adjusted): 1985 2015
Included observations: 31 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
GTR(-1)	0.061400	0.082524	0.744031	0.4638
D(GTR(-1))	-0.471016	0.188059	-2.504618	0.0191
D(GTR(-2))	-0.124344	0.224687	-0.553412	0.5849
D(GTR(-3))	-0.049021	0.236135	-0.207599	0.8372
D(GTR(-4))	-0.885180	0.242764	-3.646254	0.0012
C	416294.9	258351.1	1.611353	0.1197

R-squared	0.599762	Mean dependent var	275920.0
Adjusted R-squared	0.519714	S.D. dependent var	1511140.
S.E. of regression	1047260.	Akaike info criterion	30.73324
Sum squared resid	2.74E+13	Schwarz criterion	31.01078
Log likelihood	-470.3652	Hannan-Quinn criter.	30.82371
F-statistic	7.492554	Durbin-Watson stat	1.814661
Prob(F-statistic)	0.000205		

GTR @ 1ST DIFF.
Null Hypothesis: D(GTR) has a unit root
Exogenous: Constant
Lag Length: 3 (Automatic - based on SIC, maxlag=9)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-4.632883	0.0008
Test critical values:	1% level	-3.661661	
	5% level	-2.960411	
	10% level	-2.619160	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(GTR,2)
Method: Least Squares
Date: 08/08/19 Time: 10:54
Sample (adjusted): 1985 2015
Included observations: 31 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(GTR(-1))	-2.219066	0.478982	-4.632883	0.0001
D(GTR(-1),2)	0.813119	0.431317	1.885200	0.0706
D(GTR(-2),2)	0.777226	0.345493	2.249612	0.0332
D(GTR(-3),2)	0.830194	0.229248	3.621379	0.0012
C	508747.5	224553.0	2.265601	0.0320

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R-squared	0.866180	Mean dependent var	26380.05
Adjusted R-squared	0.845592	S.D. dependent var	2642160.
S.E. of regression	1038231.	Akaike info criterion	30.69062
Sum squared resid	2.80E+13	Schwarz criterion	30.92191
Log likelihood	-470.7047	Hannan-Quinn criter.	30.76602
F-statistic	42.07264	Durbin-Watson stat	1.786059
Prob(F-statistic)	0.000000		

Johansen Cointegration Result

Date: 08/08/19 Time: 10:55
Sample (adjusted): 1983 2015
Included observations: 33 after adjustments
Trend assumption: Linear deterministic trend
Series: GDP GEX GTR
Lags interval (in first differences): 1 to 2

Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.517683	46.65003	29.79707	0.0003
At most 1 *	0.451193	22.58795	15.49471	0.0036
At most 2	0.081005	2.787672	3.841466	0.0950

Trace test indicates 2 cointegratingeqn(s) at the 0.05 level
* denotes rejection of the hypothesis at the 0.05 level
**MacKinnon-Haug-Michelis (1999) p-values

Unrestricted Co integration Rank Test (Maximum Eigenvalue)

Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None *	0.517683	24.06208	21.13162	0.0188
At most 1 *	0.451193	19.80028	14.26460	0.0060
At most 2	0.081005	2.787672	3.841466	0.0950

Max-Eigen value test indicates 2 co integrating eqn(s) at the 0.05 level
* denotes rejection of the hypothesis at the 0.05 level
**MacKinnon-Haug-Michelis (1999) p-values

Unrestricted Cointegrating Coefficients (normalized by b'*S11*b=I):

GDP	GEX	GTR
2.74E-05	-1.10E-07	-1.71E-06
-1.65E-06	-1.36E-07	5.49E-07
-1.18E-06	-2.92E-10	-4.67E-07

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Unrestricted Adjustment Coefficients (alpha):

D(GDP)	1018.143	10704.75	556.1019
D(GEX)	4143478.	457396.4	-538030.3
D(GTR)	57678.01	-10908.30	237756.7

1 Cointegrating Equation(s): Log likelihood -1412.252

Normalized cointegrating coefficients (standard error in parentheses)

GDP	GEX	GTR
1.000000	-0.004018	-0.062477
	(0.00100)	(0.00493)

Adjustment coefficients (standard error in parentheses)

D(GDP)	0.027940	
	(0.08829)	
D(GEX)	113.7056	
	(24.5650)	
D(GTR)	1.582803	
	(4.59586)	

2 Cointegrating Equation(s): Log likelihood -1402.352

Normalized cointegrating coefficients (standard error in parentheses)

GDP	GEX	GTR
1.000000	0.000000	-0.075084
		(0.00509)
0.000000	1.000000	-3.137343
		(0.86320)

Adjustment coefficients (standard error in parentheses)

D(GDP)	0.010257	-0.001563
	(0.06602)	(0.00042)
D(GEX)	112.9500	-0.518917
	(24.4806)	(0.15559)
D(GTR)	1.600822	-0.004882
	(4.60379)	(0.02926)

DESCRIPTIVE

	GDP	GEX	GTR
Mean	428600.5	7282235.	2677257.
Median	306456.3	457664.3	765999.5
Maximum	969969.1	51212681	10654725
Minimum	31546.08	9636.500	10508.70
Std. Dev.	263763.2	16365932	3174345.
Skewness	0.828738	2.088374	0.863084
Kurtosis	2.418029	5.427380	2.433387
Jarque-Bera	4.628877	35.00609	4.951064
Probability	0.098822	0.000000	0.084118
Sum	15429619	2.62E+08	96381245
Sum Sq. Dev.	2.43E+12	9.37E+15	3.53E+14
Observations	36	36	36

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Table 4.1: Nigeria's Data on GEX, GTR and UNEM

YEAR	GEX	GTR	UNEM
1980	14968.50	15233.50	6.400000
1981	11413.70	13290.50	7.100000
1982	11923.20	11433.70	4.700000
1983	9636.500	10508.70	10.20000
1984	9927.000	11253.30	7.300000
1985	13041.10	15050.40	6.100000
1986	16223.70	12595.80	5.300000
1987	22018.70	25380.60	7.000000
1988	27749.50	27596.70	5.300000
1989	41028.30	53870.40	4.000000
1990	60268.20	98102.40	5.500000
1991	66584.40	100991.6	5.700000
1992	92797.40	190453.2	7.500000
1993	191228.9	192769.4	7.200000
1994	160893.2	201910.8	6.800000
1995	248768.1	523597.0	6.400000
1996	337217.6	582811.1	6.400000
1997	428215.2	463608.8	8.500000
1998	487113.4	949187.9	7.600000
1999	947690.0	1906160.	8.500000
2000	701059.4	2231533.	11.50000
2001	1018026.	1731838.	9.600000
2002	1018156.	2575096.	8.800000
2003	1225966.	3920500.	10.80000
2004	1426200.	5547500.	10.20000
2005	1822100.	5965102.	9.400000
2006	1938002.	5715500.	9.900000
2007	2450897.	7866590.	10.90000
2008	3240820.	4057499.	12.80000
2009	3452991.	5879863.	11.20000
2010	4194218.	5934651.	11.53600
2011	42999155	5290671.	14.60000
2012	45579104	10654725	12.40000
2013	48313850	7293349.	12.80000
2014	51212681	7746248.	13.300000
2015	48368545	8564774.	12.830000

Source: CBN Statistical Bulletin (Various Issues)

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Appendix II: Regression Results

Linear Regression Result

Dependent Variable: UNEM
Method: Least Squares
Date: 08/08/19 Time: 10:57
Sample: 1980 2015
Included observations: 36

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	6.886982	0.355332	19.38180	0.0000
GEX	2.83E-08	2.35E-08	1.204393	0.2370
GTR	6.30E-07	1.21E-07	5.197189	0.0000

R-squared	0.697115	Mean dependent var	8.779611
Adjusted R-squared	0.678758	S.D. dependent var	2.817403
S.E. of regression	1.596854	Akaike info criterion	3.853603
Sum squared resid	84.14813	Schwarz criterion	3.985563
Log likelihood	-66.36486	Hannan-Quinn criter.	3.899661
F-statistic	37.97604	Durbin-Watson stat	1.839440
Prob(F-statistic)	0.000000		

Log Linear

Dependent Variable: UNEM
Method: Least Squares
Date: 08/08/19 Time: 11:20
Sample: 1980 2015
Included observations: 36

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-2.415160	1.357247	-1.779455	0.0844
LOG(GEX)	1.020619	0.279063	3.657313	0.0009
LOG(GTR)	-0.153834	0.304316	-0.505507	0.6166

R-squared	0.735578	Mean dependent var	8.779611
Adjusted R-squared	0.719552	S.D. dependent var	2.817403
S.E. of regression	1.492022	Akaike info criterion	3.717796
Sum squared resid	73.46224	Schwarz criterion	3.849756
Log likelihood	-63.92033	Hannan-Quinn criter.	3.763854
F-statistic	45.90017	Durbin-Watson stat	1.401074
Prob(F-statistic)	0.000000		

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Appendix IV: Unit Root Test

GEX @ LEVEL

Null Hypothesis: GEX has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic - based on SIC, maxlag=9)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		0.180156	0.9673
Test critical values:	1% level	-3.632900	
	5% level	-2.948404	
	10% level	-2.612874	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(GEX)
Method: Least Squares
Date: 08/08/19 Time: 10:52
Sample (adjusted): 1981 2015
Included observations: 35 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
GEX(-1)	0.013760	0.076376	0.180156	0.8581
C	1297482.	1220935.	1.062696	0.2956

R-squared	0.000983	Mean dependent var	1381531.
Adjusted R-squared	-0.029291	S.D. dependent var	6579371.
S.E. of regression	6675033.	Akaike info criterion	34.32109
Sum squared resid	1.47E+15	Schwarz criterion	34.40997
Log likelihood	-598.6191	Hannan-Quinn criter.	34.35177
F-statistic	0.032456	Durbin-Watson stat	1.928049
Prob(F-statistic)	0.858132		

GEX @ 1ST DIFF.
Null Hypothesis: D(GEX) has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic - based on SIC, maxlag=9)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-5.384104	0.0001
Test critical values:	1% level	-3.639407	
	5% level	-2.951125	
	10% level	-2.614300	

*MacKinnon (1996) one-sided p-values.

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Augmented Dickey-Fuller Test Equation
Dependent Variable: D(GEX,2)
Method: Least Squares
Date: 08/08/19 Time: 10:53
Sample (adjusted): 1982 2015
Included observations: 34 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(GEX(-1))	-0.956234	0.177603	-5.384104	0.0000
C	1356365.	1191597.	1.138275	0.2635

R-squared	0.475312	Mean dependent var	-83546.51
Adjusted R-squared	0.458915	S.D. dependent var	9204768.
S.E. of regression	6770887.	Akaike info criterion	34.35118
Sum squared resid	1.47E+15	Schwarz criterion	34.44097
Log likelihood	-581.9701	Hannan-Quinn criter.	34.38180
F-statistic	28.98857	Durbin-Watson stat	1.991210
Prob(F-statistic)	0.000006		

GTR @ LEVEL

Null Hypothesis: GTR has a unit root
Exogenous: Constant
Lag Length: 4 (Automatic - based on SIC, maxlag=9)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		0.744031	0.9912
Test critical values:	1% level	-3.661661	
	5% level	-2.960411	
	10% level	-2.619160	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(GTR)
Method: Least Squares
Date: 08/08/19 Time: 10:54
Sample (adjusted): 1985 2015
Included observations: 31 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
GTR(-1)	0.061400	0.082524	0.744031	0.4638
D(GTR(-1))	-0.471016	0.188059	-2.504618	0.0191
D(GTR(-2))	-0.124344	0.224687	-0.553412	0.5849
D(GTR(-3))	-0.049021	0.236135	-0.207599	0.8372
D(GTR(-4))	-0.885180	0.242764	-3.646254	0.0012
C	416294.9	258351.1	1.611353	0.1197

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R-squared	0.599762	Mean dependent var	275920.0
Adjusted R-squared	0.519714	S.D. dependent var	1511140.
S.E. of regression	1047260.	Akaike info criterion	30.73324
Sum squared resid	2.74E+13	Schwarz criterion	31.01078
Log likelihood	-470.3652	Hannan-Quinn criter.	30.82371
F-statistic	7.492554	Durbin-Watson stat	1.814661
Prob(F-statistic)	0.000205		

GTR @ 1ST DIFF.

Null Hypothesis: D(GTR) has a unit root
Exogenous: Constant
Lag Length: 3 (Automatic - based on SIC, maxlag=9)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-4.632883	0.0008
Test critical values:	1% level	-3.661661	
	5% level	-2.960411	
	10% level	-2.619160	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(GTR,2)
Method: Least Squares
Date: 08/08/19 Time: 10:54
Sample (adjusted): 1985 2015
Included observations: 31 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(GTR(-1))	-2.219066	0.478982	-4.632883	0.0001
D(GTR(-1),2)	0.813119	0.431317	1.885200	0.0706
D(GTR(-2),2)	0.777226	0.345493	2.249612	0.0332
D(GTR(-3),2)	0.830194	0.229248	3.621379	0.0012
C	508747.5	224553.0	2.265601	0.0320

R-squared	0.866180	Mean dependent var	26380.05
Adjusted R-squared	0.845592	S.D. dependent var	2642160.
S.E. of regression	1038231.	Akaike info criterion	30.69062
Sum squared resid	2.80E+13	Schwarz criterion	30.92191
Log likelihood	-470.7047	Hannan-Quinn criter.	30.76602
F-statistic	42.07264	Durbin-Watson stat	1.786059
Prob(F-statistic)	0.000000		

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UNEM @ LEVEL

Null Hypothesis: UNEM has a unit root
Exogenous: None
Lag Length: 2 (Automatic - based on SIC, maxlag=9)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		1.502999	0.9644
Test critical values:	1% level	-2.636901	
	5% level	-1.951332	
	10% level	-1.610747	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(UNEM)
Method: Least Squares
Date: 08/08/19 Time: 11:01
Sample (adjusted): 1983 2015
Included observations: 33 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
UNEM(-1)	0.044633	0.029696	1.502999	0.1433
D(UNEM(-1))	-0.633135	0.166180	-3.809927	0.0006
D(UNEM(-2))	-0.430625	0.163528	-2.633339	0.0132

R-squared	0.328409	Mean dependent var	0.246364
Adjusted R-squared	0.283636	S.D. dependent var	1.757297
S.E. of regression	1.487346	Akaike info criterion	3.718372
Sum squared resid	66.36595	Schwarz criterion	3.854418
Log likelihood	-58.35314	Hannan-Quinn criter.	3.764147
Durbin-Watson stat	1.626476		

UNEM @ 1ST DIFF.

Null Hypothesis: D(UNEM) has a unit root
Exogenous: None
Lag Length: 1 (Automatic - based on SIC, maxlag=9)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-7.082013	0.0000
Test critical values:	1% level	-2.636901	
	5% level	-1.951332	
	10% level	-1.610747	

*MacKinnon (1996) one-sided p-values.

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Augmented Dickey-Fuller Test Equation
Dependent Variable: D(UNEM,2)
Method: Least Squares
Date: 08/08/19 Time: 11:00
Sample (adjusted): 1983 2015
Included observations: 33 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(UNEM(-1))	-1.929392	0.272436	-7.082013	0.0000
D(UNEM(-1),2)	0.370315	0.161716	2.289914	0.0290

R-squared	0.756504	Mean dependent var	0.058485
Adjusted R-squared	0.748649	S.D. dependent var	3.026331
S.E. of regression	1.517248	Akaike info criterion	3.730366
Sum squared resid	71.36332	Schwarz criterion	3.821063
Log likelihood	-59.55103	Hannan-Quinn criter.	3.760883
Durbin-Watson stat	1.543636		

Johansen

Date: 08/08/19 Time: 12:19
Sample (adjusted): 1984 2015
Included observations: 32 after adjustments
Trend assumption: Linear deterministic trend (restricted)
Series: UNEM GEX GTR
Lags interval (in first differences): 1 to 3

Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.753647	74.47626	42.91525	0.0000
At most 1 *	0.391216	29.64453	25.87211	0.0161
At most 2 *	0.349556	13.76318	12.51798	0.0308

Trace test indicates 3 cointegratingeqn(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 No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None *	0.753647	44.83173	25.82321	0.0001
At most 1	0.391216	15.88135	19.38704	0.1504
At most 2 *	0.349556	13.76318	12.51798	0.0308

Max-eigenvalue test indicates 1 cointegratingeqn(s) at the 0.05 level
* denotes rejection of the hypothesis at the 0.05 level
**MacKinnon-Haug-Michelis (1999) p-values

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Unrestricted Cointegrating Coefficients (normalized by b'*S11*b=I):

UNEM	GEX	GTR	@TREND(81)
0.187536	-1.08E-07	-3.27E-07	-0.041379
0.032456	-6.94E-08	-8.59E-07	0.291396
-1.338552	-1.42E-09	8.27E-07	0.060314

Unrestricted Adjustment Coefficients (alpha):

D(UNEM)	-0.511507	0.394452	0.415744
D(GEX)	-4204527.	-357735.0	-776515.1
D(GTR)	109409.6	374452.2	-323001.1

1 Cointegrating Equation(s): Log likelihood -1045.469

Normalized cointegrating coefficients (standard error in parentheses)

UNEM	GEX	GTR	@TREND(81)
1.000000	-5.78E-07	-1.74E-06	-0.220646
	(1.5E-07)	(7.0E-07)	(0.19892)

Adjustment coefficients (standard error in parentheses)

D(UNEM)	-0.095926
	(0.04047)
D(GEX)	-788502.0
	(114519.)
D(GTR)	20518.28
	(33266.4)

2 Cointegrating Equation(s): Log likelihood -1037.528

Normalized cointegrating coefficients (standard error in parentheses)

UNEM	GEX	GTR	@TREND(81)
1.000000	0.000000	7.40E-06	-3.624199
		(3.4E-06)	(0.96213)
0.000000	1.000000	15.83782	-5891791.
		(5.58195)	(1603043)

Adjustment coefficients (standard error in parentheses)

D(UNEM)	-0.083124	2.80E-08
	(0.03766)	(2.5E-08)
D(GEX)	-800112.6	0.480334
	(115267.)	(0.07793)
D(GTR)	32671.43	-0.037848
	(29965.6)	(0.02026)

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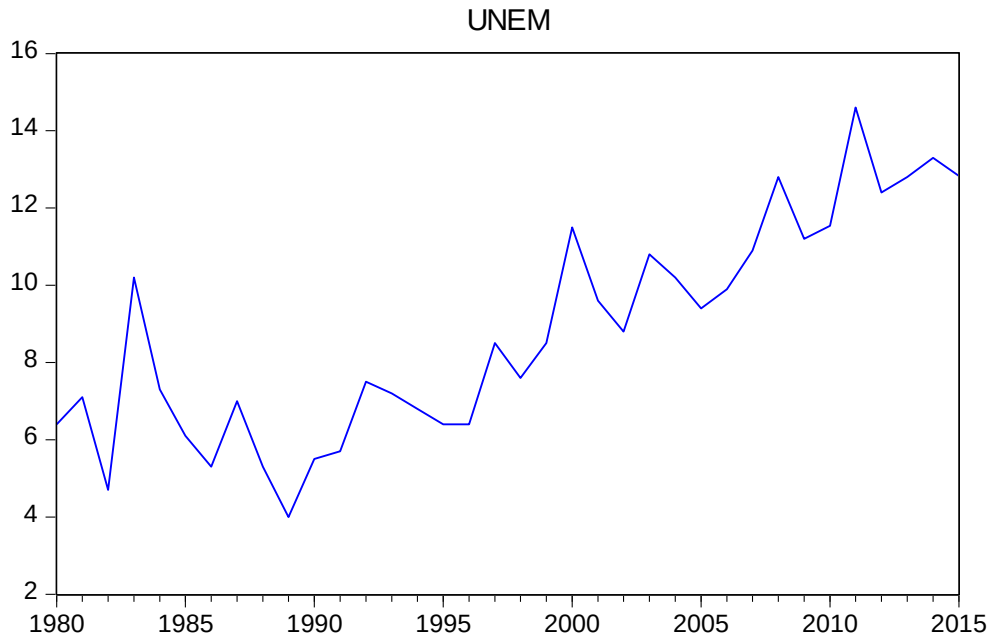
DESCRIPTIVE

	UNEM	GEX	GTR
Mean	8.779611	7282235.	2677257.
Median	8.500000	457664.3	765999.5
Maximum	14.60000	51212681	10654725
Minimum	4.000000	9636.500	10508.70
Std. Dev.	2.817403	16365932	3174345.
Skewness	0.258870	2.088374	0.863084
Kurtosis	1.966913	5.427380	2.433387
Jarque-Bera	2.002983	35.00609	4.951064
Probability	0.367331	0.000000	0.084118
Sum	316.0660	2.62E+08	96381245
Sum Sq. Dev.	277.8216	9.37E+15	3.53E+14
Observations	36	36	36



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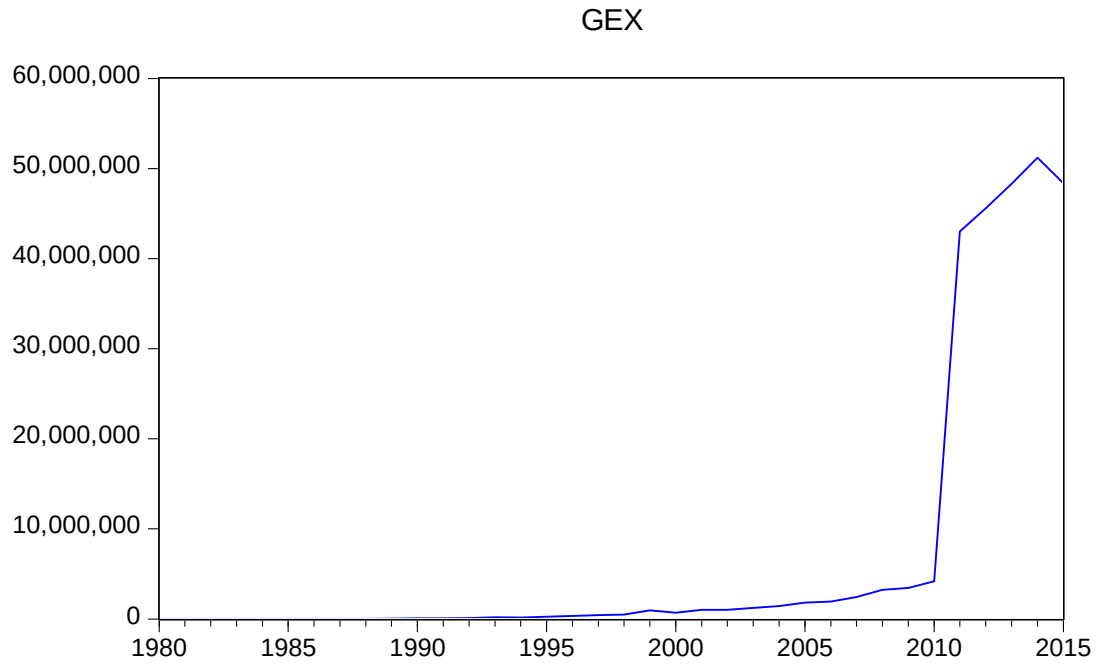

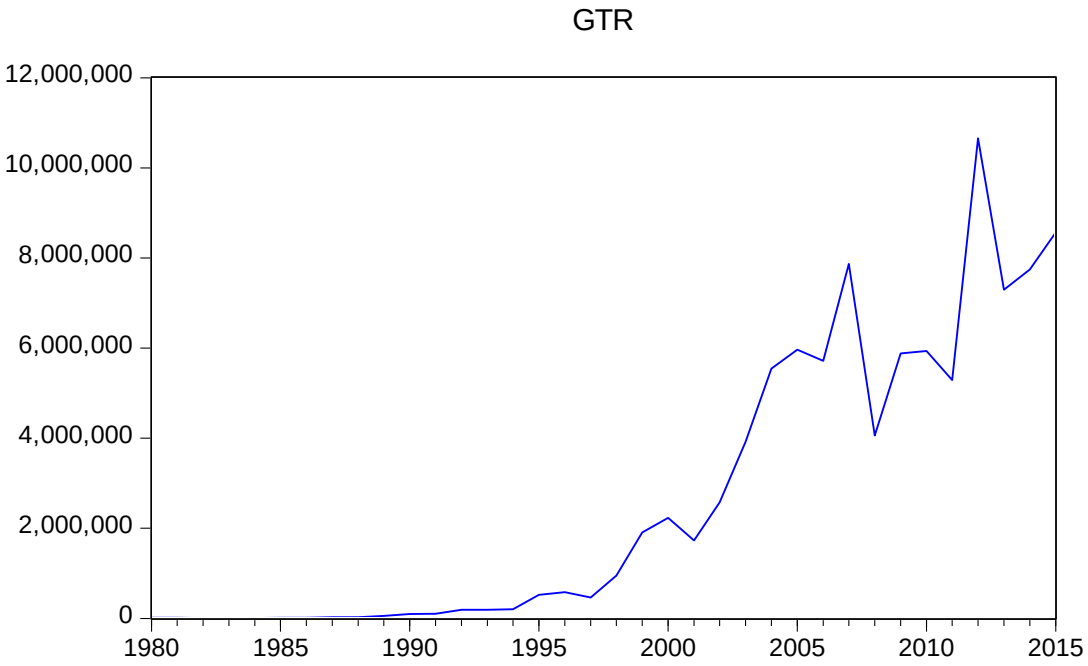

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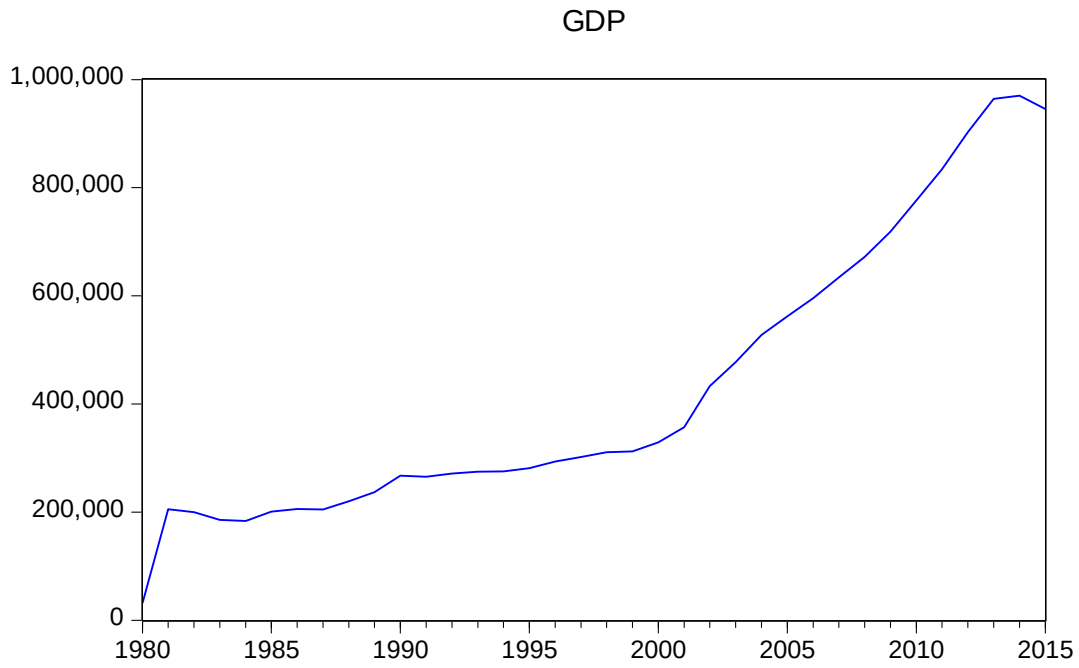

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